

Resettlement and Ethnic Development Plan

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Main Report

Prepared by Nam Ngiep 1 Power Company Ltd. for the Asian Development Bank

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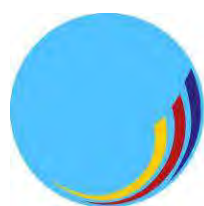
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Resettlement and Ethnic Development Plan

for

Nam Ngiep 1 Hydropower Project

Updated Version, June 2014



NAM NGIEP 1
POWER COMPANY

List of Contents

EXECUTIVE SUMMARY	VI
LIST OF TABLES	XXIV
LIST OF FIGURES	XXVIII
ABBREVIATIONS	XXX
CHAPTER 1 - INTRODUCTION	1
1.1 SCOPE OF THE REDP	2
1.2 STRUCTURE OF THE REPORT	4
CHAPTER 2 - PROJECT DESCRIPTION	6
2.1 PROJECT HISTORY.....	6
2.2 DESCRIPTION OF THE NNP1 HYDROPOWER PROJECT	8
2.3 DESIGN CHANGES TO REDUCE PROJECT IMPACTS	17
2.4 PROJECT IMPACT ZONE	19
CHAPTER 3 - LEGAL FRAMEWORK	26
3.1 NATIONAL LAWS AND POLICIES AND ADB POLICY REQUIREMENTS	26
3.2 PRINCIPLES AND METHODOLOGIES FOR VALUATIONS AND COMPENSATION RATES	42
3.3 SOCIAL SAFEGUARDS, GENDER AND DEVELOPMENT, SOCIAL PROTECTION, AND ETHNIC GROUPS	44
CHAPTER 4 - CROSSCUTTING SOCIAL ISSUES IN THE PROJECT IMPACT ZONE	46
4.1 SOCIOECONOMIC PROFILES.....	46
4.2 DEMOGRAPHY AND POPULATION CHANGES.....	48
4.3 ETHNICITY	51
4.4 SOCIAL ORGANIZATION AND CULTURAL RELATIONS.....	51
4.5 INFRASTRUCTURE	52
4.6 SCHOOL ATTENDANCE	53
4.7 LITERACY AND EDUCATION LEVELS.....	55
4.8 HEALTH	56
4.9 GENDER	58
4.10 INFORMATION AND SERVICES.....	70
4.11 AGRICULTURE AND HORTICULTURE LANDUSE.....	71
4.12 RICE SUFFICIENCY (FOOD SECURITY)	73
4.13 LIVESTOCK	75
4.14 FOREST UTILIZATION	76
4.15 HUNTING.....	77
4.16 FISHERIES AND AQUACULTURE	77
4.17 TOURISM	81
4.18 IMPUTED INCOME.....	81
4.19 CASH INCOME	82
4.20 TOTAL INCOME.....	84

4.21	HOUSEHOLD EXPENDITURE	84
4.22	POVERTY	85
4.23	VULNERABLE HOUSEHOLDS	92
CHAPTER 5 - ENTITLEMENT POLICY AND ELIGIBILITY		96
5.1	BACKGROUND	96
5.2	OVERALL POLICY AND ELIGIBILITY	96
5.3	IMPLEMENTATION FRAMEWORK.....	105
5.4	IMPACT CATEGORIZATION.....	111
5.5	INDIVIDUAL HOUSEHOLD CONSULTATIONS.....	113
5.6	REPLACEMENT ASSETS	115
5.7	CASH COMPENSATION	116
5.8	COMMUNITY PROPERTY	118
5.9	PRE-COMPENSATION TRAININGS	119
5.10	TRANSITIONAL MEASURES AND DURATION	120
5.11	SPECIAL MEASURES FOR VULNERABLE HOUSEHOLDS.....	122
5.12	CHANCE FINDS PROCEDURE.....	123
5.13	ADDRESSING UNANTICIPATED IMPACTS.....	123
CHAPTER 6 - LIVELIHOOD AND INCOME RESTORATION PLAN		125
6.1	OBJECTIVES AND SCHEDULE OF ACTIVITIES	125
6.2	LIVELIHOOD OPTIONS FOR PAPs OPTING FOR SELF-RESETTLEMENT.....	126
6.3	LIVELIHOOD OPTIONS FOR PAPs OPTING FOR PROJECT RESETTLEMENT	127
6.4	OFF-FARM ACTIVITIES.....	140
6.5	FISHERIES.....	142
6.6	MARKET ACCESS AND VALUE CHAIN DEVELOPMENT	143
CHAPTER 7 - ETHNIC DEVELOPMENT PLAN		145
7.1	ETHNIC GROUPS IN LAO PDR	145
7.2	ETHNIC GROUPS IN THE PROJECT IMPACT ZONE.....	146
7.3	PROJECT COMPONENTS AND ACTIVITIES IMPACTING ETHNIC GROUPS	153
7.4	IMPACTS ON ETHNIC GROUPS.....	153
7.5	CONSULTATIONS WITH ETHNIC GROUPS	157
7.6	MEASURES TO MITIGATE AND ADDRESS CONCERNS.....	169
7.7	CULTURALLY APPROPRIATE BENEFITS	174
7.8	RISK ANALYSIS OF IMPACTS OUTSIDE THE PROJECT ZONES.....	175
7.9	INSTITUTIONAL ARRANGEMENTS FOR PROJECT IMPLEMENTATION.....	179
CHAPTER 8 - PUBLIC CONSULTATION, PARTICIPATION, AND DISCLOSURE (PCD).....		180
8.1	INTRODUCTION.....	180
8.2	STAKEHOLDERS	180
8.3	PCD PROCESS.....	184
8.4	CONSULTATION AND PARTICIPATION ACTIVITIES.....	188
8.5	THE PCD PROCESS FROM INITIAL STUDIES TO NOW	190
8.6	THE PCD PROCESS IN THE FUTURE.....	203
8.7	STAKEHOLDER INPUTS INTO PROJECT DESIGN.....	205
8.8	INSTITUTIONAL ARRANGEMENTS FOR THE PCD PROCESS	208
8.9	GRIEVANCE REDRESS MECHANISM	208

CHAPTER 9 -	INSTITUTIONAL ARRANGEMENT.....	213
9.1	OVERALL E&S ORGANIZATION FOR THE NNP1 PROJECT.....	215
9.2	ESD VIENTIANE OFFICE.....	219
9.3	ESD XAYSOMBOUN FIELD OFFICE.....	224
9.4	ESD BOLIKHAMXAY FIELD OFFICE.....	224
9.5	GoL ORGANIZATION.....	227
9.6	COORDINATION WITH TECHNICAL UNITS OF NNP1.....	229
9.7	OTHER PARTNER ORGANIZATIONS.....	230
9.8	COORDINATION BETWEEN DIFFERENT PARTIES.....	231
CHAPTER 10 -	MONITORING AND SUPERVISION.....	232
10.1	ADAPTIVE MANAGEMENT.....	232
10.2	MONITORING AND REPORTING BY NNP1 AND OTHER PARTIES.....	238
10.3	INDEPENDENT MONITORING.....	242
10.4	DISCLOSURE OF MONITORING REPORTS.....	243
CHAPTER 11 -	SEQUENCE OF ACTIVITIES BY PROJECT ZONES AND SUB-ZONES.....	245
11.1	CONSULTATIONS.....	245
11.2	RESETTLEMENT SITE DEVELOPMENT.....	245
11.3	RESETTLEMENT ZONE 3.....	245
11.4	RESETTLEMENT ZONE 2LR.....	246
11.5	RESETTLEMENT ZONE 2UR.....	246
11.6	LIVELIHOOD ACTIVITIES AND MONITORING.....	246
11.7	ACCESS ROAD / TRANSMISSION LINE.....	246
11.8	GANTT-CHART.....	246
CHAPTER 12 -	ACCESS ROADS LAND ACQUISITION AND COMPENSATION PROGRAM	
	253	
12.1	BACKGROUND.....	253
12.2	LACP-AR AUDIT FINDINGS.....	255
CHAPTER 13 -	ZONE 3: RESETTLEMENT ACTION PLAN FOR CONSTRUCTION AREA.....	262
13.1	SOCIOECONOMIC PROFILE.....	263
13.2	SCOPE OF LAND ACQUISITION AND RESETTLEMENT.....	272
13.3	ENTITLEMENT MATRIX AND MITIGATION MEASURES.....	277
13.4	BUDGET AND FINANCING PLAN.....	292
13.5	INSTITUTIONAL ARRANGEMENTS FOR LAND ACQUISITION AND COMPENSATION.....	295
13.6	SCHEDULE OF LAC ACTIVITIES AND RESETTLEMENT.....	295
13.7	MONITORING AND REPORTING.....	297
CHAPTER 14 -	HOUAYSOUPE RESETTLEMENT SITE.....	298
14.1	RESETTLEMENT SITE SELECTION.....	298
14.2	PRIOR LAND USE.....	298
14.3	LAND USE PLANNING AND ZONING.....	302
14.4	WORK UNDERTAKEN TO DATE AND SCHEDULE OF SITE PREPARATION ACTIVITIES.....	308
14.5	PAP VISITS TO SITE & VIEWS ON ITS STRENGTHS AND LIMITATIONS.....	333

CHAPTER 15 - ZONE 5: HOST COMMUNITIES.....	336
15.1 SOCIOECONOMIC PROFILE	336
15.2 ENTITLEMENT MATRIX AND MITIGATION MEASURES.....	344
15.3 BUDGET AND FINANCING PLAN	350
15.4 INSTITUTIONAL ARRANGEMENTS FOR LAND ACQUISITION AND COMPENSATION	353
15.5 SCHEDULE OF LAC ACTIVITIES AND RESETTLEMENT.....	353
15.6 MONITORING AND REPORTING	353
CHAPTER 16 - TRANSMISSION LINE.....	355
16.1 TRANSMISSION LINE LAND ACQUISITION AND COMPENSATION PLAN	355
16.2 SOCIOECONOMIC PROFILE	357
16.3 LAR IMPACTS OF THE TRANSMISSION LINES	361
16.4 ENTITLEMENT MATRIX AND MITIGATION MEASURES.....	364
16.5 BUDGET AND FINANCING PLAN	372
16.6 INSTITUTIONAL ARRANGEMENTS FOR LAND ACQUISITION AND COMPENSATION	372
16.7 SCHEDULE OF LAC ACTIVITIES	372
16.8 MONITORING AND REPORTING	372
CHAPTER 17 - RESETTLEMENT ACTION PLAN FOR THE UPPER RESERVOIR AREA (2UR)	373
17.1 SOCIOECONOMIC PROFILE	374
17.2 SCOPE OF LAND ACQUISITION AND RESETTLEMENT	387
17.3 ENTITLEMENT MATRIX AND MITIGATION MEASURES.....	392
17.4 BUDGET AND FINANCING PLAN	408
17.5 INSTITUTIONAL ARRANGEMENTS FOR LAND ACQUISITION AND COMPENSATION	414
17.6 SCHEDULE OF LAC ACTIVITIES AND RESETTLEMENT.....	414
17.7 MONITORING AND REPORTING	414
CHAPTER 18 - RESETTLEMENT ACTION PLAN FOR LOWER RESERVOIR AREA (2LR).....	416
18.1 SOCIOECONOMIC PROFILE	417
18.2 SCOPE OF LAND ACQUISITION AND RESETTLEMENT IN 2LR.....	429
18.3 ENTITLEMENT MATRIX AND MITIGATION MEASURES.....	435
18.4 BUDGET AND FINANCING PLAN	448
18.5 INSTITUTIONAL ARRANGEMENTS FOR LAND ACQUISITION AND COMPENSATION	452
18.6 SCHEDULE OF LAC ACTIVITIES AND RESETTLEMENT.....	452
18.7 MONITORING AND REPORTING	453
CHAPTER 19 - CONSOLIDATED BUDGET AND SCHEDULE OF ACTIVITIES.....	454
19.1 CONSOLIDATED BUDGET.....	454
19.2 SCHEDULE OF ACTIVITIES.....	462
LIST OF ANNEXES.....	465

Executive Summary

(i) Introduction

1. **Overall situation.** The Nam Ngiep 1 Hydropower Project will be located along the Nam Ngiep River in Xaysomboun and Bolikhamxay Province of Lao PDR, downstream of Nam Ngiep 2 Hydropower Project. The Project is set 41 km north of Pakxan, the capital of Bolikhamxay Province, which is located 145 km north-east of the national capital, Vientiane.
2. **Schedule of construction.** Main construction activities of NNP1 are scheduled to start in August 2014. The NNP1 reservoir is planned to be filled during the rainy season of 2018. Electricity will be generated from Commercial Operation Date (COD) in January 2019 onwards during a concession period of 27 years.
3. **Project history.** A project possibility of what would become NNP1 was identified in the early 1990s and a preliminary Feasibility Study (FS) was conducted by the French company Sogelerg Sogreah in 1991. At the request of the Government of Lao (GoL), Japan International Cooperation Agency (JICA) through Nippon Koei conducted a new FS of the Project in two phases, 1998-2000 and 2001-2002. KANSAI and Nippon Koei signed the Project Development Agreement (PDA) on 27th April 2006 for the further development of the Project and Electricity Generating Authority of Thailand (“EGAT”) joined the project a year later. However, the project has been delayed due to the global economic situation in 2008 and in 2011, new financial and technical plans were conducted and new social documents prepared, which have been revised from 2013-2014 to comply with national and international social safeguards standards.
4. **The Company.** In 2013, the Nam Ngiep 1 Power Company Limited was founded. Shareholders are now KANSAI (45%), EGAT international (30%), and Lao Holding State Enterprise (25%). On 27th August 2013 a Power Purchase Agreement with EGAT was signed by the Nam Ngiep 1 Power Company Limited and the same day the Concession Agreement was signed with GoL through the Ministry of Planning and Investment.
5. **Legal Framework.** Lao legislation, policies, and regulations regarding social requirements for hydropower development have been put in place during the last 10 years and provide the framework for the development, construction and operation of the project. Furthermore, the project complies, as noted in the Concession Agreement, with international standards, including the ADB Safeguard Policy Statement 2009 (SPS). The Project will thereby always follow the stricter standard. This includes above all the usage of the ADB benchmark of 10% or more impact on Project Affected Persons (PAPs) when assessing a significant impact, the exclusion of any land donations, and compensation for customary land regardless of formal land titles.
6. **The Resettlement and Ethnic Development Plan (REDP).** The REDP, building on the Social Impact Assessment (SIA), provides the systematic program of all social, economic, and cultural mitigation measures requiring compensation, either in cash or in kind, for losses incurred due to construction and operation of the Project. This includes measures for (i)

those relocating to a designated resettlement site; (ii) those opting to self-relocate, or resettling within the same community; and (iii) those facing loss of other lands and/or of sources of livelihoods because of the project. Livelihoods of project-affected people (PAPs) will be restored by the Project as outlined in the Livelihood and Income Restoration Plan (LIRP). The document also includes an Ethnic Development Plan (EDP) as most PAPs belong to ethnic groups which meet criteria defined in ADB's 2009 Safeguard Policy Statement (SPS) of indigenous peoples. The EDP describes the Project's policies and programs to mitigate impacts and enhance benefits on culture, livelihoods and other issues specific PAPs from ethnic groups. The REDP contains methodologies and frameworks as well as key summarised baseline social information and assessments of significance of project impacts on various PAPs in each impact zone. The core of the REDP encompasses the mitigation plans (Compensation Policy, Resettlement Action Plans [RAP], LIRP, and EDP) as well as implementation structures (communication strategy, institutions, entitlement matrices, implementing schedule, and budget).

7. **Public Consultations.** This REDP is the outcome of a process lasting several years. This allowed a constant interaction with concerned stakeholders over a long period. Information on the project was disseminated through public consultation with PAPs and others in the study area and vice versa information has been gathered as the base for revising and amending assessments and plans outlined in the REDP.

(ii) Description of the Project

8. **Design and Location Alternatives.** The present dam site and power station location were confirmed in the original JICA Feasibility Study (1998-2002) on the basis of technical, financial, and economic considerations for electricity generation and 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.
9. **Dam and Reservoir.** NNP1 will build a 148 m high dam located in the Nam Ngiep River close to Hat Gniun village. The NNP1 catchment is 3,700 km² at the dam site. NNP1 reservoir will be narrow, long and deep. The reservoir effective storage capacity is 1,192 million m³ at Full Supply Level (FSL, 320 MSL). At this level the total surface area of the reservoir will be 66.9 km². The Minimum Operation Level will be at 296 MSL.
10. **Waterways.** Water will be spilled through 4 gates at the main dam, where electricity will be produced via turbines and then discharged into the re-regulation pond. To avoid fluctuations throughout the day downstream, a re-regulation dam will be built, through which a regulated discharge will take place. The re-regulation dam is 20.6m height and creates a re-regulation pond with a surface of 1,27 km² and an effective storage capacity of 4.6 million m³ at Full Supply Level at 185.9m MSL. Above the Minimum Operating Level of 174 MSL, water will be used to generate electricity for local consumption.
11. **Power Stations.** A semi-underground power station will be sited on the left bank of the

Nam Ngiep River downstream of the dam. The power station will allow electricity production with a rated output of 272.8 MW at the substation. The average annual energy production is estimated to be 1,515 GWh. The smaller powerhouse downstream of the re-regulation dam will allow electricity production with a rated output of 17.6 MW at the substation. The average annual energy production is estimated to be 105 GWh.

12. **Transmission Line.** The 230 kV transmission line, 125 km long, will connect the switchyard at the power station to the Nabong substation. For a large part the NNP1 transmission line will run in parallel with the NNP2 transmission line. At Nabong substation the NNP1 transmission line will link with several other transmission lines to a joint transmission line for power transmission to recipients in Thailand.
13. **Construction.** NNP1PC intends to award 4 main construction contracts. 1,000 to 1,800 workers will be engaged in construction work over a 5 year period. They will be based at three main camps downstream of the main dam on the left-hand river bank: the owner's camp, the main contractor's camp and the subcontractor's camp.
14. **Operation.** The Commercial Operation Date (COD) is presently planned for January 2019. 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 NNP1 reservoir and dispatches by EGAT.

(iii) Social Background

15. **Environment.** For an environmental background, please refer to the Environmental Impact Assessment and connected environmental mitigation measures plans.
16. **Agriculture.** Rice is the most common crop. Other crops include maize, cassava, and chilli. Most of the agriculture crops are for household consumption, and the surplus is sold to nearby markets or to merchants coming into the villages. This varies between the different villages. Above all the villages in the lower reservoir area lack easy access to markets, reducing market-related income possibilities. Rice sufficiency is therefore not currently present for all households, again with a higher incidence of rice insufficiency in the villages to be resettled.
17. **Livestock and Poultry.** Animal raising is common and in the Hmong communities additionally a status symbol. Nonetheless, numbers of large livestock vary considerably not just between villages, but between households.
18. **Forest Utilization.** Households rely on collection of non-timber forest products (NTFPs) for daily food, household utilization, and for cash income. However, over-usage throughout past years has reduced income possibilities.
19. **Fisheries.** None of the households in the project area fish as the primary activity for household income, however all households mention fish as an addition to their diet. Some households, above all in the upper reservoir area, are going on fishing trips and sell their catch to local restaurants.

20. **Income.** The total annual income (cash and imputed) varies strongly between the different project villages; again with higher incomes for the villages downstream, but with increasing opportunities for the villages upstream and the upper reservoir area due to their location at a new interregional road. Villagers in the lower reservoir area report the lowest income, with, however, again with differentiations between households inside the village.
21. **UXOs.** The main project construction sites (dam & power station) are considered to have a relatively low risk of UXOs as are the other project areas of influence. Nonetheless, being adjacent to heavily impacted areas in the north-east of Xieng Khouang Province, the project has planned to take necessary measures to handle the remaining risk of UXOs.
22. **Physical Cultural Resources.** Physical resources of archaeological and cultural significance have been identified in Thahuea village at a tributary downstream of the dam. Findings of Neolithic remains by villagers in 2LR are currently under investigation by NNPI's Environmental Management Office to assess the sources and the significance of these findings.
23. **Ethnicity.** The population distribution by ethnicity shows that the 3 main ethnic groups in the project area are Lao Loum, Hmong, and Khmu. The distribution of ethnic groups tends to vary by zone. The three villages at the upper edge of the reservoir are ethnically diverse. The largest community, Pou, has about 29% Lao Loum, 69% Hmong, and the rest Khmu. Piengta and Hatsamkhone are predominantly Lao Loum. The four villages in the lower part of the reservoir and the one village in the construction area are almost completely Hmong. Although Hmong are traditionally highland residents, these communities live in the river valley. Their settlements are quite recent with the oldest of the four villages having been established about 30 years ago. The lands were given to these villagers after the civil war, in gratitude for their support for the Pathet Lao. Nonetheless, the Project assessed in the REDP that they fulfil the criteria of ADB's definition of indigenous people based on national discussions of customary land use rights and ethnic groups together with the criteria outlined in the ADB's SPS.
24. **Gender.** Gender roles vary between the different villages. In general, marketing exchanges including both the purchase and sale of goods in distant towns are predominantly male activities, as are political leadership roles. On the other hand, household and local livelihoods work is mainly conducted by women. Schooling for women is lower than for men. The main ethnic group in the project area is organized patriarchally and above all women lack language skills and confidence to speak in public. The Project will implement a Gender Equity policy; this includes a pro-active policy during consultations and gender equality in all legal matters.
25. **Vulnerability.** Vulnerable Households are households who might suffer disproportionately from the loss of fixed and movable assets, other assets, and production base; or face the risk of being marginalized from the effects of resettlement. As required in the SPS SR3 (para 28) particular attention to the needs 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. In the project area,

vulnerable households falling under these categories have been identified. In the Lao context where the majority of people have no legal title to the land, a combination of other factors may need to be considered before classifying them under the vulnerable category. Affected communities will constantly be monitored for vulnerable households, which will be given special attention. Vulnerable households face the same impacts as other people in the Project Impact Zone. However, they are more sensitive to external shocks and therefore all the impacts described will have a stronger impact on their lives. The Project will implement the necessary measures to mitigate such impacts and to ensure that these households will maintain their livelihoods and at least reach national livelihood standards.

26. **Education.** All villages have a primary school, but of variable qualities. Some teach up to Grade 2, while others have classes up to Grade 8. The number of teachers per student varies considerably and above all in the remote villages of the lower reservoir area, education facilities lack quality because of remoteness of villages. The numbers of people who have completed any formal education is still quite low, especially among more remote communities and particularly among girls. It is only those communities downstream from the proposed dam site, near roads and larger towns that have higher educational rates.
27. **Health.** Most villages potentially affected by NNP1 have health services within 2 hours of travelling. However, the four villages to be resettled from the lower reservoir area have just access to one village health centre, with the next district hospital difficult to access during the rainy season. The most common causes of illness are respiratory diseases, intestinal infections, and malaria. Potential serious threats to long-term health status in the Nam Ngiep River Basin are malnutrition and the increase of sexually transmitted infections, in relation to infrastructure and mining activities in the area.

(iv) Social Impacts

28. **Environment.** For an environmental impacts, please refer to the Environmental Impact Assessment and connected environmental mitigation measures plans.
29. **Impacted Communities.** A total of 26 villages and one hamlet are potentially directly and indirectly impacted along the Nam Ngiep River by the NNP1 Project. Some villages are affected by more than one Project activity. The preliminary route of the 230kV Transmission Line will affect a further 17 villages whereas the 22kV distribution line to be used for construction will be installed within the existing line or right-of-way of existing roads; the Access Road affects another 2 villages, as well as 3 villages affected by main construction. Thus, altogether the Project impacts potentially 46 communities (45 villages plus one hamlet) in the wider Project Impact Zone. However, just 9 villages and one hamlet are expected to experience a significant impact: 3 villages in the upper-reservoir area, losing a considerable part of their low-laying agricultural land; 4 villages in the lower reservoir area, which will be completely inundated and requiring resettlement; 1 hamlet in the construction area, which will be inundated by the re-regulation reservoir and has to resettle; and 2 host communities, which have to share common resources and lose some privately held agricultural land in the designated resettlement site. All other villages along the Access Road and Transmission Line

will lose a small portion of their lands or temporary access to lands, while villages upstream of the reservoir and downstream of the re-regulation dam might experience water changes in the river and impacts on related socioeconomic activities.

30. **Land Acquisition and Resettlement.** In the upper reservoir area, 178 households will be impacted by the inundation of the reservoir and thus by Land Acquisition and Resettlement of the project. Out of these 178 households, 15 will lose their house. In the lower reservoir area, 384 households will lose their houses and most of their agricultural land, with just rubber plantations above FSL remaining, and thus have to resettle. So do 33 households in the construction area, inundated by the re-regulation pond. Next to sharing of common resources, just 21 households in the two host communities will require compensation for land acquisition in the resettlement site. Updated numbers on land acquisition for the Access Road are integrated in the respective sub-plan, i.e. the Land Acquisition and Compensation Plan for the Access Roads (LACP-AR) and the corresponding Social Audit of the LACP-AR completed by an external social expert; but no household not already integrated in the numbers above is expected to experience significant impacts from these facilities.
31. **Other Social Impacts.** Social impacts associated with the construction activities of a project of this nature not covered by land acquisition and resettlement will be avoided, minimized, and mitigated through the implementation of the Social Development Plan.

(v) Entitlement Policy

32. The overall policy of NNP1PC 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 self-resettle outside the designated resettlement area, or are not significantly impacted. In general terms, this means that houses directly impacted by the project and the associated residential lands will be replaced with new houses and with replacement residential lands at the designated resettlement site, properly titled, at no cost for the impacted households. Similarly the lost agricultural lands will be replaced by new agricultural lands in the designated resettlement site that will be developed by the Project and shall be of comparable agricultural value; all this at no cost again for the impacted households. In the designated resettlement site, the Project will ensure that every household has enough agricultural land to fulfil the livelihood and income restoration targets, which include a poverty elimination benchmark. Livelihoods of all affected households will be restored through various compensation measures. For significantly impacted households, livelihoods shall be restored and improved through agricultural support programmes that shall be in place until the fifth anniversary of the Project's COD. Regardless of whether they have lost less than 10% of their productive assets, the Project will improve the standards of living of the displaced poor and other vulnerable groups, including women, to at least national minimum standards. Detailed Entitlement Matrices have been developed, outlining the principles of compensation and resettlement as well as the different impacts and consequent entitlements.

(vi) Compensation, Livelihood Restoration and Relocation

33. **Plans.** This REDP contains the Entitlement Policy, a Livelihood and Income Restoration Plan, an Ethnic Development Plan, and Resettlement Action Plans for the different project zones.
34. **Entitlement Policy.** The Entitlement Policy describes the policy on compensation and resettlement applied by NNP1. This includes the principles of eligibility for entitlements; the implementation framework, including Confirmation Survey, Socioeconomic Survey; Asset-for-Asset procedures; Cash-for-Asset procedures; Impact categorization and related livelihood restoration demands; transitional measures; and special measures for vulnerable households. NNP1 will provide household compensation in form of asset for asset or cash for asset, according to household preference; transitional support during the project period; and livelihood and community development support. The latter includes construction of infrastructure for households and communities, as well as provision of training and knowledge complementary to the expertise and interests of community stakeholders.
35. **Livelihood and Income Restoration Plan.** The Livelihood and Income Restoration Plan corresponds with other mitigation measures of the Project for PAPs entitled to compensation for their losses, and also entitled to receive proper treatment in order to live their life at standards equal or better than before. The Project has to monitor thereby three tests: a Maintaining Economic Parity Test, which will ensure that impacted household will remain at the same or better income level than before Project impact; a Poverty Elimination Test ensuring that impacted households will raise above the national poverty line; and a Net Income Improvement Test, which will analyse if all significantly impacted communities will increase the average community income onto 200% of their baseline income ten years after COD, with more detailed steps outlined in the Concession Agreement. To comply with the 2009 ADB SPS requirement and ensure that the standards of living of all poor and vulnerable households will be improved to at least national minimum standards, progress to meet or exceed the national minimum standards shall also be monitored. To reach these targets based on the different conditions of each zone, zone-specific livelihood restoration and social development plans have been developed according to the specific impacts in the different project areas. These include on-farm activities as irrigation programs and livestock programs; as well as off-farm activities as skills and small-enterprise development trainings; additionally to an education program including a vocational training and a scholarship program. These plans for livelihood and income restoration are based on the facilitation of livelihood activities with PAPs. Thus, they have to be constantly adapted to the needs and also skills of the PAPs as well as the opportunities given by the changed circumstances. This includes the social preparation of PAPs and design and implementation of Livelihood and Income Generating Activities before, during, and after relocation.
36. **Ethnic Development Plan.** The Ethnic Development Plan describes impacts of the project on ethnic communities in the areas, particularly those that might affect their unique cultural or social aspects in the communities in the lower reservoir area and the construction area, which have to resettle. The ethnic development plan is presented to assure that project impacts do not have detrimental effects on the ethnic group communities, and that presents

social, economic, or cultural development issues particular for the ethnic groups. It also outlines how benefits will be shared in a culturally appropriate manner. This includes a focus on appropriate communication methods and languages during consultations, sensitive handling of impact on cultural resources as for example graves, and programs to ensure continuing cultural flows such as the collection and recording of local, oral history; cultural awareness programs; and the establishment of a small museum on local history in the resettlement site; all this in addition to culturally appropriate livelihood restoration programs.

37. **Resettlement Action Plans.** The Resettlement Action Plans for the Upper Reservoir Area (Zone 2UR), Lower Reservoir Area (Zone 2LR), Construction Site (Zone 3), Host Communities (Zone 5), Access Road, and Transmission Line describe for each project zone socioeconomic profile, scope of land acquisition and resettlement, zone-specific detailed entitlement matrices, budget and financing plan, institutional arrangements, schedule, and monitoring and reporting provisions. An additional chapter describes the development of the Houaysoup resettlement site close to the Dam Site in Bolikhan District, Bolikhamxay Province, encompassing an area of more than 6000ha, for resettlers from 2LR and Zone 3. The area offers opportunities and restrictions and the Project will invest in land preparation before resettlement to allow the usage of 420ha of paddy rice fields and more land for other agricultural activities. Development of the resettlement site will be conducted in two phases: in phase one, the site will be prepared for early resettlement of PAPs from Hatsaykham. In phase two, the site development will be finalized for the arrival of the other 4 villages resettling to Houaysoup prior to inundation of the reservoir. The actual land use will thereby be determined by Participatory Land Use Planning. In such a way, the villages to be resettled have already decided jointly on the placement of the residential area within the 6000ha. A broad range of infrastructure will be built and provided by the Project, including an access bridge, roads, houses, school, health centre, library, market, and a museum. All will be connected to electricity and water supply systems, with sanitation facilities. The Project will furthermore provide transitional measures, including a Rice Supplement Program and three months allowances for the period immediately following physical relocation. A separate analysis for relocation of Project Affected Persons within village boundaries in 2UR who will experience impacts on agricultural land is presented in the RAP for 2UR. Here, land development and above all livelihood restoration programs will be the core of the Project's mitigation measures. Existing public facilities will be repaired and upgraded to national standards.
38. **Complementing Plans.** Complementing plans on social development, including a Public Health Action Plan (PHAP), a Labour Management Plan (LMP), and a Community Development Plan (CDP) including a Gender Action Plan (GAP), can be found in the Social Development Plan (SDP) document.

(vii) Public Consultation, Disclosure and Consent of Affected Ethnic Groups

39. **Consultations.** As of the beginning of 2014, there have been numerous public consultation and participation briefings, presentations and meetings, which have taken place at the local, regional and national levels. 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, using a variety of appropriate methodologies, from village consultation meetings, focus group discussions, household consultations, and interviews with key informants. Thereby, appropriate ways of communication have been used, i.e. use of different languages, visual information materials, etc. A household survey has been conducted with all households of significantly impacted communities and a household survey on a 10% sampling base in all other villages. Inventories of loss have been prepared for all households impacted by land acquisition and resettlement. This process has initiated the process towards Broad Community Support by the affected communities for the social and resettlement program developed with them, including the grievance resolution mechanism. Consultations have been intensified since 2013 and since 2014 a designated and trained NNP1PC community consultation and development team with Hmong and female members is actively and full time involved in regular village and household consultations. Public consultation and disclosure will continue during the construction and operation phases of the project. Baseline surveys and inventories of loss will be updated throughout 2014.
40. **PAPs’ Concerns and Company Responses.** During consultations with villagers, a series of issues have been discussed and consequently the Project adapted its designs to reduce impacts and to integrate PAPs’ suggestions. The following selection of project design adaptations help amongst others to reduce adverse project impacts and increase PAPs’ ownership of the Project’s social plans and in result trust between the stakeholders:

Impact Area	Hmong Villagers Concern	Project Response	Timeframe of consultations
Z1/2UR	Inundation of most villages in 2UR and some villages of Zone 1	Reduction of the dam height and resulting full supply level to 320MSL	2000-2007
2UR	Villagers of 2UR do not want to lose access to the new main road D1	Resettlement to a new site have been given up in favour of relocation within village boundaries and increased livelihood activities	2013
2UR	Usage of the Drawdown Zone	The Project will support villagers regarding the usage of the drawdown zone, after having clarified legal issues with GoL and technical issues with agricultural engineers	2014
2LR	Selection of appropriate resettlement sites	Several sites have been assessed together with the PAPs from 2LR and Zone 3	2007-2012

2LR	The new resettlement area should be (a) an independent village, (b) the Government of Lao should transfer the new village land to belong to Hom District and (c) keep the title of a "Competition Combatant Village"	Ad (a), the Project will support the necessary administrative steps; Ad (b) a change of provincial boundaries (now with Xaysomboun) can be requested with support by the Project, but it is ultimately a GoL decision and unlikely Ad (c) the Project will support this and there is a general agreement among the RMU to also support this request	2011-2012
2LR	The reservoir clearance and cutting of economic wood must not exceed the water level (flood level)	The requested issue is clearly stated in the contract between the developer and GoL and biomass clearance is just allowed for inundated areas.	2011-2012
2LR	Propose project developer to extend rice supplement program from five to six years	The Project agreed to a rice supplement program of 5 years; worried about potential dependences created by such programs if lasting too long. At the same time the Project agreed that if an additional year is needed, GoL will address the Project for support. The rice supplement program should be seen as one aspect of the overall livelihood restoration support with a focus on enhancing ownership and independent livelihoods.	2011-2012
2LR	Beside the other village facilities which the project developer will construct, we also propose the project developer to construct village hall, this can be used as meeting hall, social activities shows (dancing show), culture and for other cultural events.	The Project agreed to this request and will construct a village hall in the resettlement site	2011-2012
2LR	Propose to expand the agriculture land to Houay Khee Guak area, also help and facilitate Mr. Thongphet to meet national committee to explain on villagers concerns.	Land allocation for the Houaysoup resettlement site has been increased trifold to 6000ha. Mr. Thongphet was able to meet with national authorities several times and additional the villagers were able to deliver letters to the National Assembly, containing their requests ; The Project is acquiring the necessary allocation certificates for the resettlement site for the people of 2LR and Zone 3	2011-2014

2LR	Propose Government to reserve the protection rights, the rights for land use and villagers' assets which will remain above full supply level (Livestock raising land, gardening land and others land)	PAPs are allowed to continuingly use these areas in a sustainable way if not creating negative impacts on soil, water, forest, and environment in correspondence with national legislation and the corresponding watershed management plan.	2011-2014
2LR	Soil Conditions in Houaysoup	Demonstration Farm and several site visits by PAPs; soil improvement starting in 2014; Trails starting from 2014 (see below)	2011-2014
2LR	Propose Government to allow villagers for fishery priority (fishing, selling- and buying fish) in the reservoir of NNP1 and giving rights for management of forest in the area of existing village.	The usage of the reservoir is regulated by public authorities, which did not provide a definitive answer on the request. The Project supports the rights of PAPs on the reservoir, amongst others with a fisheries-co-management program.	2011-2014
2LR	The project developer should compensate paddy land by cash to each individual land owner before the resettlement, when they arrive to the new resettlement village they can also have land provided by the project developer.	GoL requests compensation in line with Decree 192/PM. Following this instruction, the Project suggests a formula which guarantees all PAPs replacement paddy fields equivalent to what they legally own and in the case of lands under customary use, what is allowed to be legalized under law, and for landless PAPs a minimum number of paddy fields in the resettlement site. This will be increased depending on the number of people opting for resettlement to Houaysoup and those opting for self-relocation to places of their choice. This entitlement is outlined in the Draft Detailed Entitlement Matrix and can be adapted according to further negotiations between Project, GoL, and PAPs.	2011-2014
2LR	Propose project developer to compensate all affected assets before the resettlement as well as supports on transportation of all moveable assets of villagers to the new resettlement village.	The Project will compensate all affected assets as outlined in the Entitlement Matrix either in kind or in cash. Support for transportation has been agreed on and has been integrated into the Detailed Entitlement Matrices	2011-2014

2LR	Propose for agriculture land allocation to villagers at the same time as project construction period in order to allow villagers to clear the land and start planting other cash crops before the resettlement or resettlement earlier than planned.	The Project suggests improving soil before allocation of land in the resettlement site. PAPs will be included in the soil improvement program and a regulated and fair land allocation shall take place afterwards. The Project targets resettlement for 2017, one year before impoundment, allowing for a smooth transition.	2011-2014
2LR	Propose for job opportunities for 4 affected villages (especially the job which can be done by villagers) this will allow villager for better income.	The livelihood activities program includes a component for off-farm activities. Furthermore, the Labour Management Plan outlines measures to facilitate hiring local workers.	2011-2014
2LR	The village head man of Ban Nong/Sopyouak also proposed: The project developer and government must take back the rights of land use of Hat Gniun villagers and other villagers who stay in the new resettlement area and leave this land available for the newcomer (who will move to new resettlement site), this is to prevent other villagers living mixed with the new project resettlers.	After initial discussions with different ideas if existing land use should be continuingly tolerated or compensated and re-allocated, it has been decided that the Project will compensate all existing land users in the resettlement site, so that the full 6000ha can be handed over to the PAPs from Zones 2LR and 3.	2011-2014
2LR	Illiterate Hmong women fear not to understand the processes in the new resettlement site closer to urban areas	Resettlement preparation activities including trainings and literacy classes. Adoption of visual communication methods suitable for non-literate and appointment of female Hmong facilitators	2013-2014
2LR/Zone 3	Residential Area in the resettlement site	Change of resettlement layout to comply with villagers' choice of area	2013
2LR	Sustainability of Resettlement	Land development prior to resettlement; trials and pre-resettlement trainings; provision of a wide range of livelihood activity options in the resettlement site	2013/2014
2LR	Opportunities at the Resettlement Site especially for children and young adults	Establishment of school facilities up to high school; vocational training programs; scholarship program; On- and off-farm livelihood programs Access to urban areas Access to information technology infrastructure	2013/2014

2LR	Request for investigating land in Khammouan Province as potential resettlement site	GoL rejected resettlement to an area several hundred kilometres away	2014
2LR	Request for re-investigating land close to Phalavaek, amongst others supported by district officials in Phalavaek	The Project investigated together with GoL the area, and while there is residential land available close to Phalavaek town, there is little agricultural land available; definitively not for all four villages of 2LR. The Project will support further investigations to analyse potentials of the area for self-resettling households.	2014
2LR	Self-resettlement and cash compensation (richer households with land elsewhere in the district would like to self-resettle)	The Project agreed to three options for resettlers with PAPs and GoL: resettlement to Houaysoup, self-resettlement within the Project area of influence with follow-up activities by the project, and self-resettlement outside the Project area of influence with no follow-up by the Project; agreed criteria apply to each option to ensure economic viability of resettlement	2014
2LR	Younger people would like to split from their relatives and move to the resettlement site	The Project agrees to household splits as long as this does not cause the establishment of vulnerable households; several options are possible: <ul style="list-style-type: none"> i. both new households move to the resettlement site, ii. both new households self-resettle, iii. one new household resettles to the resettlement site, the other household self-resettles 	2013-2014
2LR	Request for several community support activities in the existing villages	Provision of solar power panels to Houaypamom; provision of school equipment for Namyouak and Sopyouak; improvement of water supply system in Sopphuane; livelihood activities program will start mid of 2014	2014
Z3	Hatsaykham would like to join the Hmong communities from 2LR	Original plan of relocating villagers from Hatsaykham closer to the main village Hat Gniun has been revised to allow Hatsaykham PAPs to resettle to Houaysoup	2011-2012
Z3	Concerns on Water Supply	Investigations on additional water sources in the area together with PAPs; constant monitoring of water quality in the area as outlined in the EIA	2014

Z3/Z5	Influx of Workers and Impacts on communities	Implementation of mitigation measures outlined in the SDP including a Social Management and Mitigation Program	2010-2014
Z3/Z5	Added pressure on existing infrastructure and facilities	Construction of new, upgraded infrastructure in the resettlement site open for households from host communities; repair of existing infrastructure in the host communities	2012-2104
Access Road	Compensation Rates not high enough and request of field visit to other hydropower project	Visit to other large hydropower project facilitated. Compensation rates above local market rates	2014
Access Road	Dust in villages along the Access Road	Regular watering of the road; Construction of tarmac-sealed road within villages	2013-2014
Project-wide	Self-monitoring of PAPs	The Project has hired a Deputy Manager for Social Monitoring and will integrate the suggestion into the detailed monitoring action plan; for fish-catch-monitoring, self-monitoring by PAPs will be essential	2014
Project-wide	Access to fisheries in impacted areas	A fisheries-co-management program will be implemented	2014

Re-Print of SIA Table “Consultations, PAPs’ Concerns, and Project Responses”

41. **Consent of Affected Ethnic Communities.** Consent or broad community support (BCS) of affected ethnic communities has been obtained in accordance with ADB SPS SR3 for the following project activities: (i) physical displacement from traditional or customary lands; and (ii) commercial development of natural resources within customary lands under use that would impact the livelihoods or the cultural, ceremonial, or spiritual uses that define the identity and community of Indigenous Peoples. Such communities who fulfil the criteria to be considered as Indigenous Peoples communities are the Hmong communities in the project zones of 2LR and Zone 3, who have to resettle and whose customary lands and livelihoods will be affected, as well as the related host communities of Zone 5. Meaningful consultations have been conducted in these communities since 2008, including exploring options to minimize involuntary resettlement impacts, choosing and evaluating various resettlement sites, discussing compensation measures for various impacts, and potential livelihood restoration measures. BCS assessments have been conducted between September 2013 and May 2015. Zone 2LR, in particular, has been involved in a long exploration of possible resettlement sites. After evaluating various sites, the designated resettlement site is the most feasible; however, PAPs remain concerned about the soil quality despite scientific studies stating that the soil quality in Houaysoup is not very different from those in 2LR. Thus whether the Project can improve the yield of the land in Houaysoup remains to be proven to the villages in Zone 2LR. Several richer households with land elsewhere demanded self-relocation as an option. The Project developed a soil improvement program and at the same time agreed on the self-relocation option after good faith negotiations. While concerns remain about the soil quality, these communities have unilaterally expressed

support for the Project and have been anticipating the start of the project as this has long been delayed. Khum Hatsaykham (Zone 3) requested to resettle with villages from 2LR to Houaysoup; the Project adapted its plans accordingly. To minimize adverse impacts of the influx of migrant labour, early resettlement of Hatsaykham is planned in early 2015. The Project sees this as pilot phase which is an opportunity for the project to demonstrate the measures to improve the productivity of the land in Houaysoup to the PAPs in Zone 2LR. People from Hatsaykham have expressed their support of the Project on an early stage and have since then continued to cooperate with the project. The host communities provided their consent early on, expecting better access and economic development from the Project. It is concluded that BCS has been obtained and these communities have no objection to the Project moving ahead. The Detailed Entitlement Matrices for all Zones have been disclosed and PAPs and Projects will move forward to the implementation phase.

(viii) Institutional Arrangements and Implementation

42. **National Framework.** To implement these programs, the project has established the necessary operational framework, processes and institutions, including a Provincial Resettlement and Livelihood Restoration Committee (PRLRC) and its secretariat, representing GoL, the Resettlement Management Unit (RMU) responsible for GoL participation and coordination with the NN1P on a day-to-day basis; and Village Development and Coordination Committees (VDCCs) at village level, with corresponding District Coordination Committees DCCs).
43. **NNP1PC.** NNP1PC has established the Environmental and Social Division (ESD), to include a Social Management Office (SMO) responsible for implementing and coordinating the social activities of the Project. The SMO is headed by a Senior Social Manager (SSM) reporting to the ESD Deputy Managing Director (DMD). This person is responsible for the overall implementation of the social obligations set in the Concession Agreement, the REDP, the SDP, and the Action Plans describe therein, and of the necessary interactions and coordination with the numerous parties involved. The SSM will implement all related programs and activities with a differentiated team of five SMO sections, again differentiated into several units, encompassing a broad range from resettlement infrastructure, resettlement and livelihood restoration in 2UR and 2LR/Zone 3, social development, and monitoring, and documentation, based in several offices at the Dam Site, in Sopyouak, in Thaviengxay, in Pakxan, and in Vientiane. This team will encompass more than 50 people, including national and foreign experts, supported by national and international consultants for specific topics such as nutrition, fisheries, etc.
44. **External Monitoring.** The Project's activities will be additionally externally monitored by the Independent Advisory Panel (IAP), the Independent Monitoring Agency in cooperation with GoL, and the Lenders' Technical Advisor (LTA); adding to self-monitoring of the Project via a monitoring section in the SMO and monitoring by government institutions on several levels with regular reporting obligations by the Project on a monthly, quarterly, and annually basis, as well as ad-hoc reports in case of non-compliance issues.

45. **Grievance Redress Mechanism.** Finally, the project has established a Grievance Redress Mechanism (GRM), which allows PAPs to raise their concerns and grievances with the Projects in a transparent manner over several steps. If mediation and reaction of the Company do not lead to a successful conclusion, PAPs can file a grievance with the Village Grievance Redress Committee to find a solution; if there is no success, the case will be forwarded to the District Grievance Redress Committee and in case of no success to the Provincial Grievance Redress Committee. In all committees the different Project stakeholders are present to support the finding of a mutual solution. At any point in time, PAPs have access to the national judicial system. If the project level GRM fails, PAPs also have independent access to ADB’s Accountability Mechanism.

(ix) Budget and Schedule

46. The social budgets of the Project are projected to be USD 44M before COD and USD 14.4M post-COD during the stabilization phase. An amount of USD 1.9M before COD and USD 1.7M after COD is included for the contingencies of both environmental and social components, as outlined in details below:

Overall Budget	Pre-COD in USD	Post-COD Stabilization Phase in USD	Total in USD
Resettlement site development (including Houaysoup, and land and infrastructure development for 2UR and Zone 5)	18,596,600	80,000	18,676,600
Compensation	8,669,388	1,445,000	10,114,388
Livelihood restoration programs	3,534,000	3,360,000	6,894,000
ESD - SMO	13,238,000	9,466,000	22,704,000
Total	44,037,988	14,351,000	58,388,988
ESD Contingencies (SMO + EMO)	1,903,963	1,734,998	3,638,961

47. These funds will be used to implement the activities outlined above as well as the activities outlined in the Social Development Plan and the Environmental Documents. Once final alignments have been determined, an increase in numbers is possible which would alter the provisional budgets prepared in this REDP. However, it does not change the obligations towards the PAPs, because the compensation obligations of the Project are limited by scope and not by budget¹.
48. A summarizing schedule can be found on the next page, while a detailed schedule is outlined in Chapter 11 of the REDP.

¹Concession Agreement, Annex C, Clause 6.

REDP of The Nam Ngiep 1 Hydropower Project

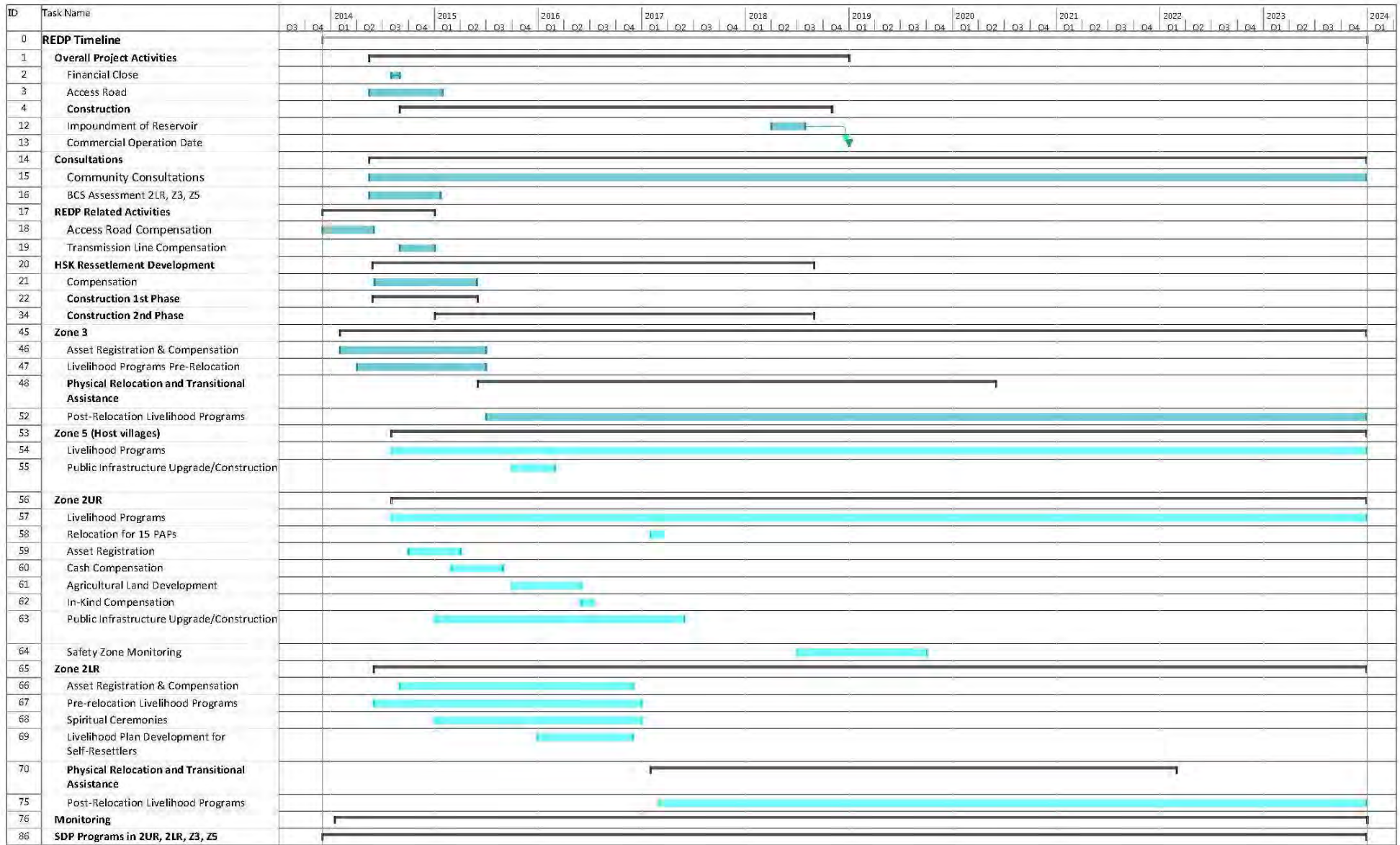


Figure 1: Summarized Schedule of the REDP

This version of the REDP has been published in June 2014 on Company and ADB Websites and in all Project information centres.

This REDP will be revised whenever major mile stones have been reached and/or new information is available to integrate.

List of Tables

Table 1: Project History	7
Table 2: Technical Specifications Main Dam	10
Table 3: Technical Specifications Re-Regulation Dam	10
Table 4: Technical Specifications Main Powerhouse	11
Table 5: Technical Specifications Re-Regulation Powerhouse	11
Table 6: Sizes of Additional Functional Areas during Construction Phase.....	12
Table 7: Access road: Improved Existing Road, New Permanent Road, and New Temporary Road.....	13
Table 8: Technical Specifications Main Powerhouse	15
Table 9: Technical Specifications Re-Regulation Powerhouse	15
Table 10: NNP1 Construction Schedule.....	16
Table 11: Project Design Adaptation to Avoid or Mitigate Project Impacts.....	18
Table 12: Population and Number of Households of Villages Impacted by Land Acquisition and Resettlement in the Project Area	25
Table 13: Land Use in Project Zones.....	25
Table 14: Selection of Social Standards to be applied by NNP1.....	30
Table 15: Gap Analysis ADB SPS SR2 / National regulations	36
Table 16: Gap Analysis ADB SPS SR3 / National regulations	42
Table 17: Age Distribution	50
Table 18: Population Changes in the REDP related Project Area, 2007/8 to 2011.....	50
Table 19: Infrastructure of villages in project Area	53
Table 20: Education Levels per Village and Project Zones.....	56
Table 21: Top Ten Diseases and Causes of Illness in 2005-2006	57
Table 22: Public Health Facilities and Public Health Personnel in the NNP1 Project Area ..	58
Table 23: Summary of Gender-Divided Activities	64
Table 24: Project Impacts Regarding Gender Topics	69
Table 25: Area of Paddy Field Cultivation and Swidden Cultivation in Zones 2UR, 2LR and 3.....	71
Table 26: Paddy Land in the Project Area, by Zone	71
Table 27: Yearly Rice Sufficiency Production of Households in in Zones 2UR, 2LR and 3 ...	75
Table 28: Major Livestock Numbers in Affected Villages in the Project Area	76
Table 29: Fish and Fisheries Survey Locations along the Nam Ngiep River.....	78
Table 30: Summary of Fishing Practices	80
Table 31: Imputed Income per Month per Person in Zones 3 and 5	82
Table 32: Declared Annual HH Cash Incomes of Communities in Zones 2UR, 2LR, and 3 ...	83
Table 33: Declared Annual HH Cash Income of Communities in Zone 5.....	83
Table 34: Average Cash Income per Person per Month in Zones 3 and 5	84
Table 35: Monthly Total Income Zones 3 and 5	84
Table 36: Imputed Consumption Values per Person per Month in Zones 3 and 5	85
Table 37: Average Expenditures per Person per Month in Zones 3 and 5	85

Table 38: Poverty incidence and inequality in Lao PDR, 1992 to 2008.....	89
Table 39: GDP Growth Rate of Lao PDR, 2006-2010	90
Table 40: Vulnerable person profile of each village	94
Table 41: Rice supplement program.....	122
Table 42: Ethnicity of Population.....	146
Table 43: Population of Ethnic Groups in the Project Area	147
Table 44: Key traditional cultural characteristics of ethnic groups in the project area	149
Table 45: Consultations, PAPs’ Concerns, and Project Responses.....	164
Table 46: Project Stakeholders.....	184
Table 47: PCD Process with PAPs from 2UR	193
Table 48: PCD Process with PAPs from 2LR.....	195
Table 49: PCD Process with PAPs from Zone 3.....	197
Table 50: PCD Process with PAPs from Zone 5.....	198
Table 51: PCD Process on District and Provincial Level	202
Table 52: PCD Process on the National and International Level.....	203
Table 53: Benchmarks of Community Interactions for SMO Units.....	205
Table 54: Consultations, PAPs’ Concerns, and Project Responses.....	207
Table 55: Indicative Social Key Performance Indicators	235
Table 56: Monitoring Plan REDP	237
Table 57: Gantt-Chart REDP-related Project Activities	251
Table 58: Project Roadworks - construction status as of end March 2014.....	254
Table 59: LACP-AR Corrective Action Plan.....	261
Table 60: Population Profile of Zone 3.....	263
Table 61: Age and Sex Structure of Hatsaykham	264
Table 62: Infrastructure of Hatsaykham	266
Table 63: Education Profiles of Affected People of Zone 3	267
Table 64: Infection Diseases Found in the Surveyed Villages of Zone 3	267
Table 65: Land Use Pattern of Zone 3, Khum Hatsaykham	269
Table 66: Rice Sufficiency in Khum Hatsaykham	269
Table 67: Livestock in Hatsaykham	270
Table 68: Yearly Household Income Activities	271
Table 69: Vulnerable Households in Hatsaykham.....	272
Table 70: Losses of Structures in Zone 3	275
Table 71: Loss of Lands in Hatsaykham	275
Table 72: Loss of Trees in Zone 3	276
Table 73: Compensation and Benefits Entitlements Zone 3.....	285
Table 74: Livelihood Activities Entitlements Zone 3	288
Table 75: Community Resources and Infrastructure Entitlements Zone 3.....	291
Table 76: Sub-Budget Livelihood Restoration Program Zone 3.....	294
Table 77: Sub-Budget Compensation Zone 3.....	294
Table 78: Current land use and land claims at Houay Soup.....	300
Table 79: Community concept of land development of Houay Soup	304
Table 80: Comparison of land demarcation inundated areas / resettlement area	307

Table 81: Reprint of Population Numbers.....	307
Table 82: Key infrastructure	309
Table 83: Spatial Requirements of each type of Building or Infrastructure of Houay Soup Resettlement Community	311
Table 84: Sub-Budget Houaysoup Resettlement Site Development Costs	332
Table 85: Population profile of Ban Hat Gniun & Thahuea	336
Table 86: Typical House of Lao Loum, Ban Hat Gniun.....	337
Table 87: Infrastructures of Ban Hat Gniun and Ban Thahuea.....	338
Table 88: Numbers of Students of Ban Hat Gniun School	339
Table 89: Education profile of PAPs of Ban Hat Gniun	339
Table 90: Land Use Patterns of Ban Hat Gniun and Ban Thahuea	340
Table 91: Vulnerable person profile of each village in Zone 5.....	343
Table 92: Compensation and Benefits Entitlements Zone 5.....	348
Table 93: Livelihood Activities Entitlements Zone 5	349
Table 94: Community Resources and Infrastructure Entitlements Zone 5.....	350
Table 95: Sub-Budget Infrastructure and Replacement Assets Zone 5.....	351
Table 96: Sub-Budget Livelihood Restoration Program Zone 5.....	352
Table 97: Affected Villages, Households and Population Distribution	357
Table 98: Existing Infrastructure and Facilities within the Villages affected by the Transmission Lines	358
Table 99: Land Use and Vegetative Cover along the 230 kV and 115 kV Lines.....	359
Table 100: Main Sources of Income of Villagers within the Project Area	360
Table 101: Permanent Loss of Land and Other Resource Uses	361
Table 102: Loss of Fruit and Other Commercial Trees	362
Table 103: Impacts of NNP 1 on Livelihood along Transmission Lines	363
Table 104: Compensation and Benefits Entitlements Transmission Line	369
Table 105: Livelihood Activities Entitlements Transmission Line.....	371
Table 106: Community Resources Entitlements	371
Table 107: Total Population and Household Number in Zone 2UR	375
Table 108: Age Distribution in the 3 villages of Zone 2UR	375
Table 109: Ethnicities of the Affected People of Zone 2UR	376
Table 110: Infrastructure of Villages in Zone 2UR	378
Table 111: Levels of Formal Education in Zone 2UR	379
Table 112: Infectious diseases in 2UR	380
Table 113: Land Use Pattern of Zone 2UR.....	382
Table 114: Rice Sufficiency Production Rates of HHs on a Yearly Basis	383
Table 115: Comparison Yield of Rice Production in 2UR	383
Table 116: Yearly Average Household Cash Income in 2UR.....	385
Table 117: Yearly Household Expenditures in 2UR.....	386
Table 118: Vulnerable person profile of each village in 2UR.....	387
Table 119: Loss of Structures in Zone 2UR to be inundated by 320m MSL Reservoir	390
Table 120: Loss of Lands in Zone 2UR to be inundated by 320m MSL Reservoir	390
Table 121: Loss of Trees in Zone 2UR	391

Table 122: Compensation and Benefit Entitlements Zone 2UR.....	401
Table 123: Livelihood Activities Entitlements Zone 2UR.....	404
Table 124: Community Resources and Infrastructure Entitlements Zone 2UR	405
Table 125: List of Infrastructure to build or upgrade in Zone 2UR	406
Table 126: Sub-Budget Infrastructure and Replacement Assets 2UR.....	411
Table 127: Sub-Budget Compensation 2UR.....	411
Table 128: Sub-Budget Livelihood Restoration Program 2UR	413
Table 129 Projected Affected People of Zone 2LR.....	417
Table 130: Age and Sex Structure of Ban Houaypamom	417
Table 131: Age and Sex Structure of Ban Sopphuane	417
Table 132: Age and Sex Structure of Ban Sopyouak	418
Table 133: Age and Sex Structure of Ban Namyouak	418
Table 134: Ethnicity of Affected People of Zone 2LR	419
Table 135: Membership in Mass Organizations in Zone 2LR	419
Table 136: Infrastructure Facilities and Services in Zone 2LR	420
Table 137: Formal Education Profile of 2LR	421
Table 138: Infectious Diseases Found in the Surveyed Villages in Zone 2LR	422
Table 139: Land Use Patterns of Villages in Zone 2LR – private land, in ha.	423
Table 140: Land Use Patterns of Villages in Zone 2LR – community land, in ha.	424
Table 141: Size of Land Holding of Households in Zone 2LR	424
Table 142: Area of Rice Cultivation in Comparison to Other Agricultural Activities	424
Table 143: Comparison Yield of Rice Production	425
Table 144: Rice Sufficiency Production Rates of Households on a Yearly Basis	425
Table 145: Annual Household Cash Income of Affected People of Zone 2LR	427
Table 146: Annual Household Expenditures of Affected People in Zone 2LR	428
Table 147: Potential Vulnerable Household of Zone 2LR	429
Table 148: Losses of Structures in 2LR.....	432
Table 149: Loss of Trees in Zone 2LR	433
Table 150: Loss of Public Infrastructure and Cultural Assets in Zone 2LR	434
Table 151: Compensation and Benefits Entitlements 2LR.....	442
Table 152: Livelihood Activities Entitlements 2LR	445
Table 153: Community Resources and Infrastructure Entitlements 2LR.....	447
Table 154: Sub-Budget Compensation 2LR.....	449
Table 155: Sub-Budget Livelihood Restoration Program 2LR	451
Table 156: Overall NNP1 SMO Budget.....	454
Table 157: NNP1 Resettlement Site, Infrastructure Development, and Land Development Sub-Budget.....	455
Table 158: NNP1 Compensation Sub-Budget	457
Table 159: Livelihood Restoration Program Sub-Budget	460
Table 160: NNP1 SMO Operation Costs Sub-Budget	461

List of Figures

Figure 1: Summarized Schedule of the REDP.....	xxii
Figure 2: Location of the Nam Ngiep Hydropower Project.....	8
Figure 3: Locations of Main Features	9
Figure 4: Alignment of Transmission Lines	12
Figure 5: Road route plan for new access roads in the construction area.....	13
Figure 6: Road route plan for new access roads in the construction area.....	14
Figure 7: Dam site with schematic technical project drawing	16
Figure 8: Map of NNP 1 Project Impact Zone.....	22
Figure 9: Schools in the project area	55
Figure 10: Gender Differences in Traditional Inheritance Practices	67
Figure 11: Fish and fisheries survey locations along the Nam Ngiep River.....	79
Figure 12: Gini-Index development in Lao PDR	88
Figure 13: Map of Lao PDR: 72 District identified as poor	91
Figure 14: Flowchart of Compensation Program for non-Resettlers and Cash Compensation.....	106
Figure 15: Photos of irrigation channels in Bolikhan District.....	131
Figure 16: Typical area planned for rubber tree plantation	135
Figure 17: Rubber processing	136
Figure 18: Typical area of mixed deciduous forest	138
Figure 19: Income at 2LR.....	138
Figure 20: Typical Houses of each Ethnicity in the project area.....	150
Figure 21: Geographic Conditions of the Reservoir Area	175
Figure 22: Surrounding Area of 2LR.....	178
Figure 23: Consultations among PAPs about project suggestions.....	186
Figure 24: PAPs’ remarks and suggestions during joint consultation meeting of representatives from 5 villages on the designated resettlement site of Houaysoup	187
Figure 25: Discussion of Resettlement Site Development by PAPs based on 3D model	188
Figure 26: Schematic of the Grievance Procedure for the NNP1 Project	211
Figure 27: Institutional Arrangements for the NNP1 Project	215
Figure 28: ESD – Organizational Structure.....	218
Figure 29: Khum Hatsaykham	263
Figure 30: Typical House Style in Ban Hatsaykham.....	265
Figure 31: Map of Affected area of Khum Hatsaykham by Inundation	273
Figure 32: Map of Affected area of Khum Hatsaykham by Facilities.....	274
Figure 33: Village leader from Hatsaykham explain the Resettlement site to villagers in Sopyouak during consultation meetings on 3rd of September 2013	296
Figure 34: Existing land uses in Houay Soup in June 2011	299
Figure 35: Marked land use at Houay Soup by households from Hat Gniun.....	301
Figure 36: Marked land use at Houay Soup by households from Hatsaykham.....	301
Figure 37: PAPs indicating land use / claims in Houay Soup	302
Figure 38: Land demarcation plan discussed with PAPs.....	305
Figure 39: Conceptual design of Houaysoup resettlement area	310

Figure 40: House model 1	312
Figure 41: House model 2	313
Figure 42: House model 3	313
Figure 43: Power supply plan for NNP1	314
Figure 44: Weir site for drinking water pond and water quality	315
Figure 45: Image of water supply	315
Figure 46: Water tank and tap water at Theun Hinboun Ex HPP.....	316
Figure 47: Basic style of school.....	316
Figure 48: Basic style of health centre	317
Figure 49: Basic style of community hall and village office.....	317
Figure 50: Basic style of market.....	318
Figure 51: Basic style of bus station.....	319
Figure 52: Waste generation in Laos	319
Figure 53: Comparison of typical content of waste disposal in 2001 by ADB.....	320
Figure 54: Schematic design of waste disposal area.....	320
Figure 55: Planned waste disposal area at Bolikhan District	320
Figure 56: Low land, flat area planned for paddy field.....	321
Figure 57: Layout of low land and hilly land along the Houay Soup River.....	321
Figure 58: Layout of paddy field area in Houay Soup	322
Figure 59: Weir site of Southern Fish Pond	323
Figure 60: Location of Fish Ponds.....	324
Figure 61: Typical area planned for cultivation land.....	325
Figure 62: Typical area planned for grass land.....	326
Figure 63: Livestock at 2LR.....	327
Figure 64: Process of beef cattle raising	327
Figure 65: View of forest for fire wood	328
Figure 66: Procedure of firewood planting in ten years' time	329
Figure 67: Raw wood and kiln	329
Figure 68: Charcoal production from waste wood sawmill near Pakxan.....	329
Figure 69: Site inspection by representatives of PAPS on Aug. 2011	333
Figure 70: Hmong and Lao Spiritual Ceremonies at the designated resettlement site in Houaysoup	334
Figure 71: Transmission Lines connecting NNP1 dam site	356
Figure 72: Map of villages of Zone 2UR	374
Figure 73: Map of Affected Area of Ban Piengta	388
Figure 74: Map of Affected Area of Ban Hatsamkhone.....	388
Figure 75: Map of Affected Area of Ban Pou	389
Figure 76: Suspension bridge across the Nam Ngiep.....	407
Figure 77: Map of Affected Villages of Zone 2LR	416
Figure 78: Map of affected area of Ban Houaypamom.....	430
Figure 79: Map of affected area of Ban Sopphuane.....	431
Figure 80: Map of affected area of Ban Sopyouak and Ban Namyouak.....	432

Abbreviations

Abbreviation	Full Name
ADB	Asian Development Bank
AIDS	Acquired Immune Deficiency syndrome
AIT	Asian Institute of Technology (of Thailand)
APs	Affected People
ARI	Acute Respiratory Infection
ASEAN	Association of Southeast Asian Nations
ASL	Above sea level
AusAID	Australian Agency for International Development
Avail.P	Available Phosphorus
AVG	Average
B.	"Ban" - Village in Laotian Language
BCS	Broad Community Support
BOD	Biological Oxygen Demand
BOOT	Build-Own-Operate-Transfer
BOT	Built-Operate-Transfer
BP	Bank Procedure (World Bank)
CA	Concession Agreement
CAD	Computer Assisted Drafting
CAS	Country Assistance Strategy
CBD	Convention on Biological Diversity Economic efficiency
CBR	Crude Birth Rate
CDF	Community Development Fund
cent/kWh	Cent per kilo Watt hour
CFRD	Concrete Faced Rock fill Dam
CITES	Convention on International Trade in Endangered Species
cm.	Centimetre
cm ³ /s	Cubic centimetre per second
CMR	Child Mortality Rate
COD	Commercial Operations Date
CPS-NSC,2002	CPS-National Statistical Center,2002
CWR	Centre for Water Research of Western Australia
DAFEO	District Agriculture and Forestry Extension Office
DAFO	The District Agriculture Forestry Office
DBH	Diameter at Breast Height
DCC	District Coordination Committee
DDT	Dichloro-Diphenyl-Trichlorethane
DEPD	Department of Energy Promotion and Development
DESIA	Department of Environmental and Social Impact Assessment inside MoNRE
DGC	District Grievance Committee

DGRC	District Grievance Redress Committee
DHF	Dengue Haemorrhagic Fever
DHO	District Health Office
DHPM	Department of Hygiene and Preventive Medicine
DiF	The Division of Fisheries
DLF	Department of Livestock and Fisheries
DOE	Department of Electricity
DOF	Department of Forest
DOL	Department of Land
DPWT	Department of Public Works and Transport
DRWG / DWG	District Resettlement Working Groups / District Working Groups - old terminology; NNP1's relevant institution is labelled DCC - District Working Group
DS	Downstream
DSCR	Debt Service Cover Ratio
DWA	Defined Works Area
EAC	Environmental Assessment Committee
EAMP	Environmental Assessment and Management Plan
EC	Electrical Conductivity
ECA	Export Credit Agencies
ECCD	Early Childhood Care for Development
ECRD	Earth Core Rockfill Dam
EdL	Électricité du Lao
EDP	Ethnic Development Plan, one component of the REDP
EGAT	Electricity Generating Authority of Thailand
EGATi	EGAT international
EIA	Environmental Impact Assessment
EIRR, FIRR	Economic/Financial Internal Rate of Return
EL.() m	Meters above Sea level
EM	Environmental Manager
EMC	Environmental Management Committee
EMMP	Environmental Management & Monitoring Plan
EMMU	Environmental Management and Monitoring Unit
EMO	Environmental Management Office
EMU	Environmental Management Unit
EOD	Explosive Ordnance Disposal
EPF	An Environmental Protection Fund
EPI	Expanded Program of Immunization
EPL	The Environmental Protection Law (National Law 02/99)
ERIC	Environmental Research Institute of Chulalongkorn University
ESD	Environment and Social Division
F/C	Forage species/carnivorous species ratio

F/S	Feasibility Study
FAO	Food and Agriculture Organization of The United Nations
FIPC	Forest Inventory and Planning Centre
FS, F/S	Feasibility Study
FSL	Full Supply Level
FTA	Federal Transit Administration
FWL	Flood Water Level
GDP	Gross Domestic Product
GHG	Greenhouse Gases
GIS	Geographical Information System
GMS	Greater Mekong Sub-region
GoL	Government of Lao PDR
GPS	Global Positioning System
GRID	Gender Resource and Information Development (GRID) Center
GRM	Grievance Redress Mechanism
GWh	Giga Watt Hour (one million watt hour)
H/H, HH	Household
Ha	Hectare
HC	Head Construction Contractor
HCC	Head Construction Contract
HEPP	Hydroelectric Power Project
HH	Households
HIV	Human Immune Deficiency Virus
HRD	Human Resources Development
HV	High Voltage
IAP	Independent Advisory Panel
IAR	Impacted Asset Registration
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association (a unit of the World Bank groups)
IEE	Initial Environmental Examination
IFC	International Finance Corporation
IMA	Independent Monitoring Agency
IMF	International Monetary Fund
IMR	Infant mortality Rate
IOL	Inventory of Loss
IPDP	Indigenous Peoples Development Plan
IPP	Independent Power Producer
IRR	Internal Rates of Return
IRRI	International Rice Research Institute
IUCN	World Conservation Union (The International Union for Conservation of Nature)

JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
JSC	Joint Steering Committee
KANSAI	The Kansai Electric Power CO.,INC.
km	Kilometre
km²	Square Kilometre
kV	Kilo volt
kVA	Kilo Volt-Ampere
kW	Kilo watt
LACP	Land Acquisition and Compensation Plan
LAK	Lao Kip
LANIC	Lao National Inter Committee
LAR	Land Acquisition and Resettlement
LFNC	Lao Front for National Construction
LHSE	Lao Holding State Enterprise
LIRP	Livelihood and Income Restoration Plan
LNCE	Lao National Committee for Energy
LNFC / LFNC	Lao National Front for Construction / Lao Front for National Construction
LNTA	Lao National Tourism Administration
LPRP	Lao People's Revolutionary Party
LRC	Livelihood Restoration Committee
LRHS	Lao Reproductive Health Survey - 2000
LSHE	Lao Holding State Enterprises
LTA	Lenders' Technical Adviser
LV	Low Voltage
LWU	Lao Women Union
m	Meter
m²	square meter
m³	Cubic meter
m³/s	Cubic meter per second
MAF	Ministry of Agriculture and Forestry
MAR	Mean Annual Runoff
MCTPC	Ministry of Communication, Transportation, Post and Construction
MDB	Multilateral Development Bank
MEM	Ministry of Energy and Mines
MIH	Ministry of Industry and Handicrafts
MLA	Multilateral Agencies
mm.	Millimetre
MMR	Maternal Mortality Rate
MOH	Ministry of Health

MOI	Ministry of Industry
MOL	Minimum Operation Water Level
MoM	Minutes of Meeting
MoNRE	Ministry of Natural Resources and Environment
MOU	Memorandum of Understanding
MRC	Mekong River Commission
MSL	Mean Sea Level
MSY	Maximum Sustainable Yield
MW	Mega Watt (one million watt)
MWL	Maximum Water Level
N/A	Not Applicable
NAFRI	National Agriculture and Forest Research Institute
NBCA	National Biodiversity Conservation Area
NCC	National Consulting Company
NEAP	National Environmental Action Plan
NEM	New Economic Mechanism
NEPO	National Energy Policy Office
NGO	Non-Government Organization
NGPES	Nation Growth and Poverty Eradication Strategy
NNP1	The Nam Ngiep Hydropower Project 1
NNP1PC	Nam Ngiep 1 Power Company
NPA	National Protected Area (the preferred term is NBCA)
NSC	National Statistics Centre (of Lao PDR)
NTEC	Nam Theun 2(NT2) Electricity Company
NTFP	Non-Timber Forest Product
NTPC	Nam Theun 2 Power Company
NUOL	National University of Laos
NWL	Normal Water Level
OD	Operational Directive (World Bank)
ODA	Official Development Assistance
OHS	Occupational Health and Safety
OP	Operational Policy (World Bank)
PAFO	Provincial Agriculture and Forestry Office
PAP	Project Affected People
PCFP	Public Consultation and Participation Process
PDA	Project Development Agreement
PDR	People Democratic Republic
PE	Primary Energy
PCD	Public Consultations and Disclosure
PGRC	Provincial Grievance Redress Committee

PHO	Provincial Health Office
PIB	Public Information Booklet
PM	Prime Minister
PMF	Probable Maximum Flood
PMM	Protection and Mitigation Measures
PMO	Prime Minister's Office
PMP	Probable Maximum Precipitation
PPA	Power Purchase Agreement
PPE	Personal Protective Equipment
PRA	Participatory Rural Appraisal
PRLRC	Provincial Resettlement and Livelihood Restoration Committee
PRP	Preliminary Resettlement Plan
QA	Quality Assurance
RAP	Resettlement Action Plan
RCC	Roller Compacted Concrete
RCS	Replacement Cost Survey
RCS/RCSC	Resettlement and Compensation / Resettlement and Compensation Sub-Committee
REDP	Resettlement and Ethnic Development Plan
RH	Relative Humidity
RMU	Resettlement Management Unit
RO	Resettlement Office
ROE	Return on Equity
ROR	Run of the River
ROW	Right of Way
RTM	Round Table Meeting
RWL	Rated Water Level
SCADA	Supervisory Control and Data Acquisition
SD	Social Development and Monitoring Section
SDP	Social Development Plan
SE1	Secondary Energy One
SE2	Secondary Energy Two
SIA	Social Impact Assessment
SMMP	Social Management and Monitoring Plan
SMO	Social Management Office
SOA	Study of Alternatives
SPS	Safeguard Policy Statement
SPS 2009	Social Policy Statement 2009 (ADB)
STD	Sexually Transmitted Disease
STEA	Science, Technology and Environment Agency
STI	Sexually Transmitted Infection

t/km²/yr ; (ton/km²/year)	tonnes per square meter per year
T/L	Transmission Line
TA	Technical Assistance
TB	Tuberculosis
TBA	Traditional Birth Attendant
THPC	Theun-Hinboun Power Company
TOR	Terms of Reference
TSS	Total Suspended Solids
UN	United Nations
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	UN Frame work Convention on Climate Change
UNFPA	United Nations Population Fund
UNICEF	United Nations International Emergency Children's Fund
UNITS	
UPS	Uninterruptible Power Supply
US	Upstream
US\$/USD	United States Dollar (US Dollar)
USEPA	United States Environment Protection Authority
UXO	Unexploded Ordnance
VDC	Village Development Coordination Committee
VGRC	Village Grievance Redress Committee
VHV	Village Health Volunteer
VRC	Village Resettlement Committee
WB	World Bank
WCD	World Commission on Dams
WCS	Wildlife Conservation Society
WHO	World Health Organization
WMCA	Watershed Management Conservation Agency
WQ	Water Quality
WREA	Water Resources & Environment Administration
WWF	World Wildlife Fund

CHAPTER 1 - Introduction

49. The Resettlement and Ethnic Development (REDP) is one of 10 safeguards documents prepared by the Nam Ngiep 1 Power Company for the Nam Ngiep 1 Hydropower Project (NNP1, the Project) to meet the requirements of the NNP1 Concession Agreement (CA) and its referring standards, including those of the Asian Development Bank (ADB). These documents outline assessments and specific measures to address different social and environmental impacts, in total comprising the Environmental and Social Impact Assessment (ESIA):
- i. The Environmental Impact Assessment (EIA), which reviews environmental conditions and potential environmental impacts of the proposed dam with suggested mitigation measures. The EIA also includes the elements of a suggested watershed management (WSM) program, to protect forest and water resources throughout the Nam Ngiep watershed, maintaining sufficient water supply to the dam and minimizing soil erosion and siltation, to ensure effective dam operation for its expected life.
 - ii. The Environmental Management Plan (EMP), which provides the systematic program over the project's lifetime to mitigate environmental impacts within the immediate area affected by the project.
 - iii. The Social Impact Assessment (SIA), which reviews anticipated social, economic, labour, and cultural impacts of the proposed Project as well as the legal and social framework in which it is placed.
 - iv. *The Resettlement and Ethnic Development Plan (REDP), which is this document, more fully described in following sections.*
 - v. The Social Development Plan (SDP), which describes social, economic, labour, and cultural development measures not requiring relocation or compensation for losses and so are not part of the REDP.
 - vi. The Initial Environmental Examination (IEE) of Transmission Lines.
 - vii. The Land Acquisition and Compensation Plan for the Transmission Line (LACP-TL), which describes the program of all mitigation measures involving compensation for losses incurred by Transmission Line construction from the Dam Site to the Nabong Substation.
 - viii. The Initial Environmental Examination (IEE) of the Access Road. This report is provided as an annex to the ESIA.
 - ix. The Land Acquisition and Compensation Plan for the Access Road (LACP-AR), which describes all mitigation measures involving compensation for losses incurred due to the Project's pre-construction works on Access Roads to the Dam Site. As of April 2014, more than 80% of PAPs have already been compensated and a Social Compliance Audit of the LACP-AR implementation conducted by an external senior social safeguards consultant engaged by ADB in order to assess compliance with ADB's SPS requirements.
-

- x. The Initial Environmental Examination (IEE) of the resettlement area, which assesses the environmental impacts of the development of the designated resettlement site in Houaysoup.
50. Each document is readable as stand-alone-document. Therefore, certain information is repeated in each document. The ESIA documents will be disclosed to the public as required by the project's Concession Agreement (CA) and in compliance with ADB's Public Communications Policy (PCP) on information disclosure.² These emphasise the importance of public consultation in preparing safeguards documents, and their subsequent public disclosure. Broader public disclosure is online through NNP1 and ADB websites, as well as printed publications in the NNP1 Power Company (NNP1PC) Headquarters, field offices, and information centres. Documents are also provided to Government of Lao PDR (GoL) authorities, including the Ministry of Natural Resources and Environment (MONRE) and provincial, district, and village authorities. Executive summaries and entitlement matrices are translated into Lao and Hmong languages. Further details on information disclosure are found in chapter 8. As the ESIA documents are living documents, updates will be provided to the same stakeholders via the same procedures. These include a first revision of the REDP and preparation of various subplans as stand-alone documents prior to any impacts occurring, including the Livelihood and Income Restoration Plan (LIRP) and Ethnic Development Plan (EDP) 6 months from CA Effective Date³. All updates will first be submitted to MoNRE, ADB and lenders for review and approval, prior to disclosure and implementation.

1.1 *Scope of the REDP*

51. The REDP provides the systematic program of all social, economic, and cultural mitigation measures requiring compensation, either in cash or in kind, for losses incurred due to construction and operation of the Project. This includes measures for (i) those relocating to a designated resettlement site; (ii) those opting to self-relocate, or resettling within the same community; and (iii) those facing loss of other lands and/or of sources of livelihoods because of the project. Livelihoods of project-affected people (PAPs) will be restored by the Project as outlined in the LIRP (see Chapter 6). The document also includes an EDP (Chapter 7) as most PAPs belong to ethnic groups which meet in varying degrees the criteria defined in ADB's 2009 Safeguard Policy Statement (SPS) of indigenous peoples. The EDP describes the Project's policies and programs to mitigate impacts and enhance benefits on culture,

² Annex C, Clause 17.b.xvi and 17.c.ii. ADB, *Public Communications Policy 2011, Disclosure and Exchange of Information*, <http://www.adb.org/documents/pcp-2011?ref=site/disclosure/publications>

³The Effective Date will be reached once all specified conditions for the Effective Date of the Concession Agreement as outlined in the main document (outside Annex C) have been fulfilled and Government of Laos and NNP1 Power Company have acknowledged this Effective Date, to be expected end of August 2014. Therefore, these requested updated Social Documents by the CA, Annex C, will be provided approximately at the beginning of 2015.

livelihoods and other issues specific PAPs from ethnic groups. The REDP contains methodologies and frameworks as well as key summarised baseline social information and assessments of significance of project impacts on various PAPs in each impact zone. The core of the REDP encompasses the mitigation plans (Compensation Policy, Resettlement Action Plans [RAP], LIRP, and EDP) as well as implementation structures (communication strategy, institutions, entitlement matrices, implementing schedule, and budget).

52. Various methods have been used to collect relevant data to prepare the REDP, including: population survey, assets inventory, and in-depth consultations with PAPs, their local leaders and elders, district and provincial administrators, and other key informants. Information on the project, including proposed entitlements, programs and activities, has been disseminated through public consultation with PAPs and others in the study area (see Chapter 8).
53. Data on areas and communities affected by the project are obtained from studies conducted for the NNP1 Project over a long time period, and updated between 2011 and 2013. Two feasibility studies were conducted by Nippon Koei Co., Ltd. in 2000 and 2002. In 2007/8 and 2011 initial baseline data was collected by the Environmental Research Institute of Chulalongkorn University (ERIC) to produce a draft ESIA. Details on sources and methodologies are included in the SIA.
54. In 2013/2014 Social Safeguard Documents were updated by NNP1 to further improve and bring the documents into compliance with GoL and ADB safeguard standards, to incorporate feedback from PAPs into project planning and program development, and to better reflect a revised project implementation structure.
55. During project implementation, numbers of people and affected assets may change. Confirmation Surveys will be conducted by each impact zone after Cut-Off-Dates are declared. A cut-off date in January 2014 was set for land acquisition and compensation procedures for the Access Road. For other impact zones, the Cut-Off-Date has been announced by the Provincial Resettlement and Livelihood Restoration Committee (PRLRC) as April 11, 2014. The Transmission Line Cut-Off-Date will be declared after final design, due to be concluded in mid-2014. While an increase in numbers will alter provisional budgets presented in this report, it does not change obligations towards the PAPs which are limited by scope and not by budget⁴.

⁴Concession Agreement, Annex C, Clause 6.

1.2 Structure of the report

56. The REDP consists of 19 chapters in five parts plus eight Annexes:

Part I: Project Background

- i. Chapter 1 – **Introduction**: describes the scope and structure of the report;
- ii. Chapter 2 – **Project Description**: presents project features, its components, the main dam and its re-regulating dam, the powerhouse, transmission lines and access roads. It describes design changes to reduce social and environmental impacts, and defines the different impact zones.
- iii. Chapter 3 – **Legal Framework and Policies**: provides the legal, administrative, and policy framework for resettlement and ethnic development;
- iv. Chapter 4 – **Overview of Social Crosscutting Issues**: provides a general description of social characteristics of affected people, and cross-cutting socio-economic aspects including Ethnicity, Gender, Education, and Health.

Part II: Principles and Processes

- v. Chapter 5 – **Entitlement Policy and Eligibility**: describes the principles and policies for compensation and resettlement, including the implementation framework, impact categorization, forms of compensation trainings, transitional measures for resettlement, and measures to meet specific needs of vulnerable groups.
- vi. Chapter 6 – **Livelihood and Income Restoration Plan**: this section describes how the project will support restoration and enhancement of livelihoods affected by the project, as well as broaden the benefits of training and opportunities to host communities.
- vii. Chapter 7 – **Ethnic Development Plan**: describes impacts of the project on ethnic groups in impact zones, particularly those that might affect their unique cultural or social characteristics. This section outlines measures to mitigate impacts, address concerns, and participate in culturally appropriate methods to engage with the project. It also describes steps to arrive at Broad Community Support (BCS).
- viii. Chapter 8 – **Public Consultation and Disclosure**; this Chapter describes the various stakeholders who have an interest in the project, how public communication and consultation started and is continuing, and how stakeholder feedback has been obtained and incorporated into project planning and programming.

Part III: Institutions and Monitoring

- ix. Chapter 9 – **Institutional Arrangements and Implementation**: describes the project's institutional structure, institutions responsible for implementing the resettlement process and associated mitigation measures, outlines the grievance mechanism, as well as mechanisms for coordination and cooperation among responsible parties;
- x. Chapter 10 – **Monitoring and Supervision**: outlines the overall monitoring and supervision process for implementing the REDP including internal and external Project monitoring and reporting as well as of independent agencies.

Part IV: Zone-Specific Compensation, Livelihood Restoration and Resettlement Action Plans

- xi. Chapter 11 – **Sequence of Activities**: describes the overall timeline of LACP activities by project impact zones, first during project construction and subsequently during operations.
- xii. Chapters 12 to 18 – **Land Acquisition Impacts and Resettlement and Livelihood Restoration Planning for Access Road, Transmission Line, and Zones 2UR, 2LR, Z3, and Z5**: these Chapters describe area specific impacts during construction works (Chapters 12-16) and after impoundment (Chapters 17 and 18) from land acquisition, resettlement and livelihood restoration activities. Details in each Chapter include a brief introduction to the socio-economy of each impact zone, followed by a description of the scope of land acquisition and resettlement, entitlements and mitigation measures, budget and institutional arrangements for each zone, and concludes with a schedule of zone activities. LACP for the Access Road and Transmission Line are outlined in more detail in their separate plans, and are therefore only summarized in Chapters 12 and 16. Chapter 14 describes the development of the Project’s Houaysoup Resettlement Site.

Part V: Summary

- xiii. Chapter 19 – **Consolidated Budget and Schedule of Activities**: describes the combined budget for all measures included in the REDP, and presents the activities schedule together with responsible parties for each mitigation program.

Part VI: Annexes

- i. Annex A – **Broad Community Support**: provides documentation of how Broad Community Support has been ascertained.
- ii. Annex B – **Entitlement Matrices**: provides the overall Project Entitlement Matrix of the Concession Agreement (CA) plus Detailed Entitlement Matrices (DEMs) for each impact Zone
- iii. Annex C – **Asset Inventory 2011**: presents an asset list and pictorial record of affected households as identified during the Survey of 2011.
- iv. Annex D – **Terms and Definitions**: glossary of terms and definitions used by the Project
- v. Annex E – **Scientific Analysis of Houaysoup Resettlement Area**: provides details on the scientific analysis of the resettlement site including rain and flood analysis, geology, and soil analysis
- vi. Annex F – **Cut-Off-Date**: provides the government instruction on the Project’s overall cut-off-date for April 11 2014 as well as an English translation.
- vii. Annex G – **NNP1 Information Booklet** - an English- and Lao-language sample of the Project Information Booklet circulated to local implementing agencies and PAPs
- viii. Annex H – **Survey Templates 2011**: provides template forms of the baseline and initial asset registration survey conducted in 2011
- ix. Annex I – **External Monitoring**: provides the terms of reference for the Project’s external monitor

CHAPTER 2 - Project Description

2.1 Project History

57. The Nam Ngiep 1 (NNP1) Hydropower Project will be designed, implemented, maintained, and operated by the NNP1 Power Company (NNP1PC) for a period of 27 years under a build, operate, transfer agreement with Government of Lao PDR (GoL). For the concession period, operation and maintenance will be outsourced to the Japanese KANSAI Electric Power Co., Inc., and EGATi Electricity Generating Authority of Thailand International Co.. Design and construction of the project is divided into different NNP1PC divisions under the Managing Director. These are the Civil Division (CD), the Environment and Social Division (ESD), the Administrative Division, and the Finance Division. ESIA related assessments, planning, and implementation fall under the responsibility of the ESD. The organizational structure is more fully described in Chapter 9.
58. The project was identified in the early 1990s and a preliminary Feasibility Study (FS) conducted by the French company Sogelerg Sogreah in 1991. An MOU was signed between the GoL and the Shlapak Group of USA in 1991 but was cancelled in 1996. At the request of the Government of Lao (GoL), Japan International Cooperation Agency (JICA) through Nippon Koei conducted a new FS of the Project in two phases, 1998-2000 (Phase 1: focus on environmental impacts) and 2001-2002 (Phase 2: focus on technical and commercial aspects). The FS, submitted to GoL in November 2002, confirmed the feasibility of the Project on a build-operate-transfer basis and recommended an optimized development plan of the Project based on physical, economic, and safeguard considerations.
59. Nippon Koei as an investor concluded the MOU with GoL to implement a further study of the Project in May 2003. During this period, The KANSAI Electric Power Co., Inc. ("KANSAI") joined the study, and KANSAI and Nippon Koei made a review report in May 2004. KANSAI and Nippon Koei signed the Project Development Agreement (PDA) on 27th April 2006.
60. KANSAI, Electricity Generating Authority of Thailand ("EGAT") and Rojana Industrial Park Ltd. ("Rojana") (collectively, "the Consortium") entered into an agreement to jointly develop the Project and signed a memorandum of understanding ("the Consortium MOU") on 9th April 2007. Nippon Koei withdrew upon signing the Consortium MOU and Rojana also withdrew from the Consortium in September 2007.
61. The Tariff MOU was concluded on 13th June 2007; however, due to increasing Engineering-Procurement-and-Construction (EPC) prices, result of the rapid price inflation of oil during the EPC tendering process, and consequently the necessity of a higher tariff for maintaining commercial feasibility, the Tariff MOU was terminated on 29th December 2008.
62. Based on the concept of EGAT Power Development Plan 2010, KANSAI re-submitted a Tariff proposal to EGAT and an MOU was concluded with EGAT in July 2011. The Consortium MOU was amended on 18th June 2009, reflecting the transfer of project shares from EGAT to EGAT International Co, Ltd. (EGATi). Finally on 27th August 2013 a Power

Purchase Agreement (PPA) with EGAT was signed by the Nam Ngiep 1 Power Company Limited and the Concession Agreement (CA) signed with GoL represented by the Ministry of Planning and Investment. Shareholders are now KANSAI (45%), EGAT International (EGATi) (30%), and Lao Holding State Enterprise (LHSE) (25%). Financial Closure is targeted for early 2014. The Consortium is seeking financing from the Asian Development Bank (ADB), Japan Bank for International Cooperation (JBIC), and regional and international commercial banks. Following Financial Closure, main project construction will begin, with impoundment during the rainy season of 2018 and operations in 2019.

63. Environmental and social (E&S) planning has proceeded parallel to commercial and engineering plans. First assessments were integrated in the JICA FS, with additional studies conducted since 2007. Annex C of the Concession Agreement(CA) describes all legal E&S obligations of the project with GoL (as represented by MoNRE), and was signed by MoNRE on 24th April 2013, prior to that of the main Concession Agreement.

Year	Technical and Commercial Activities	Environmental and Social Activities	Agencies
1991	Preliminary Feasibility Study		Sogelerg Sogreah Group (France)
1991	MoU (signed); cancelled in 1996		GoL / Shlapak Group (USA)
1998-2000		Phase 1 Feasibility Study (Environmental impact)	Nippon Koei on behalf of JICA requested by GoL
2001-2002	Phase 2 Feasibility Study (Technical and commercial)		
2003/4	MoU and Review Report		Nippon Koei / GoL plus Kansai Electric
2006	Project Development Agreement		
2007	Consortium-MOU; Tariff-MOU	Draft Environmental and Social Surveys and Assessments	Kansai, EGAT, Rojana Industrial Park (short-term); ERIC/NCC on E&S
2008	Termination of Tariff-MOU		Kansai, EGAT; ERIC/NCC on E&S
2009	Amended Consortium MoU		Kansai, EGATinternational
2011	New Tariff MoU	Socioeconomic and Impact Survey	Consortium, EGAT; ERIC, NCC on E&S
2012		Draft ESIA Documents	ERIC
2013	Establishment NNP1PC, Signing of CA and PPA	Revision of ESIA Documents	NNP1PC, GoL, EGAT, EdL; NNP1PC/ ADB on E&S
2014	Financial Closure, Effective Date of the CA, Start of Construction	Finalization of ESIA Documents and approval by ADB	NNP1PC, Lenders, GoL; NNP1PC/ ADB on E&S
2019 (planned)	Commercial Operation Date	All E&S Mitigation Measures in place	NNP1PCS

Table 1: Project History

2.2 Description of the NNP1 Hydropower Project⁵

2.2.1 Project Location

64. The NNP1 Hydropower Project (the Project) will be located on the Nam Ngiep River in Bolikhamxay province, central Lao PDR. The main facilities, including the main dam, re-regulation dam, and power generating plants, will fall in Bolikhan District of Bolikhamxay province, just adjacent to the border with Xaysomboun Province, about 160 km north-east of Vientiane municipality, the capital of Lao PDR. The main reservoir will cover parts of Xaysomboun Provinces to the north-west of the main dam. The Nam Ngiep River originates in Xiengkhouang Province, flowing through Xaysomboun and Bolikhamxay Provinces before discharging into the Mekong River just upstream from Pakxan, Provincial Capital of Bolikhamxay Province (Figure 2). The Project will create 2 dams: a main dam and a re-regulation dam, both located in Bolikhan District (Bolikhamxay) close to the boundary to Hom District (Xaysomboun). Access to the dam site will be facilitated by upgrading the existing road from Nonsomboun village to Hat Gniun village, close to Bolikhan town. Transmission lines will connect the two power houses at the dam site to Pakxan town for local consumption and to Nabong Substation in Vientiane Province, to connect to an existing transmission line already exporting electricity to Thailand. Figure 3 shows in more detail the facilities in the construction area.

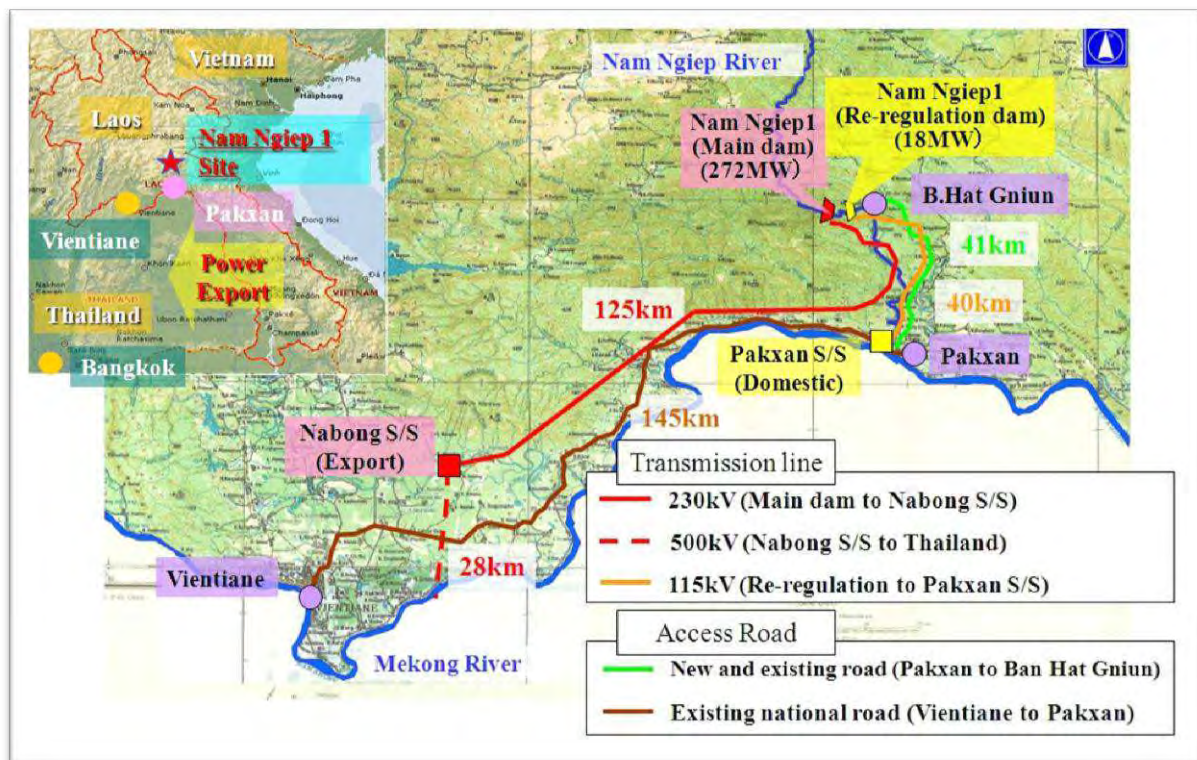


Figure 2: Location of the Nam Ngiep Hydropower Project

⁵ A more detailed description of the summarized technical project features is presented in the EIA.

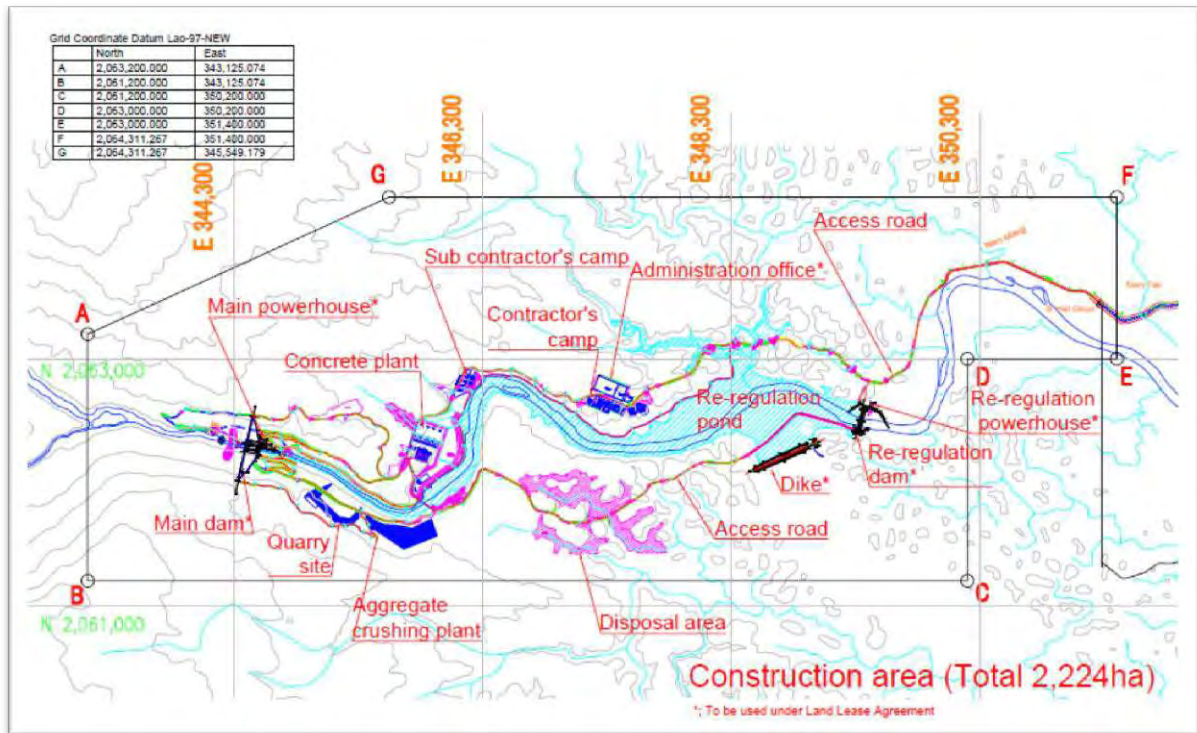


Figure 3: Locations of Main Features (Source: Technical Report, September 2011)

2.2.2 Main Dam and Re-Regulation Dam

65. The main dam will be a roller-compacted concrete (RCC) type with 148 m in height situated in a gorge that cuts between 2 mountains: Mt. Huasua to the northeast and Mt. Katha to the southwest. The site is at about 4.9 km upstream from Ban Hatsaykham and 9.4 km upstream from the main village Ban Hat Gniun. The main dam together with the main powerhouse covers permanently an area of 11.8 ha.

Facility	Items	Unit	Specifications
<i>Main dam</i>	Type	-	Concrete gravity dam (Roller-Compacted Concrete)
	Dam height	m	148.0
	Crest length	m	530.0
	Dam volume	10 ³ m ³	2,034
	Crest level	MSL.m	322.0
<i>Spillway</i>	Gate type	-	Radial gate
	Number of gates	-	4
	Design flood	m ³ /s	5,210 (1,000-year)
<i>Intake</i>	Type	-	Bell-mouth
	Number	-	2
	Discharge capacity	m ³ /s	230.0
<i>Penstock</i>	Type	-	Covered by concrete and embedded

Facility	Items	Unit	Specifications
	Number	-	2
	Length	m	185
	Diameter	m	5.2

Table 2: Technical Specifications Main Dam (Source: Technical Report, May 2013)

66. A free overflow type concrete gravity dam of 90.0 m length and 20.6 m height will be built 6.2 km downstream from the main dam, 1.3 km downstream from Ban Hatsaykham and 3.2 km upstream from Ban Hat Gniun. Additionally, a dyke on the right bank river side will prevent unregulated water flows into the low-laying areas of adjacent Houaysoup, while providing the opportunity for an irrigation system in the resettlement site of Houaysoup (see chapter 14). The Re-Regulation Dam and the related powerhouse cover an area of 2.4ha.

Facility	Items	Unit	Specifications
<i>Re- regulation Dam</i>	Type	-	Concrete Gravity dam
	Dam height	m	20.6
	Crest length	m	90.0
	Dam volume	10 ³ m ³	23.9
	Crest level	MSL.m	187.0 (non-overflow section)
<i>Re-regulation gate</i>	Type	-	Fixed wheel gate
	Number	-	1
	Discharge Capacity	m ³ /s	160
<i>Dyke</i>	Type	-	Concrete gravity (Roller-Compacted concrete) associated with rock-fill dam
	Crest length	m	507.2
	Dam height	m	14.6
<i>Spillway</i>	Gate type	-	Ungate spillway (Labyrinth type)
	Design flood	m ³ /s	5,210 (1,000yr)
<i>Intake</i>	Type	-	Open
	Number	-	1
	Discharge capacity	m ³ /s	160.0

Table 3: Technical Specifications Re-Regulation Dam (Source: Technical Report, May 2013)

2.2.3 Power House

67. The stored water of the main reservoir will be released through two turbines to produce electricity; with variations over day and week according to the electricity demands of the international buyer. The powerhouse at the main dam will have an electrical producing capacity of 272.8 MW, or 1,515 GWh per year.

Facility	Items	Unit	Specifications
<i>Powerhouse</i>	Type	-	Semi-underground
	Length	m	25.0

Facility	Items	Unit	Specifications
	Width	m	62.5
	Height	m	47.2
<i>Turbine and generator</i>	Maximum plant discharge	m ³ /s	230.0
	Gross head	m	132.7
	Effective head	m	130.9
	Type of turbine	-	Francis
	Rated output	MW	272.8 (at substation)
	Annual power generation	GWh	1,515 (at substation)

Table 4: Technical Specifications Main Powerhouse (Source: Technical Report, May 2013)

68. From the re-regulation reservoir, water will be released, thereby producing constant electricity for local consumption and regulating fluctuations from the main dam with even discharge from Monday to Saturday and reduced discharge on Sundays. The powerhouse at the re-regulation dam will have the capacity of 17.6 MW, or 105 GWh per year.

Facility	Items	Unit	Specifications
<i>Powerhouse</i>	Type	-	Semi-underground
	Length	m	46.4
	Width	m	22.1
	Height	m	49.1
<i>Turbine and generator</i>	Maximum plant discharge	m ³ /s	160.0
	Gross head	m	13.1
	Effective head	m	12.7
	Type of water turbine	-	Bulb
	Rated output	MW	17.6(at substation)
	Annual power generation	GWh	105 (at substation)

Table 5: Technical Specifications Re-Regulation Powerhouse (Source: Technical Report, May 2013)

2.2.4 Additional Components in the Construction Area

69. Additional Components in the Construction Area cover the following items
- Administration office
 - Quarry site
 - Stockpile and plant and camp yards
 - Disposal areas
70. Apart from the administration office, none of these areas will be permanently used by the Project. Land temporarily acquired will be re-vegetated and returned to previous users (private or community) in a restored state.

Functional area	Size	Length	Permanent*
	(ha)	(km)	Yes/No
Quarry site	8.5	-	No
Temporary yards (Plant yard, camp yard, coffer dam, diversion)	24.6	-	No
Disposal area	26.0	-	No
Administration office	3.2	-	Yes
Total Temporary Land Loss	59.1 ha		
Total Permanent Land Loss	3.2 ha		

Table 6: Sizes of Additional Functional Areas during Construction Phase

2.2.5 Transmission Lines

- There are two transmission lines (T/L) connecting the project, a 230 kV line and a 115 kV line. The 230 kV transmission line will be constructed by the Project and routed from the powerhouse of the main dam to Nabong Substation, for a total of 125 km in length. The 115 kV transmission line will be constructed under the full responsibility of Electricite de Lao (EdL) and routed from the powerhouse of the re-regulation dam toward Pakxan Substation, running in parallel with the first line before diverging at Ban Nampa, with a length of 40 km. Additionally, the Project will use EdL facilities to provide electricity to the construction site as well as to the new resettlement site of Houaysoup, located in Bolikhan district. This 22kV line will originate in Pakxan, continue to Nonsomboun, and from there along the Access Road to the dam site. This transmission line will be installed by upgrading and extending (in Hatsaykham) an existing transmission line and lies within the right-of-way of existing roads where new transmission line poles have to be installed.

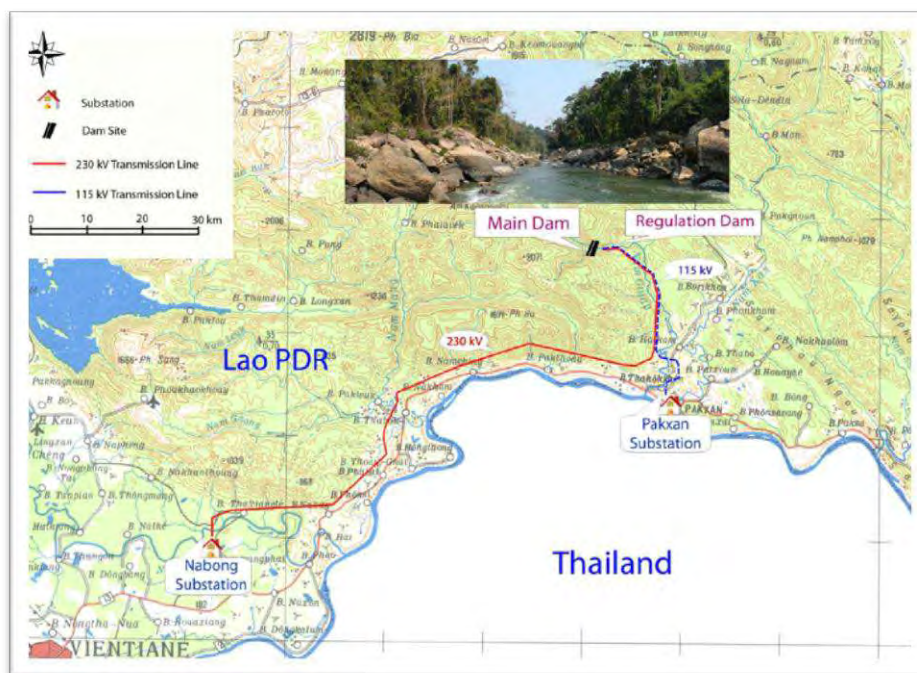


Figure 4: Alignment of Transmission Lines

2.2.6 Access Roads

72. Access roads requiring improvement or new construction run for a total of about 58.42 km, as shown in Table 7 and Figure 5 and Figure 6; of these, 21.2 km of the existing road from Ban Nonsomboun to Ban Hat Gniun and 9.25 km of the pre-existing JICA road⁶ need rehabilitation. Another 11.2 km of newly constructed permanent road will be built from Ban Hat Gniun to the construction area and within the grounds of the project facilities. 16.8 km of temporary road will be required for transportation within the construction area. The access road will also be used for transportation and access to the new resettlement site located on the right bank behind the dyke. Impacts of the Access Roads are described and addressed in a separate LACP-AR. Resettlement related to specific access roads crossing the Nam Ngiep River into the Houay Soup resettlement area will be outlined in this REDP.

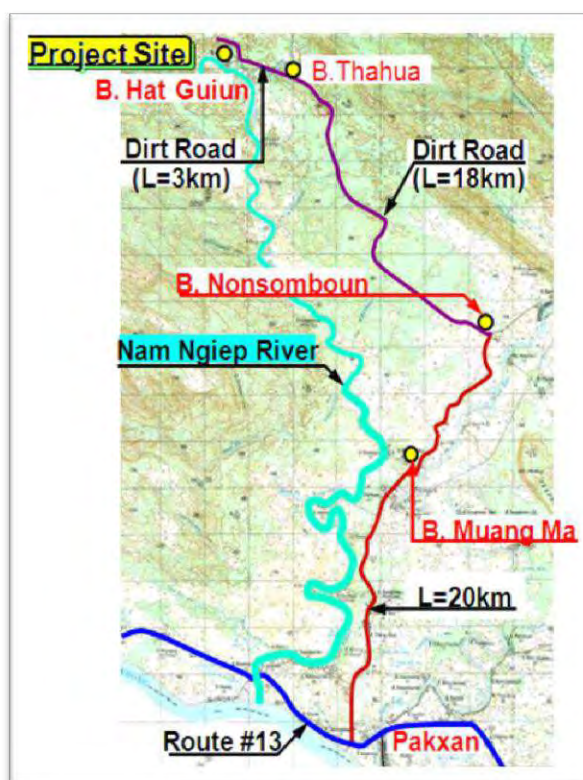


Figure 5: Road route plan for new access roads in the construction area

No.	Road section	Distance	Road condition
Part I: Improvement of existing Road from Ban Nonsomboun to Dam Site (Distance and Existing Road Conditions)			
	Permanent road from Nonsomboun to Hat Gniun	21.2 km	Dirt road (sealed in community areas)
	Temporary road along old JICA road	9.25 km	Dirt road
	Total improvement of existing road	30.45 km	
Part II: New Road Construction from Ban Hat Gniun to Dam Site (Distance and Specification of New Road)			
	Permanent road	11.2 km	Subgrade (Non-surface treatment except in community areas)
	Temporary road	16.8 km	Subgrade (Non-surface treatment)
	Total new road construction	28.0 km	
	Total Access Road Length	54.6 km	

Table 7: Access road: Improved Existing Road, New Permanent Road, and New Temporary Road

⁶A small access road linking Hat Gniun and the dam site, constructed during the feasibility study on NNP1 by JICA in early 2000.

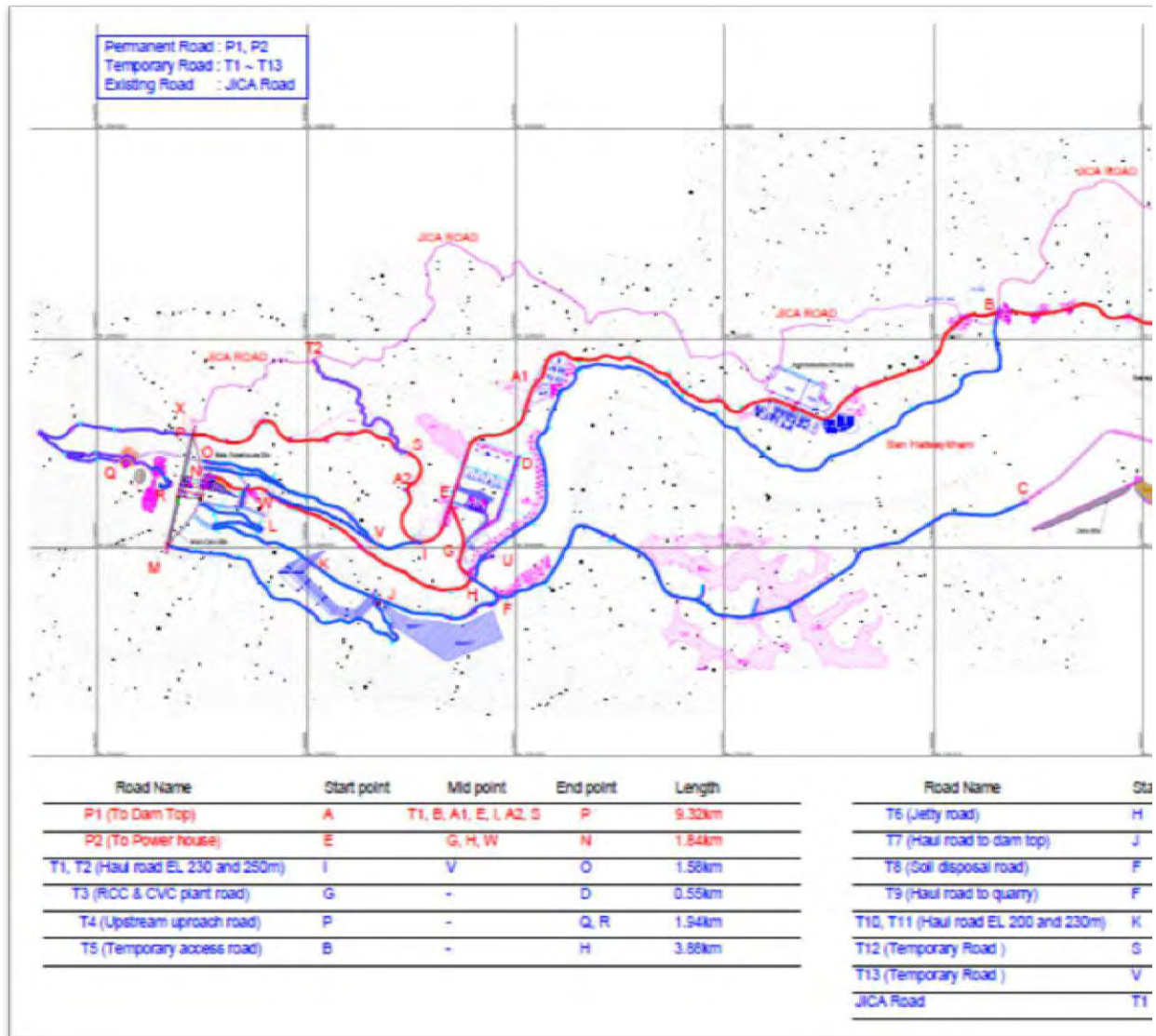


Figure 6: Road route plan for new access roads in the construction area

2.2.7 Reservoir and Reservoir Lifetime

73. The main dam will create a 66.9 km² reservoir. The reservoir will be rather narrow, but long and deep, extending about 70 kilometres in length. The maximum water level is set for Mean Sea Level (MSL) 320 m and the minimum water level at MSL 296 m.

Facility	Items	Unit	Specifications
<i>Main Reservoir</i>	Flood water level	MSL.m	320.0
	Normal water level	MSL.m	320.0
	Rated water level	MSL.m	312.0
	Minimum operating level	MSL.m	296.0
	Available depth	m	24.0
	Reservoir surface area	km ²	66.9
	Effective storage capacity	10 ⁶ m ³	1,192
	Catchment area	km ²	3,700
	Average annual inflow	m ³ /s	148.4
mill.m ³		4,680	

Table 8: Technical Specifications Main Powerhouse (Source: Technical Report, May 2013)

74. The re-regulation dam will create a second reservoir of 1.27 km², with maximum water level of MSL 179 m and minimum water level of 174 m.

Facility	Items	Unit	Specifications
<i>Re-regulation pond</i>	Flood water level	MSL.m	185.9
	Normal water level	MSL.m	179.0
	Rated water level	MSL.m	179.0
	Minimum operating level	MSL.m	174.0
	Available depth	m	5.0
	Reservoir surface area	km ²	1.27 at NWL
	Effective storage capacity	10 ⁶ m ³	4.6
	Catchment area	km ²	3,725

Table 9: Technical Specifications Re-Regulation Powerhouse (Source: Technical Report, May 2013)

75. Based on comparison with other major hydropower project sites in Lao PDR with similar geology and landuse over a 50 year period, not included the trapping capacity of the five other dams in the catchment, sediment plumes are expected to reach 233 MSL, while NNP1 intake at the main dam is at 274 MSL. No periodic dredging or bottom discharge releases (sediment flushing) are anticipated; the dam design is based on low sediment yield. A detailed analysis on the lifetime of the reservoir can be found in the EIA.

2.2.8 Construction Schedule

76. While preliminary works, such as construction and upgrading of access roads, commenced in December 2013, construction on the primary site is planned to start in mid-2014, and will take around 70 months to finish. The indicative construction schedule is presented in the

fluctuate over a 24 hours period. The re-regulation pond will balance these fluctuations and allow a flat discharge into the Nam Ngiep, with constant electricity consumption for local use.

2.3 Design Changes to Reduce Project Impacts

78. The project has analysed together with PAPs and GoL, adaptations of the project-design to reduce and avoid social and environmental impacts from the outset. These measures are outlined in Table 11.

Topic	Original Plan	Avoided Impact	Project Adaptation	Area
<i>Reservoir height</i>	Original Plan: 360MSL	Flooding of several villages in the upper reservoir area	Reduction of reservoir height to 320MSL	Upper Reservoir Area, Xaysomboun Province
<i>Resettlement Upper Reservoir</i>	Resettlement of part of 3 villages to a new resettlement site	Split of communities, loss of local knowledge, merging of different villages, new host communities, possible loss of ethnic identity, loss of social and economic ties.	Relocation of 15HH within village boundaries and joint efforts on land development and alternative livelihood restoration activities	Upper Reservoir Area, Xaysomboun Province
<i>Resettlement Site Lower Reservoir</i>	Resettlement to several sites spread out in Vientiane Province	Split of villages-cluster, dissatisfaction of villagers	Several options and then development of the Houaysoup resettlement site in Bolikhamxay Province	Xaysomboun Province / Bolikhamxay Province
<i>Resettlement of Hatsaykham</i>	Relocation closer to Hat Gniun (Lao Loum main village)	Increasing pressure inside the administrative village, potential inter-community conflicts, loss of ethnic identity	Resettlement to Houaysoup with other Hmong communities	Bolikhamxay Province
<i>Water-Intake</i>	/	Risk of low oxygen in released water and impact on downstream aquaculture	High intake of reservoir water for electricity generation	Bolikhamxay Province / Downstream
<i>Re-Regulation Dam</i>	/	Strong and daily fluctuation of water levels downstream	Construction of a re-regulation dam	Bolikhamxay Province / Downstream
<i>Access Road I</i>	50m non-exclusive right for extending access road	Significant land acquisition and impacts	Significant reduction of the usage of this right	Bolikhamxay Province
<i>Access Road II</i>	Roads optimized on straightness	Impact on several houses and a cemetery	Re-alignment of the access road to avoid all potential impacts	Bolikhamxay Province

Topic	Original Plan	Avoided Impact	Project Adaptation	Area
			on houses and the cemetery	
<i>Access Road III</i>	Alternative Route	Extensive impacts on paddy rice fields	Rejection of the Alternative Route	Bolikhambxay Province
<i>Access Road IV</i>	/	Dust reducing living quality of PAPs	Regular watering during construction	Bolikhambxay Province
<i>Labour Camps</i>	/	Large camp follower communities	Obligation for contractors to provide all facilities within camps, preparation of Labour Management Plan	Bolikhambxay Province

Table 11: Project Design Adaptation to Avoid or Mitigate Project Impacts

79. The initial plan was to construct a higher dam, allowing the reservoir to fill up until 360MSL. This would have impacted several more villages in the upper reservoir area, flooding all villages in Thaviengxay Villages-Cluster, Thathom District, Xaysomboun Province. Concerns were not just raised because of loss of houses, but as well because of an essential part of the province's rice fields. A second design established a full supply level at 340MSL, but still several villages would have been flooded. The current design was agreed to establish a reservoir with a full supply level of 320MSL. Thus, the impact in the upper reservoir area was reduced considerably and according to the impact assessment for the upper reservoir area, only 15 houses and agricultural land of three villages will now be impacted (Survey 2011).
80. Secondly, the original plan was to resettle impacted people in the upper reservoir area to a new resettlement site, including all PAPs losing houses or significant parts of their agricultural land. After a series of consultations with the PAPs and GoL, it was finally decided together with the PAPs to drop this plan, to allow PAPs to relocate within their existing villages, and to support the development of land and alternative income sources to allow full livelihood restoration in their original homes. Replacement houses for 15 impacted houses will be rebuilt within the village boundaries and replacement agricultural land sourced either within the village or in adjacent villages through willing-buyer-willing-seller arrangements. Community separation is avoided, and PAPs can continue to make use of the newly constructed inter-provincial road connecting them to the provincial capital of Xieng Khouang as well as to provinces south of Xaysomboun.
81. Selection of a suitable and mutually acceptable resettlement site for villages impacted in the lower reservoir area has been the result of several years of exploration and negotiation between GoL, PAPs, and the Project. Several sites were explored and rejected before final site selection in the Houaysoup area in Bolikhambxay Province. The administrative challenge of resettling people over provincial boundaries has been taken on to allow the usage of a larger area. Thus the original allocated land of 2,000ha has been increased to an allocation of more than 6,000ha. PAP feedback on the Houaysoup site is reflected in Chapters 7 and 8.

82. Fourthly, the sub-village of Hatsaykham with people of Hmong origin, impacted due to the inundation of the re-regulation dam, was intended to be relocated within its existing administrative boundaries closer to the main village of Hat Gniun, populated mainly by Lao Loum households. When the Houaysoup area, just opposite Hatsaykham on the other side of the Nam Ngiep River, was explored as a potential resettlement site for the four villages impacted in the lower reservoir area (all of which constitute Hmong communities), the Project, together with the relevant GoL authorities, agreed to facilitate the request of Hatsaykham to relocate to Houaysoup instead to join with the other four Hmong villages, to form a new administrative unit.
83. Fifthly, reducing potential operational impacts for downstream villages, water-intake for power generation is situated high in the dam. This reduces the risks of releasing water with low oxygen levels and mitigates fisheries impacts.
84. Sixthly, the re-regulating dam will prevent disturbance of the river downstream through fluctuations of water release at the main dam. Water release at the main dam depends on electricity demands by the international buyer, which again depends on different usage of electricity during different times over the day. The re-regulation reservoir will store the water from fluctuating release and provide at the lower end a steady release of water downstream, preventing hourly changes of river height.
85. During the construction phase, impacts will be minimized by reducing the construction area at the access road. While the Concession Agreement provides a non-exclusive right of a total of 50m width, this right will not be used fully so as to limit impacts on PAPs along the road. Furthermore, the alignment of the road has been adapted to avoid any impact on PAPs' houses. Within and close to villages the access road will be watered several times daily to prevent dust from construction traffic.
86. Finally, contractors are obliged to provide full facilities in labour camps, reducing the number of camp followers and limiting associated impacts on adjacent communities near the construction site.

2.4 Project Impact Zone

87. The Project Impact Zone (PIZ) relevant for the REDP describes the area affected by project construction and operations, or in which the project has E&S commitments with GoL. It overlaps two provinces, Bolikhamxay and Xaysomboun and three districts (see Table 12).
88. Within the PIZ, 5 distinct regions are identifiable through geographic, administrative and socioeconomic differences. These different regions are termed "impact zones". Criteria for determining their boundaries include types and extent of project impacts on communities in each zone, corresponding closely with administrative boundaries. Figure 8 shows a map of the overall Project Impact Zone; zone-specific characteristics and expected impacts are described below as summaries of the details outlined in the specific chapters on each zone. The zones, provinces, districts, villages, and numbers of households can be found in Table 12 at the end of this section, while Table 13 shows land use characteristics of each zone. In Zones 1 and 4 (Upstream of the reservoir and far downstream of the resettlement site) no

land acquisition and resettlement impacts are expected and accordingly they are not discussed in the REDP. Villages of Zones 1 and 4 are described in the SIA, while their social development measures are presented in the SDP, and monitoring measures will allow early identification of unforeseen impacts.

2.4.1 Zone 2 – Reservoir Area

89. Zone 2 covers the area affected by the 320m MSL reservoir. There are 2 sub-zones. The communities in the upper section of the reservoir, Zone 2UR, will be affected by partial inundation of land. Communities in the lower section of the reservoir, designated as Zone 2LR, will be completely inundated and residents will need to be resettled.

2.4.2 Sub-Zone 2UR – Upper Reservoir Area

90. This sub-zone covers the upper section of the immediate catchment area of the 320m MSL main reservoir. Three (3) villages (Pou, Hatsamkhone, Piengta) located alongside the Nam Ngiep River will be directly affected. All belong to Thathom District, Xaysomboun Province.
91. Expected impacts from the reservoir at 320 m MSL are: 10 households in Ban Pou and 5 households in Hatsamkhone will need to be relocated to a higher elevation because their residential land will be flooded, while a further 178 households from all three villages (including the 15 households losing their residential areas and 2 households from a fourth village upstream with land in the upper reservoir) will lose some of their productive land and require compensation. Additionally, residents of these communities will be provided training and resources under the livelihood promotion program and access to improved social services and infrastructure provided by the project.
92. Affected households were initially scheduled for relocation to a new resettlement village. However, after an extended consultation process, the preference of affected persons to remain in their existing villages, and to find vacant land within those or adjacent villages to replace their lost housing and agricultural land, was agreed.

2.4.3 Sub-Zone 2LR – Lower Reservoir Area

93. This sub-zone covers the lower section of the 320m MSL reservoir, where 4 villages (Houaypamom, Sopphuane, Sopyouak, and Namyouak) will be completely inundated. All are part of Hom District, Xaysomboun Province. Because of the total inundation, all 384 households (as of the 2011 survey) in these villages will have to be resettled and compensated for the loss of housing, residential land, productive lands, and other assets, and to have livelihoods restored. They will also be provided with infrastructure, social services, and economic and social development programs, to assure that their standard of living is at least the same level as pre-project condition, if not higher, and that poor households are brought above the poverty line. Special provisions for vulnerable households will be put in place by the Project.

2.4.4 Zone 3 – Construction Area

94. This zone covers the area where the main project components will be built. It includes the

main dam, re-regulating dam, powerhouses, Project Office, camp site, storage areas, access roads, and the area between the main dam and the re-regulating dam that will be covered by its reservoir. There is one (1) directly affected community (Hatsaykham Hamlet) in this zone, administratively included in the village of Hat Gniun in Bolikhan District, Bolikhamxay Province.

95. Because of construction activities and inundation of the re-regulation reservoir, all 33 households of this community will have to be resettled and compensated for their loss of housing, residential lands, productive lands, and other assets. As with the villages in Zone 2LR, the people of Zone 3 will also be provided with infrastructure, social services, and economic and social development programs, to assure that their standard of living is at least maintained, if not better than pre-project condition, and that poor households are brought above the poverty level. Special provisions for vulnerable households will be put in place by the Project.

2.4.5 Zone 5 - Prospective Resettlement Areas and Host Villages

96. Four sites were investigated by the Project, GoL, and PAPs as possible resettlement areas for the four villages in sub-zone 2LR and the one village in Zone 3. A fifth site was suggested by the PAPs but rejected by GoL due to security reasons. After numerous consultations and negotiations, a sixth option, the Houaysoup area in Bolikhan District, Bolikhamxay Province, on the opposite bank of the Nam Ngiep River from Ban Hat Gniun and immediately south of the re-regulation reservoir and dam, was suggested as resettlement area for the four villages from Zone 2LR and one village of Zone 3. Consequently, Bolikhamxay provincial authorities allocated this area of more than 6,000 ha on the right bank of the Nam Ngiep as the officially designated resettlement area. It gets its name from two tributaries to the Nam Ngiep, Houay Soup Gnai and Houay Soup Noi. The bigger of the two Houay Soup Rivers runs 8 km from the mountain slopes to the southwest of the resettlement site. The flatter lands along both banks of the Houay Soup River will provide more than 400 ha of irrigated paddy fields as well as upland rice fields, grassed areas, cash crops, and commercial tree plantations. Details are outlined in Chapter 14. Villagers from 2LR have expressed concern over soil quality in Houaysoup, which the company will address with soil improvement programs.
97. As the nearest villages to the resettlement site, Ban Hat Gniun and Ban Thahuea are considered host villages to the resettled communities. Located across the river and up to 10 kilometres distant from the construction site, they will be connected to the resettlement site via a bridge across the Nam Ngiep and an upgraded access road, which also extends southwards to the provincial capital. A new school building in the resettlement area will be available for students from these host villages, as will the improved health facilities. Some households from Hat Gniun, Thahuea and Hatsaykham have cultivated land in Houaysoup, but satellite images acquired by the project show limited land use in Houaysoup for 2013/2014. As the villages closest downstream from the two dams, water quality near these two villages will also be monitored as for villages of Zone 4 (see SDP).

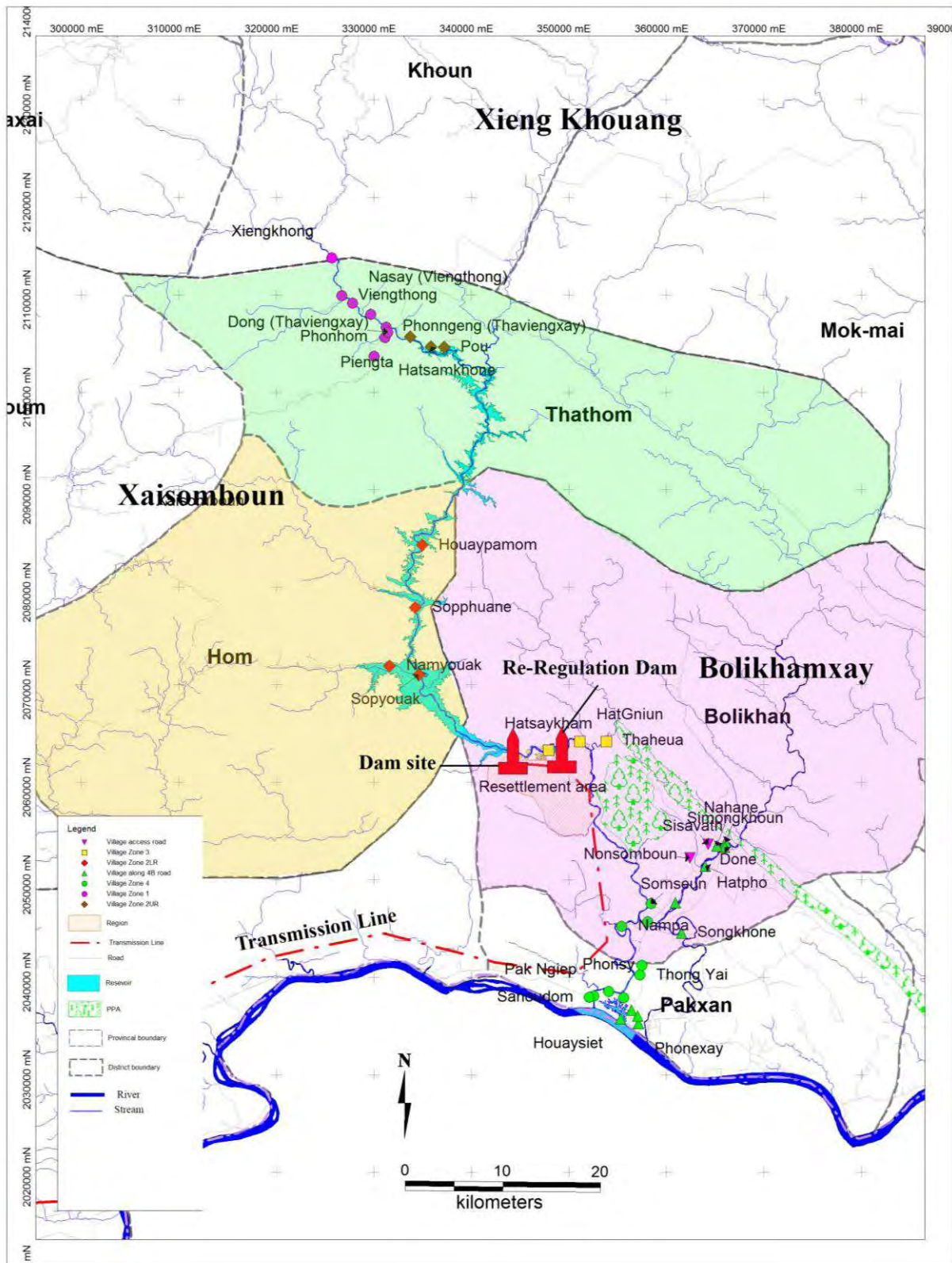


Figure 8: Map of NNP 1 Project Impact Zone

- 98. Some households living along the Transmission Line and Access Road are also losing land or other assets for these project components. However, project design has tried to minimize

impacts and no significant involuntary resettlement impact is expected. LAR for the Access Road is described in the LACP-AR. Once final alignments of the 230kV Transmission Line and the 22kV line for use during construction are concluded in mid-2014, LAR will also be addressed in the subplan LACP-TL. For the 115kV Transmission Line, a due diligence on land acquisition and compensation undertaken by EDL will be conducted to determine if there is an outstanding issue. Results of the due diligence and proposed corrective measures will be communicated to EDL. Safety issues will be addressed by the relevant Environment and Social Management and Monitoring Plan - Construction Phase (ESMMP-CP) documents, while labour management, health and gender issues are addressed in the LACPs as well as in separate action plans⁷ included as part of the SDP.

99. For these as for any other area, impact mitigation measures are limited by scope and not by budget, which secures PAPs entitlements even if project anticipated and unanticipated impacts are revised during project implementation.

No	Province	District	Village	No. of HH	No. of Population		No. of LAR-affected HH
					Total	Female	
Zone 2 Upper Reservoir area							
1	Xaysomboun Province	Thathom	Pou	172	1,129	557	178 HH impacted on land including 15 houses
2			Piengta	82	454	210	
3			Hatsamkhone	74	453	233	
Total				328	2,036	1,000	
Zone 2 Lower Reservoir area							
4	Xaysomboun Province	Hom	Houaypamom	37	254	122	All households impacted and will be relocated
5			Sopphuane	58	416	206	
6			Sopyouak	126	916	439	
7			Namyouak	163	1,149	564	
Total				384	2,735	1,331	
Zone 3 - Construction Area							
8	Bolikhamxay	Bolikhan	Hatsaykham (sub-village)	33	218	108	All households impacted and will be relocated
Zone 5-Resettlement and Near Downstream Area							
9	Bolikhamxay	Bolikhan	Hat Gniun	67	371	157	21 HH from Hat Gniun lose land in the resettlement site
10			Thahuea	50	265	122	
Total				117	636	279	

⁷ These include the Labor Management Plan (LMP), Public Health Action Plan (PHAP), Gender Action Plan (GAP) and Community Development Plan (CDP).

No	Province	District	Village	No. of HH	No. of Population		No. of LAR-affected HH	
					Total	Female		
Transmission Lines : 24 villages								
-	Bolikhamsay	Bolikhhan	Hat Gniun	67	371	157	Impact to be re-assessed after the final alignment of the TL	
11			Nampa	84	584	329		
12			Houykhoun	358	2,180	1,076		
13		Pakxan	Thong Noi	165	839	410		
14			Thong Yai	86	437	218		
15			Sanaxay	274	1,156	582		
16			Pak Ngiep	137	659	430		
17		Anusonxay	390	1,120	NA			
18		Bolikhamsay	Thaphabat	Xaysavang	87	123		NA
19				Vuenthat	356	523		NA
20	Pakthouay Tai			126	278	NA		
21	Pakthouay Neu			174	391	NA		
22	Nongkuen			256	342	NA		
23	Sisomxay			275	371	NA		
24	Thabok			364	946	NA		
25	Palai			221	315	NA		
26	Somsaath			121	321	NA		
27	Na			179	462	NA		
28	Vientiane	Pak Ngum	Vuenkabao	125	749	NA		
29			Xienglea Na	115	639	NA		
30			Xienglea Tha	237	1,416	NA		
31			Nong	111	498	NA		
32			Thakokhai	178	378	NA		
33			Nabong	365	456	NA		
Total				4,851	15,554	NA		
Access Road 4 villages and 1 sub-village								
-	Bolikhamsay	Bolikhhan	Hat Gniun	67	371	157	A maximum of 202 HHs will lose land. As of April 2014, 80% of land required have been acquired. No physical relocation required.	
-			Hatsaykham	33	218	108		
-			Thahuea	50	265	122		
34			Nonsomboun	62	313	151		
35			Sisavath	51				
Total				263	1,167	538		
Grand Total: 34 villages and 1 sub-village								

Table 12: Population and Number of Households of Villages Impacted by Land Acquisition and Resettlement in the Project Area including impacted and non-impacted households (Source: Field Survey 2008 and Field Survey 2011; Access Road Survey April 2013)

<i>Land use (in ha)</i>	Z1	2UR	2LR	Z3	Z4	Z5
1.1 Resident area	34.90	34.33	44.11	5.48	42.82	21.00
1.2 Paddy fields	353.00	276.73	264.49	33.76	228.19	30.00
1.3 Upland rice fields	440.70	155.14	313.15	60.60	10.88	NA
1.4 Other cultivated land	495.10	424.58	679.71	38.00	142.70	462.00
1.5 Fish Ponds (ha)	34.20	0.00	2.72	0.68	5.26	NA
1.6 Other land	55.30	14.00	1,432.18	0.00	NA	NA
Total Private Land	1,413.30	904.78	2,736.36	138.52	429.00	513.00
2.1 School Land	6.80	4.00	4.10	0.70	NA	NA
2.2 Temple Land	0.20	0.50	0.00	0.00	NA	NA
2.3 Village Office Land	0.50	0.00	0.00	0.00	NA	NA
2.4 Cemetery Land	0.90	7.00	10.50	1.20	NA	NA
2.5 Village Health Centre	16.60	1.63	0.00	0.00	NA	NA
2.6 Community Grazing Land	189.80	50.55	263.00	67.00	NA	NA
2.7 Other Public Land	100.10	85.40		4.60	NA	NA
Total Public Land	314.90	149.08	277.60	73.50	NA	NA
3.1 Community Managed Production forest	3,797.00	3,152.00	2,510.00	193.00	NA	NA
3.2 Community Managed Reserved Forest	2,795.00	1,584.00	894.00	244.00	NA	NA
3.3 Protection Forest	3,328.00	6,620.50		107.00	NA	NA
3.4 Unstocked Forest	4,599.00	1,610.00	613.00	97.00	NA	NA
3.5 Buffer Zone	248.20	50.55	477.00	25.00	NA	NA
Total Forest Land	14,767.20	13,017.10	4,494.00	666.00	2,526.79	
Total Land	16,495.40	14,070.91	7,507.96	878.02	2,956.64	513.00

Table 13: Land Use in Project Zones (Source: Surveys 2011 and 2007/08); NA=Not Available

CHAPTER 3 - Legal Framework

3.1 National Laws and Policies and ADB Policy Requirements

100. 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, or who may have their ethnic identity compromised by the development process. GoL has the objective of pursuing economic growth in an environmentally sustainable manner. National legislation in Lao PDR immediately relevant to E&S safeguards for NNP1 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 (WREA) 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), Decree 135/PM on State Land Lease or Concession (2009), all contain provisions relevant to involuntary resettlement and ethnic minority rights.
101. 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. Decree 135 establishes methodologies for assessing compensation valuations and unit rates.
102. 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 the social and environmental sustainability it supports⁸.
103. ADB's SPS consists of three operational policies on the Environment, Indigenous Peoples, and Involuntary Resettlement⁹. 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

⁸ OM F1/OP, 4th March 2010. Available from <http://www.adb.org/Documents/Manuals/Operations/OMF01-4Mar2010.pdf>.

⁹ Asian Development Bank, Safeguard Policy Statement, (SPS), June 2009

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.

104. 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 access¹⁰.
105. 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 assets¹¹, MoNRE (formerly WREA) defines "severe impacts" where all assets are lost and/or more than 20% of productive (income generating) assets are lost¹².
106. NNP1 will adopt ADB's standard of 10% or more asset loss as the benchmark for establishing the definition of "significant" or "severe".
107. According to national regulations¹³, 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 transition 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 the household for a transition 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.
108. This requirement is based on the assumption that PAPs will relocate with no prior livelihood preparation. The NNP1 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, providing training in agricultural extension, and supporting livelihood activities in the new location, so that any adverse livelihood impacts of relocation are

¹⁰ Ibid

¹¹ OM, F1/OP, op cit, para 9

¹² Prime Minister's Office, WREA, Technical Guidelines on Compensation and Resettlement of People Affected by Development Projects, March 2010, para 8.2.1

¹³ Ibid

avoided or minimized. Therefore the actual support will be for much longer than the statutory 3 months, and will attempt to ensure there will be no loss of income. There will also be no household expenses during the statutory transition period, as the project will cover these, as specified in the entitlement matrix.

109. The objective of this REDP 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.
110. ADB's SPS Safeguards Requirements 3 on indigenous people (IP policy) identify 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.
111. 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 NNP1 project belong to a single ethnic group, namely Hmong. Decree 192 specifies that mitigation measures and socio-economic benefits should improve status of ethnic communities and be in harmony with their cultural preferences¹⁴, 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 REDP identifies impacts and integrates mitigating measures to address issues related to land acquisition and involuntary resettlement, while the SDP addresses gender and development, public health, labour and social protection, with particular attention and sensitivity to special needs of affected ethnic minorities.
112. All compensation and mitigation measures outlined in this REDP 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 Houaysoup, with an emphasis on female literacy;
 - support for health and nutrition education, with particular attention to customary Hmong practices;
 - women and men included on village resettlement and grievance process committees;
 - compensation will be given to both husband and wife in a jointly named bank account;
 - land titles will be ensured for Houaysoup resettlers, with title jointly in the name of husband and wife, or in the name of second wives where applicable;

¹⁴ PM Decree 192, Compensation & Resettlement of Development Projects, July 2005, Article 11.3

- no ethnic minority from Zone 2UR will be required to relocate outside the existing village boundary;
 - Hmong households from Hatsaykham will not be required to relocate to a Lao village, but may integrate with other Hmong households from Zone 2LR in Houaysoup resettlement site;
 - public consultation meetings include verbal translation in ethnic minority languages, and key documents translated into Hmong language;
 - all PAPs, irrespective of ethnic identity, are treated the same and are entitled to the same compensation and mitigation measures where eligible;
 - both male and female PAPs will be able to participate in jobs available;
 - a code of conduct for project and Contractor's staff will be required.
113. As the Project will create temporary and permanent employment for skilled and unskilled labour, the Project will comply with ADB's Social Protection Strategy (2001) which upholds international recognised labour standards and/or national labour laws, particularly on the following conventions: (1) no harmful or exploitative forms of forced labour, (2) no child labour, (3) no discrimination in respect of employment and occupation, and (4) no restrictions of freedom of association and the effective recognition of the right to collective bargaining.
114. The Project's CA (Annex C, Appendix 2) outlines in details applicable standards, of which a selection is included in Table 14.

Year	Institution	Subject
1996	GoL	Water Resources Law, No 05/NA; 11 October 1996 and the Presidential Decree promulgating the law, No126/PDR; 2 November 1996
1999	GoL	Law on Environmental Protection; 3 April 1999
2001	GoL	Decree on the Implementation of the Environmental Protection Law; 4 June 2001
2003	GoL	Constitution of the Lao People's Democratic Republic; 15 August 1991, amended on 6 May 2003
2003	GoL	Land Law; 21 October 2003
2004	GoL	Law on Promotion on Foreign Investment; 22 October 2004
2005	GoL	Decree on the Compensation and Resettlement of Development Projects, No. 192/PM; 7 July 2005
2005	GoL	National Policy on Environmental and Social Sustainability of the Hydropower Sector in Lao PDR, 7th June 2005.
2006	GoL	Regulations for Implementing Decree 192/PM on Compensation and Resettlement of People Affected by Development Projects
2007	GoL	Forestry Law; 24 December 2007
2007	GoL	Wildlife and Aquatic Law No 07/NA; 24 December 2007
2008	GoL	Electricity Law, No 03/NA; 8 Dec 2008
2009	GoL	Decree on State Land Lease or Concession; 25 May 2009, No. 135/PM
2010	GoL	The Decree on Environmental Impact Assessment, No 112/PM; 16 February 2010

Year	Institution	Subject
2010	GoL	Technical Guidelines on Compensation and Resettlement of People Affected by Development Projects, Regulation 699/PMO, MONRE March 2010
1998	ADB	Gender and Development Policy (1998);
2001	ADB	Social Protection Strategy (2001)
2009	ADB	ADB Safeguard Policy Statement (2009) including (II) Safeguard Requirements 2: Involuntary Resettlement; and (III) Safeguard Requirements 3: Indigenous Peoples
2011	ADB	Public Communications Policy (2011); and
2002	IFC	IFC Handbook for Preparing a Resettlement Action Plan, 2002
2012	IFC	Performance Standard 5: Land Acquisition and Involuntary Resettlement
2012	IFC	Performance Standard 7: Indigenous Peoples
2012	IFC	Performance Standard 8: Cultural Heritage

Table 14: Selection of Social Standards to be applied by NNP1 according to the CA, Annex C, Appendix 2

3.1.1 GAP Analysis

115. Table 15 and Table 16 summarise differences between ADB and GoL policies on resettlement (SR2) and ethnic (IP - SR3) safeguards, and describes how the NNP1 project will bridge any gaps arising.

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 resettlement impacts and risks.	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.
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	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; (c) Pay particular attention to the needs of the poorest affected	No major difference. The Project ensures preparation of communities before major decisions by households have to be taken, for example through family financial trainings before compensation payments, a literacy program, agricultural trails and demonstrations before resettlement, study tours to other hydropower projects, etc. This complements appropriate

<p>ADB SPS SR2 on Involuntary Resettlement Policy Principles (2009)</p>	<p>Decree 192 on Compensation and Resettlement of People Affected by Development Projects Requirements (2005) and Updated Technical Guidelines (2010)</p>	<p>Gap filling Measures</p>
<p>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>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>The assistance should also include institutional strengthening and capacity building of tribal elders, community groups working on resettlement activities.</p>	<p>consultation technologies as focus group discussions with vulnerable groups, usage of local languages, appropriate IEC materials, etc.</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:</p> <p>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.</p> <p>The Project follows ADB standards on compensation before impact.</p> <p>With respect to poor and vulnerable PAPs, ADB standards require the project to improve their standards of living to at least national minimum standards.</p> <p>On top of the compensation and restoration measures, the Project will implement benefit sharing schemes through social development activities as well</p>

<p>ADB SPS SR2 on Involuntary Resettlement Policy Principles (2009)</p>	<p>Decree 192 on Compensation and Resettlement of People Affected by Development Projects Requirements (2005) and Updated Technical Guidelines (2010)</p>	<p>Gap filling Measures</p>
		<p>as a community development program with yearly payments of 195,000USD for the entire duration of the concession period following COD.</p>
	<p>Article 8 on Economic Rehabilitation requires that : 1. All PAPs 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 PAPs. However, OMF1 defines significant impacts as 200 or more persons experiencing major impacts, which are defined as being physically displaced from housing or losing 10% or more than their productive assets. NNP1PC will adopt ADB’s standard of 10% or more asset loss as the benchmark for establishing the definition of "significant" or "severe". NN1PC will likewise ensure that livelihoods of all displaced persons losing less than 10% of their land will be restored by paying cash compensation at replacement cost.</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 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>Article 10 requires 1. All persons relocating to group resettlement sites shall be provided with suitable housing or developed housing lots, shop lots if businesses are affected, agricultural sites of equivalent size, with productive potential and locational advantages better or at least equivalent to the old site. Replacement land, house/business plot shall be as close as possible to the land that was lost and/or acceptable to PAPs. Group resettlement sites shall be developed with water supply, sanitation, drainage, with internal access roads, and access to electricity. 2. All replacement land for agriculture, residential and businesses shall be provided with secured land titles and</p>	<p>No major difference. The Project will follow both standards which outline the different entitlements for PAPs, described in detail in the prepared Detailed Entitlement Matrices. A basic principle is thereby that replacement assets will be of the same or better quality in regard to their impact on the livelihood of PAPs; this includes amongst others housing as well as public infrastructure. Furthermore, if resettlement is required, at the new resettlement site livelihood opportunities of the same or better quality shall be present. Transitional support shall be provided. Host communities shall have the right to use public infrastructure constructed by the Project and shall be</p>

<p>ADB SPS SR2 on Involuntary Resettlement Policy Principles (2009)</p>	<p>Decree 192 on Compensation and Resettlement of People Affected by Development Projects Requirements (2005) and Updated Technical Guidelines (2010)</p>	<p>Gap filling Measures</p>
	<p>certificates and without any additional cost, sales taxes, fee surcharge to PAPs at the time of transfer.</p> <p>Article 7 requires that PAPs 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>integrated into the Project's livelihood program.</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 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 PAPs to achieve household income targets set above the poverty line.</p>	<p>No gap-filling measure required. While women are not explicitly mentioned in this article of the Lao standard as part of vulnerable groups, they are included elsewhere in the regulation and the Project will accordingly follow both standards in targeting gender topics.</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 non-land assets.</p>	<p>Article 6 requires ... 6. PAPs 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</p>	<p>NNP1PC will provide displaced persons with customary rights to land compensation for loss of land-use rights at replacement cost, in addition to compensation for their other assets and other assistance.</p>

<p>ADB SPS SR2 on Involuntary Resettlement Policy Principles (2009)</p>	<p>Decree 192 on Compensation and Resettlement of People Affected by Development Projects Requirements (2005) and Updated Technical Guidelines (2010)</p>	<p>Gap filling Measures</p>
	<p>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 PAPs, 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>8. Land without titles are legalizable via the concept of customary land use rights, a process the Project applies. Customary land use rights do not void land regulations, which entitle each household to a maximum size of land holdings based on the household's workforce and the estimated amount of land a worker can cultivate.</p>	<p>Where impacted land exceeds the land allocation in the designated resettlement site, cash compensation will be provided for the areas which cannot be compensated with replacement land.</p> <p>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, as long as not judged by GoL monitoring institutions as project-related opportunistic short-term encroachers. Acquisition and/or amendment of land titles by GoL will be assisted by the company.</p>
<p>8. Prepare a resettlement plan elaborating on displaced persons' entitlements, the income and livelihood restoration strategy, institutional arrangements, monitoring and reporting framework, budget, and time-bound implementation schedule.</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 PAPs. The Technical Guidelines further elaborate under 5.5.2 the content of a Resettlement Plan equivalent to ADB requirements</p>	<p>The Project will combine national and ADB requests regarding resettlement plans. Items not included in both definitions include additionally from SPS SR2 the livelihood restoration strategy, the institutional arrangement, as well as the reporting framework. The Technical Guidelines request additionally a review of the legal framework of the Lao PDR. the results of the SIA, and grievance redress procedures.</p>
<p>9. Disclose a draft resettlement plan, including documentation of the consultation process in a timely manner, before project appraisal, in an accessible place</p>	<p>Article 12 requires project owners to make concerted efforts for an effective public dissemination of information about the objectives of the</p>	<p>No major difference for disclosure of key information from the draft RP. No explicit requirement to disclose the final resettlement plan and its</p>

<p>ADB SPS SR2 on Involuntary Resettlement Policy Principles (2009)</p>	<p>Decree 192 on Compensation and Resettlement of People Affected by Development Projects Requirements (2005) and Updated Technical Guidelines (2010)</p>	<p>Gap filling Measures</p>
<p>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.</p>	<p>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, PAPs and other concerned parties as necessary.</p>	<p>updates. NNP1PC has disclosed the key information from the draft resettlement plan. The NNP1 CA follows the ADB standard and requires timely disclosure of impacts, of plans before implementation, and of updates of the documents. They will be accessible on the Project Website as well as on ADB website in English language, with the Executive Summaries translated into local languages.</p>
<p>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.</p>	<p>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.</p>	<p>Consistent with GoL. GoL has no requirement for implementing the IR component of the project as a stand-alone operation.</p>
<p>11. Pay compensation and provide other resettlement entitlements before physical or economic displacement. Implement the resettlement plan under close supervision throughout project implementation.</p>	<p>Article 6, (10) Prior to the commencement of project construction, PAPs shall be fully compensated and resettled and rehabilitation measures shall be in place, although not necessarily completed yet.</p>	<p>No civil works will be undertaken for areas in each phase where there are involuntary resettlement impacts until the relevant update is prepared, a census of affected persons is conducted, unit rates for compensation and entitlements agreed during consultations. Updates of the REDP covering updated information of each zone will be submitted to ADB prior to any involuntary resettlement impacts. For any unanticipated impacts, social impacts will be assessed and the relevant document will be updated.</p>
<p>12. Monitor and assess resettlement outcomes, their impacts on the standards of living of displaced persons, and whether the objectives of the</p>	<p>Article 16 requires that ...1. Project owners shall make adequate monitoring arrangements of the implementation of the</p>	<p>Except for the disclosure of monitoring reports, there is no difference between GoL and ADB SPS.</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
resettlement plan have been achieved by taking into account the baseline conditions and the results of resettlement monitoring. Disclose monitoring reports.	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.	For highly complex sensitive projects, quarterly internal monitoring reports submitted to ADB will be publicly disclosed. Semi-annual external monitoring reports submitted to ADB will be publicly disclosed.
13. /	GoL encourages voluntary donation of land (Article 11 of 192/PM) if a displaced person's loss of income is less than 20%	Voluntary donations are not covered in the SPS. NNP1 will not permit voluntary land donations

Table 15: Gap Analysis ADB SPS SR2 / National regulations

ADB SPS SR3 on Indigenous People (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 early on to determine (i) whether Indigenous Peoples are present in, or have collective attachment to, the project area; and (ii) whether project impacts on Indigenous Peoples are likely. IPs are identified by (a) self-identification, (b) collective attachment to geographically distinct habitats or ancestral territories, (c) customary cultural, economic, social, or political institutions separate from those of the dominant society and culture, and (d) a distinct language; these characteristics can apply in varying degrees	GoL does not recognise the term "Indigenous Peoples", but does recognise the presence of ethnic minorities and uniqueness of different ethnic groups in Lao PDR Article 17 requires the project to collect necessary information if there are ethnic minority groups in the project area.	The Project has identified the presence of Ethnic Groups in the PIZ based on the definition of SPS SR3. The term "Ethnic Groups" are used throughout the REDP instead of "Indigenous Peoples".
2.1 Undertake a culturally appropriate and gender-sensitive social impact assessment or use similar methods to assess potential project impacts, both positive and adverse, on Indigenous	Article 18 The information required for preparation of EMDP will include the following: • The basic census, socio-economic data and inventory of affected assets; • household ownership of	

ADB SPS SR3 on Indigenous People (2009)	Decree 192 on Compensation and Resettlement of People Affected by Development Projects Requirements (2005) and Updated Technical Guidelines (2010)	Gap filling Measures
<p>Peoples. Give full consideration to options the affected Indigenous Peoples prefer in relation to the provision of project benefits and the design of mitigation measures.</p>	<ul style="list-style-type: none"> • economic and productive assets • annual income from primary and secondary employment opportunities • economic information of community (e.g., brief information on economic and natural resources, production and livelihood systems, tenure systems) • social information of community (e.g., brief description of kinship, value system; types of social organizations of formal/informal groups, farming groups, etc., especially those that can help group in adjusting to potential impacts from the project) • potential impact of sub-project on basic social services (e.g., water supply, health clinics, and schools) • potential impact of sub-project on the social and economic livelihood 	
<p>2.2 Identify social and economic benefits for affected Indigenous Peoples that are culturally appropriate and gender and intergenerationally inclusive and develop measures to avoid, minimize, and/or mitigate adverse impacts on Indigenous Peoples.</p>	<p>The proposed mitigation measures should ensure that social and economic benefits they receive are in harmony with their cultural preferences. The focus of the EMDP should be on resource-based, non-cash measures that are developed through an extensive public participation and consultation to mitigate adverse impacts on such communities.</p>	<p>No major differences; meaningful consultations with ethnic groups will ensure appropriate social and economic benefits via land-for-land options, development of private and public infrastructure in the resettlement site, business opportunities, and appropriate livelihood restoration activities. The Project will additionally to resettlement and compensation implementation, livelihood restoration, and social development activities make annual payments to a community development program in the amount of</p>

ADB SPS SR3 on Indigenous People (2009)	Decree 192 on Compensation and Resettlement of People Affected by Development Projects Requirements (2005) and Updated Technical Guidelines (2010)	Gap filling Measures
		US\$ 195,000 each year during the Concession Period following COD
<p>3. Undertake meaningful consultations with affected Indigenous Peoples communities and concerned Indigenous Peoples organizations to solicit their participation (i) in designing, implementing, and monitoring measures to avoid adverse impacts or, when avoidance is not possible, to minimize, mitigate, or compensate for such effects; and (ii) in tailoring project benefits for affected Indigenous Peoples communities in a culturally appropriate manner. To enhance Indigenous Peoples' active participation, projects affecting them will provide for culturally appropriate and gender inclusive capacity development.</p>	<p>Article 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.</p>	<p>The Project applies a variety of consultation methods to integrate different voices from ethnic groups into the consultations, including village elders, women, elderly, youth, and vulnerable persons.</p>
<p>4. Establish a culturally appropriate and gender inclusive grievance mechanism to receive and facilitate resolution of the Indigenous Peoples' concerns.</p>	<p>The community participation and consultation framework and grievance redress mechanism should be developed in culturally appropriate ways familiar to the ethnic minorities. They should be developed with the ethnic minority groups and their tribal leaders in close collaboration with local officials.</p>	<p>The Project's GRM starts on the village level and integrates into the village grievance committees not just administrative authorities but as well members of local mass organizations and elders, ensuring participation of ethnic groups in the GRM. Women as well as men will be included in village grievance committees.</p>

<p>ADB SPS SR3 on Indigenous People (2009)</p>	<p>Decree 192 on Compensation and Resettlement of People Affected by Development Projects Requirements (2005) and Updated Technical Guidelines (2010)</p>	<p>Gap filling Measures</p>
<p>5. 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 displacement from traditional or customary lands and 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</p> <p>For the purposes of policy application, the consent of affected Indigenous Peoples communities 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. Broad community support may exist even if some individuals or groups object to the project activities.</p>	<p>Article 18: ... If the Social Assessment indicates that the potential impact of the proposed sub-project will be significantly adverse and that the ethnic minority community rejects the project, the project authorities should consider redesigning or reformulating the project.</p>	<p>The Project follows the higher standard to ascertain Broad Community Support as defined by ADB SPS SR3.</p>
<p>6. Avoid, to the maximum extent possible, any restricted access to and physical displacement from protected areas and natural resources. Where avoidance is not possible, ensure that the affected Indigenous Peoples communities participate in the design, implementation, and monitoring and evaluation of management arrangements for</p>	<p>General provisions of impact mitigation due to resettlement.</p> <p>Article 18 suggests avoidance/minimization of impacts on ethnic minorities: ... If the SA indicates that the potential impact of the proposed sub-project will be significantly adverse and that the ethnic minority community rejects the project, the project authorities should consider redesigning or</p>	<p>The Project agreed that adverse impacts shall be i. prevented or avoided, whenever and wherever, and to the extent possible; ii. reduced, whenever and wherever, and to the extent possible, when prevention or avoidance cannot be achieved; iii. remedied and rectified, whenever and wherever, and to the extent</p>

ADB SPS SR3 on Indigenous People (2009)	Decree 192 on Compensation and Resettlement of People Affected by Development Projects Requirements (2005) and Updated Technical Guidelines (2010)	Gap filling Measures
such areas and natural resources and that their benefits are equitably shared.	reformulating the project.	<p>possible, when prevention or avoidance or reduction cannot be achieved; and iv. compensated through payment to be made to GOL and / or to Project Affected Persons, as the case may be, whenever and wherever such Adverse Impacts have not been wholly prevented or avoided, reduced or remedied by the Company</p> <p>The project has implemented the following design changes to avoid/minimize impacts on IPs:</p> <ul style="list-style-type: none"> • Reduced the reservoir from 360MSL to 320 MSL which avoided flooding of several villages where IPs are present at Z2UR; • Avoided split of communities, loss of local knowledge, merging of different villages, new host communities, possible loss of ethnic identity, loss of social and economic ties by not relocating affected households in Z2UR. • Avoided resettlement of ethnic Hmong to several sites spread out in Vientiane Province; • Agreed to request of ethnic Hmong in Hatsaykham to move to Houaysoup instead of to their main village Hat Gniun (Lao Loum main village)
7. Prepare an Indigenous Peoples plan (IPP) that is based on the social impact assessment with the assistance of qualified and experienced experts and that draw on indigenous	Article 17 Ethnic Minorities Development Plan 1. Where in a project the affected persons include any ethnic minority groups, Project Owner will collect the necessary information during	Due to the overlap between resettlers and ethnic group people, a resettlement plan and an ethnic development plan is combined into a Resettlement and Ethnic

ADB SPS SR3 on Indigenous People (2009)	Decree 192 on Compensation and Resettlement of People Affected by Development Projects Requirements (2005) and Updated Technical Guidelines (2010)	Gap filling Measures
knowledge and participation by the affected Indigenous Peoples communities.	<p>the field investigations and if the impacts will be due to land acquisition only, include a separate section in the resettlement plan to address ethnic minority issues and mitigation measures.</p> <p>2. Where the project will likely have significant positive or negative impacts on ethnic minorities, beyond land acquisition impacts, the project owner will prepare an Ethnic Minority Development Plan (EMDP) during the feasibility study phase of project preparation. The EMDP will be prepared in strict compliance with the Technical Guidelines.</p>	Development Plan, clearly marking the EDP and related assessments and measures inside the REDP.
The IPP includes a framework for continued consultation with the affected Indigenous Peoples communities during project implementation; specifies measures to ensure that Indigenous Peoples receive culturally appropriate benefits; identifies measures to avoid, minimize, mitigate, or compensate for any adverse project impacts; and includes culturally appropriate grievance procedures, monitoring and evaluation arrangements, and a budget and time-bound actions for implementing the planned measures.	Wherever possible, staff with ethnic minority background and experience should be hired as part of the social impact assessment team as well as the monitoring team.	The Project will hire persons from Hmong and Khmu ethnic groups, as well as from Lao Loum.
	3. The proposed resettlement measures, types of development assistance, community participation and consultation framework, and grievance redress mechanism will be developed in consultation with tribal elders, community groups, mass organizations, non-benefit organization and other relevant organizations.	The REDP was developed in line with SPS SR3 and Decree 192 and requirements for continued engagement with IPs are described in the REDP.
8. Disclose a draft IPP, including documentation of the consultation process and the results of the social impact assessment in a timely manner,	Article 29 The draft Resettlement Plan or Land Acquisition and Compensation Report shall be disclosed to Project Affected	Key information from the REDP has been disclosed to affected people in Lao and explained in Hmong with the help of Hmong field staff.

ADB SPS SR3 on Indigenous People (2009)	Decree 192 on Compensation and Resettlement of People Affected by Development Projects Requirements (2005) and Updated Technical Guidelines (2010)	Gap filling Measures
before project appraisal, in an accessible place and in a form and language(s) understandable to affected Indigenous Peoples communities and other stakeholders. The final IPP and its updates will also be disclosed to the affected Indigenous Peoples communities and other stakeholders.	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.	The detailed entitlement matrix, in particular, has been translated to Lao with a copy provided to the village chief for use during discussions with affected people. The draft versions of the REDP, SIA and SDP has been disclosed on NNP1PC website prior to the public consultations in May 2014.

Table 16: Gap Analysis ADB SPS SR3 / National regulations

116. The CA explicitly states that if inconsistencies exist between different standards, the higher standards to the benefit of PAPs has to be followed, and this will apply for all E&S measures and activities.

3.2 Principles and Methodologies for Valuations and Compensation Rates

3.2.1 Project Policy Principles for Compensation and Valuation

117. For each type of loss, specific entitlements are elaborated in each of the detailed entitlement matrices for all impacts zones. These entitlements have been developed in accordance with the following principles which will also generally apply in case other types of impacts or losses are identified during the course of the Project life:
- (i) Provide compensation and assistance to improve, or at least restore, the livelihoods of all displaced persons;
 - (ii) promptly replace assets with access to assets of equal or higher value and provide additional revenues and services through benefit sharing schemes where possible;
 - (iii) promptly compensate at full replacement cost¹⁵ for assets that cannot be restored; and ensure that this transaction shall have no cost for the impacted owner¹⁶;

¹⁵ CA, Annex C, Appendix 7, Entitlement Matrix, item 1(b)

¹⁶ as described in the CA, Annex C, Appendix 7, Entitlement Matrix regarding cash compensation values: “Cash compensation for acquired land at replacement value, which is

- (iv) Provide physically and economically displaced persons with needed assistance, including the following: (a) 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 persons economically and socially into their host communities, and extension of project benefits to host communities; (b) transitional support and development assistance, such as land development, credit facilities, training, or employment opportunities; and (c) civic infrastructure and community services, as required;
- (v) Improve the standards of living of the displaced poor and other vulnerable groups, including women, to at least national minimum standards;
- (vi) At the minimum, assist displaced persons without titles to land or any recognizable legal rights to land by providing resettlement assistance and compensation for loss of non-land assets;
- (vii) Pay compensation and provide other resettlement entitlements before physical or economic displacement;
- (viii) Where cash compensation will be paid for affected housing or any standing structure, NNP1PC will collect baseline data on housing, house types, and construction materials and enlist the services of qualified and experienced experts to undertake the valuation of affected assets. In applying this method of valuation, depreciation of structures and assets will not be taken into account.

3.2.2 Methodologies for Valuations and Compensation Rates

118. Calculations for Valuations and Compensation Rates will be made based on the Entitlement Matrix listed in the CA Annex C, Appendix 7 and the compensation formulae agreed in the Detailed Entitlement Matrices (Annex B) between PAPs, Project, and GoL.
119. Compensation rates for impacted land assets shall be established 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, updated on an annual basis until all compensation activities are completed and be approved by the PRLRC (annually), and will be arrived at by following the analysis of four information sources:
 - Compensation rates paid by other investment projects operating under similar conditions; adapted for inflation
 - Current market price study conducted by an independent consultant or research institution or NGO
 - GoL statistical information on market prices, updated monthly

to be equivalent to the market price during the year in which compensation is made of land of similar type and category, and free from transaction costs (taxes, registration, land transfer or other administrative fees), at informed request of the PAP.”

- GoL observations of prices in the affected villages
120. In addition to the replacement cost, all transactions cost and fees, and any other associated cost shall be paid by the Company.
 121. In the case of fruit and/or nut trees plantations, the cash compensation shall be based on 10 years of production,¹⁷ from the time of loss. 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 and be approved by the PRLRC. 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. The compensation values will be approved by the PRLRC on an annual basis, until all compensation activities are completed.
 122. 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. The price shall be set in consultation with both the affected households and the district authorities and be approved by the PRLRC on an annual basis, until all compensation activities are completed.
 123. In the case that standing crops could not be harvested by the PAP prior to impact, then the PAP will be entitled to cash compensation equivalent to 10 times the market value of damaged or lost crops¹⁸. The price shall be set in consultation with both the affected households and the district authorities and be approved by the PRLRC on an annual basis, until all compensation activities are completed.
 124. A detailed implementation programme (including detailed unit costs), covering all possible situations, shall be prepared in consultation with the PAP, the agriculture and forestry department of the district, the district authorities and the Resettlement Management Unit (RMU). It shall be based on the updated information from the Confirmation Survey as described in section 5.3.2. The detailed implementation programme will be included in the updated REDP to be submitted to MONRE and ADB for endorsement of 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.

3.3 Social Safeguards, Gender and Development, Social Protection, and Ethnic Groups

125. As mentioned in the Concession Agreement, Annex C, Appendix 2, further ADB standards will apply: The Gender and Development Policy (1998), the Public Communications Policy (2011) and the Social Protection Strategy (2001). They are relevant for the implementation of

¹⁷ CA, Annex C, Appendix 7, Entitlement Matrix, item 7

¹⁸ CA, Annex C, Appendix 7, Entitlement Matrix, item 6

the REDP as cross-cutting issues, but as well and above all for the programs outlined in the SDP. Additional supporting details can be found in the SIA.

126. As an additional core element of NNP1 policy standards described above, ADB's gender policy is reiterated here, and is reflected in all action plans integrated in the REDP:
- **Gender sensitivity:** to observe how project operations affect women and men, and to take into account women's needs and perspectives in planning NNP1 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.
 - **Mainstreaming:** to consider gender issues in all aspects of NNP1 operations, accompanied by efforts to encourage women's participation in the decision-making process in development activities.
 - **Agenda setting:** to assist GoL in formulating strategies to reduce gender disparities in the PIZ, and in developing plans and targets for women's and girls' education, health, legal rights, employment, and income-earning opportunities.
127. NNP1 follows these principles and integrates them in its planning documents as well as in the day-to-day project implementation process. A specific Gender Action Plan is outlined in the SDP.

CHAPTER 4 - Crosscutting Social Issues in the Project Impact Zone (Bolikhon, Thathom, and Hom Districts)

128. This chapter presents cross-cutting issues concerning all communities and groups in the PIZ, including broad issues related to poverty, gender, ethnicity, health issues, and livelihoods. The assessment is based on information from various studies, as outlined in the SIA.

4.1 Socioeconomic Profiles

4.1.1 Main Economic Activities

129. The main economic activity of all communities in the project area is agriculture, with varying ratios between crops for cash and for household consumption. Rice is the main staple, grown both on paddy and on upland areas. Short-season crops are also cultivated, including maize, sugar cane, cassava, banana, pineapple. Many villagers grow seasonal vegetables along river banks and adjacent to their houses, and on raised wooden trays in which they grow vegetables, herbs and spices.
130. Small and large livestock are important components of the household economy, with most raising small and medium sized animals such as pigs, chickens and ducks. More prosperous households, particularly in Hmong communities, raise larger livestock, cows and water buffalo, as draught animals and as important family assets. However the number of work animals is decreasing as more use hand-tractors. Cattle, water buffalo, and goats are increasingly raised for sale or for inclusion in festivals and important celebrations.
131. With most of the communities living by or near the river, fishing is another important activity. Nearly all is for household consumption. Some households upstream along the road D1 sell some surplus fish catch. Other aquatic animals and river products, such as weeds, snails, frogs etc., provide an important source of nutrition. The project has commissioned a separate study to assess the contribution of such products. Nearby forests provide opportunities for seasonal foods such as edible rattan, bamboo shoots, mushrooms, as well as for cash sales and some hunting.

4.1.2 Community Profiles

132. Despite their differences, all villages affected by the project share characteristics of rural communities throughout Lao PDR. Irrespective of their ethnic identities, communities have adopted mainstream livelihoods strategies rather than ethnically distinct approaches. Voluntary migration and involuntary resettlement under GoL programs have created a broad distribution and mixture of ethnic groups across agro-ecological zones, but upland areas remain the homelands of minorities rather than Lao Loum.

At the present time, many PIZ villages are ethnically heterogeneous. Even the more remote Hmong villages of Zone 2LR have a long history of cross-cultural and economic interaction

with other groups. They are all involved, with different levels, in some commercial activities.

133. Housing in PIZ villages demonstrates characteristics more unique to particular ethnicity of the community, which also influences characteristics of village layouts, with houses either in kinship clusters or spread apart. Along the inter-provincial D1 road in Zone 1 and 2UR the main roads influence layout, and houses tend to align along the road. All residential and cultivation areas tend to be sited close to accessible water sources.

4.1.3 Typical settlement

134. Housing structures tend to follow traditional ethnic patterns: Lao Loum and Khmu houses are two storey buildings raised on stilts with the ground level open. Hmong prefer traditional single storey houses directly on the ground, with walls and roofs made of bamboo. Those households with more wealth and a higher status have houses with walls and roofs made out of wood. The houses have a single room, with the kitchen in the middle of the house. Beds or sleeping places are located around the fire place. Typically Hmong houses may accommodate several family clusters in one joint family household.
135. Having said this, households in impacted communities do not strictly follow this customary pattern. Some of the Hmong in Sopyouak and Namyouak have adopted the lowland style of two storey houses, to show their status as wealthier persons and as part of the national community; wealthier households of all ethnic communities have started building one- and two-storey houses with brick walls and detached kitchen buildings. Households where the male head has more than one wife may maintain one central house with one or two separate structures for the families of the second or third wife.
136. Other structures and land uses in the house plots are typically granaries, chicken coops, pig sties, animal pens, vegetable gardens, mortars to mill rice, and storage sheds for firewood. Housing land is usually fenced, either individually or clusters of households belonging to the same wider joint family.

4.1.4 Socioeconomic Changes

137. Over the last decades, ways of life changed considerable, including the social and economic conditions in Lao PDR, as the country chose to integrate stronger into international structures. Villages have been obliged to adjust to these new conditions as well as to national social and economic development policies and programs.
138. Major changes have occurred to traditional agricultural practices. As the population increases and government policies and widespread award of concessions have restricted land availability, current agricultural land allocation is no longer sufficient to support shifting cultivation. The cycle between crops has been compulsorily reduced, from seven down to four or even three years. With only two years left in fallow, land in the reduced cycle does not have enough time to recover its fertility. The growing population of Lao PDR combined with the need to protect remaining natural forests and wildlife makes it no longer possible to continue traditional practice of moving to clear new lands when existing fields

lose fertility, as traditionally practiced by a series of upland ethnic groups.

139. GoL policy of consolidating smaller villages into larger ones to provide easier access to transportation, communications, and other physical and social services, and of moving communities from the more environmentally vulnerable highlands to lower elevations near roads and other facilities, is also changing the face of the Lao countryside. Provision of infrastructure, of roads and electricity, health and educational services, is consequently changing the nature of village life. This village consolidation program has been implemented in the project area, with the smaller village of Nakang (a village originally in Zone 2UR) being moved to the larger community of Phonhom some 10 kilometres away, and administratively including Hatsaykham into Hat Gniun.

4.2 Demography and Population Changes

4.2.1 Population Profile

140. Table 12 presents basic population data for all communities included in the REDP. The 328 households in the three villages of Sub-zone 2UR have just over 2,000 residents, for an average household size of slightly over 6 people per household. The 384 households in the four villages of Sub-zone 2LR have a total population of 2,735 with an average household size of 7.1 persons, the largest ratio in the project area. Ban Hatsaykham in Zone 3 has only 33 households with 218 people, for an average household size of 6.6. The two host villages of Zone 5 have 117 households with 636 people, and an average household size of 5.4. A more detailed analysis of population characteristics can be found in the SIA.
141. The project will have impacts on a small, but not insignificant percentage of the total populations of the 2 provinces. For Bolikhamxay, with an estimated population of about 264,500 people in 2010,¹⁹ the communities in zone 3 and 5 with 854 people represent about 0.3% of the total provincial population: 218 people in Hatsaykham (Zone 3) will have to resettle and 636 people of Ban Hat Gniun and Ban Thahuea (Zone 5) facing impacts as host of the resettled people from Hatsaykham and Zone 2LR, and possible impacts as the closest communities downstream from the dam. Population data along the Access Road can be found in the LACP-AR.
142. The 4,771 PAPs in Zones 2UR and 2LR encompass around 5.8% of Xaysomboun Province, which has an estimated population of 81,800. The 2,036 residents located in 2UR, or about 2.5% of the total population of Xaysomboun Province, will face impacts via the loss of lands and for 15 villagers the loss of houses. The 2,735 people in Sub-zone 2LR, losing all of their lands and houses with the necessity to resettle, encompass 3.3% of the population of

¹⁹ From the GoL National Statistical Centre website:

http://www.nsc.gov.la/index2.php?option=com_content&view=article&id=37&Itemid=38, table on “Area and average mid-year population by provinces in 2005-2010”

Xaysomboun.²⁰

4.2.2 Population Movements

143. Communities in the project area, above all in Zone 2, are closely related to the history of Lao PDR throughout and after the revolutionary war. This has raised political sensitivities of which the project is fully aware; further details are outlined in Chapter 7.
144. While communities themselves have a long cultural and social history, their current locations tend to be more recent, with villages in Zone 2 settling between 20 to 40 years ago. Therefore, the project has to consider on the one hand customary flexibility of people, and on the other hand reluctance to move after a long history of past movement. Additionally, GoL policy is to discourage relocation from provinces with small populations to those with larger populations. As Xaysomboun provincial population is far smaller than that of Bolikhamxay, this has resulted in special permission being provided for relocation from Zone 2UR to Bolikhan district, but has also required the introduction of some flexibility in compensation options to allow self-relocation within the existing village and/or district. These options are more fully discussed in Chapter 5.

4.2.3 Demographics

145. The census of all households in Zones 2 and 3 collected data on age of household members. The age distribution of these 8 villages is shown in Table 17. As expected, given the demographics of the Lao PDR and of other countries at similar points of development, the birth-rate is rather high and the age distribution is skewed heavily to the younger cohorts. About 47% of the population of these villages is aged 15 and under. This is not unlike the national age distribution of youth, where about 39% of the population is aged 14 and under.
146. The age distribution of these 8 villages is also similar to the national age structure in the proportion of young adults and the proportion of older population. For the national population, those aged 25 to 44 account for 24.7% of the population, while in the villages of Zones 2 and 3, those aged 26 to 45 account for only 23.6%. Those aged 56 and over in the 8 villages account for 8.2 % of the population, compared to 8.0% of the national population.²¹

Village	Total Population	Population based on HH interviewed	<5 yrs	6 - 10	11- 15	16- 20	21- 25	26- 30	31- 40	41- 50	51- 60	>60
<i>Pou</i>	920	920	139	143	146	106	67	72	104	72	45	26
<i>Hatsamkhone</i>	457	457	36	54	79	67	46	30	53	41	28	23
<i>Ban Piengta</i>	422	422	29	54	70	56	52	26	50	29	23	33
<i>Houaypamom</i>	248	254	62	42	29	28	20	17	17	18	8	7

²⁰ Ibid

²¹ National data from GoL National Statistical Centre, ob cit, Table on “Estimated Average 2007”

<i>Sopphuane</i>	424	416	83	76	59	53	41	22	29	34	13	14
<i>Sopyouak</i>	891	916	153	157	129	114	86	49	82	63	33	25
<i>Namyouak</i>	1,080	1,149	203	214	138	110	86	82	90	73	32	52
<i>Hatsaykham</i>	218	218	45	27	35	25	23	14	21	11	8	9
Total	4,660	4,752	750	767	685	559	421	312	446	341	190	189
%	100		16.1	16.5	14.7	12.0	9.0	6.7	9.6	7.3	4.1	4.1

Table 17: Age Distribution (Source: Field Survey 2011)

4.2.4 Population changes

147. With a national annual population growth rate of 1.9% between 2006 and 2010,²² one could expect a natural increase in the population of the project area of about 8% in 4 years. Based on surveys conducted in the project area in 2007/8 and again in 2011, it is possible to see the actual changes in populations in the communities, as can be seen in Table 18, vary widely.

Village	2007/8 Population	2011 Population	2007/8 to 2011	
			Δ Pop.	% change
Pou	842	1,129	287	34.1%
Piengta	452	454	2	0.4%
Hatsamkhone	419	453	34	8.1%
Nakang	316	0	-316	-100.0%
TOTAL ZONE 2UR	2,029	2,036	7	0.3%
<hr/>				
Houaypamom	225	254	29	12.9%
Sopphuane	304	416	112	36.8%
Sopyouak	759	916	157	20.7%
Namyouak	956	1,149	193	20.2%
TOTAL ZONE 2LR	2,244	2,735	491	21.9%
<hr/>				
Hatsaykham	165	218	53	32.1%
TOTAL ZONE 3	165	218	53	32.1%
<hr/>				
Hat Gniun	395	371	-24	-6.1%
Thahuea	273	265	-8	-2.9%
TOTAL ZONE 5	668	636	-32	-4.8%

Table 18: Population Changes in the REDP related Project Area, 2007/8 to 2011

148. Several factors led to such changes. The biggest changes are due to the GoL policy to

²² ADB, Lao People's Democratic Republic Fact Sheet, 2011

consolidate villages. Other communities grew in part from in-migration, while yet others barely grew or even shrank because of out-migration. The 13 to 37 per cent increase in the populations of the villages of Zones 2LR and 3, communities that will be resettled, is due to a combination of natural population growth and in-migration of those attracted to the still relatively available and fertile lands in the areas. In contrast, Hat Gniun and Thahuea, the two host communities, have both shrunk slightly over the past 4 years, from people migrating out in search of new lands or other new economic opportunities. This trend may change with new employment opportunities generated by Project construction and provision of improved all-weather roads.

149. While difficult to predict with any accuracy what the future populations of these communities might be, in particular those of the resettled villages and other directly affected communities, for the purposes of planning it will be assumed that they will have at least a natural increase of population of about 2 per cent per year plus a buffer of 3 per cent for in-migration due to the attractiveness of a well-developed resettlement site, equals an increase of 5% per year. Experience from other hydropower projects in Laos indicates substantial population growth as a consequence of improved road access provided by a project, as well as new livelihoods opportunities associated with projects.

4.3 Ethnicity

150. As discussed above, ethnicity is a key factor for the assessment of the PAPs in the REDP and therefore discussed more fully in the Ethnic Development Plan which can be found in Chapter 7.

4.4 Social Organization and Cultural Relations

151. PAPs are integrated into a diverse and complex network of social organizations and cultural relations. A key element is the public administration of Lao PDR. People are resident in villages, headed by a Village Chief. Villages are combined into districts, which again form provinces, finally resulting into the national community of the Lao PDR. Ministries on the national level have embodiments on the provincial and district level. Essential for this project are the Ministry of Energy and Mines, the Ministry of National Resources and Environment, and the Ministry of Agriculture and Forestry, but also the Ministry of Health, the Ministry of Education, and the Ministry of Information and Culture. These public institutions are supported by mass organizations with structures on all levels: the Front for National Construction, the Lao Women Union, and the Lao Youth Union.
152. Next to these public institutions, PAPs are integrated into further social and cultural relations within and between villages. These include on the village level informal elders councils, which have an essential say in the development of a community. Several villages may be amalgamated into one administrative unit, even though they are both culturally and geographically distinct, for example, Hatsaykham is a sub-village of Hat Gniun. Hmong people in the Project Impact Zone are identified and linked by clan systems, which connect villagers from the upper reservoir area with the lower reservoir area and the construction

site. These linkages extend further to Hmong communities in the rest of the country as well as abroad, which allows them to mobilize cultural and social resources to support the communities in their communication with the Project. It also enables information about experiences in other hydropower projects to be widely shared and circulated.

- 153. Recent Lao history led to further social networks between local and central level, which have to be taken into account when addressing stakeholders. While for the older generation, the liberation war is an essential factor in the evolution of such networks, for the young generation, modern communication as well as work and education in urban areas have extended the social networks of villagers in the Project Impact Zone, providing them with additional social and cultural resources and influencing their development, preferences and life choices.

4.5 Infrastructure

- 154. Table 19 presents the types of public infrastructure available in the villages of the project area, registered in the 2007/8 and 2011 Surveys. Villages can be divided into two main types in terms of available infrastructure. In Zone 2UR, some have improved quickly towards reasonably good quality infrastructure and services, with roads accessible in all seasons, electricity, schools, health centres in the community or nearby following the improvement of National Road 1D, even though not noted in the early surveys of 2007/8 and 2011.
- 155. The second group, the majority of villages discussed in the REDP, has limited infrastructure and social services. Roads are regularly impassable during rainy seasons or villages are accessible only by river. There is no connection to the provincial electricity grid, with small amounts of electricity deriving from solar power panels or pico-hydropower structures. Even though schools are available (which is not equivalent to schooling by teachers, see section on education), they lack adequate buildings and facilities and often lack teachers. Many of the houses are made primarily of bamboo. The walls and roofs of these houses have to be changed every 4 to 5 years. However more and more houses are made of more permanent materials, with wood and/or brick walls, and tiles or tin roofs.

Village	Infrastructure Service				Social Welfare						PPO
	El.	Wat.S.	Road	Mark.	S1°	S2	Health	Temp.	Cem.	Groc.	
<i>Zone 2-reservoir Area</i>											
Zone 2UR											
Pou	-	√	√	-	√	√	-	√	√	√	√
Hatsamkhone	-	√	√	-	√	-	-	√	√	√	√
Piengta	-	√	√	-	√	-	√	√	√	√	√
<i>Zone 2LR</i>											
Houaypamom	-	√	√	-	-	-	-	-	√	√	√
Sopphuane	-	√	√	-	√	-	-	-	√	√	√

Village	Infrastructure Service				Social Welfare						PPO
	El.	Wat.S.	Road	Mark.	S1 ^o	S2	Health	Temp.	Cem.	Groc.	
Sopyouak	-	√	√	-	√	-	√	-	√	√	√
Namyouak	-	√	√	-	√	√	-	-	√	√	√
Zone 3-Construction Area											
Hatsaykham	√	√	√	-	-	-	-	-	√	√	√
Zone 5 Resettlement Area											
Hat Gniun	√	√	√	-	√	-	-	-	√	√	√
Thahuea	√	√	√	-	√	-	-	√	√	√	N/A

Table 19: Infrastructure of villages in project Area (Source: Field Surveys 2007/8 and 2011; Field visits 2012 and 2013)

Abbreviations: El...Electricity; Wat.S...Water Supply; Mar...Market; S1^o...1^o school; S2^o...2^o school; Health...Health centre; Temp...Temple; Cem...Cemetery; Groc...Grocery; PPO...Private and Public Organization

4.6 School Attendance

156. Education in Lao PDR is divided into primary, secondary, and tertiary or advanced levels. Primary education is compulsory and intended for children between ages 6 and 11 years old, though many rural and ethnic minority children start school much later. Secondary education is sub-divided into lower secondary schooling for 3 years and upper secondary schooling for another 3 years. Further details on education can be found in the SIA. While there are pre-school nurseries and kindergartens, these remain limited in number and are not found in rural PIZ areas.
157. A study of school attendance in Lao PDR found that members of the country's ethnic minorities were less likely to enrol in or to attend school than ethnic Lao or other Lao-Tai groups. (Seel, 2003) At the same time, ethnicity and poverty are also linked. These findings were confirmed by the analyses in the Millennium Development Goals Report 2013. Wealthier districts tend to lie along the Mekong River, and are predominantly Lao Loum. The poorest districts (all three districts in the PIZ are classified as among the poorest in Laos) have the largest populations of ethnic minorities who are non-Lao speakers. In part of the effort to develop the poorest groups in the country, the Ministry of Education of Lao PDR launched its policy to improve the social and scientific knowledge of the nation, increase solidarity among ethnic groups, increase community awareness of national benefits, and preserve the national heritage through expanded education, with particular emphasis among ethnic minority groups. (Ministry of Education, 2006)
158. An important component of the education policy of the country has been to expand universal primary education. Enrolment has increased considerably since the early nineties (84% in 2004); however, though more children are attending schools, their completion of primary schools remains rather low with many children staying in school up to 4 years. The disparities are great, though, between urban and rural communities (urban residents more

likely to stay in school longer), Lao-Tai and other ethnic groups (Lao-Tai likely to stay in school longer), and male and female (with the exception of urban Lao-Tai, males stay in school longer than females). The measure of female to male attendance in schools in the MDGs showed considerable progress at all levels. By 2006, this had increased to between 86 girls for every 100 boys in primary school and 62 girls for every 100 boys in secondary school.²³ However, most of this increase in female attendance is among Lao-Tai ethnic groups and in urban communities. Females from rural non-Lao-Tai ethnic minorities are still likely to stay in school for only 1 or 2 years, while males from the same communities are likely to stay in school for up to 4 years.²⁴

159. Secondary education has expanded considerably in recent years, but still remains relatively inaccessible for non-Lao-Tai ethnic minorities.²⁵ There are more than 950 secondary schools in the country, mostly in provincial and district centres. To encourage secondary education for ethnic minorities from remote communities, 3 boarding schools at the secondary level have been set up for ethnic minorities.²⁶
160. A discussion of provincial education plans to increase school attendance can be found in the SIA. Core aims (i) eradicate illiterate; (ii) an overall school attendance of children in primary school age and between 60% and 80% in secondary school age; (iii) informal education to reduce illiteracy among those aged 15 to 45; (iv) permanent school structures in isolated areas; (v) expansion of tertiary education including vocational and technical schools providing education in business management, administration, agriculture, construction, and wood processing, and with new curricula added in law and medical care.
161. In the Project Impact Zone, the first study of 2007/8 revealed that many of the villages, especially the five villages in the inundation zone, do not have properly functioning schools. This situation resulted from at least two factors:
 - i. attendance was low because the families needed the children to help harvest rice and other crops and forest products; and
 - x. teachers did not conduct classes regularly.
162. Some schools are financed by the villagers themselves since the local government had neither the funds nor the resources to provide teachers. The situation had only slightly improved at the time of the 2011 surveys. The baseline survey 2014, in coordination with the NNP1 education program, will specifically focus on updating data on school attendance and literacy rates, addressing both, formal education as well as trainings and literacy classes for adults.

²³ GoL and UN, Millennium Development Goals, Progress Report, 2008.

²⁴ King and van den Walle, *op cit.*, p. 20.

²⁵ Seel, *op cit.*

²⁶ [http://www.laoembassy.com/30 years of Lao PDR.htm](http://www.laoembassy.com/30%20years%20of%20Lao%20PDR.htm)



A school in Ban Pou



Primary school in Ban Soppuane



Primary school in Ban Sopyouak



Primary school in Ban Namyouak

Figure 9: Schools in the project area

4.7 Literacy and Education Levels

163. The 2011 survey used formal education levels within the project impact zone as a proxy for addressing questions of literacy. As expected, the numbers of people who have completed any formal education is still quite low, especially among more remote communities.
164. It needs to be stressed that data in Table 20 show the number of people who have completed each level of education, not the number of people who have attended any school at all. Until recently, there were no schools in many of the communities of the project area; so older residents are unlikely to have attended even primary school. Even with primary schools now available in most of the villages, many of them do not yet have the capacity, neither the teachers nor the resources, to teach the full 5 years of compulsory education. As a result, even most of the younger residents in these communities will not have completed the full 5 years of primary education and accordingly literacy is a serious issue in these villages.

Village Name	Total Population	Education Level (number of persons) n = 624 HH									
		No formal education		Primary School		Lower Secondary		Upper Secondary		College or University	
		People	%	People	%	People	%	People	%	People	%
Upper section of the Reservoir Area (Zone 2UR)											
1. Pou	1,129	342	37.8	376	41.5	129	14.3	55	6.1	3	0.3
2. Piengta	454	87	21.1	199	48.3	91	22.1	33	8.0	2	0.5
3. Hatsamkhone	453	56	12.5	230	51.6	116	26.1	43	9.6	1	0.2
Lower section of the Reservoir Area (Zone 2LR)											
1. Houaypamom	254	39	27.3	86	60.1	9	6.3	8	5.6	1	0.7
2. Sopphuane	416	102	35.1	120	41.2	51	17.5	14	4.8	4	1.4
3. Namyouak	1,149	145	19.0	388	51.0	142	18.7	57	7.5	29	3.8
4. Sopyouak	916	48	11.1	157	36.3	140	32.4	69	16.0	18	4.2
Construction Area (Zone 3)											
1. Hatsaykham	218	72	33.0	104	47.7	27	12.4	13	6.0	2	0.9
Host Communities (Zone 5)											
1. Ban Hat	371	51	6.2	227	27.8	522	64.0	7	0.9	9	1.1
2. Thahuea	265	56	21.1	125	47.2	63	23.8	14	5.3	7	2.6

Table 20: Education Levels per Village and Project Zones

4.8 Health

165. As with education and other social services, provision of health care in Lao PDR was quite scarce after the decades of war and with so many remote communities. In recent decades, conditions have improved considerably, with provision of fundamental health care to all parts of the country a top priority of the government.
166. Great progress has been made in several areas. A concerted effort to control malaria has had dramatic results. Death rates from malaria have been reduced from 9 people in 100,000 in 1990 to only 0.4 people in 100,000 in 2006.²⁷ With many remote communities difficult to access, the GoL has implemented a policy to extend health care through village public health volunteers and village medical kits, now totalling over 16,000. In 2004, there were 12 provincial hospitals, 127 district hospitals, and several other regional and central hospitals. A number of local level dispensaries/health centres were also set up.²⁸
167. The targets of the seventh national development plan for 2011 to 2015 give an indication of the main public health issues facing the country. These were to:
- To decrease maternal mortality ratio to not more than 260 per 100,000 live births;
 - To decrease the infant mortality to 45 per 1,000 live births;

²⁷ GoL and UN, Millennium Development Goals, Progress Report, 2008.

²⁸ [http://www.laoembassy.com/30 years of Lao PDR.htm](http://www.laoembassy.com/30%20years%20of%20Lao%20PDR.htm)

- To decrease under-five child mortality ratio to 70 per 1,000 live births;
 - 80% of total population to have access to potable water;
 - 60% of total population to have and use latrines.
 - To decrease the proportion of underweight children age under five years to 20%;
 - To decrease the proportion of stunted children under five years to 34%;
168. For the 72 poor districts, including the 3 PIZ districts of Thathom, Hom and Bolikhan, the targets for 2010 include:
- 100 per cent of the population will have access to Provincial Health centres,
 - 75 per cent will have access to clean water, and
 - 55 per cent will have access safe sanitation.²⁹
169. Public health officials in Bolikhamxay and Vientiane Provinces provided information on the 10 top causes of illness in their provinces for 2005 to 2006, shown in Table 21. Similar information was not available at the time of the field survey from Xieng Khouang Province.

Rank	Bolikhamxay Province	Vientiane Province (formerly including Thathom District)
1	Dengue Fever	Influenza
2	Diarrhoea	Diarrhoea
3	Dysentery	Respiratory infection (Pneumonia and Bronchitis)
4	Malaria	Malaria
5	Food Poisoning	Dengue Fever
6	Meningitis	Stomach-ache
7	Typhoid	Dysentery
8	Hepatitis B	Typhoid
9	Measles	Road Accidents
10	Neonatal Tetanus	Skin Diseases

Table 21: Top Ten Diseases and Causes of Illness in 2005-2006

170. As can be seen from these lists, there is considerable overlap in the top ranking diseases in the two provinces, in particular diseases spread by mosquitoes (dengue fever and malaria) and diseases of the digestive system (diarrhoea, dysentery, food poisoning and stomach ache).
171. The public health infrastructure and personnel of the three provinces of the project area are presented in Table 22 below. While these facilities can be reached from 2UR (to Xieng Khouang) on an all-weather-road in two hours by car and it is possible from Z3 and Z5 to reach Pakxan in 2 hours by boat, the current villages of 2LR during rainy season may not

²⁹United National, Health sector strategy Lao PDR, 2008.

<http://webapps01.un.org/nvp/frontend!policy.action?id=502&tab=analysis>

reach these facilities for a considerable amount of days during the year due to bad road conditions. With the formation of Xaysomboun Province, data will be accordingly revised in future.

	Units	Bolikhamxay	Vientiane	Xieng Khouang
1. Provincial Hospitals	Sites	1	1	1
Capacity	Beds	80	90	75
2. District Hospitals	Sites	6	12	7
Capacity	Beds	70	120	85
3. Health Centres	Sites	5	44	48
Cs	Beds	80	88	113
Villages in revolving drug funds program	%	78	25	
4. Village Health Kits	Kits			381
5. Physicians, top level	People			18
6. Physicians, high level	People			49
7. Medical workers, medium level	People			138
8. Medical workers, elementary level	People			249
Total Health Care Workers	People	368	768	
Provincial Hospitals	People	77	89	
District Hospitals	People	41	562	
Health Centres	People	11	117	

Table 22: Public Health Facilities and Public Health Personnel in the NNP1 Project Area (Source: Report NCC, 2008)

4.9 Gender

172. The Constitution of Lao PDR grants equal rights to women and GoL made gender equality a priority in its development plans and has achieved great progress in recent years. Despite the gains in education, health, economic participation, and decision-making (the Lao National Assembly has one of the highest rates of female representation among legislative bodies in the world), many women in the country continue to be disadvantaged, especially in rural communities and among some patrilineal and patriarchal ethnic groups, such as Hmong. The most significant gains in education and health have been among women in urban areas and among Lao Loum. Women in ethnic groups in remote rural areas face much greater disadvantages, with less education, poorer health care and higher maternal mortality, and fewer rights to assets, land and household property.
173. Although women make up more than half the workforce in rural communities, high illiteracy rates keeps many women from being able to participate in development activities. Women from non-ethnic Lao communities who cannot speak Lao, much less read or write, have fewer opportunities to join in development programs, whether handicraft training, health care, nutrition, or other activities intended to improve the conditions of women.

4.9.1 Organizations Related To Gender in Lao PDR

174. The advancement of women’s rights and development of their role in society is promoted actively through several organizations. Among the most important, with members throughout the country, even in the most remote communities, is the Lao Women’s Union. The LWU often has a key role in development activities, and is one of the few mass organizations with an established presence reaching into every village.

4.9.1.1 Lao Women’s Union

175. The role of the Lao Women’s Union (LWU) is recognized in the constitution, as providing an information gathering and service delivery role. The LWU has over 600,000 members in Laos. This represents participation in the LWU by about 50% of all Lao females, 17 years and over, (Source: Country Gender Analysis, 2002). Any woman can apply for membership in the LWU. After doing so, the applicant must be nominated to the LWU by village and district women. Its network stretches from the central level to villages throughout the country.
176. The LWU has forty years of experience in political mobilization. During the past ten years, it has added socio-economic development to its activities, particularly in rural areas. Training under the LWU is an important method to mobilize both men and women in improving livelihoods within Lao PDR households.

4.9.1.2 Lao National Commission for the Advancement of Women

177. The Lao National Commission for the Advancement of Women (LaoNCAW) was established in 2002 under Prime Ministerial Decree No. 37. The role of the Commission, which consists of some of the highest government officials, is to assure gender concerns are addressed at the national, provincial, district and village levels. The roles and tasks of the LaoNCAW are:
1. To assist the Government in formulating national policy guidance and strategic plans of action to promote women’s advancement and gender equality in all spheres and at all levels of society.
 2. To act as the Focal Point and coordinate closely with local authorities and international organizations concerns for the implementation of the party and Government policy on the promotion of gender equality and the elimination of all forms of discrimination against women. LaoNCAW is planning to establish gender focal points in each ministry to promote the advancement of women in each sector.

4.9.1.3 Other Organizations

178. For social mobilization that deal with gender issues, but not necessarily as their primary focus, include:
- The Lao Front for National Construction
 - The Neo Lao Sang Sat (also sometimes translated as the Ethnic Organization or the fatherland front)

- The Lao People’s Revolutionary Youth Organization
- The Lao Trade Union Federation

4.9.2 Gender and Work

4.9.2.1 Crops

179. **Paddy Rice Production:** Members of the households in the project area do many of the tasks together in rice growing, though men are more likely to do some of the tasks, and women to do others. Men are mainly responsible for heavy work of ploughing and preparation of seedbeds and fields, and handling draught animals. Women are mainly responsible for transplanting and weeding, while irrigation water management is men’s work. Everyone joins in harvesting. Threshing is usually a male task while women are responsible for carrying the sheaves of rice to the threshing place and storing the rice afterwards.
180. **Swidden Cultivation:** In swidden cultivation, cutting and clearing of fields are mainly male tasks while sowing and tending of fields until harvest is women’s work. Weeding is done by both women and men, though women tend to dominate in this task.
181. Gender division of labour is an important consideration for development of livelihoods programs under the project. Typically agricultural extension, advice and inputs have been targeted at men, and care will be given to ensure that women's views and abilities are well reflected in livelihoods planning and implementation.

4.9.2.2 Animal Husbandry

182. Animals kept around the house – pigs, goats, chicken, ducks and other birds – are generally the responsibility of women and young girls in the family to tend and feed, whether through the scraps of food leftover from meals or by gathering plants for animal feed.
183. Larger animals – cattle, buffalo, and horses – are the responsibility of men and boys in the family. They are cared for in two main ways: either herded out to eat the stubble in the fields or nearby grasslands, or left free to roam and find food on their own.
184. Many of the households will sell some of their surplus crops or their livestock when they need cash. Sales are generally done in or near the village. Middlemen come to the villages to purchase surplus crops. Large livestock are generally sold in or near the community, when families are in need of a large amount of cash, for example due to rice shortages at the end of rainy season. Above all in 2LR, due to the restriction of bad road conditions, these sales vary according to meteorological seasons as well as to variations in different harvest seasons.
185. Women are the primary sellers to the markets, and they are also the main purchasers of household products for use in the home.
186. Women are also the main operators of the small shops that are found in nearly all the villages in the study area. These small shops, about two or three in each community, are generally a small corner or addition to the family house. They carry soaps, detergents, toothpaste, canned foods, cigarettes, beer, and other small sundries and household goods.

4.9.2.3 Foraging/Hunting/Fishing

187. Aside from cultivation, a considerable amount of household food is also foraged or caught. Vegetables are collected from the forests, animals hunted, and fish caught. Women are largely responsible for foraging vegetables and other edible plants in the forests. This is in contrast to vegetable farming or home gardens, including herb and spice trays, which is much more a shared task between men and women in the family in all aspects, from preparation of the garden to watering and tending the vegetables. The most important food plants collected from the forests include various green-leaved plants, herbs, mushrooms and bamboo shoots.
188. Hunting and fishing are male activities. Men also prepare special foods such as chickens, pork, beef, or goats, for special occasions. Fishing is of great importance for domestic consumption, but occasionally it can also bring some income to villagers. When more fish has been caught than consumed by the household, the remainder of the catch is either preserved or sold. It is usually the women who are responsible for taking the fish to the market or for preserving it.

4.9.2.4 Handicrafts

189. Weaving: Until fairly recently, people wove their own cloth and made their own clothing. This was mainly the work of women. They grew and harvested their own cotton, carded, spun the thread, dyed and wove the cloth, cut and sewed the clothing. In recent years, people depend less on making their own clothing, preferring instead to buy ready-made clothes for everyday wear. However, for special events, most people in the project area – especially the Hmong communities, and especially the older residents – still wear their traditional dress made by themselves, that is, by women in the household. More often than not, people will also buy cotton thread, rather than grow, harvest, and spin their own.
190. Sewing: Despite using more ready-made clothes, weaving and embroidery remain important activities in women’s lives in the project area, as traditional handicrafts for sale. Cloth and thread for the embroidery are purchased in markets, and designs are traditional to the particular ethnic group and clan. Most of the women, though, cannot afford to buy high quality materials, so even if their traditional skills are quite good, the cloth and embroidery they produce is of lower quality, not revealing their full potential.
191. Basketry: Households in much of the project area use baskets for a wide range of activities, from fishing to storage to threshing rice. Each type of activity requires different types of baskets. Labour is divided for basket-making, with men cutting and slicing the bamboo into strips and women weaving the baskets.
192. There is ample supply of bamboo in the project area, which the villagers use for many purposes, among them as housing material (walls and roofs), fencing, for animal enclosures, and for other daily household uses. Bamboo is the main material for baskets, and different types of baskets are made for a great variety of uses: as fishing equipment, storing rice and other foods, threshing and husking rice, and for steaming foods, especially glutinous rice. Basketry is traditionally the work of both men and women, with women mainly responsible for collecting materials, men and women making the baskets. Men are mainly responsible

for the uses of bamboo for house construction.

193. Woodworking: Woodworking, whether for houses, other structures, or tools, or as a handicraft, is mainly the responsibility of men, though women help find the materials.

4.9.2.5 Child-rearing

194. As with most of the country, the communities in the study area have a large number of children. Villagers marry at an early age, Hmong men may have more than one wife, and with little or no family planning in the communities, they have children early and frequently. Women carry the major responsibility for raising children, and although other family members will sometimes join in sharing this task, the preeminent role of mothers is evident almost always, with their children at their side, hugging their legs, or on their backs as they cook, do housework, or whatever they may be doing.

4.9.2.6 Household tasks

195. Care of the House: Women are responsible for looking after the house, for cleaning, sweeping, washing clothes, and cooking. Women share responsibility with men for house repairs: women will prepare the materials (such as collecting bamboo or thatch) while men will do the repairs.
196. Husking and milling rice: In places where there is as yet no mechanical rice mill, the manual husking and milling of rice continue to be the responsibility mainly of women, irrespective of ethnic identity. This is an arduous, time consuming, and regular task. Rice must be stored with the husks still on: the milled rice does not keep as long. Only as much rice is husked or milled as is needed for the coming days. Even now, when many of the communities have gas-powered or electric-powered mechanical rice mills, poorer families cannot afford to pay for the service, and so continue to husk and mill their rice manually.
197. Cooking: Cooking is another responsibility of women. In the communities in the study area, at least two meals are cooked: the first in the morning, which is also when food is prepared for mid-day meals, and the second in the evening. Preparing the meals entails all aspects of the task, including collecting firewood, fetching water, and milling and husking rice, all activities that take considerable time and effort.
198. Collecting firewood: Collecting firewood is almost entirely the responsibility of the females in the families, from young girls to older women, no matter what ethnic group. They collect the branches and other pieces of wood in evenings, carrying the wood on their backs for quite a distance to their homes. Each house has a pile of firewood stored beside it, to be used for fires for cooking and to help provide heat during the winter months.
199. Fetching water: With very few villages in the project area as yet having a drinking water system, the task of fetching water from streams or wells or the river remains a heavy and tedious task, almost always the responsibility of the women in the households, again no matter what ethnic group. In most cases, the closest water sources are streams and rivers downhill from the village, which means that the filled (and quite heavy) water containers must be trudged uphill to the houses. These water sources are not clean, hence the relatively high prevalence of water-related infections such as dysentery, typhoid and hepatitis.

4.9.2.7 Collecting Forest Products

200. Several types of forest products are collected for household use: plants and animals for food; wood for fuel, for carving, as parts of houses and other woodwork; and bamboo and rattan for basketry. Women also gather NTFPs for household consumption and use, including foods, medicines and materials for utility items. In addition a number of products are collected for sale. These include herbs, rattan, tree oils, and resins. Men tend to gather more utilitarian products, such as wood for construction as well as sale.

4.9.2.8 Summary

201. A summary of the most common or frequent tasks of work and households, according to gender, and comparing between the three major ethnic divisions of the project area is presented in the table below. A “+” in the table indicates primary or shared responsibility. A “-” indicates a lesser or minor role.

Activities	Responsibility					
	Khmu		Hmong		Lao Loum	
	Men	Women	Men	Women	Men	Women
Swidden Cultivation	+	+	+	-	+	+
Cutting Tree	+	+	+	-	+	-
Cleaning Undergrowth	-	+	-	+	-	+
Burning Fields	+	-	+	-	+	-
Sowing, Planting	+	+	+	+	+	+
Weeding	-	+	+	+	-	+
Transporting the Harvest	+	-	+	-	+	+
Paddy Cultivation	+	-	+	-	+	+
Constructing and Maintaining Fields	+	-	+	-	+	-
Permanent Fields	+	+	+	+	+	+
Ploughing	+	-	+	-	+	-
Sowing	+	+	+	+	+	+
Transplanting	+	+	+	+	+	+
Harvesting	+	+	+	+	+	+
Raising Buffaloes	-	+	+	+	+	+
Hunting	+	-	+	-	+	-
Gathering Forest Products	-	+	-	+	+	+
Fishing	+	-	+	+	+	-
Raising Pigs and Chicken	-	+	-	+	-	+
Cultivation of Fruits and Vegetation	-	+	-	+	+	+
House Building	+	-	+	-	+	-
Constructing the Building	+	-	+	-	+	-
Finding Materials	+	+	+	-	+	+
Basketry	+	-	+	-	+	-
Carry Transportation	+	-	+	-	+	-

Activities	Responsibility					
	Khmu		Hmong		Lao Loum	
	Men	Women	Men	Women	Men	Women
Collective firewood and Water	-	+	-	+	+	+
Washing Clothes	-	+	-	+	-	+
Pounding Rice	-	+	-	+	-	+
Cooking	-	+	-	+	-	+
Taking Care of Small Children	-	+	-	+	-	+
Ritual Sacrifices	+	-	+	-	+	-
Shamanism	+	-	+	-	+	+
+ = Major Participation in the Activity						
- = Minor Participation in the Activity						

Table 23: Summary of Gender-Divided Activities

4.9.3 Women's Health

202. The key women health-related issues concern reproductive and maternal health. Maternal mortality rates have decreased considerably, from 650 in 100,000 live births in 1995 to 405 in 100,000 live births in 2005.³⁰ The disparities between urban and rural areas are also great, with rural women facing over 3 times the maternal mortality rates in childbirth than their urban counterparts, mainly because of the continuing lack of access to adequate health care in the more remote communities.³¹
203. The general lack of health care in many communities in the project area also means there is a lack of adequate reproductive and maternal health care for many of them. From discussions with villagers, it was confirmed that most births do not have skilled professionals such as trained midwives in attendance.
204. There is a strong correlation in Lao PDR between mother's education and child and infant mortality, with much lower mortality rates for children of higher educated women.³² This is attributed in part to women living in urban areas or other places with greater access to education will also have greater access to professional health services. It is also due to the knowledge and ability of the mothers: those with higher education will be more aware of the steps needed to protect their children from illness, such as vaccinations, and the treatments needed if their children fall ill. There is also a strong correlation between age at first marriage and the rates of infant and child mortality, with those marrying younger having higher mortality rates of their children.³³ This is because those who marry younger tend to

³⁰ Government of Lao PDR and the UN, "Millennium Development Goals: Progress Report Lao PDR 2008" Vientiane: UN.

³¹ Gender Resource Information and Development Centre, "Lao PDR Gender Profile." Vientiane: Lao Women's Union, November 2005, p. 63

³² Ibid, p. 65

³³ Ibid.

have less education and also tend to be from more remote areas.

205. Sexually transmitted diseases are also of concern. While HIV/AIDS is still not very prevalent in Lao PDR, its incidence is increasing. Infections of women are also increasing, with sex workers particularly vulnerable. While the Lao government has been making efforts at educating the population on how to protect themselves from HIV/AIDS, ignorance, poverty forcing women into prostitution, lack of use of condoms, sexual exploitation and trafficking, migratory work patterns, all contribute to increased risk of HIV/AIDS among both men and women.

“By June 2007, the official cumulative number of HIV infected notification was 2,400, of whom 1,523 were known to be AIDS cases and 775 had already died. 58% of reported HIV cases were male and 42% female. More than 50% of those infected are between 20 and 39 years old. The major mode of transmission of HIV infection in Lao PDR is through heterosexual intercourse (85%).³⁴

206. HIV/AIDS infections among female sex workers increased from 0.9% in 2001 to 2.2% in 2004, with some provinces showing rates of up to 4% infection.³⁵

4.9.4 Women’s Education

207. Women are also disadvantaged in education. Fewer female than male children are enrolled in schools than males. This is because parents do not value their daughter’s education as much as their son’s, and when extra labour is needed in homes it is the daughters who are usually the first to be kept from school. Communities in remote areas are also less likely to send their children to school, because of the lack of functioning schools in these areas, the problems of learning a language other than one’s mother tongue, if from an ethnic minority group, and because many parents do not see the value of a formal education. Even when they do see the value of formal education, the lack of cash to buy clothing, books, and other materials keeps many poor rural households from sending their children to school. When parents need to choose which children attend school with their limited resources, most will send their boys to school rather than their girls.
208. Female literacy greatly lags male literacy among all ethnic groups in Lao PDR. At the same time, the literacy rate in remote areas falls far behind that of urban areas, with female literacy even lower. A recent study showed that nearly 70 per cent of Hmong-Iu Mien

³⁴ NCCA, UNGASS Country Report, Reporting Period January 2006 to December 2007, p. 4.

Downloaded from website:

http://data.unaids.org/pub/Report/2008/lao_2008_country_progress_report_en.pdf

³⁵ Ibid

women are illiterate, and nearly 80 per cent of Chinese-Tibet women are illiterate.³⁶

4.9.5 Ownership Rights

209. Under the laws of Lao PDR, both men and women enjoy equal access to land. Nevertheless, customary practices – principally through inheritance – often over-ride official laws. Actual patterns of ownership depend on the traditional practices of the different ethnic groups. A detailed study has been developed by Mann/Luangkhot, outlining different aspects of ownership rights and heritage in various sampled ethnic communities (see Figure 10)
210. Under the bilinear inheritance practices of most of the majority Lao-Tai groups, both daughters and sons are able to inherit land and other property, with the decision on who inherits what depending on the parents. However, it is customary for the youngest daughter to inherit a larger portion of the family land and also the home since she usually remains behind to care for the parents, even after she is married. Also, it is tradition for newlywed couples to move into the house of the bride's parents. The groom's parents will give livestock and other moveable property to the new couple. The new couple will help on the bride's family's farm for a few years, until they set up their own household, usually after the birth of their first child. Traditionally, the parents of the wife will give the young couple land when they set up their own household. Both these traditional practices mean that women in these ethnic groups often inherit more land and have more control over the land than the men.
211. Most of the other ethnic groups, including the Hmong and Khmu in the project area and the resettlement host communities, follow mostly patrilineal inheritance (see Figure 10). Property is passed from father to son. Newlywed couples move in with the husband's family, and they often will remain there as part of an extended family, even after their own children are born. The men own and make decisions concerning the land. Few of the women inherit any land from their families.

³⁶ Elizabeth M. King, and Dominique van de Walle. "Schooling, Poverty, and Disadvantage in the Lao People's Democratic Republic," in *Exclusion, Gender and Education: Case Studies from the Developing World*, eds. M. Lewis and M. Lockheed. Washington, DC: Centre for Global Development, 2007.

Ethnic Group	Fixed assets (house & land)			Moveable assets (e.g. livestock &)	
	Youngest girl	Youngest boy	Women's share via Brideprice	Male siblings	Both Male & Female siblings
Brao	✓	X	X	X	✓
Trieng	X	✓	✓	X	✓
Hmong	X	✓	✓	✓	X
Khmu	X	✓	✓	X	✓
Tai Dam	X	✓	✓	✓	X

X = not practised ✓ = practised

Figure 10: Gender Differences in Traditional Inheritance Practices (Sources: Mann/Luangkhot 2008)

212. Official land registration has been found to be biased toward males, even in the Lao-Tai communities where females have inherited land. As reported by the Gender Resource and Information Development (GRID) Centre in a study of women's rights to land, although the wives inherited 40 per cent of the land, only about 16 per cent of that land was registered in the wives' names. In contrast, only some 18 per cent of the land was inherited from the husbands' families, but fully 58 per cent of the land was registered solely in the husband's names. Less than 10 per cent was registered in both names.³⁷Based on this evaluation, the land titling project adjusted its strategy, leading to much more equity in tenure registration. Tenure registration figures post-2005 are much more balanced.
213. The project will be aware of this bias of the bureaucracy toward the males of the households, and so will ensure that the women in the households, especially in the resettled communities, are given due recognition of their rights to the land and adequate protection of their access to the new lands. Thereby, the influence of language knowledge has to be taken into consideration: as non-Lao Loum ethnic group women tend to speak less Lao, they might get bypassed by staff, which does not speak local languages and therefore tend to communicate only with the male heads of households. Special attention has been paid to this by NNP1, with ethnic and gender training for staff, and appointment of both male and female staff from the Hmong ethnic group.

4.9.6 Women and Decision-Making

214. Though at the national level, Lao PDR has made great strides in increasing women's participation in decision-making, with nearly one-quarter female representation in the national assembly, women's roles in civil service and in provincial, local and village administrations tend to be quite limited.
215. Women in Lao PDR have traditionally deferred to men in public decision-making. This is even more the case for remote communities, where the women have less education and only

³⁷ GRID, "Lao PDR Gender Profile" 2005, p. 41

limited contact with outsiders. Men tend to deal with government officials, especially as most government officials are also men. Non-Lao Loum ethnic group men are more likely than ethnic minority women to be able to speak Lao, so communications and public decision-making tend to go through men.

216. There is evidence to suggest that when new technologies are introduced such as tractors, fertilizers, rice mills, etc. men not only take over the use of such new technology but they also decide how, when and for what such products should be used. Women seem to have a subtler, indirect influence on decision-making within the household in the Laos family structure. Furthermore, care needs to be taken when considering gender distribution of labour in rural households. For example, in one instance of agricultural advice in a highland project, nitrogen-fixing plants were planted to improve soil fertility, but without consulting women who were responsible for weeding. This resulted in a higher labour burden for women being imposed without their consent.
217. The Lao Women's Union has played a key role in getting women in rural communities to have a greater role in public decision-making. However, in many communities, the only formal female representation remains that of the LWU. Women will be represented on village level committees in project-related activities, and on grievance committees.
218. Village governance consists of a Village Headman, Deputy Village Headman, and members of the Local Militia, the Local Police, the Lao Youth Union, the Lao Women's Union, and the Front for Construction. While women are of course active in the LWU and younger women also involved in the Lao Youth Union, their roles or involvement in the other positions or groups is very limited.

4.9.7 Impacts of NNP1

219. The project is not expected to have major gender-specific adverse impacts, with three exceptions: the possibility of inadequate nutrition during the first years of project impacts while newly resettled villagers are getting used to their new homes and fields; possible health and social impacts of the workers' camp and the largely young male migrant workers during project construction; and failure to consider gender divisions of labour and responsibilities when preparing and implementing livelihoods support programs.
220. The possibility of inadequate nutrition during the first years of resettlement is of particular concern for pregnant women, women with infants and children, and those infants and children. The project will ensure, as part of its Public Health Action Plan (PHAP - included in the SDP) that any pregnant or nursing women have adequate health care and are able to receive adequate nutrition, since these are critical to the health of the children.
221. The other areas of potential concern needing close monitoring are effects of construction and large numbers of workers and camp followers on villages immediately downstream and close to the construction area, namely the host communities and at the resettlement site. The large influx of mostly young male workers could lead to conflicts between local communities and the workers over women in the nearby villages. There may also be attempts to recruit local women as sex-workers. Measures to address these risks are

included in the project's Labour Management Plan (LMP - included in the SDP).

222. The project may also affect water availability during construction and river water quality during the first years of operation. This could affect some domestic water uses, in particular for Ban Hat Gniun, where people use water from the Nam Ngiep River for domestic uses and where contamination of the groundwater could affect their drinking water.
223. It is important for the project to assure that women of all ethnic groups receive their statutory rights to land and other resources. Households headed by women will be assured equal rights to any other household. This has been initiated by the project with compensation paid for roads impacts into bank accounts jointly held by both husband and wife, resulting in positive feedback from both male and female PAPs. Furthermore, statutory ownership and inheritance rights of women will be protected, with the gender-neutral law of the country superseding any gender-biased practices of some of the ethnic groups. An information and communication program will be important for this purpose.

No	Category of Impacts	Description of Impacts
1	Impacts requiring compensation (REDP)	Loss of lands and resources may lead to inadequate nutrition. This is of particular concern for pregnant women, for nursing women, and for their infants and children.
2	Impacts related to Ethnic Groups (REDP)	There is no direct adverse impact of the project on women of the ethnic minorities. The project will offer considerable opportunities for the women to improve their lives and condition.
3	Other impacts (SDP)	There will also be many positive impacts from the improved road, including easier access to market and services, from improved education and health care, and from skill training.

Table 24: Project Impacts Regarding Gender Topics

4.9.8 Opportunities for women in the project area

224. Aside from the possible adverse impacts described, women are expected to be among the principal beneficiaries of project due to measures planned by the project to address women's roles in household provision and management. Fetching water, rice de-husking activities are back breaking and time consuming chores. Many diseases associated with unclean drinking water sources, such as parasitical infections, are also common in highland villages. Manual activities will be replaced by providing accessible and clean drinking water supply systems, contributing to drudgery reduction as well as to improved health. The number of women and children attending the school will be increased by providing good primary and secondary educational facilities such as school, teachers and an adult literacy program, and increased care and health information for women and children through the improvement and provision of village and district health facilities.
225. The project offers furthermore considerable opportunities for women, with social and economic development programs are directly tailored to their benefit.

226. Under the project, wives will be given the opportunity to secure equal tenure rights to the housing and lands that are granted the households in the resettlement areas. This abides by the law of the land, and helps to give women more control and say over their productive resources and asset ownership.
227. Girls will be enabled to attend school in the same numbers as boys. The project will work with the villages to help parents understand the need for education and the benefits of education in the new, changing social and economic world they are facing.
228. In addition, older women will be given skills development training in handicrafts and other economic activities to do in their homes and as a group; above all, financial training and marketing opportunities will be assessed and supported via the livelihood activity programs. Older women will also be given training in health care and sanitation, to improve conditions in the home and for their families.
229. The project will make concerted efforts to help lift women from disadvantaged conditions, to get them involved in training and in implementing new economic activities, and to give them a greater voice in decision-making in their communities.
230. The analysis above resembles similar analyses of other hydropower Projects (Nam Theun 2 or Nam Nguem 3³⁸.) A detailed description of mitigation and development measures is included in the Gender Action Plan.

4.10 Information and Services

231. The Project Impact Zone encompasses a rural area with limited access to information and services. Until recently, electricity and phone connections were not available and roads inaccessible during wet season. However, this has changed over the last years and led to differentiations between the villages throughout the PIZ. In the upper reservoir area, the upgrade of dirt roads to the tarmac sealed inter-provincial road D1 was an essential step to facilitate extension of the national grid system to these villages; mobile phone connections are available in all villages. Similar developments occurred downstream of the reservoir area. The dam site itself has been recently connected to the electric grid and the Project improved the road to an all-weather-road. A mobile phone tower has been installed at the construction site. Access in 2LR is limited. Nonetheless, local electricity production via pico-hydropower systems and solar power remain and people are able to reach via long antenna connection a national phone network.
232. Although access to information is restricted by just slowly evolving integration into the national system, alternative information structures are active. Social and cultural networks as outlined in section 4.4. are an essential elements for information exchange not just locally but nationally and even internationally. CDs and DVDs, produced locally and abroad additionally, facilitate information influx, altering local knowledge systems.

³⁸ Nam Nguem 3: <http://www.adb.org/projects/40906-014/documents>.

Nam Theun 2: <http://go.worldbank.org/Q2DH1CHBU0>

4.11 Agriculture and Horticulture Landuse

4.11.1 Rice cultivation

233. Rice cultivation is the main activity of almost all households in all the villages of the project area. The type of rice grown will depend on the ethnic group: Lao Loum and Khmu prefer glutinous rice, while Hmong prefer non-glutinous rice. All grow local or traditional varieties according to their preferences: hybrid varieties have not yet reached most of the communities. Nearly all households grow rice on two types of land: in rain-fed paddy fields in valleys or along the river, and in upland fields. The yields of rice grown in the paddy fields are generally higher than the yields of highland rice varieties. Table 26 presents the area of paddy field and swidden field cultivation in the villages in Zones 2 and 3.

Village Name	Paddy Field Cultivation (ha)	Paddy Field / Overall Cultivation Area (%)	Swidden Cultivation (ha)	Swidden Field / Overall Cultivation Area (%)
<i>Upper section of the reservoir area</i>				
Piengta	68.19	31.25	24.074	11.03
Hatsamkhone	78.44	32.44	37.291	15.42
Pou	130.10	32.81	93.786	23.66
<i>Lower section of the reservoir area</i>				
Houaypamom	24.17	28.75	28.48	33.88
Sopphuane	38.91	31.71	49.16	40.07
Sopyouak	111.591	16.49	89.34	13.20
Namyouak	89.82	24.03	146.17	39.11
<i>Construction Area</i>				
Hatsaykham	33.76	25.51	60.6	45.78

Table 25: Area of Paddy Field Cultivation and Swidden Cultivation in Zones 2UR, 2LR and 3 (Source: Field Survey 2011)

234. According to the LECS III survey of the GoL, the people of Laos consume on average 0.6 kg of non-husked rice per person per day, or 219 kg of non-husked rice of paddy per person per year. However, the Hom District development plan has declared as its goal of rice production an average of 418 kilograms per person per year. Table 26 shows the average area of rice paddy per household in the study area.

Study Area	Paddy Fields (ha)	No. HH	Average paddy (ha) per HH
<i>2. Reservoir Area</i>			
Upper Reservoir Area (Zone 2UR)	276.73	328	0.840
Lower Reservoir Area (Zone 2LR)	264.49	384	0.690
<i>3. Construction Area (Zone 3)</i>	33.76	33	1.020
<i>5. Host communities (Zone 5)</i>	30.00	117	0.256

Table 26: Paddy Land in the Project Area, by Zone (Source: Field Survey 2011)

235. Core attention is given to the households in Zones 2LR and 3, where people will face the greatest impacts of the project and will need to resettle, in Zone 2UR where a number of the households will lose paddy land to the reservoir, and in Zone 5 where the households from Zones 2LR and 3 will resettle.
236. It should be noted that the total rice production in many of these villages, especially those further upstream, is not limited to that grown in paddy fields; upland rice is also grown in the upland swidden fields (Hay). In Zone 2LR, a total of 313.15 ha are used for upland rice production; or an average of 0.81 ha per household. However, yields of upland rice tend to be about 30 per cent lower than paddy rice, so the area is equivalent to about 0.57 ha of paddy.
237. Although the available average area of about 1 ha of paddy rice land per household in the resettlement area is more than sufficient to provide rice security year round, several factors limit productivity. While there is considerable rainfall, very little of this moisture is retained, whether through irrigation or other means. Soil quality is also a key concern of PAPs raised during consultations.
238. Traditional methods of shifting cultivation enable soils to regain fertility during the fallow years, with crops grown from 2 to 3 years and the land then left fallow for 4 or 5 years. However, as population pressure has forced people to reduce the time of the cropping cycle to only 3 or 4 years, the 1 or 2 years of fallow are not sufficient for the land to regain its fertility. Furthermore, agriculture extension services are quite limited in Lao PDR, so most farmers have little or no access to soil, plant or other agricultural technologies or techniques that could help them improve their yields. Experience in upland agricultural programs in Laos also indicates that upland farmers are often slow to adopt new and more labour or cash-intensive methods of soil improvement.

4.11.2 Other field crops

239. The households in the study area grow a number of other field crops, mostly in their upland crop lands. These crops include maize, cassava, bananas, pineapple, and sugar cane. These are mostly grown after the rice season, when there is still sufficient moisture in the soils on upland crop lands (“Hay”). Additional upland area, aside from that used for rice, ranges on average from 1 ha (as in 2UR) to about 1.77 ha (the average in 2LR). Much of the produce is consumed by the households, with maize for example used as animal feed. Some surplus of the other field crops is sold, with an average income from these crops of about 640,000 kip to 5,000,000 kip per year in Zone 2UR, and about 400,000 to 1,400,000 kip in Zone 2LR (Field Survey 2011); and 160,000 in Zone 3 (Field Survey 2007/8).

4.11.3 Cultivated fruit trees/ commercial trees

240. Villagers plant fruit trees and other economic or commercial trees. Farmers have started recently planting longer term trees, such as teak. There has also been planting of rubber trees, and there is evidence that more farmers will start to plant rubber, because earnings have been relatively good in recent years; however, profitability has shown a decrease with

the increased supply throughout the country and a decline in demand due to a slowing of Chinese (the major buyers of rubber) economic growth.

241. During visits to local markets and markets in nearby towns, nearly all the local fruits sold in the market were from forests. Commercially grown fruits are imported either from Thailand or China. A market survey will be conducted to investigate the possibility of promoting local commercial production of fruit, though care must be taken to assure costs, regularity of supply, and distribution networks, are competitive with those brought from neighbouring countries.
242. The sale of tree products, from both, fruit trees and other commercial species, averaged about 60,000 to 150,000 kip per year in Zone 2UR, about 30,000 to 230,000 in Zone 2LR and 40,000 in Zone 3. Currently, a market survey in the project area and its bordering towns is being conducted by NNP1PC consultants, information from which will support the preparation of the livelihood programs.

4.11.4 Gardening

243. In addition to rice and fish, vegetables are central to the Lao diet and can be found in every meal. In times when nothing else is available, Lao families will eat rice with vegetables to dip in chilli sauce. Vegetables are eaten raw, boiled, stir fried, as medicine, as herbs, and spices. Among the common vegetables grown and eaten by people in the project area are: cucumbers, chillies, Chinese cabbage or bok choy, cabbage, raw papaya (used like a vegetable in Tam Som), string beans, yard-long beans, squash, bean sprouts, coriander, tomatoes, long eggplant, round eggplant, lettuce, sponge gourd, and morning glory.
244. Spice trays: Spices and herbs, such as spring onions, garlic, coriander, parsley, mint, basil, and chillies are often grown in large wooden trays.
245. Riverbank Gardens: Many of the leafy vegetables that require considerable water are grown near the river or streams. These garden plots are bounded with bamboo fences to keep animals out. These vegetable gardens are planted after the rice harvest, or during the cool dry season. During the rainy season, vegetables from nearby forests or garden plots are more abundant, and land along the rivers is converted to grow rice instead. These plots tend to be small, about 0.08 to 0.3 ha, but are a significant factor for family nutrition. Qualitative data gathered by NNP1 shows that vegetable gardens are cultivated by most of the families in the project zones and will experience moderate to severe impact, even though steep river slopes restrict a broader usage of river bank gardens in many areas.

4.12 Rice Sufficiency (Food Security)

246. The definition of poverty and how it can be measured, has been hotly debated for many years. The GoL has refined its definition of poverty as "lack of basic factors of daily life standard"³⁹. The standard poverty unit issued by GoL includes a rural average income of

³⁹ Decree on Poverty and Development Criteria from 2012-2015, No. 201/GO, 25th April 2012

180,000kip per person per month regardless of gender or age. Village criteria include any village lacking fundamental means of development, including 51% or more households considered poor, no primary school, no accessible health care, no clean water and no all-weather road.

247. Higher incidence of food insecure families⁴⁰ occurs in poorer districts which are usually at some distance from the Mekong river, and characterised by more remote, hilly locations. Poverty in Laos has strong correlations with geography and ethnic identity. While poverty in the country has declined overall, 58% of households in northern provinces are poor, compared with 4.4% in Vientiane Capital.
248. The World Food Program (WFP) notes⁴¹ there is no single indicator that can easily identify food insecure households but rather it is necessary to assess a combination of several characteristics to differentiate food insecure from food secure households, including agricultural production, employment, fishing, hunting, and kitchen gardens. Rice consumption is a key feature, again related to rice production and production possibilities.
249. The same WFP study notes that food insecurity is also strongly related to the risks of external shocks: loss of access to natural resources, flood, drought, or due to a sudden increase in food prices.
250. In the case of Lao PDR, the main crop is rice, and food security is typically measured by villagers themselves by the number of months people have rice to eat that is cultivated by the household. For the impacted communities, which all have settled in their locations for several decades and practice rice cultivation, rice consumption can be a viable indicator, too. However, cash derived from other sources previously described may be used to purchase rice to bridge the sufficiency gap from household cultivation sources, resulting in year round rice sufficiency. On average, about 70 per cent of the calorie and protein intake of the Lao people comes from rice.⁴² Table 27 below outlines rice sufficiency in the project area sourced from households' own fields. Constant monitoring of social indicators of the impacted households will allow assessing the development of food security over the project period and necessary interventions in case of food insecure households, which form part of vulnerable households as outlined in the section below.

⁴⁰ Described by the World Food Programme as: "typically farmers with low engagement in fishing and hunting or unskilled labourers. They practice upland farming on a small plot of land in fragile areas with steep slopes. Often, they do not possess a kitchen garden. They are mostly asset poor, poorly educated, illiterate and from non-Lao Tai ethnic groups. They live in villages with little or no key infrastructure, and suffer from bad sanitary conditions." *Lao PDR: Comprehensive Food Security & Vulnerability Analysis (CFSVA)*, December 2007

⁴¹ Ibid

⁴² Njoman George Bestari, Samjhana Shrestha and Caren Joy Mongcopa, "Lao PDR: an Evaluation Synthesis on Rice: A Case Study from the 2005 Sector Assistance Program Evaluation for the Agriculture and Natural Resources Sector in the Lao People's Democratic Republic" ADB, September 2006.

251. The field surveys found that some households have sufficient rice surplus to sell extra rice for cash. This is only possible, though, for households in villages near roads. Still, there remain many households in the project area that have not enough rice to eat for the entire year as shown in Table 27.

Villages	No. of HH	No. of HHs interviewed	Sufficient Year Round	Insufficient for 2 to 4 months	Insufficient for 5 to 6 months	Insufficient for 7 to 8 months
<i>Upper section of the reservoir area</i>						
Piengta	82	79	87%	9%	2%	2%
Hatsamkhone	74	73	92%	6%	1%	1%
Pou	172	145	71%	15%	9%	5%
<i>Lower section of the reservoir area</i>						
Houaypamom	37	37	86%	14%	0%	0%
Sopphuane	58	58	88%	8%	4%	0%
Sopyouak	126	126	94%	3%	0%	3%
Namyouak	163	163	93%	7%	0%	0%
<i>Construction Area</i>						
Hatsaykham	33	23 (in 2008)	87%	13%	0%	0%

Table 27: Yearly Rice Sufficiency Production of Households in in Zones 2UR, 2LR and 3 (Source: Field Survey 2011)

252. With the exception of Ban Pou, from mid-80 to slightly over 90 per cent of the households in each village produce enough rice to eat for the year. In Ban Pou, the percentage of households who produce sufficient rice for the entire year is 71 %.
253. Even those without rice for the entire year do not starve or suffer serious malnutrition. These families either exchange for or purchase rice to cover their shortfalls, or they eat alternatives such as tubers gathered from the forests to mix with the remaining rice. They earn the cash to buy rice from NTFPs, or handicrafts, or from the sale of livestock or other agricultural produce.

4.13 Livestock

254. All households in the study area raise animals for food and many also raise them for work and for sale. Depending on household and kind of animals, animals are allowed to roam freely and find food on their own or are kept in fenced grassing land and pens. The most numerous are poultry - chicken, ducks, and some turkeys - raised for food. Pigs are also raised for food. Cattle and water buffalo have been kept as draught animals, but with the introduction of two-wheel hand tractors, cattle and water buffalo are now kept less commonly as work animals, but being raised for sale, as are horses and goats; and also for festivals and rituals.
255. During the rainy season and until the rice harvest, the larger animals are kept in pens near

the house to prevent them from wandering into the fields and eating the crops. The animals are not given any special feed or grasses when they are kept penned in, but instead are fed scraps from the kitchen or a mix of scraps with husks mixed with leftover parts of vegetables, chopped up banana trees, or onions.

256. Villagers usually eat poultry or other meat only on special occasions. The animals are considered an important means of savings, and a key resource to acquire cash when needed. Sales of animals ranged between 2,300,000 and 10,000,000 kip per year in Zone 2UR, 90,000 and 4,000,000 kip in Zone 2LR and 3,200,000 kip in Zone 3. Table 28 presents the number of livestock recorded in the surveys of the villages in the immediate catchment area that will be directly or indirectly affected by the project.

No.	Name of Village	Number of Livestock			
		Buffalo	Cattle	Pigs	Poultry
Zone 2 - Reservoir area					
Sub-Zone 2UR - Upper Reservoir Area					
1	Piengta	48	59	215	4,835
2	Hatsamkhone	50	140	216	4,429
3	Pou	112	486	571	6,133
Sub-Zone 2LR - Lower Reservoir Area					
1	Houaypamom	38	70	252	N/A
2	Sopphuane	48	143	1,896	3,126
3	Sopyouak	523	651	920	6,353
4	Namyouak	444	1,219	1,254	4,276
Zone 3 - Construction area					
5	Hatsaykham	116	120	341	75
Zone 5 - Resettlement area					
1	Hat Gniun	190	237	768	2,760
2	Thahuea	114	260	101	2,538

Table 28: Major Livestock Numbers in Affected Villages in the Project Area (Source: Field Survey 2011)

4.14 Forest Utilization

257. Non-Timber Forest Products (NTFPs) are a key element in forest utilization, collected by all families; mostly for their own use, but also some for sale. The collection of NTFPs is a traditional practice that has been passed along for generations. The main NTFPs used by the villages in the project area are:

- Vegetables and other edible plants, such as bamboo shoot, wild yam and other tubers, mushrooms, rattan shoots, and some herbs and spices
- Herbal medicine
- Honey
- Animals as food, including forest rats, field rats, squirrel, monkeys, mouse deer,

birds, and insects

- Materials to build houses, including bamboo, banana leaf, and nipa leaf, in addition to timber from forest trees
- Materials for household items, such as baskets, tools and string
- Firewood, from small branches and pieces of wood that have fallen to the ground
- Materials collected for sale, such as resins and gums, shellac, aromatic woods, rattan, and sugar palm

258. While NTFPs are important in daily life, they are not an important source of cash income for the villagers in most of the project area, accounting for up to only 0.5 to 1.4 % of the total cash income in Zone 2UR and 5 % in Zone 3 (according to 2011 Survey data). This is much less than the national average, in which sales of NTFPs account for up to 10% of cash income. Sales of NTFP account for a much larger portion of the annual cash income of the people in Zone 2LR, on average 21 per cent of the total, though in total value, given their low cash incomes, this comes to about 1.75 million Kip per year, or about US\$ 220 per household. NTFPs often form a more important income source for vulnerable and poorer households.
259. Logging has increased over the last years, prior to and independent from project commencement and is visible in PIZ villages as well as from satellite imagery. The EIA contains further details on the possibilities and risks of timber usage in the watershed management area. In the villages of 2UR, 2LR, and Z3 currently no sawmills are sited, but in 2UR a sawmill is located close by in the adjacent village.

4.15 Hunting

260. Hunting is a traditional means of forest utilization by PAPs in the PIZ. However, due to the lack of markets, above all in the lower reservoir area as well as at the dam site, it is mainly conducted for own consumption. The Project established a code of conduct to be followed by all employees and workers, which banishes own hunting as well as the consumption of illegally hunted animals. The enforcement of the code of conduct is an essential element in preventing large-scale hunting damaging biodiversity of the area. Further information and plans can be found in the EIA and the corresponding watershed management plan.

4.16 Fisheries and aquaculture

4.16.1 Fishing activity

261. With all affected villages located along or near rivers, fishing is another important source of food and a major source of household protein. Nearly every meal includes some fish. Villagers go regularly with their boats, nets, and other equipment to fish in the river, except during the most crucial periods of rice growing or other crop production, when labour needs to be devoted to the crops. Fishing equipment consists of fishing nets, cast nets, fishing baskets, rods, and spears. Stationary gill nets of 2-3 cm mesh and cast nets are the

most popular fishing gear of the villagers. Fishing is almost exclusively done by men.

262. Table 29 below presents the location of fisheries surveys taken along the Nam Ngiep River. One of the most productive fishing habitats called “Kengxang” is located about 1 km north of Somseun village (station 9). Another fishing habitat is shared by villagers from Hat Gniun (station 8) and Hatsaykham (station 7): this particular habitat is located at the site where the dam will be constructed. Another important fishing habitat is located close to Sopphuane village, just above the village near the mouth of Sopphuane River.
263. Most families in these areas only catch enough fish for their own consumption. Selecting their fishing gear depends on the condition of the particular fishing habitat: for most of the river, the bottom is quite rocky. Estimated catch in the area was about 1 kg/cast net/hour, with the maximum time spent daily on fishing 3 hours.
264. Another fishing area, located between Ban Houaypamom and Ban Pou, close to where the Nam Chaise flows into Nam Ngiep, is one of the most important fishing habitats, shared by people from several neighbouring village. Yet another fishing habitat where villagers mainly catch small cyprinids such as Pa Chad, Pa Mom, Pa Khang Lai and Pa Khiang is in the in Nam Ngiep near Ban Pou village.
265. There is no aquaculture activity found in the project area.
266. Some surplus fish is sold. The sale price of the fish varies by species and sizes. The price for small cyprinids was 10,000 kips/kg. Larger cyprinids such as Pa Phao, Pa Va, Pa Deng that can reach weights of up to 2 kg can fetch higher prices of up to 15,000 kips/kg. Bigger and scale-less fish are considered even more valuable and were sold for up to 60,000 kips/kg.

Station	Location			Coordinate	
	Village	District	Province	N	E
1	Piengta	Thathom	Xieng Khouang	19o01'33.6"	103o25'09.6"
2	Hatsamkhone	Thathom	Xieng Khouang	19o00'46.0"	103o26'40.3"
3	Pou	Thathom	Xieng Khouang	19o00'52.5"	103o27'37.7"
4	Houaypamom	Hom	Vientiane	18o59'32.6"	103o30'10.5"
5	Sopphuane	Hom	Vientiane	18o50'01.9"	103o26'19.9"
6	Sopyouak	Hom	Vientiane	18o42'53.7"	103o26'40.9"
7	Hatsaykham	Bolikhan	Bolikhamxay	18o38'41.1"	103o33'17.4"
8	Hat Gniun	Bolikhan	Bolikhamxay	18o39'23.6"	103o35'03.6"
9	Somseun	Bolikhan	Bolikhamxay	18o25'03.5"	103o36'22.6"
10	Pak Ngiep	Pakxan	Bolikhamxay	18o31'58.8"	103o38'48.3"

Table 29: Fish and Fisheries Survey Locations along the Nam Ngiep River

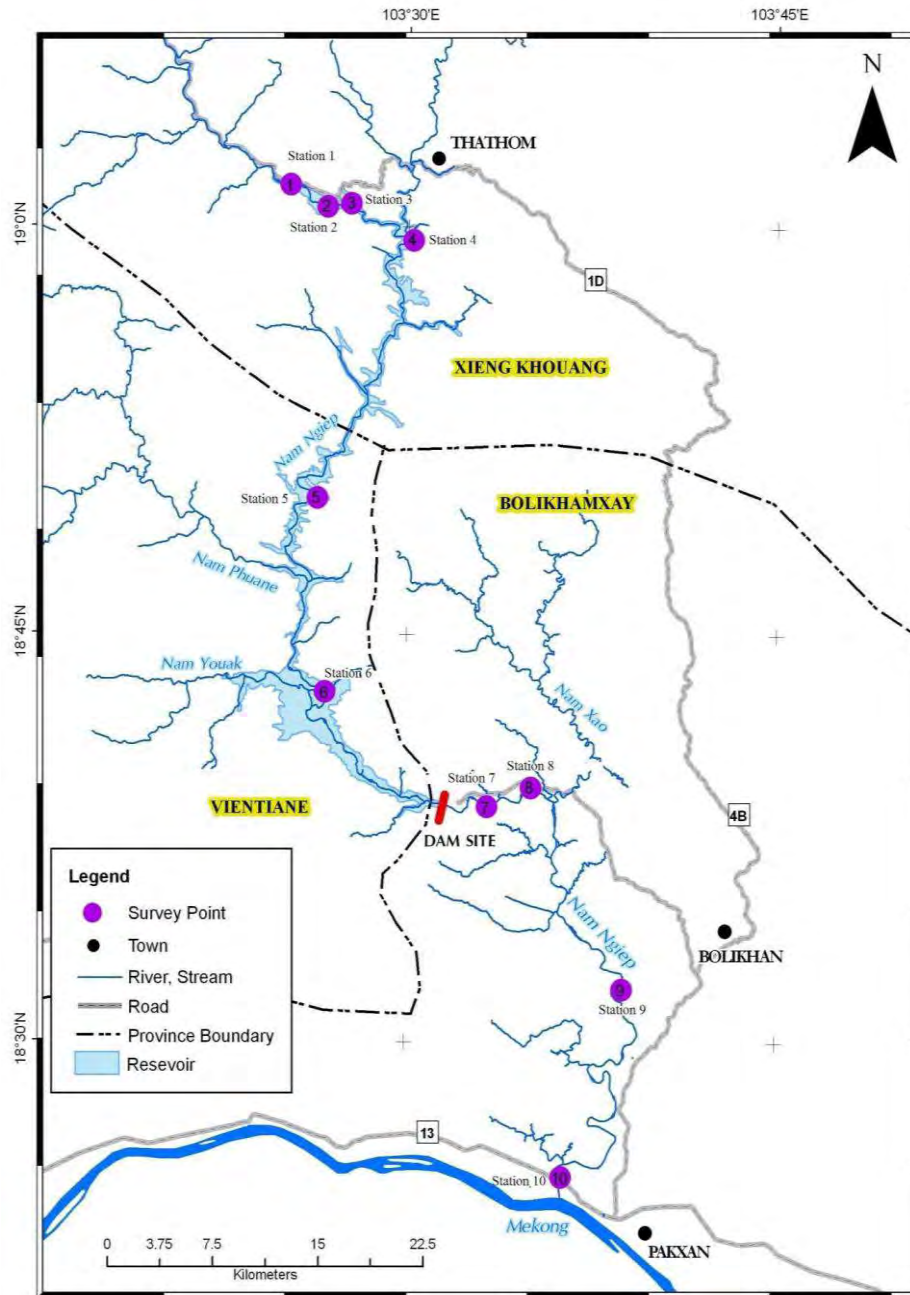


Figure 11: Fish and fisheries survey locations along the Nam Ngiep River

4.16.2 Fishery consumption

- 267. In terms of local dietary requirements, fish is the most important protein source in the diet for all communities within the proposed project area. Fish are caught mainly for household consumption with occasional surpluses being sold in local markets or sold to neighbours.
- 268. The catch is much higher during the rainy season, up to 5 kg daily. People tend to eat fresh fish throughout the rainy season. When more fish are caught than can be eaten fresh, the surplus catch is either sun-dried or brined to make Padek, a pickled fish. The preserved fish is eaten during the dry season, when catches are much lower and provides an important

source of vitamins.

- 269. A wide variety of fish species are caught for consumption, with catfish and carp species being the most common. The village men fish in the mornings and evenings, before they leave for work in the fields and after they return from the fields. Most fish are caught by cast nets in the rapids along the rivers or by deep-water gill nets. To a lesser extent, bait and hooks are also used for fishing. Boys and women sometimes search the banks and shallows for frogs, snails, edible weeds, aquatic insects, and small fish to supplement the family’s diet.
- 270. According to the 2007/8 survey, fishing activities in the project area are not a key source of household income, but rather an important element for subsistence. Horticulture, livestock rearing, and handicraft production have been and continue to be more important sources of cash income for villagers, while fishing is an important source of nutrition. Table 30 gives key information about fishing practices in the study area.

Fishing locations	Nam Ngiep River and its tributaries
Fishing tools	Fishing rod, fishing spear, stationary gill nets, fish net and cast net
Some of the main fish caught	Asian red-tail catfish (<i>Hemibagrus wyckioides</i>), <i>Micronema bleekeri</i> , Crystal-eyed Catfish (<i>Hemibagrus wyckii</i>), Wallago (<i>Wallago attu</i>), Glass Catfish (<i>Kryptopterus bicirrhis</i>), and <i>Garra fuliginosa</i> .
Boat type	Long tailed boat with motor and similar boats without motors
Frequency of fishing per month	10- 20 times per month
Maximum catch in one day	More than 10 kg.
Minimum catch in one day	1 - 5 kg.
Proportion of fish kept for home consumption in downstream villages	51%
Proportion of fish sold in downstream villages	49%
Fish markets	Villagers from Ban Hatsaykham and Hat Gniun take their catch to Pakxan and Ban Chomchuen markets. Other downstream villagers sell their fish in Huay Khun

Table 30: Summary of Fishing Practices (Source: Field Survey 2007/8)

- 271. The potential impact of the project on fisheries, and in particular on fisheries downstream, is one of the main concerns for the project. These impacts can be divided into two periods: (1) pre-construction and construction and (2) operations phases:

Pre-construction and construction phase

- 272. Many of the pre-construction and construction activities will have direct impact on the quality and flow of water. Logging and clearing the reservoir area, clearing of main construction sites, building access roads, and other preparatory activities will release soil and other matter into the water. Construction work creates noise and vibrations. The flow of

the river will need to be diverted during construction. All these will disturb riparian lives, especially in the reservoir and construction areas and potentially downstream.

273. Of particular concern for downstream communities is the potential impact of heavy rains. With large areas cleared of vegetative cover, much more soil and debris is expected to wash away into the river, leading to considerable turbidity downstream. Precautions have to be adequate, so that construction material including hazardous materials and waste will not be swept into the river, polluting the river.

Operations phase

274. In the first years of operation, when the reservoir is newly filled, the remaining vegetative biomass will degrade in the water, leading to reduced levels of oxygen. When this water is released downstream, it will also reduce the oxygen levels in the river. If greatly reduced, fish could die. Even if not as severe, the growth of the fish can be stunted. Because fish are such an important part of the diet of people, any reduction in their catch will have serious impacts on their quality of life.
275. These impacts will be discussed in greater detail in the impact analysis chapters.

4.17 Tourism

276. There are no important tourist destinations in the project area. However, the Plain of Jars in Xieng Khouang, one of the most important world heritage sites and tourist destinations of the country, lies just north of the Nam Ngiep catchment area. This area also has remnants of the Secret War, the intensive bombing by the United States on Lao territory during the Vietnam War.
277. Other tourist destinations near the project lie along Highway 13 from Vientiane, among them the ancient That Phonsan, and a number of scenic sites, trekking, and elephant tourism sites just south of the Phou Khao Khouay National Protected Area. The town of Pakxan in Bolikhamxay Province is important as a Mekong river town and gateway to Thailand.
278. While the project area is itself quite scenic, its relative inaccessibility does not make it a tourist destination at present. However, the newly constructed National Road 1D from Phonesavanh in Xieng Khouang Province and its intersection to Pakxan in Bolikhamxay Province, following the path of the Nam Ngiep River, opens opportunities for nature-based and scenic tourism in the area. There are numerous small waterfalls, caves, and traditional villages along the way. With links to Xieng Khouang, tourism in the area can offer historical, natural, and cultural attractions.

4.18 Imputed Income

279. As outlined above, the Project Impact Zone encompasses mainly rural areas. Access to markets varies between the different villages with some villages having increased opportunities of cash income generation. Nonetheless, subsistence production continues to be an essential element of the affected villages, above all in the lower reservoir area and the

construction site. Accordingly, assessments of income include imputed income into socioeconomic values of village production and consumption. In the table below, updated numbers from the Access Road Socioeconomic Survey 2014 show preliminary data for the households of Zone 3 and 5. Updated data for Zones 2UR and 2LR will be available after conducting the baseline surveys mid-2014 and included in the updated REDP.

No.	List	HatGniun	Hatsaykham	Thahuea
		(LAK)	(LAK)	(LAK)
1	Vegetables	15,256	24,568	12,834
2	Cash Crops	6,913	57,889	5,973
3	Rice	67,441	141,404	53,538
4	Small + Medium Livestock	28,860	59,204	30,177
5	Large Livestock	29,420	15,714	26,017
6	NTFPs	8,761	40,248	13,943
7	Tree plantations + Rubber	-	337,988	-
8	Fish + Other aquatic animals	24,734	13,844	20,906
Grand Total (LAK):		181,386	690,859	163,388
9	<i>Timber</i>	<i>20,505</i>	<i>81,190</i>	<i>5,016,019</i>

Table 31: Imputed Income per Month per Person in Zones 3 and 5 (Source: SES Access Road 2014)

4.19 Cash Income

280. Cash income in the villages is limited for most households, with varying degrees depending on their location and access to markets. In the upper reservoir area, cash crop production has become more widespread over the last years, including contract farming for cassava and maize. The lower reservoir area acquires cash income by cash crops, rubber, and NTFPs as from livestock production; however, transport to markets is costly and unreliable during rainy season and thus restricts production.
281. Cash income from handicrafts such as weaving and silk production can be observed in the upper reservoir area and downstream closer to urban centres. Further cash income is obtained via salaries, mainly by employees of public offices or in factories, but only for those residing closer to urban areas. Small village shops are common throughout the Project Impact Zone. With the start of early project works, wages from construction work add to household cash income for villagers close to the dam site.
282. Table 32 and Table 33 present main sources of cash income for households in the various zones. In Table 34, updated numbers from the Access Road Socioeconomic Survey 2014 show preliminary data for the households of Zone 3 and 5. Further data will be collected in 2014 baseline surveys for updating livelihood restoration action plans and to establish benchmarks for livelihood restoration calculations.

Activities	Upper Reservoir Area (Zone 2UR)		Lower Reservoir Area (Zone 2LR)		Construction Area (Zone 3)	
	<i>in Kip</i>	<i>in %</i>	<i>in Kip</i>	<i>in %</i>	<i>in Kip</i>	<i>in %</i>
<i>Rice production</i>	1,709,186	4.7	667,283	8.1	294,909	2.0
<i>Livestock</i>	2,204,250	6.1	2,729,747	33.3	3,244,848	24.7
<i>Cultivated Trees (including fruit trees)</i>	9,956,667	27.5	140,900	1.9	1,260,000	9.6
<i>Vegetables and other plant crops</i>	9,045,849	25.0	776,961	9.5	2,751,393	20.9
<i>Fishery</i>	506,713	1.4	635,104	7.7	1,330,909	10.1
<i>Hunting</i>	53,026	0.1	0	0.0	884,848	6.7
<i>NTFPs</i>	190,341	0.5	1,745,266	21.3	414,545	3.2
<i>Wages</i>	11,863,280	32.8	378,385	4.6	2,928,000	22.3
<i>Handicrafts</i>	N/A	N/A	N/A	N/A	N/A	N/A
<i>Other</i>	666,181	1.8	1,127,552	13.8	25,758	0.2
Total	36,195,493	100	8,201,288	100	13,135,210	100

Table 32: Declared Annual HH Cash Incomes of Communities in Zones 2UR, 2LR, and 3 (Source: Field Survey HH Interviews 2011)

Activities	Resettlement Area (Zone 5)	
	<i>in Kip</i>	<i>in %</i>
<i>Crops</i>	3,894,564	22.0
<i>Livestock</i>	2,354,441	13.3
<i>Fishery</i>	725,805	4.1
<i>Off Farm</i>	10,727,752	60.6
Total	17,702,562	100.0

Table 33: Declared Annual HH Cash Income of Communities in Zone 5 (Source: HH interviews in 2011)

No.	List	Hat Gniun	Hatsaykham	Thahuea
		(LAK)	(LAK)	(LAK)
1	Profit from shops	33,700	8,054	19,099
2	Profit from manufacturing	33,044	62,975	92,705
3	Profit from other businesses	61,515	-	183,647
4	Salaries (Employment with government, private business, factories, etc.)	185,214	58,143	93,825
5	Wages from day labor	377,568	281,325	352,750
6	Interests from bank, loans, etc.	2,782	1,624	11,893
7	Remittances	36,107	4,714	16,528
8	Rent from accommodation	1,337	-	-

No.	List	Hat Gniun	Hatsaykham	Thahuea
		(LAK)	(LAK)	(LAK)
9	Rent from agricultural land	-	1,964	7,162
Grand Total (LAK):		731,266	418,799	777,610

Table 34: Average Cash Income per Person per Month in Zones 3 and 5 (Source: SES Access Road 2014)

4.20 Total Income

283. Cash income remains limited in the Project Impact Zone with greater importance given to non-cash consumption. In assessing PAPs' livelihoods it is necessary for the Project to take both consumption and expenditure sources into account. Nonetheless, there is a growing trend towards cash income which is becoming increasingly important for total household income. Thus, for the Project a regular update of information on different income sources is essential for risk assessments and to support adaptation of livelihood activities. The table below outlines recent data collected along the Access Road in the village of Hat Gniun, Hatsaykham Hamlet, and the village of Thahuea, supporting this analysis. Updated information for the other villages following the formal baseline survey for endorsement by the PRLRC will be presented in the updated REDP.

List	Khum Hatsaykham(B. Hat Gniun)	Hat Gniun	Thahuea
	Per Person (LAK)	Per Person (LAK)	Per Person (LAK)
Imputed Income per Month in LAK*	690,859	181,386	163,388
Cash Income Per Month in LAK	418,799	731,266	777,610
Total	418,799	912,652	940,998

Table 35: Monthly Total Income Zones 3 and 5 (Source: SES Access Road 2014)

* Remark: Timber has not been integrated into Imputed Income

4.21 Household Expenditure

284. Household expenditures in the early years of the Projects have been very low and therefore difficult to assess. Data from the 2008 survey show average expenditures between 800,000 LAK and 1,500,000 LAK per year in 2LR and 2UR. Just three years later, expenditures assessed in Hatsaykham were several times higher, with 10 out of 33 households in Hatsaykham reporting expenditures of more than 15 Million LAK per year. Up-to-date information has been collected in 2014 during the socioeconomic survey for the Access Road. For Hatsaykham, Hat Gniun, and Thahuea, expenditure and imputed consumption statistics are outlined below; they show considerably higher amounts of consumption and expenditure than previous surveys. Cash expenditure per person per month are between 260,000 and 800,000LAK, plus between 270,000 to 400,000LAK for food consumption (imputed); resulting in average daily total expenditures of between 18,000 and 40,000LAK. Further updated information for the other villages addressed in the REDP will be presented

after 2014 baseline surveys.

No.	List	HatGniun	Hatsaykham	Thahuea
		(LAK)	(LAK)	(LAK)
1	Rice	72,427	91,850	73,459
2	Fish	52,058	55,157	47,161
3	Meat	73,671	80,025	66,642
4	MSG	8,504	4,232	5,839
5	Other food	21,533	19,916	19,170
6	Fruit + Vegetables	26,933	53,908	30,214
7	Alcohol, Lao + Cigarettes	99,521	49,311	70,923
8	Candy + Sweets	46,377	46,153	67,876
Grand Total(LAK):		401,024	400,553	381,283

Table 36: Imputed Consumption Values per Person per Month in Zones 3 and 5 (Source: SES AR 2014)

No.	List	Hat Gniun	Hatsaykham	Thahuea
		(LAK)	(LAK)	(LAK)
1	Health	92,288	93,480	55,296
2	Debt	8,735	589	38,915
3	Savings + Gold	55,248	966	18,250
4	Services	21,383	21,564	22,084
5	Clothes + shoes	62,103	59,274	73,165
6	Petrol	39,677	40,193	62,991
7	Housing	32,362	63,299	47,565
8	Education	42,138	38,389	45,404
9	Celebrations + Donations	39,706	35,482	35,038
10	Investments + Repairs	13,546	14,064	8,278
11	Rent accommodation + Agricultural land	-	-	-
12	Others	47,527	29,052	41,027
Grand Total (LAK):		454,713	396,352	448,012

Table 37: Average Expenditures per Person per Month in Zones 3 and 5 (Source: SES AR 2014)

4.22 Poverty

4.22.1 Millennium Development Goals and Poverty

286. The Millennium Development Goals (MDGs) have been agreed upon internationally, including by GoL, as indicators of basic social and economic conditions necessary for people to lead adequate lives, free of hunger, with good health, and with opportunities to improve their lives.
287. Following decades of war, Lao PDR is among the world's poorest countries and ranks on the UN Human Development Indicator list in the Least Developed Countries group. Within Laos, the three PIZ districts are classified as among the poorest in the country. Aside from

living in poverty, many people in the country lack educational opportunities and health care. GoL is committed to raise incomes and improve the standard of living of its citizens, with strong efforts to attain the MDG targets set for 2015.

288. For the purpose of this ESIA, the MDGs provide two benchmarks: first, the existing conditions in Lao PDR, the extent to which the country has met the MDGs, provides the context for understanding similar conditions in the project area. Second, the MDGs can be seen as goals for the social and economic development of the communities in the project area, at least for the short-term.

289. The first Millennium Development Goals is to eradicate Extreme Poverty and Hunger. To accomplish this, countries are urged to reduce the number of people living on less than US\$1 per day and to reduce the number of people living in hunger. According to the MDG Report for Lao PDR 2013, the national poverty rate in Lao has declined by 40 per cent over the period 1992/93 to 2007/08. The country has also seen a steady reduction in the poverty gap and poverty severity over time, i.e. poverty in relation to not poor people and the intensity of poverty. However, there are disparities in this development and the poverty rate in rural areas is still almost twice that of the urban areas, with mountainous areas and upland villages showing the highest incidence of poverty, i.e. the area where NNP1 has direct impact. According to the 2013 MDG report, growth had little effect on these communities. The report suggests that “tailored interventions are needed for the poorest groups, where the

- i. lack of access to infrastructure,
- ii. markets and
- iii. services

remain a barrier to growth and poverty reduction. Policies for consolidating villages and stabilizing settlements and livelihoods will ensure not only adequate infrastructure provision, but also

- iv. capacity development and
- v. access to productive land for resettled groups.”

290. The NNP1 resettlement program will build on this information and directly integrate poverty alleviation measures into its resettlement and social development plans. This includes a response to the statistics of stunting in children - with an estimated 44 per cent of children under five years of age suffering from stunted growth, child nutrition is one of the key challenges for Lao PDR. The project will integrate nutrition as a key component of resettlement and livelihood development support, and it will be an important aspect of the health monitoring program, which will also take into account nutrition of pregnant woman and of infants in the first two years of life.

291. The second Millennium Development Goal focuses on education: “Remoteness, exclusion, and lack of education are likely to characterize those living on less than 50 cents a day. The lack of education perpetuates the intergenerational cycle of poverty, since education has a significant positive impact on agricultural productivity, employment, access to credit, use of

government services, health outcomes and can provide the poor with the means to move out of poverty”. Key indicators are findings of Learning Outcomes Assessment, high repetition and drop-out rates, and low completion rates at both primary and lower secondary level. The project will address this analysis by putting a strong focus on education and work with local GoL line agencies to support the PAPs with the development of modern infrastructure, improved access to secondary education in urban areas via road and communication infrastructure, and provision of scholarship programs next to part-time offers like literacy classes and livelihood trainings.

292. The third Millennium Development Goal focuses on promotion of Gender Equality and Empowerment of Women along the indicators of gender disparities in schooling, women in wage employment, and number of women in political decision making positions. The Project addresses this goal as a cross-cutting issue as outlined below.
293. The fourth to sixth Millennium Development Goals addresses health challenges: reduction of child mortality; improvement of maternal health; and combat HIV/Aids, Malaria, and other widespread severe diseases. The project will invest in health infrastructure and support a broader community health program as outlined in the Social Development Plan's PHAP. This is also linked to health programs for the construction labour force, to ensure that the influx of labour and camp followers does not have adverse impacts on local communities.

The last two Millennium Development Goals, environmental sustainability and global partnerships for development will be kept in mind, for example during the development of the resettlement site, but are not directly addressed by specific programs of the Social Management Office.⁴³

4.22.2 Poverty

294. Most people of Lao PDR are primarily subsistence farmers who produce for their own consumption, even though urbanization as well as market-oriented reorientation is gathering pace. Furthermore, the current food production of these subsistence farmers is improvable by new planting techniques, facilitated by GoL and development organizations.
295. The average per capita income of the country was estimated in 2010 to be the equivalent of US\$1,050, or just under US\$3 per person per day.⁴⁴ In 2008, about 27.6 per cent of the population were estimated to live below the poverty line. While still rather high, this is a considerable decline from the 33.5 per cent living in poverty in 2002 and the 45 per cent in poverty in 1992.⁴⁵ GoL periodically revises the poverty line to adapt it to consumer price

⁴³All information derived from The Millennium Development Goals Progress Report for the Lao PDR 2013; Jointly prepared by the Government of the Lao PDR and the United Nations. Available from: http://www.la.undp.org/content/lao_pdr/en/home/library/mdg/mdgs-progress-report-lao-pdr-2013/

⁴⁴ <http://data.worldbank.org/country/lao-pdr>

⁴⁵ Ibid

developments. Further details can be found in the mentioned MDG Report 2013.

296. The incidence of poverty is greater in the countryside than in cities. Table 38 provides the national poverty rates for the entire country, for rural areas, for urban areas, and the Gini Coefficient to indicate the distribution of wealth (or poverty) in the country. The official poverty rate for the Lao PDR is currently considered about US\$1.50 per person per day. Given the relatively lower cost of living in the countryside than the city, urban poverty was set in 2001 at 100,000 kip per person per month, and rural poverty at 82,000 kip per person per month, with 1 US dollar at that time equal to about 7,600 kip (in June 2001). In 2013, households were considered poor when they had an income (or the equivalent in kind) less than the defined threshold of around LAK 192,000 per person per month (LAK 240,000 for urban and LAK 180,000 for rural households). As noted earlier, there has been a significant decline in overall poverty between 1992 and 2008. Rural poverty remains much higher, with 1 in 3 rural residents living in poverty compared to 1 in 4.5 urban residents.



Figure 12: Gini-Index development in Lao PDR (Source: MDG Report 2013/Lao Expenditure and Consumption Surveys 1-4)

297. The Gini Coefficient shows that the distribution of wealth in Lao PDR is volatile, but the trend is towards an increase of disparity. The higher the value, the more unequal the spread of wealth. The MDG 2013 analyses that the share of consumption attributed to the richest quintile has largely driven the inequality trends, i.e. while consumption of rich people increases, consumption of poor people remains at the same level. Consumption growth amongst households below the poverty line has been slower than growth for the rest of the population. To qualify this assessment, the report notes that despite increases in inequality, most of the population experienced an improvement in material welfare.

	National Poverty	Urban Poverty	Rural Poverty	Rural Poverty without road	Rural poverty with road	Gini Coefficient
1992-93	46.0%	26.5%	51.8%	60.4%	42.8%	0.31
1997-98	39.1%	22.1%	42.5%	50.8%	31.7%	0.35
2002-03	33.5%	19.7%	37.6%	46.2%	31.3%	0.33
2007-2008	27.6%	17.4%	31.7%	42.6%	29.9%	35.4

Table 38: Poverty incidence and inequality in Lao PDR, 1992 to 2008 (Source: MDG Report 2013/Lao Expenditure and Consumption Surveys 1-4)

298. Poverty is widespread in Lao PDR, particularly in rural areas. The Department of Statistics of the GoL in 2003 classified 72 of the country's 142 districts ("Muang") as poor. In 2010, the focus of poverty eradication changed from poor districts to the poorest villages and households, in order to make interventions more effective and inclusive, following GoL's issued Decree 201. The factors used to assess poor communities in Lao PDR by the National Committee for Rural Development and Poverty Eradication are:
- *Income*: 50 per cent of households in the village have an income less than the defined poverty thresholds,
 - *Education access*: within one hour's walking distance from a complete primary school,
 - *Health access*: with two hours' walking distance from a health clinic,
 - *Easy access to water*: the water source must be in the village or very close by,
 - *All-weather road access*: it is possible to reach the village safely by car during all seasons.
299. Three districts in the project area upstream of the dam as well as the dam site itself are among the 47 priority poverty districts announced before 2010.⁴⁶ When communities are asked about their definitions of poverty, they often include lack of adult labour (particularly important for livelihoods development), large numbers of non-earning members (e.g. children, elderly or disabled) compared to numbers of earners, the quality of food that people eat, inability to generate surpluses (either in cash or kind), and those who have to borrow more frequently from family or friends.
300. Efforts under the 6th National Plan (2006 to 2010) saw considerable reduction in poverty levels throughout the country. It should be noted that the goal of increasing national income by an average of 7.2 under the 6th Plan was exceeded between 2006 and 2010, as seen in Table 39, with the recent worldwide recession slowing growth in Lao PDR only slightly.

⁴⁶<http://www.undplao.org/newsroom/publication/Ngpes/Lao%20PDR%20-%20NGPES%20-%20Map%20of%2072%20poor%20districts.pdf>

Year	2006	2007	2008	2009	2010	2011	2012
Growth-Rate in %	8.1	7.9	7.2	7.3	7.5	7.8	7.9

Table 39: GDP Growth Rate of Lao PDR, 2006-2010 (Source: ADB Lao PDR Fact Sheet)

301. GoL policies to address poverty in the 7th National Plan (2011 to 2015) are to decrease the rate of poverty to below 19% of the total population and below 11% of total households, to increase the national per capita income from US\$986 in 2009/10 to US\$1,700 in 2015, to expand retail markets to over 80 per cent of the country, establish rural enterprise units in at least 30 per cent of the villages, expand food processing and handicrafts by over 12 per cent (handicrafts by 15 per cent) and to increase exports by about 18 per cent per year. The Project will connect to these targets and integrate efforts in livelihood development to these broader national development goals.

4.22.3 Poverty in the Project Area

302. In the project area, it is always difficult to obtain precise data on household income. The following figures are therefore what affected households are willing to acknowledge. The average annual cash income reported by surveyed households ranged from 8,115,000 to 42,500,000 Kip (about US\$1,000 to \$5,300, at the current exchange rate of 8,000 Kip to US\$1) per household, a large percentage of this cash income largely coming from cultivation of rice, fruit trees, vegetables and other crops. With an average of 6 to 7 persons per household, the average annual per capita cash income spread over a wide range from about US\$140 to \$1,350.
303. The lowest reported average cash incomes belong to households in Zone 2LR, Zone 3, and Zone 5. Their average annual cash incomes ranged from 9,040,000 Kip (Zone 2LR) to 13,000,000 Kip (Zone 3) and 17,700,000 Kip (Zone 5), means an average annual cash incomes ranging from US\$1,000 to \$2,200 per household or about US\$150 to \$330 per person.
304. The average annual cash income of the villagers in Zone 2UR, which is also directly affected by the project, is 36,200,000 Kip, or about US\$4,525 per household and US\$730 per person.
305. Taken together, while the communities of Zone 2UR and 5 are on average above the poverty lines described above, the communities to be resettled (2LR and Z3) are up to 30% under this benchmark and have to be considered poor along these criteria based on 2011 data. Many households in these communities remain below the national poverty line, even when the imputed value of goods produced or gathered for household consumption are added. Some households are socioeconomically much stronger than others in these communities; indicators to determine this include (i) higher standard of house construction (ii) large numbers of large livestock (iii) greater levels of education (iv) year-round food security (particularly rice) (v) owning consumption items such as motorbike, mobile phone, vehicles. Data on food security highlights these overall circumstances and the design of the updated baseline survey in 2014 will take care to assess poverty via reliable and viable indicators based on the lessons-learned from the Lao Expenditure and Consumption Surveys and Surveys in other large hydropower projects as Nam Theun 2.

306. Thus, food security and poverty alleviation is a key concern for the project and via the poverty alleviation test outlined in the Concession Agreement, also a key benchmark.

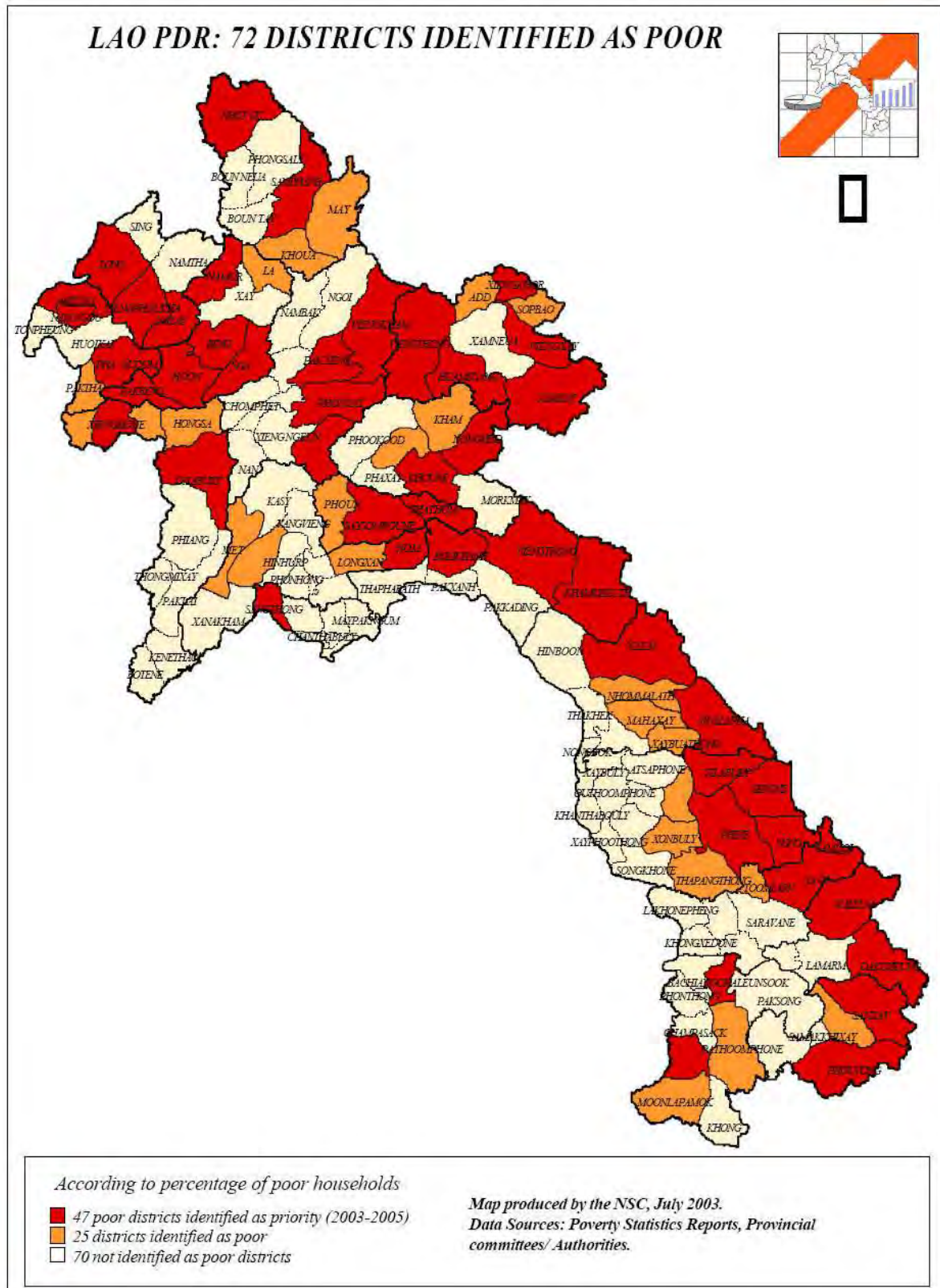


Figure 13: Map of Lao PDR: 72 District identified as poor

4.23 Vulnerable Households

4.23.1 Policies

307. As outlined in Chapter 3 and reprinted here, a vulnerable group is defined in Decree 192/PM: “These are distinct groups of people who might suffer disproportionately from the loss of fixed and movable assets, other assets and production base or face the risk of being marginalized from the effects of resettlement and specifically include:
- i. divorced or widowed female headed households with dependents and low income;
 - ii. households with disabled or invalid persons;
 - iii. households with persons falling under the generally accepted indicator for poverty as defined by the Ministry of Labour and Social Welfare, or the landless;
 - iv. elderly households with no means of support.” (Article 3i)
308. ADB refers to potentially vulnerable groups in SPS SR2, listing “especially those below the poverty line, the landless, the elderly, women and children, and Indigenous Peoples, and those without legal title to land”.
309. The Project follows both standards, putting them into the Project context. Four types of vulnerability are addressed by the overall design of the social programs:
- i. Indigenous People/Ethnic Groups form the majority of PAPs addressed in this REDP. Therefore, SPS SR3 standards have been integrated as cross-cutting principles and additionally a specific Ethnic Development Plan prepared in Chapter 7 with measures to address related vulnerabilities
 - ii. The issue of PAPs without legal title to land or property is addressed by acknowledging customary rights to lands with no request for legal titles for asset registration and compensation; furthermore, for replacement land, secure tenure will be ensured by supporting GoL in the provision of land titles for replacement land and housing – an entitlement of PAPs acknowledged by the Project
 - iii. Women are among the most vulnerable in remote areas as outlined in 4.9, and cultural characteristics as second and third wives further increases risks, such as regarding land tenure. Therefore, the Project has prepared a Gender Action Plan, which outlines specific measures, which are integrated in the REDP as well, for example cash compensation transfer into joint bank accounts for male and female heads of households.
 - iv. Households below poverty line will be brought above poverty line in compliance with the poverty elimination test outlined in the Concession Agreement. A key measure is to allocate paddy field and cash crop land in the resettlement site of an appropriate minimum size to households with no paddy field and cash crop land in the original village. This does not reduce entitlements of rich households with land for compensation.
310. Additionally to these categories of vulnerability, the Project uses the following context-adapted definition of vulnerable groups other than the groups discussed above, based on

outlined national and international standards:

311. **Vulnerable Households** are households who might suffer disproportionately from the loss of fixed and movable assets, other assets, and production base; or face the risk of being marginalized from the effects of resettlement; and specifically include:
- i. Single female headed households with dependents and low income;
 - ii. Households whose members are socially stigmatized as a result of traditional or cultural bias inside the community
 - iii. Households living in poverty with not enough labour to make use of general pro-poor activities outlined above;
 - iv. Landless households with no alternative sustainable income from regular employment or businesses
 - v. Elderly households with no means of support
 - vi. Households with disabled or invalid persons;
 - vii. Households with members with severe and long-term diseases having a substantial impact on the households productivity and/or expenditure
 - viii. Households with members of households addicted to substance abuse.
312. Special measures are outlined in the different sections and encompass provision of additional resources (for example extended transitional assistance for vulnerable households), but also include measures such as design adaptations, for example house designs appropriate for people with disabilities.

4.23.2 Vulnerable Households in the Project Area

313. In the project area, a series of potentially vulnerable households have been identified. Furthermore, communities will constantly be monitored on vulnerable households by a Project's "Vulnerability Officer"; qualitative information on these households will be assessed; and special attention will be given to these identified vulnerable households.

Zone	3			5			2LR				2UR			Total
	HSK	HGN	THH	SPY	NYK	SPP	HPM	Pou	HSK	PHT				
1. Head of household is woman	2	1	0	5	1	1	0	6	0	4	20			
2. Head of household is over 60	0	0	1	15	14	3	2	0	4	5	44			
3. Head of household is under 16	1	0	1	0	0	0	0	0	0	0	2			
4. Head of household is disabled	0	1	0	3	8	3	5	6	2	0	28			
5. Household with disabled person	1	3	1	14	15	8	2		2	3	49			

Zone	3	5		2LR				2UR			Total
<i>Categories / Villages</i>	<i>HSK</i>	<i>HGN</i>	<i>THH</i>	<i>SPY</i>	<i>NYK</i>	<i>SPP</i>	<i>HPM</i>	<i>Pou</i>	<i>HSK</i>	<i>PHT</i>	
6. Head of house hold is mentally disabled	1	0	0	4	0	1	2	0	0	0	8
7. Household with mentally disabled person	1	1	1	8	1	1	0	0	2	1	16
8. Household with only one member	1	0	1	0	1	0	0	0	0	1	4
9. Households living below the poverty line	6	0	2	11	18	11	7	38	17	19	129
10. Landless households with no alternative sustainable income	0	0	1	0	0	0	0	0	0	0	1

Table 40: Vulnerable person profile of each village (Source: Field Visit 2013)⁴⁷

314. Mitigation measures and measures of special attention are outlined in section 5.11.

⁴⁷ Remark: poor households in 2UR and 2LR calculated based on rice insufficiency assessed in 2011 plus a 50% margin of households with rice sufficiency; legal baseline will result from the 2014 socioeconomic survey, reflecting the current numbers.

Part II – Principles and Processes

CHAPTER 5 - Entitlement Policy and Eligibility

5.1 Background

315. NNP1 maximizes its efforts to address the interests of all stakeholders involved and will ensure adverse social and economic effects of the project are avoided or minimized throughout the planning, construction and implementation period. A list of project measures to reduce or avoid impacts has been provided in Chapter 2. Nonetheless, due to the overall specifications of this hydropower project, involuntary resettlement of all the households in five communities is unavoidable, as their villages lie close to the dam site in the valley which will form the main dam and reregulation dam reservoir. Another three communities lying along the northern part of the main dam reservoir will also be affected, with the loss of some residential and productive land. Access roads to the dam site and the transmission line will also affect households who use lands or have structures along those routes. The laws of Lao PDR and the safeguard policies of international lending institutions help to protect the rights of these project affected peoples, to minimize the adverse effects they will face, and to mitigate and compensate for the remaining impacts.
316. Based on the obligations and entitlements outlined in the Concession Agreement, the Project has developed detailed entitlement matrices for each respective zone. This chapter outlines the general principles and processes the Project will follow, while entitlement matrices for each impact zone are included in the relevant chapter. These chapters meet compliance requirements in the Concession Agreement of separate plans for Land Acquisition, Resettlement, Ethnic Development, and Livelihood Restoration and will be updated on a rolling basis and prior to any impacts occurring.⁴⁸

5.2 Overall Policy and Eligibility

5.2.1 Policy

317. The overall policy of the NNP1 Power Company is to provide, whenever possible, in-kind compensation for impacts created by the Project. Cash compensation at replacement value will only be provided to those who are not significantly affected, or as a last resort option for those wishing to self-relocate. If some families wish to self-relocate outside the Houaysoup resettlement site but within the Project area of influence⁴⁹ or self-relocate outside the Project area of influence, such preference will follow an approved request, as detailed in the flowchart in Figure 14. In general terms, this means that houses directly impacted by the Project and the associated residential lands will be replaced in the designated resettlement area of Houaysoup with new houses and with replacement residential lands, properly titled,

⁴⁸Clause 86.c, Annex C, Concession Agreement.

⁴⁹ Defined in section 5.2.17 as well as in the Detailed Entitlement Matrices.

at no cost for the impacted households. Similarly the lost agricultural lands will be replaced by new agricultural lands in the Houaysoup resettlement site that will be developed by the Project and shall be of comparable agricultural value, free of UXO, and made available with property titles, all this at no cost again, for the PAP. In the case of commercial plantations that might be impacted, 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. The livelihoods of the impacted households shall be restored and improved⁵⁰ through agricultural and alternative livelihood activity support programmes (see Chapter 6) that shall be in place before relocation and throughout the Stabilization phase, until 5 years after the commercial operation date of the project⁵¹. If after this phase, livelihoods have not been restored or improved, additional corrective measures will be designed and implemented.

318. This chapter presents the compensation plan for all Project Affected People, including overall procedures relating to Resettlers, significantly (10% or more of livelihood affected) and non-significantly impacted (less than 10% affected) households.
319. The standards and entitlements referred to directly result from Annex C, Environmental and Social Obligations in the Concession Agreement for NNP1, relevant Lao laws and regulations, such as PM decree 192, and ADB's SPS social safeguards requirements (for details see Chapter 3 of the REDP).
320. These documents address:
 - key principles of compensation and eventual resettlement for any loss due to the acquisition of land and resources by the State or developers;
 - a schedule reflecting the requirement that compensation must be paid, or replacement of assets must be completed, before impacts are felt;
 - commitment to improve the standards of living of the poor and vulnerable to at least national minimum standards;
 - guarantees of a maintenance of livelihood levels for all affected households;
 - requirements that compensation and resettlements will be accompanied by community development activities to facilitate an improvement of living conditions and standards of the country as a whole and the affected communities in particular with the basic aim of overcoming poverty;
 - requirements that consultations with affected parties must be carried out; and
 - the need to keep the interests of these parties in mind during the whole project process;
321. The following paragraphs will outline the implementation of these principles into a relevant compensation plan.

⁵⁰ Income monitoring commitment in CA, Annex C, Clause 87 a.iii

⁵¹ Stabilization Phase commitment in CA, Annex C, Clause 90 a.i

5.2.2 Significantly impacted Households

322. The project applies ADB SPS 2009 standards (as defined in Operations Manual F1 [2013]), which define a significant impact on households as (i) physical displacement from housing or (ii) an impact of 10% or more of their productive assets (income generating) (based on data from the Confirmation Survey and confirmed by the RMU). Significantly impacted households are entitled to replacement assets, non-significantly impacted households will receive cash compensation. The project is responsible to restore all people's livelihood in accordance to CA, Annex C, Clause 87.a.ii., as long as households remain in the project area of influence defined in the Detailed Entitlement Matrices (see section 5.2.17 below).

5.2.3 Owners

323. Ownership is determined by any one of the following:
- land title or other legal land certification
 - customary rights to the land, even without title or certification
 - usufruct rights to the land, even without title or certification
324. In accordance with national land law customary land will be assessed based on activities on claimed land at least once over the last five years before the date of eligibility.

5.2.4 Tenants and Owners

325. In case an asset is impacted by the project and belongs to an owner but is used by a tenant/leaseholder/sharecropper, both parties have specific entitlements to be compensated as outlined in Concession Agreement, Annex C, Appendix 7.
326. Tenancy agreements are eligible for compensation if signed before the Cut-Off-Date and with the parties not reasonably aware of the risk of resettlement disclosed during village consultation meetings. In the absence of formal written tenancy agreements, tenancy is assumed to be for one year.

5.2.5 Squatters and Encroachers

327. As noted above, PAPs who do not have land title or other legal certification of land use, but who do have customary or usufruct rights, are considered owners and are not considered as squatters and encroachers.
328. A squatter is defined as someone who occupies the property unlawfully, without legal or customary or usufruct rights recognized by the community.
329. An encroacher is someone who has intruded upon another person's or another entity's property unlawfully, without legal or customary or usufruct rights recognized by the community.
330. Encroachers/squatters who have been determined by the grievance and compensation process to have encroached on the lands primarily for the purpose of gaining compensation from the project will not be entitled to any compensation or assistance.

331. The project recognizes the necessity to carefully consider special assistance to vulnerable, including poor, squatters and encroachers who have encroached in the project area before the cut-off date as approved by the PRLRC. Compensation will be made according to the specific needs of the vulnerable encroacher/squatter following consultations between the encroacher/squatter, the RMU, and NNP1PC. The value of assistance provided will not exceed the value of the impacted asset (structure or other improvements on land) excluding the value of encroached land.
332. During previous indicative surveys neither squatters nor encroachers have been identified. Therefore, the sections below (clarification of zone-specific entitlements) do not reflect the entitlement of squatters or encroachers. In the case squatters or encroachers are identified during the Confirmation Survey, compensation will be implemented in accordance with their entitlements according to Concession Agreement, Annex C, Appendix 7. The village committee will help during the confirmation survey to identify squatters and encroachers.

5.2.6 Cut-Off-Date

333. The CA defines Cut-off Date as the official date when the PRLRC declares to the public at large that the Confirmation Survey of assets and lands of the Project Affected Persons (PAPs) conducted by the Company is registered and that the compensation process will proceed accordingly.
334. However, this stands in conflict with the definition of Cut-off Date by MoNRE, which states that Cut-off Date means the date of commencement of census of project affected persons within the project area boundaries. The cut-off date is the date for eligibility of entitlement for compensation and other assistance.
335. As the CA has to be based on MoNRE standards, the project will follow MoNRE definition. Hence, with PRLRC having declared 11 April 2014 as the cut-off date, assets present in the project area at the date of the commencement of census and confirmation survey of PAPs will be eligible for compensation. The cut-off date will be declared to the people residing in the area for which the cut-off date is effective and to the public at large by the PRLRC.

5.2.7 Determination of Cash Compensation

336. Whenever cash compensation is mentioned in the entitlement matrix, the following replacement value calculation methodology will apply: Cash compensation unit prices/rates at replacement value will be assessed by the PRLRC through comparing, reviewing, and confirmation of the following four sources:
- Compensation rates paid by other investment projects operating under similar conditions; adapted for inflation
 - Current market price study conducted by an independent consultant or research institution or NGO
 - GoL statistical information on market prices, updated monthly
 - GoL observations of prices in the affected villages

337. Following consultations between GoL, PAPs, and NNP1PC the PRLRC will confirm the final compensation unit prices/rates to be applied by the project.
338. Because compensation unit prices/rates need to reflect current replacement values, these compensation unit prices/rates will apply for the year in which the compensation payment will be made; an annual update will be required until all compensation payments (including grievances) have been completed.
339. Different compensation unit prices/rates for different zones might apply depending on the prevailing market prices in each zone. Compensation unit prices/rates include replacement value and any fees or transaction costs (taxes, registration, land transfer or other administrative fees).

5.2.8 Payment of Cash Compensation

340. Payment of cash compensation will be made to bank accounts of PAPs in both husband's and wife's names. If the asset to be compensated is used by or the property of a second, third, or subsequent wife, where a husband has more than one wife, that wife has the option of receiving payment in both her name and that of one of her children, rather than in her and her husband's names.
341. If PAPs have no bank account available, NNP1PC will provide assistance to PAPs to open such a bank account; all costs of this procedure will be borne by the company. Training on use and financial management will be provided.
342. Payment of cash compensation and self-relocation will be considered if this is the preferred option of the displaced persons, or if sufficient land is not available at a reasonable price. See criteria for self-resettlement in section 5.2.10.

5.2.9 Compensation before Impact

343. All immediate compensation measures (cash or in-kind compensation) will be concluded before and/or with relocation to the resettlement site. The resettlement site has to be prepared before involuntary resettlement. In the case of Hatsaykham which will be the first village to relocate, public infrastructure will be provided on a temporary basis, namely electricity, water supply, primary school with grades equivalent to the current primary school, and access across the Nam Ngiep river, while land development such as irrigation for the rice fields will be on-going. Final infrastructure on the Houaysoup site will be completed prior to relocation by households from Zone 2LR.
344. Because transitional measures cover the period during and after relocation, these will commence prior to relocation and continue for the designated period thereafter. Additional entitlements like livelihood programs and replacement of tenure documents are part of on-going programs and will be continued after impacts and relocation.

5.2.10 Eligibility criteria for self-resettlement

345. Households under the following specific conditions are eligible for self-resettlement outside

the designated resettlement site. Self-resettlement entails an informed decision by the PAPs to arrange all aspects of their resettlement themselves to an area other than the Project's resettlement site. The option for self-relocation and cash compensation has been included in the revised entitlement matrix at the specific request of some PAPs. NNP1 gives the following conditions for PAPs opting for this choice:

- i. For self-resettlement the company will arrange cash compensation for all lost assets (including costs for replacement land titling outside the project area as part of the cash compensation unit rates) and a lump-sum payment for costs of resettlement (dismantling the house and transport of salvaged materials and household goods to the new residence, the location of which the PAP will inform the project) with the latter up to the equivalent costs of moving to the Project's designated resettlement site.
 - ii. Prior to self-resettlement, PAPs will be provided land- and non-land-based training and extension support in livelihood options built around opportunities for employment or self-employment, in addition to cash compensation for land and other assets at replacement value according to the self-resettlement request.
 - iii. PAPs relocating within the project area of influence (defined in section 5.2.17) will be covered by the Project's monitoring and evaluation program (poverty elimination test and maintaining economic parity test) and provided with income restoration and livelihood development support; the community baseline income statistics will reflect these cases accordingly. Since costs for titling replacement land outside the project area are part of the cash compensation unit rates costs, the Company bears no responsibility for ensuring the processing of land titles in areas outside the Houaysoup resettlement site.
 - iv. Self-resettlement outside the project area of influence is a one-off, final package to the eligible household; the Company bears no responsibility for proving that the PAPs have reached their income targets after they have left the project area of influence; community baseline statistics will reflect cases where PAPs will prefer this option.. Since the costs for titling replacement land outside the project area are part of the cash compensation unit rates costs, the Company bears no responsibility for ensuring the processing of land titles nor obtaining any information regarding land titles.
346. A household is eligible for self-resettlement if it meets at least one of the criteria listed below:
- i. A Project Affected Household will move close to relatives. In this case, the request has to be accompanied by a letter of these relatives, acknowledged and stamped by the relevant village authorities, stating that these relatives will accept into the village the people of the Project Affected Household and can prove their capacity to do so by providing a statement of their livelihood;
 - ii. The Project Affected Household can provide either :
 - a. a pre-agreement on land acquisition, or evidence of existing land ownership, in an area other than the resettlement site sufficient to re-establish a livelihood that is at least above the National Poverty Line OR

- b. one or several working contract(s) of at least 10 months of duration with a (combined) salary high enough to support the applicant's family (benchmark is the National Poverty Line) OR
 - c. sufficient capital and a business plan to start a business that has the potential to support the applicant's family (benchmark is the National Poverty Line) OR
 - d. retirement using annual interest payments from their capital in a fixed-term-deposit account to support the applicant's family (benchmark is the National Poverty Line)
- iii. Members of the requesting PAP may be Civil Servants in the District of Origin and are requested via a written document by the relevant District Governor to continue their service in the district and therefore resettle in a community of the District of Origin. A copy of the letter needs to be provided to the Project.
 - iv. Any other proof that full cash compensation will likely not disrupt the family's livelihood but allow an improvement.
347. The PRLRC will assess the supporting documents and make a case-by-case decision based on data obtained by the Confirmation Survey and the document provided by the PAP and/or if relevant by third parties. Copies must be provided to the Project.

5.2.11 Eligibility for splitting households

348. The deadline for the request of a split of household follows the Cut-Off-Date and is the date of the start of the confirmation survey. Assessing the fulfilment of the criteria listed below and approving a split of households is the responsibility of the Resettlement Management Unit (RMU) and requires endorsement by the Company.
349. Any split-off of a household must result in both parts:
- i. in forming an independent, economically viable unit
 - ii. in not creating a potentially vulnerable household of either one of the split-offs
 - iii. in households being headed by a couple of which both partners are aged 18 years or above
350. Furthermore, one of the following criteria must apply to be considered eligible for splitting off:
- i. A household comprises 9 or more members OR
 - ii. the split-off of newly married couples, i.e. married less than a year before the Cut-off-Date, OR
 - iii. the split-off of couples with children that reside with their parents.
351. A split-off of a household must be formalized via:
- i. Clear, written agreement on the division and allocation of assets enabling the formation of an independent, economically viable unit based on the livelihood activities of all household members;
 - ii. Updated family books

5.2.12 Definition of Households and Families and eligibility for households with multiple female partners

352. A household for purposes of entitlements and eligibility for compensation and other measures outlined in this Entitlement Matrix, is defined as an extended kinship unit consisting of one or more families residing under the same roof or in the same confined compound, and sharing tasks, income, assets, land, and responsibilities. A Hmong household may consist of a male household head with one or more wives, each wife with their children, or several brothers with their respective wives, all dwelling under one roof or in the same confined compound and sharing as detailed above.
353. A family consists of a male household head and his wife, their children, and their older parents; or a family may consist of a second or third wife and her children by the household head. A family may be living in a household with other members of the extended kin group, or they may reside adjacent to the family unit of the male household head.
354. In Hmong households where according to the cultural tradition the male head of household is allowed to have more than one wife, every wife with her children living within the project area is recognized as having the same rights on a household basis. To implement the recognition of standards of equality and human rights, cultural sensitivity, and gender, the project will provide all entitlements given to a respective household. Therefore, such households will be entitled to opt for one house for each family of 9 persons or more, and subsequent wife/wives will be considered as adjacent, non-vulnerable female-headed families, while the husband will be counted as part of the family of the first wife. For assessing overall vulnerability independently of female-headed families, data on livelihood of the combined household will be assessed and divided equally according to the number of families and their members comprising that joint household.
355. In the case that the wives live in separate quarters in the same compound, a similar arrangement will be established at the resettlement site. The same number of living quarters will be built in a compound which is adjusted in land area for the numbers of dwelling units.

5.2.13 Eligibility based on number of household members

356. For assessing entitlements based on numbers of household members, all adult household members who are not head of household will be included if residing in the project area for at least 6 months in the 12 months prior to the Asset Registration. Exemptions for this qualifications are:
- All household members under the age of 18 as well as
 - Students enrolled in a government-recognized educational program outside the project area; proof of enrolment must be provided to the Project.
357. No person is eligible to entitlements if moving into the designated resettlement site after the Cut-Off-Date; new-born or officially adopted children will be integrated into household member numbers as will those persons passing away. Updates of Project information will be made regularly based on information provided by the village authority.

5.2.14 Resettlement Scenarios

358. Resettlement will include the following scenarios:
- i. Households resettles to Houaysoup, the officially designated Resettlement Site
 - ii. Households are eligible for self-resettlement outside the designated resettlement site, receiving compensation and support as outlined above
 - iii. Households split up in several new households and resettle to Houaysoup Resettlement Site
 - iv. Households split and part of the household resettles to Houaysoup Resettlement Site and part of the household chooses self-resettlement receiving compensation and benefits as outlined above; to split, splitting criteria apply first and afterwards any of the split-offs can decide either for resettlement or for self-resettlement if fulfilling the respective criteria for self-resettlement.

5.2.15 Land titling

359. For all replacement land provided by the Project, the company will support PAPs, communities, and GoL to provide land titles. The land title is to be issued or updated in the names of both husband and wife, or in the case of a second, third, or subsequent wife, where a husband has more than one wife, that wife has the option of obtaining the title in both her name and that of one of her children, rather than in her and her husband's names. For assigned community land, the Project will request GoL to provide community land titles in the name of the community. All related costs (taxes, registration, and/or land transfer) will be born by the company. Land titling is a government program and an extended time for this procedures (if not due to project fault) does not lead to non-compliance with the policy to compensate before impact occurs.

5.2.16 UXO Clearance

360. Replacement land will be cleared of UXO as described in the relevant entitlement lines. Wherever UXO Clearance is requested, this will be facilitated by the Company and all costs of survey and clearance born by the Company. A certificate shall be issued by the UXO clearing company certifying that the land has been cleared of UXO in accordance with the applicable Law.
361. In detail: the Project will clear land where soil disturbance takes place; that means fencing areas, paddy fields, cash crop fields, housing land, and land for public infrastructure. Replacement community forests and grazing lands will be surveyed for UXO on a sample base following recommendations by the national public authorities responsible for UXO clearance and the Ministry of Natural Resources and Environment. If the resettled communities wish to use their grazing lands and forested land for any purpose that involves clearing of forest and soil disturbance and provided the necessary permissions for change of land use have been obtained beforehand from district and provincial authorities, the Project will have contract arrangement in place for UXO clearance on call until two years after commercial operations date. Following this time, then the communities will instead organize

UXO survey and clearance by using their Community Development Program fund. A village level training and UXO awareness program will be implemented, to enable rapid response should PAPs find a UXO in other areas and require safe disposal; the program will include procedures what to do should UXO be discovered with an UXO removal team on call for this event.

It should be noted that the Project’s designated resettlement site has not been in the main bombing corridor during the war and is not considered a high risk area. Preliminary project activities since 2011 have so far not found any UXO or “Bombies” in Houaysoup.

5.2.17 Project Area of Influence

362. The Project Area of Influence encompasses the districts of
- Bolikhan, Bolikhamxay Province,
 - Hom, Xaysomboun Province
 - Thathom, Xaysomboun Province
363. Excluded from the Project Area of Influence are areas defined by GoL as proscribed to PAP relocation due to it being a military area, or awarded as a concession to another party, or prohibited for other reasons including security such as in the NNP1 construction site.

5.3 Implementation Framework

5.3.1 Steps of Compensation

364. The steps of the compensation program for PAPs who are not Resettlers and for all assets to be compensated in cash are visualized in *Figure 14: Flowchart of Compensation Program for non-Resettlers and Cash Compensation* below.
365. The steps in the process are
- i. allocating an unique project identification number to each PAP (PAP ID) and provide each PAP with a document binder (clearly marked with the PAP ID) to hold copies of compensation documents described in this chapter and other practical project information during the census and baseline Confirmation Survey;
 - ii. household impacts are assessed in accordance to the procedures;
 - iii. entitlements will be assessed;
 - iv. compensation strategies are followed based on the impact assessment in relation to entitlements either based on cash-compensation or kind-compensation;
 - v. cash compensation packages will be based on calculations combining impact numbers and unit rates;
 - vi. Receipts of receiving compensation either in cash or in kind are prepared and signed in accordance to the procedures;
 - vii. To prepare PAPs for their compensation entitlements, a range of preparation trainings will be provided to PAPs;
 - viii. Special concerns and measures will be put in place for Vulnerable Households

- ix. Following the completion of compensation measures, RAP closure documents will be provided, summarizing all actions taken by the company and providing clear records of all PAPs entitlements and how these have been met.

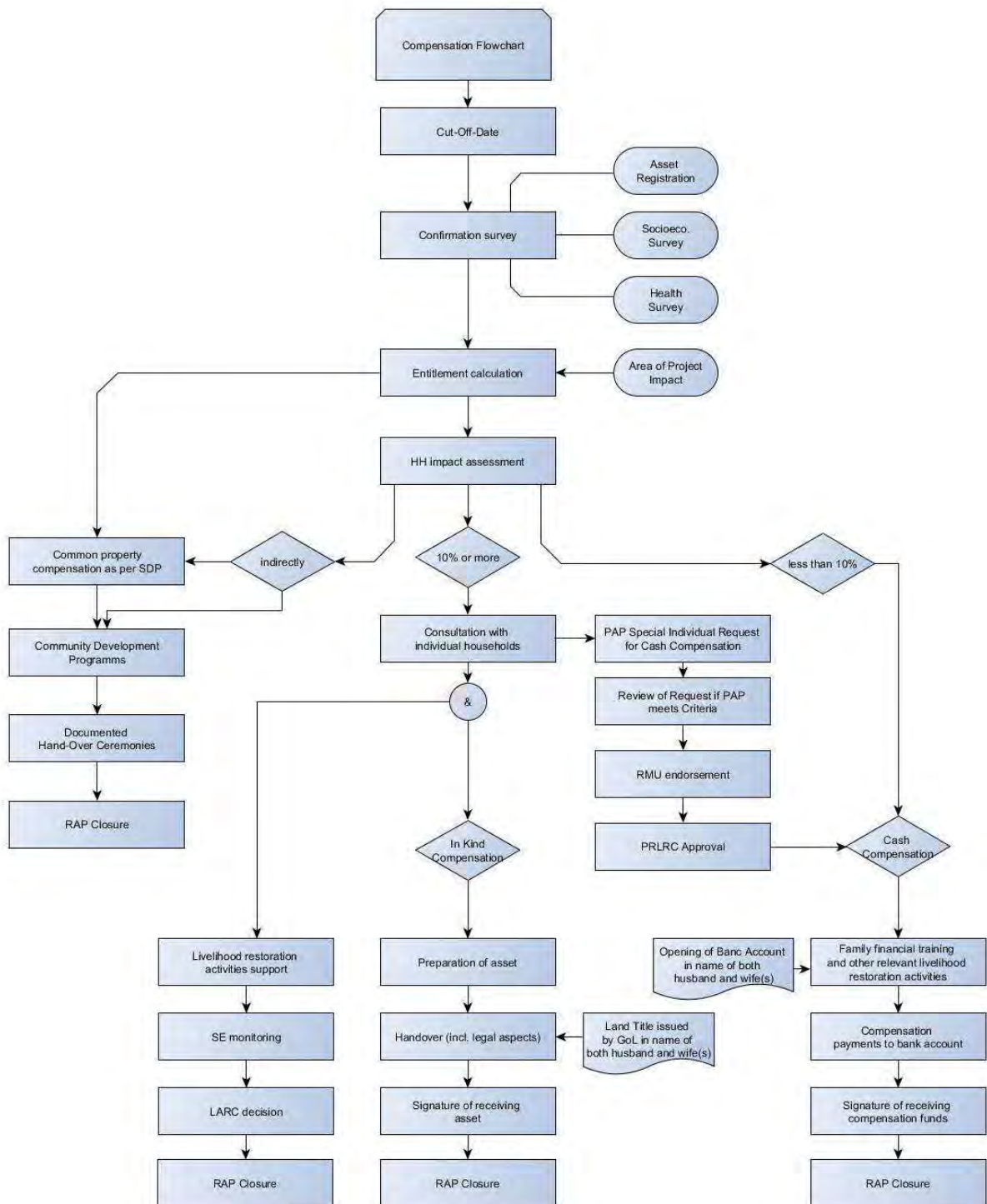


Figure 14: Flowchart of Compensation Program for non-Resettlers and Cash Compensation

5.3.2 Confirmation Survey as Legal Baseline

366. The Confirmation Survey is a one of a set of surveys as described in CA Annex C Clause 89,c, iii, namely to:

conduct a comprehensive and detailed confirmation survey of PAPs who are eligible to receive entitlements including without limitation:

- 1. the identity of PAPs;*
- 2. the identity of Persons who are entitled to receive transitional assistance and entitlements;*
and
- 3. loss of assets, income and net income, housing, access to community resources, natural resources, and business opportunities and corresponding entitlements;*

367. The above mentioned information will be collected through 3 main baseline surveys:

- Socio Economic survey
- Asset registration survey
- Health survey

368. Together, these surveys will form the baseline information for the project. All compensation and resettlement activities will follow from these surveys, including individual household compensation entitlements and livelihood restoration targets. They will determine the final list of entitled households (Resettlers list), which households are significantly impacted and which ones are not. The final number of resettlement houses will be determined (large households are entitled to split into 2 or more smaller households⁵²). The Confirmation Survey will be the foundation of the social development program and the most significant set of surveys to be conducted by the ESD.

369. All previous surveys used for the preparation of ESIA documents and for other preliminary assessment of impacts are indicative only and cannot be considered or used as a part of the confirmation survey. The confirmation survey is considered the sole authoritative survey to identify all PAPs at the time of declaring the cut-off date and all the assets of those PAPs that will need to be compensated, and will be formally endorsed as such by the PRLRC.

5.3.3 Eligibility and Cut-Off-Dates

370. PAPs who are identified as resident in the project-impacted areas at the time of the cut-off date will be entitled to compensation for their affected assets, and eligible for rehabilitation measures sufficient to assist them to improve or at least maintain their pre-project living standards, income-earning capacity and production levels.

371. The PRLRC declared a Cut-Off-Date for the Access Road as January 11 and for the overall Project area for April 11, 2014 (Annex F). It has already been disclosed in Hatsaykham and the PRLRC has developed a detailed dissemination plan for the other areas so that it can be disclosed by GoL in those villages and reach all PAPs by June 2014. To be clear, any delay in disseminating the cut-off-date will not be to the disadvantage of the PAPs, but the Project will take responsibility for such delays and extend eligibility up to the date of the

⁵² CA Annex C, Appendix 7 Entitlement Matrix

commencement of census of PAPs in Zone 3 and all other zones.

372. There will be some movement of people in and out of the project area, and all who are affected by the project must be compensated for losses. However, those who migrate into the area after the cut-off date will be eligible for compensation only after review and approval by the PRLRC after having gone through the grievance process.

5.3.4 Socioeconomic Survey

373. The Socioeconomic survey will update relevant social and economic information from each PAP. The first socioeconomic survey was conducted in 2011 by Chulalongkorn University and the Lao consultancy company SSAFE, of all affected households of 2UR, 2LR, Z3, and Z5, as well as of a 10% sample of all households along the preliminary routing of the Transmission Line. The legally valid socioeconomic baseline-survey in mid-2014 (after the declaration of the Cut-Off-Date on April 11, 2014) will be led by an experienced consultant, who will be engaged to design the required survey forms and mechanisms required to meet CA obligations including income restoration and income targets. This Socioeconomic Survey will cover all people in Zone 2UR, 2LR, Zone 3 and Zone 5. A representative sample of the population will also be surveyed in Zone 1 and Zone 4 plus two reference communities (one in Thaviengxay cluster and one in Bolikhan district) that are not impacted by the project.
374. The Socioeconomic Baseline Survey will consist of a range of subjects, each in its own module. These modules include, but may not be limited to:
- Household Information
 - Education
 - Employment
 - Housing-Dwelling
 - Housing-Services and Expenditure
 - Food Consumption
 - Food Expenditure
 - Other Expenditure
 - Durable Goods and Equipment
 - Agricultural Land
 - Agriculture - Crop Income
 - Agriculture - Expenses
 - Livestock Income
 - Fishing
 - Aquaculture
 - Other Businesses
 - Debt, Remittances and savings
 - Training and Extension
 - Social Capital
 - Use of health service providers
 - Durable household goods
375. Because of the importance of baseline information, data collection will be undertaken along detailed and transparent methodologies to enable the most accurate information to be obtained and data will be cross- referenced to other surveys, such as the asset registration survey. To obtain the necessary accuracy, both men and women will be interviewed, requiring female Hmong enumerators in Zone 2 LR, Hatsaykham and Ban Pou in order to communicate accurately and in appropriate ways. Information relevant to each individual in the household (such as age, education, employment, relation to household head, health issues, disabilities, etc.) will be collected so that changes over time can be tracked. Individuals not resident in the household at the time of the survey, but who are considered members of the household and may be absent for work, education, or any other reason, will

be included in the survey.

376. Because of the scope of the work, the Company will engage one or several competent consultancy firms to undertake the Socioeconomic Survey, under close supervision of a dedicated team from the SMO and with assistance from the DCC and RMU.
377. All information collected will be entered into databases for analysis, cross-referencing, and use in project related activities. All information in the database will be interconnected through the PAP ID. Particular care will be taken to ensure that data is collected in a consistent, verifiable and gender-disaggregated manner that will allow reliable cross-referencing and monitoring over time.

5.3.5 Asset Registration Survey

378. The Asset Registration Survey records all fixed assets belonging to PAPs in Zones 2UR, 2LR, Zone 3 and Zone 5. This will include all land used and/or belonging to the PAP and infrastructure, such as houses, outbuildings, shops, rice storage, animal pens, sheds etc. (including any and all land or structures that are not impacted by the project). Land both with and without official land title will be registered.
379. The basis for the land assets registration will be a Geographic Information System (GIS) using an up-to-date detailed satellite image (at, or as near as possible, to the time of the confirmation survey, and in sufficient detail) as a background to overlay with layers containing each asset registered, assets impacted and later on in the process all assets compensated. Through a coding system, each land plot will be connected to a database containing all project relevant information from the PAP. All information in the database will be interconnected through a project PAP ID.
380. Because land size and use will determine compensation entitlements and compensation values, careful measurement of each asset is required, using not only GPS, but also land survey equipment and measure tape. Trees must be individually counted and measured in size or age.
381. The asset registration must be done in the presence of both husband and wife, and owners of adjacent land plots must agree on the borders, even in the case where there are clear boundary demarcations such as fences. Any dispute about borders must be resolved before compensation can be paid.
382. The asset registration survey will closely involve relevant District authorities (such as the Land department, tax department, and agricultural department), Cluster Authorities, and Village Authorities. Asset registrations will be observed by at least four parties: PAPs, Company, Province/RMU, and District. This will ensure a transparent process and prevent irregularities as well as diminish the risk of grievances.
383. Large livestock, an important asset of PAP's will be included in the asset registration survey and will be required to be individually counted and marked. Small livestock, such as poultry, do not need to be counted individually, but the number must be a reasonable and verifiable amount.

384. Prior to finalizing the asset survey in each community, all findings will be presented during village level consultation meetings and will be made publicly available for review by all villagers.
385. The Grievance Mechanism will be in place in order to deal with cases where there is a conflict on land ownership, valuation, or designated status of a land parcel, including the Village Grievance Committee and District Grievance Committee. Any application for compensation made after the Asset Registration and Confirmation Surveys are completed will have to go through the Grievance Mechanism.
386. The asset registration will be made in 4 copies; 1 for the PAP, one copy for the DCC, one copy for the RMU and one copy for the Company to be kept in both hard copy and included in the data base. One fully signed set of compensation documents will be handed over to the PAP and kept by the PAP in the project folder.

5.3.6 Health Survey

387. A consultant will be engaged to assist in designing a comprehensive health survey, which will form the basis of the health baseline. This survey will not only measure the prevalence of current levels of diseases, but also health and nutritional related customs, practices and behaviour, including the use of traditional medicine and spiritual healers.
388. The following areas will be of special interest during the health survey:
 - Nutrition, based on eating and food preparation practices
 - Mother and child healthcare, based on practices related to pregnancy, child birth and childcare of children under 1 years of age
 - Sanitation and hygiene practices
 - Use of traditional medicine and healers
 - Current Sexual practices and STD
 - Immunization rates
 - Existing health or disability issues
389. For zone 2LR the health survey will include a component specialist to establish a psycho-social baseline, as discussed in Chapter 4 of the SDP.
390. The health survey will be conducted in close cooperation with the district and provincial health department and will involve people from district and provincial hospitals and clinics.
391. For specific sensitive issues on for example reproductive health, sexual practices and STDs, health experts and/or NGO's with experience in dealing with these sensitive issues will be engaged to provide the required assistance to obtain adequate information.
392. Sensitive health information will be treated confidentially and certain surveys will be conducted anonymously. Individual data will not be made publicly available, to ensure the confidentiality of individual households.
393. Prior, written consent to participate in health testing will be obtained if blood, stool, or other samples are to be collected and analysed.

394. The project will seek meaningful partnerships with relevant health institutions to participate and assist in conducting the above mentioned health surveys. Local district health authorities and village health workers will also be directly involved in such surveys.
395. All information collected will be entered into databases for analysis, cross referencing and use in project related activities. All information that is not privacy sensitive in the database will be interconnected through a project PAP ID.

5.3.7 Database

396. A database will be established for the SMO, containing all relevant data. Each household will be provided a household ID (HH_ID). Each member of the household will be provided an individual project affected person ID (PAP_ID) that is linked to their household ID. This will allow the project to follow changes in household composition, as people marry, divorce, die, have children, move away, or break away to form new households; and it will allow the project to follow the social and economic conditions of individuals over time, and their involvement with the project. The population today and the population at the expected end of commitment (COD +10 years) in 2029 will be very different, and so the project needs a way to be able to track the many changes that will occur during that time to both households (with the HH_ID) and individuals (with the PAP_ID) in those households.
397. The PAP, through this unique PAP identification will form the core unit of this database. Connected to each HH_ID will be all datasets of the household, including asset registration, compensation entitlements, socio economic & health data and later on during project implementation, compensation payments, trainings received, livelihood activities supported etc.
398. The database will be used for both planning and reporting; updating of REDP and SDP, and supported with the hard copies (original documents) to form the proof whether CA obligations are fulfilled yet or not.
399. A section of the database will also contain all grievances filed and the progress and resolution of such grievances.

5.4 Impact Categorization

400. The CA Annex C Appendix 7 has the following 4 categories of Project Affected People differentiated by the degree and types of impacts:
401. (a) **Resettlers**, Project Affected Persons (Category 1): means any person, household, or legal entity who will lose their residential, construction and production land and is required to be resettled pursuant to the relocation plan of the Project
 - i. All people who will lose agricultural lands, structures, or production due to Company's activities or any impacts arising there from; and
 - ii. People and households who will move as a part of the Resettlement program, including the natural growth of such households, and including children currently living in extended family situations or immediate family members

who are living elsewhere temporarily but who shall upon resettlement be entitled to form new and independent households, but not including any other relatives residing outside the area prior to the Cut-off-Date; or

- iii. People who are later accepted for inclusion by the Provincial Resettlement Management and Living Condition Restoration Committee (PRLRC).
402. (b) **Partially impacted** differentiated by the degree and types of impacts. They are: persons, Project Affected Persons (Category 2): means any person or household who will lose any part of their residential, construction or production land or will face a permanent or temporary loss to their business or livelihood as a result of the Project, but is not required to be resettled pursuant to the relocation plan of the Project
403. (c) **Host villagers**, Project Affected Persons (Category 3): means any person or household residing in the host village that will be affected by the resettlement and relocation of the Project Affected Persons Category 1.
404. (d) **Indirectly impacted persons**, Project Affected Persons (Category 4): means any person or household who will suffer indirect impact from the Project, such as noise, smell, dust and changing social condition. *These issues are more fully covered in the SDP and not discussed here.*
405. **PAPs (Category 1) – Resettlers** – includes all persons, households, and legal entities in the 4 villages of Ban Houaypamom, Ban Sopphuane, Ban Namyouak and Ban Sopyouak in Hom District, Vientiane Province, that will be inundated by the reservoir of the main dam; all persons, households, and legal entities in the community of Khum Hatsaykham, a sub-village of Ban Hat Gniun in Bolikhan District, Bolikhamxay Province, that will be inundated by the reservoir of the re-regulation dam; and the 10 households thus far identified in Ban Pou and 5 households thus far identified in Ban Hatsamkhone in Thathom District, Xaysomboun Province, whose house plots will be inundated by the reservoir of the main dam. This category would also include any household of Ban Pou, Ban Piengta and Ban Hatsamkhone that will face severe loss of production lands and livelihood caused by inundation of their lands by the reservoir.
406. **PAPs (Category 2) – Partially impacted persons** – includes persons and households in Ban Pou, Ban Piengta, and Ban Hatsamkhone in Thathom District, Xaysomboun Province, who will have a portion of their lands inundated by the reservoir of the main dam, and anyone not included in Category 1 who will suffer partial permanent or temporary losses to their livelihoods as a result of actions by or impacts from the Project.
407. **PAPs (Category 3) – Host villagers** – includes all persons and households in the communities of Ban Hat Gniun (main village) and Ban Thahuea, the Host Communities for the Houaysoup Resettlement Area; *and all persons and households of the communities of Ban Sibounheuang, Ban Namphang, and Ban Xieng Tan, the Host Communities for the Thong Nam Pha Resettlement Area*⁵³. Some villagers in the host communities use land or resources in the

⁵³ Since the PAP in Zone 2UR decided to relocate within their own communities and voted against resettlement, the Thong Nam Pha resettlement site is no longer considered by the Project, but still

resettlement areas and will need to be compensated for the loss of production lands and livelihood caused by the acquisition of those lands or resources for the resettlement. All the host villagers will also need to share resources and infrastructure with the resettled communities.

408. The project will be required to prove via its monitoring program that livelihoods are at least restored and preferably improved after the implementation of livelihood restoration measures. Following implementation of the compensation program a team, consisting of relevant Khoumbaan and District authorities together with representatives of mass organizations and project representative will form the Livelihood Activity Restoration Committee (LARC) in each district. This committee, assisted by the RMU will be responsible to assess whether the livelihoods of displaced PAPs are restored as per CA obligation or not. Such assessment, together with records of livelihood restoration activities implemented and compensation payment forms will form the basis for the RAP closure documentation. This documentation forms the basis for the overall monitoring institutions to assess CA compliance by the Project.
409. Assessment of the level of impact on a livelihood will be made household by household, based on the project impact for the specific household and the percentage of impact affecting the overall household income. Based on initial assessment, the PRLRC will approve a list of significantly impacted households. This list will be periodically reviewed and updated in the event of any changes in project impacts and specifically for zone 2UR following inundation of the reservoir.

5.5 *Individual Household Consultations*

410. Each household, based on the impact categorization, baseline asset survey, and impact identification will have specific compensation entitlements. An overall outline of these entitlements is presented in the Entitlement Matrix of the Concession Agreement⁵⁴ while detailed zone-specific entitlement matrices are presented in the Resettlement Action Plans below. While the overall project Entitlement Matrix in the CA was approved by MoNRE in early 2013, the clarifications made in the Detailed Entitlement Matrices for each zone were endorsed in principle by the PRLRC on April 7, 2014. The Entitlement Matrix for the LACP-AR was approved by the PRLRC on 22 January 2014. Impact categories and consequent entitlements have to be clarified for the different zones: while the impact for people to be resettled is 100%, household impacts in partially impacted areas as in the upper reservoir and along access road and transmission lines are more difficult to assess, crossing the two different methodologies (definition and geographic examples) to describe impact categories outlined in the Concession Agreement. The REDP follows the initial definition of impact categories and clarifies that PAPs who do not resettle and are partially impacted can still either be significantly or non-significantly impacted and are consequently eligible for the

mentioned in the original CA Annex

⁵⁴Annex C, Appendix 7 – See Annex Entitlement Matrices.

different entitlements.

411. Household entitlements will be calculated and summarized through the use of the SMO database (see 5.3.7) as outlined in section 12.7. Following the calculation of these entitlements, the PRLRC and RMU representative(s) will review the calculations and check them thoroughly, as required by the responsibilities of the PRLRC and RMU detailed in the CA⁵⁵.
412. Prior to cash compensation payments, a family finance training program will be initiated for impacted households (see section 12.9), using both village consultation sessions and private consultations to raise awareness on family finances, methods of savings and use and prioritization of family income. Training includes also the use of bank accounts and the functioning of joint bank accounts for husband and wife. PAPs will be informed about the possibility to get further assistance on banking if needed. For people choosing self-relocation, preparation trainings will extend far beyond the immediate trainings regarding finances. As an initial answer to PAPs' request in 2LR, the Project will implement a literacy program. Following this, livelihood activities (as described in the next chapter) will be implemented in 2LR prior to actual impacts, and will be open to all PAPs, including those opting to self-relocate. Furthermore, self-relocation plans will be prepared by PAPs with assistance from the Project.
413. Individual household consultation will be conducted with each PAP to inform the household (which includes both husband and wife(s) and possibly children of the household) about their entitlements based on their asset registration, entitlement matrix and compensation rates. Valuation methods have already been explained to PAPs as part of the consultation program. Family finance training messages will be reinforced again, including the explanation of the use of a joint bank account. When a PAP has entitlements for cash payment, such payment will be conducted through a bank savings account⁵⁶, registered in the joint names of both husband and wife(s) and requiring dual signature.⁵⁷ In the case a PAP has no such bank account, then the project will facilitate all aspects of opening such an account starting at the consultation meeting, by assisting the PAP to fill in the bank opening forms, requesting the required copies of document needed, such as a copy of the family book. Special assistance will be given to those PAPs who are illiterate or functionally illiterate.
414. The project will process the request of the bank account opening at the bank and make the initial payments and deposits of opening the bank account without deducting the cost of

⁵⁵ Annex C, Appendix 5, Clause 4 iii, Clause 5 ix, clause 9 ii and Clause 10 xii and Annex C, Clause 89, c,v.

⁵⁶ As per CA Annex C, Clause 89, c,v.

⁵⁷Further consultations and analysis will be conducted by an international gender and ethnicity specialist on how to handle the specific situation of households with one husband and more than one wife in relation to asset registration and compensation, so to comply with principles of gender equity as well as cultural sensitivity.

these from the compensation entitlements.

415. A record of the meeting with each PAP will be kept, including a photo of the PAPS attending the individual consultation. The PAP will be informed regarding their right to submit a grievance if they do not agree with the information provided during the consultation.

5.6 Replacement Assets

416. PM Decree 192, Article 6, Compensation principles, item 2 defines: “Where significantly large or entire land holding is affected by a project namely agriculture, residential or commercial land, the compensation shall be through provision of "land for land" arrangements of equivalent size and productivity and be acceptable to PAPs and project owners.” Land for land compensation is referred to when an impacted parcel of land is compensated by making available to the PAP a parcel of land of equivalent or better land. A parcel of paddy rice field impacted by the project can be compensated by making available a replacement parcel of paddy rice field land. Such exchange for land, however, only works when the conditions of the replacement parcel of land are of the same or better standard as the impacted parcel. With standard of the land parcel, several aspects are to be taken into consideration, such as, but not limited to:

- Size
- Quality of the soil
- Productivity (equivalent potential)
- Accessibility to the land parcel
- Water availability and drainage
- Safety of the area near the land parcel
- Risk of flooding or land slides
- Risk of UXO
- Locational advantages
- Risk of rodents and other pests destroying the crop
- Replacement land made available should be acceptable to the PAP and project owners⁵⁸.

417. In addition, as clearly stated in the Prime Ministers Decree 192, Article 10 sub 2: all replacement land shall be provided with secured land titles.

418. The CA makes the following requirements for replacement land⁵⁹:

- *Equivalent area of land with equivalent productive potential at location acceptable to PAP. Such compensation for land should be without charge for taxes, registration, and/or land transfer. The land should have land title if the Land Titling Project is on-going in the area, or*

⁵⁸ PM Decree 195, Article 6, sub 2

⁵⁹ NNP1 CA, Annex C, Appendix 7, Entitlement matrix 1(a)

if not, a land survey certificate. The Land title certificate or land survey certificate is to be issued in the names of both husband and wife.

- *The replacement agricultural land is to be surveyed for UXO and rendered safe.*

419. Further essential household and community assets will be replaced in kind. This encompasses housing structures, public infrastructure, and community resources. As with land, the quality of in-kind-compensation has to be of at least the same standard as lost assets. Further details for these assets and the standards which will be applied by the Project are defined in the Detailed Entitlement Matrices (see below).
420. When compensation is provided in kind, such as land for land or house for house, clear records must be maintained when in kind compensation is handed over to the PAP. Records of such compensation will clearly state what is provided and for what impacts, when the hand over date is, and the responsibilities of the PAP following hand over.
421. For land and housing assets, provisional compensation documents will be initially provided for signature by the PAP, until formal land titles are provided, when the provisional compensation document will be superseded by a final compensation document for the specific asset. Issuing formal land titles requires time to process after initial land/house allocation by the RMU in coordination with the project. The Project's benchmark is one year after a household's physical relocation to Houaysoup. During this time, the PAP should already be confident of being responsible for the land/house and start development, cultivation and occupancy.
422. Compensation forms will be made in 4 copies; 1 for the PAP, one copy for the DCC, one copy for the RMU and one copy for the Company to be kept in both hard copy and included in the data base.
423. One fully signed set of compensation documents, together with the land titles will be handed over to the PAP and be kept by the PAP in the project folder.

5.7 Cash Compensation

424. Land for Land is the preferred way of making arrangements for compensation with PAPs, as clearly expressed in GoL, ADB and IFC policy requirements as outlined at the beginning of this chapter.
425. For households which are not significantly impacted (See paragraph 5.4), cash for land compensation is an acceptable compensation strategy. The CA, Annex C, Appendix 7, Entitlement matrix 1 (b) states:

“Cash compensation for acquired land at replacement value, which is to be equivalent to the market price during the year in which compensation is made of land of similar type and category, and free from transaction costs (taxes, registration, land transfer or other administrative fees), at informed request of the PAP. The cash or cheque payment is to be issued or released to both husband and wife, with both signing receipt of the cash payment or cheque.”

426. For significantly impacted PAPs, there are certain specific cases when land for land compensation is not the PAPs preferred methodology. Such cases could, for example, be a PAP who would prefer to relocate to live near a relative who is unaffected by the Project,

and therefore does not wish to move to the new Resettlement area. For such individual cases, the CA, Annex C, Appendix 7, Entitlement matrix 1(a) allows alternatively and at informed request, cash compensation. The following stipulation applies:

427. The key to the stipulation is informed request, where the PAP must make a request and be fully informed regarding the positive and negative aspects of cash compensation, must have been through a family financial training program (see paragraph 5.9) and must demonstrate the ability to use the cash compensation appropriately for restoring their livelihood through development of a financial plan. Provision of cash compensation for significantly affected PAPs and self-resettlement is also conditional on criteria established by the PRLRC, outlined in the Detailed Entitlement Matrices (see zone-specific chapters). Each individual request must be reviewed carefully, on a case-by-case basis, to determine if it meets the stipulated requirements, after which it is endorsed by the RMU (and approved by the PRLRC⁶⁰) before the project can fulfil such individual requests. Whenever cash compensation is preferred by the PAP in lieu of land for land, the Project will also provide non-land-based options built around opportunities for employment or self-employment in addition to cash compensation for land and other assets lost as per ADB SPS SR2 (para 9), provided the PAP remains in the Project Area of Influence.
428. Following the entitlement calculation for an individual household, review of cash compensation entitlement by the PRLRC & RMU and individual household consultation with the PAP, compensation payment forms will be printed in 4 copies; 1 for the PAP, one copy for the DCC, one copy for the RMU and one copy for the Company to be kept in both hard copy and included in the data base.
429. The compensation forms will require PAP's signatures or thumb print (both husband and wife(s) in two steps:
 - i. Initial agreement to the compensation amount and for it to be received on a specific bank account listed on the form
 - vi. Agreement that the compensation is received in full on the designated bank account

During an individual household meeting with each PAP, the PAP will be requested to review the relevant documents, and if they (husband and wife(s)) agree, designate a bank account for receiving the compensation funds and make the first step signatures.

430. Following the first signature of the PAPs, the PRLRC or designated RMU will sign the compensation forms endorsing the compensation payments.
431. Following the first signature of the PAPs and PRLRC approval, the Company will sign for endorsing the compensation forms and transfer the compensation funds to the designated bank account of the PAP, and if requested to do so by the PAP, update the bank account to show to the PAP clearly that the bank transfers have been conducted and that the compensation payment has been received properly and in the full amount.

⁶⁰ NNP1 CA, Annex C, Appendix 7, Entitlement matrix 2

432. Following the transfer of funds and the updated bank account statement, the bank account book will be returned to the PAP in case that the company was requested to update the bank account, with the transfer statement clearly visible. The PAP (both husband and wife(s)) will now be requested to sign for the 2nd step on the compensation form, agreeing that the compensation payment has been received in full and that the bank account book has been returned to the PAP. The PAP will also be requested to sign a copy of the bank account statement for reference by the project that the full amount of funds have been transferred correctly.
433. One fully signed set of compensation documents will be handed over to the PAP and be kept by the PAP in the project folder.
434. After signature by Village chief, PAP, RMU, and District Coordination Committee (DCC), providing official endorsement of documents, agreements cannot subsequently be rescinded by any signatory. If the PAP objects to signing the final acknowledgement of compensation after previously agreeing, this will be treated as a grievance and will proceed through the Grievance Mechanism. In these instances, the compensation amount will be kept separately in an escrow account until the matter is resolved.

5.8 Community Property

435. Community property will be compensated by replacement assets or alternatives of the same or higher value as decided in consultation with the community impacted. State land will not be compensated as it is part of the Project's Concession and compensated via the different Concession measures. However, land which is located within the village boundaries and used by the community for specific livelihood purposes as for example school yards or community forests or public grazing land, will be considered as community resources and eligible for replacement at the Houaysoup resettlement site, or compensated in a manner acceptable to the community as a whole, as outlined in Line #5 of the Project's entitlement matrices.
436. When compensation is provided for common properties, such as school buildings, village water supply systems, bridges, community halls, etc., clear records will be maintained when common properties are handed over to the Community and or local government. Prior to handover of common properties, responsibilities for operation and maintenance will be clearly spelled out and responsible parties for such works adequately trained and equipped, including clear mechanisms to fund Operation and Maintenance. Such handover events are regularly accompanied by a small ceremony.
437. For village infrastructure, such as schools, teachers' housing, market, meeting hall, etc., community property land titles will be issued, in the name of the community. This is to ensure that there is no encroachment on the land of these community properties and to prevent any attempts to retain teachers' housing as personal property.
438. Compensation forms combined with the O&M agreements, training record, and financing plan will be made in 4 copies; 1 for the Community, one copy for the DCC, one copy for the

RMU and one copy for the Company to be kept in both hard copy and included in the data base.

439. One fully signed set of documents, together with the community land title, will be handed over to the Representative of the Community and be kept by the Community in the designated records folder.

5.9 Pre-Compensation Trainings

440. To allow PAPs informed choices and active engagement in the compensation process, pre-compensation trainings will be provided for impacted households, next to consultations; this complies with SPS 2009 demand on enhancing the capacities of PAPs to interact with the project.

5.9.1 Adult Literacy program

441. Documents, such as Asset Registration Forms, Agreement on Resettlement, Compensation Form, make up the cornerstones recording commitments of the Compensation program and acceptance by PAPs. Signed, these agreements will be used as a record for all important steps in the Resettlement and compensation processes, as well as in income rehabilitation and improvement measures. As such, these documents have significant consequences for people's lives and how these may develop after resettlement. Asking illiterate people to sign documents requires great faith from the PAP providing thumbprints on the documents, that what is discussed verbally is what is actually written down. Literate people are in a far better position to understand the content of documents and to have access to information at a later stage, by re-reading the document instead have having to recall a discussion. Therefore, adult literacy training programs are a priority of the company, to offer to PAPs the opportunity to become literate and numerate. In addition to better understand agreements made between the PAP and the company, such skills also enables parents to assist children in the beginning of their school years. Assistance from parent with homework for their children can support children in their studies and improve the general education of the population, assisting with long term development goals of the project.
442. Increased literacy of the PAP population will also reduce the likelihood of grievances due to insufficient understanding or misunderstanding of the entitlements and compensation.

5.9.2 Family financial training

443. Family financial training is a term broadly used for trainings over finances. For NNP1, conducting family financial trainings for PAP is important because specific compensations will be made in cash (for non-significantly impacted PAPs) and because PAPs will be offered alternative livelihood restoration activities which are based on a market economy, requiring good understanding of finances.
444. A range of training sessions will be conducted at appropriate times during the project, with key messages repeated at regular intervals and integrated into other training sessions.

445. One key aspect of compensation payments is that these payments are made to bank accounts belonging to the PAPs and requiring dual signature for withdraws of funds. Many people, especially those living in the remote villages such as Houaypamom, do not have previous experience with banking. Through the family financial training programs the project will create better understanding of financial institutions such as banks, how they work, how interest calculations are performed and the different services provided, such as saving accounts, fix term deposits, ATM cards etc. Following resettlement, Resettlers will be living in close proximity and with easy access to Bolikhamxay provincial and district towns, where all such facilities are available.
446. Other areas of family finances that will be discussed will include things like purchases of large household goods made on a monthly payment contract, mobile phone plans etc. With knowledge, people will be able to make decisions that are suitable for their family situation.
447. Further trainings regarding livelihood and income restoration as well as possible off-farm livelihood options as business development and employment within or outside the Project are described in the Livelihood and Income Restoration Plan in Chapter 14.

5.9.3 Further Pre-Compensation Trainings

448. Livelihood activities will start early on, one year ahead of resettlement of Zone 3, three years ahead of resettlement in Zones 2LR, as well as three and a half years before project impact in 2UR. Further details are outlined in Chapter 6 and the specific plans for every zone in the consequent chapters.

5.10 Transitional Measures and Duration

449. Transitional assistance measures are measures taken by the project to facilitate the transition by PAPs from their old situation to a new situation. Such transitions require specific attention, to make them go in as smooth a way as possible, minimizing adverse impacts on the PAPs. Transitional assistance measures are clearly mentioned in the CA, in clauses such as Annex C, clause 89, c,iii,2 specifying the need to identify PAP entitled to transitional assistance during the Confirmation survey; Annex C, clause 89, c, xi which specifies that: “*at the Company's sole cost, provide relevant transitional assistance to all PAPs in accordance with MONRE policies and procedures to cover PAP needs (to the extent not otherwise met) for food, electricity supply, water supply, sewer and solid waste collection and other such services (commencing from the start of physical relocation and continuing until the transfer date in accordance with Appendix 6)*”. The CA Annex C, Appendix 7 Entitlement Matrix lists who are entitled to:

- Transitional allowances for a period of 3 months
- Rice Supplement Program
- Income substitution and transfer costs during re-establishment
- Affected labour will be compensated for loss of income equivalent to three months of wages.
- Transition allowance equivalent to three months’ rent (Tenant / leaseholder in a

partially affected structure)

- Compensation for Loss of Business Incomes equivalent to three months incomes / wages in case of permanent closure. (Loss of trade / livelihood / occupation or business incomes)
- In case of temporary closure, compensation will be wages equivalent to closure period (Loss of trade / livelihood / occupation or business incomes)
- Entitlement will be in terms of rent allowance to cover the cost of alternate accommodation for the period of temporary displacement. (number 9, Temporary losses)

450. For example, Category 1 PAPs listed under CA Annex C, Appendix 7 Entitlement matrix point 1(a) are entitled to:

- Transitional allowances for a period of 3 months (see above)
- Income substitution and transfer costs during re-establishment
- Rice Supplement Program

5.10.1 Transitional allowance

451. Transitional allowance will be provided for a period of three months and consists of:

- Food, rice and other essential food items, such as cooking oil, salt, high protein items such as meat, eggs and other items as advised by a Nutritional expert
- Cash support for compensation of electricity supply fees
- Cash support for compensation of water supply fees
- Cash support for compensation of sewer fees
- Cash support for compensation of solid waste collection fees
- Cash support for compensation for other public services

452. For vulnerable households, transitional allowances will be extended up to 1 year.

5.10.2 Rice Supplement Program

453. The Rice Supplement Program was negotiated with Resettlers⁶¹. Rice will be given as supplement food source to every PAP during a transition period of 5 years, starting at 100% supplement for the 1st two years and gradually phasing out over subsequent years. (See table below). Rice sufficiency will be developed by the livelihood program up to sufficient level of food security for the villagers. The Rice support will be based on the number of eligible people in the household.

454. The amount of rice given is estimated based on the study of the national Lao Expenditure and Consumption Survey 3 (conducted at 3 year intervals) which indicates that on average 1 rural Lao person consumes about 0.7 kg of cooked rice a day.⁶² That amount is also

⁶¹ See Annex A.

⁶²Committee for Planning and Cooperation, National Statistical Centre. 2004 The Household of Lao

equivalent to 0.7 kg of unmilled rice.⁶³ A child is defined as a person below the age of 9.

Year	Support of total rice requirements per person
1	100 %
2	100 %
3	75 %
4	50%
5	25%

Table 41: Rice supplement program

5.11 Special Measures for Vulnerable Households

455. As described in Chapter 4, vulnerability exists in several forms throughout the communities. The project addresses four different kinds of vulnerability with different programs:

- i. Needs of Ethnic Groups will be addressed as cross-cutting issues (above all regarding the use of appropriate forms of communication), but as well via special programs and activities as outlined in the Ethnic Development Plan (Chapter 7)
- ii. The issue of PAPs without legal title to land or property is addressed by acknowledging customary rights to lands with no request for legal titles for asset registration and compensation; furthermore, for replacement land secure tenure will be ensured by supporting GoL in the provision of land titles for replacement land and housing – an entitlement of PAPs acknowledged by the Project
- iii. Needs of Women will be addressed as cross-cutting issues (focus group discussions, tenure security), but as well via special programs and activities as outlined in the Gender Action Plan (see SDP)
- iv. Poor people will be addressed by a focus on land allocation of at least a viable size in the resettlement site and additional livelihood activities, including trainings and inputs
- v. Vulnerable households where the measures outlined in points i to iii are not sufficient or viable, as defined in section 4.23, will receive overall special assistance, as for example the extension of transitional assistance from 3 months to 1 year and additional, regular monitoring by the vulnerability officer. Assistance specific to the type of vulnerability will also be provided: for households with people with disabilities this encompasses amongst others design adaptations of resettlement houses as outlined below; for households with people with health problems, health assistance will be provided by the Project's health team; for households with not enough labour to establish independent living, extended food support will be provided. The vulnerability officer will assess the needs and potential activities together with each individual household and will coordinate with

PDR Social and Economic Indicators Lao Expenditure and Consumption Survey 2002/03 (LECS3).

⁶³Macleane, J.L., D.C. Dawe, B. Hardy, and G.P. Hettel. 2002. *Rice Almanac*. Los Baños: IRRRI

the education, health, and livelihood teams of the Project to provide sustainable and livelihood improving support.

456. Resettlement activities will include special attention to People living With Disabilities (PWD). At the design stages of infrastructure, small modifications will be made to create an inclusive environment that enables PWD to participate fully in both their private as well as social life. Such modifications to public infrastructure will include entrances to public infrastructure being equipped with an access ramp that can be navigated by a wheel chair.
457. At the private household level, those households where PWD live, small modifications will significantly increase the comfort of the living area by for example:
- Ensuring the sizing of doors to be able to fit a wheel chair
 - Height and type of door handle used
 - Ramp to facilitate entry and exit of a wheel chair to the house
 - Increasing the size of the bathroom area and installing support bars, so that a family member can more easily assist with washing the PWD
 - Install a western-style sitting toilet (instead of squatting toilet) with support bars facilitating the PWD to use a toilet on their own.
 - Single height of the floors in the house or create small ramps in the house if required.
458. NNP1PC will cooperate with and use the expertise of NGO's already in the country and working with PWD (such as Handicap International) to assist with further designing of the program, including the facilitation of discussion and possible training of PWD.

5.12 Chance Finds Procedure

459. The Project has not found any physical cultural heritage within the construction or impoundment area, as described in the SIA. A chance find procedure will be applied in the event that cultural heritage is subsequently discovered. The client will not disturb any chance find further until an assessment by competent professionals is made and actions consistent with the Project standards are identified. A program on cultural awareness and preservation including an archaeological project in Thahuea is presented in the SDP.

5.13 Addressing Unanticipated Impacts

460. In order to ensure that unexpected impacts are identified swiftly, a comprehensive monitoring program will be established, encompassing
- water quality
 - water velocity
 - fisheries
 - fish catch monitoring
 - river bank erosion
 - river bank gardens
 - pre-COD natural flood monitoring

The survey will also take into account baseline circumstances prior to impoundment of the Nam Ngiep 2 project which is located upstream of Nam Ngiep 1, and which is due to impound during the rainy season of 2015 with COD in 2016. Any occurrence of an anticipated impact will be treated along the same principles and procedures as outlined in this document.

CHAPTER 6 - Livelihood and Income Restoration Plan

6.1 Objectives and Schedule of Activities

461. Livelihood and income restoration programs are planned to correspond with other mitigating measures of the Project towards PAPs to comply with international safeguards standards and to reach targets set in the CA, Annex C. These targets include:
- i. Poverty Elimination: raising households above the national poverty line;
 - ii. Maintaining Economic Parity: a living standard of at least pre-project level for every household;
 - iii. Net Income Improvement: increase of average community net income by 200% within ten years from COD from what will be measured in the baseline socioeconomic survey, to be carried out after cut-off-date close to the effective date
462. A 200% income increase has been identified as bringing all affected households above national minimum standards. If this proves not to be the case, the Project will apply national minimum criteria if they are the higher standard.
463. All livelihood and income restoration plans (LIRP) will commence immediately after Financial Close, and will require regular updating, consultations, and negotiations with households for necessary adjustments. A follow up of activities will continue after the Commercial Operation Date (COD).
464. Entitlements for livelihood restoration are presented in the Detailed Entitlement Matrices (see zone-specific Chapters 11-18), and programs will be implemented together with PAPs according to their needs and requests. The public consultation process has already identified some preferences and concerns based on PAPs current livelihoods strategies and identified opportunities and limitations at the designated resettlement site of Houaysoup and in affected villages of Zone 2UR. The public consultation process has led to initiatives taken by communities themselves; in Zone 2UR PAPs are actively looking for suitable replacement land available on a willing-buyer-willing-seller basis, in Zone 2LR some PAPs have expressed preference for self-relocation and continued cultivation of their land and plantations remaining unaffected, while in Zone 3, small shops are being opened to meet needs of construction workers.
465. Achievement of livelihoods targets will be regularly monitored and reported as outlined in Chapter 10. PAPs are entitled to participation in livelihood restoration programs based on priorities identified by affected households during consultations between individual PAPs, NNP1PC, and DCC, and will include (i) trainings for alternative livelihood activities or (ii) enhancement of current livelihoods based on the individual preference of the PAP or (iii) a combination of both. The Project has put in place the respective organizational structure to provide necessary expertise as well as capacities to plan these measures together with the affected households as outlined in Chapter 9 on the institutional arrangements.
466. The project has committed to establish a scholarship program over the LIRP period: students

committing to work either in a public function (teachers, medical staff, etc.) in the designated resettlement site or in the villages of 2UR or with NNP1PC are eligible to compete for a scholarship program established and funded by the Company; scholarships will be allocated via a competitive selection process with quotas for gender and ethnicity. These scholarships are directed towards Zones 2, 3, and 5. A total of 370 scholarships for vocational skills, higher diploma and university education will be provided, with a total of 30 scholarships allocated each year, to the best performing students, with a minimum of 12 scholarships (40%) reserved for female students. Scholarships will target 3 level of education: Technical College, College, and University, with numbers of scholarships for each zone. Of the scholarships for zones 2LR, 3, and 5, 21 scholarships will be reserved for Hmong students. The Project budgeted 2,000,000USD for literacy classes and scholarships, of which more than 90% will be available for the scholarship program, with detailed allocation depending on preferences of the PAPs. As they are open to all students in these communities and not directly related to compensation-relevant impacts, the description of the scholarship program can be found in the SDP.

467. Following the pre-construction period, the LIRP extends for approximately 10 years, including preparatory and construction phases and up to five years of a stabilization phase after COD⁶⁴. First activities have already started in 2013, while in 2014, livelihood activities will be stepped up following Financial Close.
468. The LIRP's specific objective is to minimize economic displacement by enhancing, or at least restoring, the livelihoods of all displaced persons in real terms relative to pre-project levels; and to improve the standards of living of the displaced poor and other vulnerable groups⁶⁵. A third objective is to design and formulate implementation processes of activities in a way that fosters full respect for ethnic groups' identity, dignity, human rights, livelihood systems, and cultural uniqueness as defined by such groups themselves so that they (i) receive culturally appropriate social and economic benefits, (ii) do not suffer adverse impacts as a result of projects, and (iii) can participate actively in projects that affect them. Further details are outlined in the Ethnic Development Plan, Chapter 7.

6.2 *Livelihood Options for PAPs opting for self-resettlement*

469. PAPs opting for self-resettlement remain entitled to livelihood restoration and enhancement measures in the period leading up to compensation payment, and subsequently if remaining within the project area of influence.

6.2.1 Self-resettlement within the project area of influence

470. If self-resettlement results in a new residence within the Project area of influence, then the Project committed to follow up on the livelihoods of self-resettling households. The

⁶⁴ CA, Annex C, Clause 90a.i

⁶⁵ CA Annex C, Clause 87,a,v

livelihood support for these PAPs encompasses thereby:

- Cash-compensation for all lost assets
- A lump-sum allowance for transitional assistance
- Pre-compensation, cash-related trainings
- Livelihood plan development prior to compensation
- Livelihood restoration activities prior to physical relocation
- Livelihood restoration monitoring after physical relocation and livelihood trainings based on the necessity to reach livelihood restoration

6.2.2 Self-resettlement outside the project area of influence

471. The most significant change for PAPs choosing to self-resettle outside the project area of influence is the logistical unfeasibility of following up on PAPs' livelihood. Accordingly, with physical relocation outside the project area of influence, the Project will conclude its obligations to those households selecting this option. The time prior to physical relocation therefore is of greater importance in these circumstances. PAPs opting to self-relocate outside the project area of influence will be eligible for the following programs and activities:

- Cash-compensation for all lost assets
- A lump-sum allowance for transitional assistance
- Pre-compensation, cash-related trainings
- Livelihood plan development prior to compensation
- Livelihood restoration activities prior to physical relocation

6.3 Livelihood Options for PAPs opting for Project resettlement

472. The following sections describe planned livelihood activities of the Project and the related overall policy in regard to these different livelihood options.

6.3.1 Development of the Houaysoup Resettlement Area

473. PAPs of Zone 2LR and 3 opting for resettlement and replacement land will have the opportunity to resettle in the Project's Houaysoup resettlement site, close to the dam site on the right bank of the Nam Ngiep, encompassing an area more than 6,000ha. Details regarding the Houaysoup resettlement site can be found in Chapter 14. There is currently some existing limited land use in Houaysoup by villages on the left bank of the Nam Ngiep, but no housing. PAPs with land in Houaysoup will be compensated either with replacement land or in cash according to preference.

474. The Project will develop the resettlement site on the principle that all households of 2LR and Zone 3 will opt for this choice, with more than 400 households and close to 3,000 people. These figures are based on the 2011 survey, and include a buffer for population increase based on assessments outlined in Chapter 4. It is likely, however, that fewer than this number of households will actually relocate from Zone 2LR, as cash compensation and self-

relocation is an expressed preference of some. Final numbers of households resettling to Houaysoup will be determined following the Confirmation Survey.

475. The Houaysoup resettlement site development includes:
- i. Development of residential areas including houses
 - ii. Development of paddy fields, grazing areas, and upland cash crop areas
 - iii. Development of an irrigation system for more than 400ha of paddy rice fields
 - iv. Development of public infrastructure including a school up to high school, a health centre, a market and a bus stop
 - v. Development of electricity, water, and road connections
 - vi. Development of a bridge over the Nam Ngiep
476. The development of the area will be facilitated in close cooperation with PAPs and GoL including participatory land use planning tools as outlined below. The implementation will thereby proceed in two phases: for early resettlement of Hatsaykham, residential and agricultural areas as well as housing will be developed throughout 2014 to be ready for resettlement of Hatsaykham before Lao New Year (April) 2015. Provisional infrastructure will be available at that time, including access to the area via a barge; a primary school with equal levels of education as currently in Hatsaykham; electricity, water, and road connection.
477. In the second phase, commencing immediately after resettlement of Hatsaykham, residential and agricultural land and houses will be prepared and infrastructure finalized to be ready before resettlement of villagers from 2LR in 2017.

6.3.2 Participatory Land Use Planning and Land Use Zoning

478. The Project uses participatory methods in data collection and planning as outlined in Chapter 8 and the SIA. Participatory land use planning (PLUP) and land use zoning process started in mid-2013 in consultation with PAPs from Zones 3 and 2LR, and will continue after physical relocation. PLUP tools have been developed and applied in Lao PDR and in other hydropower projects with good results, and has included support from the National Agriculture and Forestry Research Institute (NAFRI).
479. The location for paddy rice fields is fixed by geographic constraints and already zoned following public consultations with PAPs, and further inputs from PAPs is required to identify other land use zones within the resettlement area, including:
- i. Residential Area: the PAPs chose their residential area in July 2013
 - ii. House siting and orientation according to customary practice
 - iii. Upland areas for cash crops
 - iv. Grazing land
 - v. Community forests
 - vi. Water resources and fisheries
480. Participatory land use planning is not just important for the resettlement site in Houaysoup, but will also be one useful tool to develop on- and off-farm activities in the three villages of

the upper reservoir area (Zone 2UR). During village consultations, villagers already presented several options, including land-based strategies, which will be further developed together with the Project.

6.3.3 Paddy Fields

6.3.3.1 Economic opportunities of Paddy Rice field cultivation

481. The significant project impact on Zones 3, 2UR and 2LR livelihoods will be the seasonal flooding of paddy fields, causing loss of rice crops. Even though Hmong people traditionally did not cultivate paddy, preferring instead to grow upland rice, people in the five affected Hmong villages (Zones 2LR and 3) started paddy rice field cultivation after the liberation war and thus have around four decades of experience.
482. In the resettlement site, more than 400ha of land for paddy rice fields have been identified as suitable replacement for the 265ha lost paddy land in Zone 2LR and 34ha in Zone 3. They will be developed, starting from 2014, via land development, soil improvement, and construction of an irrigation system. Details can be found in Chapter 14.
483. In the upper reservoir area (Zone 2UR), 157ha paddy fields are also impacted by the Project. Together with PAPs, the Project is investigating possibilities of several locations within the area with potential for improved paddy rice cultivation to replace lost land. This includes the option to develop rice terraces on the lower hills surrounding the villages. PAPs have also expressed an interest to seek replacement land within existing affected villages or in neighbouring villages via willing-buyer-willing-seller arrangements. Land replacement will commence after Financial Close, and land development activities start in 2015.

6.3.3.2 Soil Improvement

484. One of the most often raised concerns of villagers concerning the Houaysoup resettlement site is the perceived poor soil quality. Although comparisons between current villages and the Houaysoup site have not yet been made, soil sampling results from Houaysoup indicate that the soils are Acrisols (AC) which have high acidity (Low pH). A demonstration farm has already been established on the site, and experiments have indicated that harvests can be improved through a soil improvement program using lime to reduce acidity (increase pH) and organic fertilizers to improve organic matter (and thus Nitrogen) in the soil. However, it is also recognised that PAPs may not be familiar with methodologies to improve soil fertility, and addressing this will be an important component of the livelihoods support program.
485. The time available prior to Resettlers moving into the Resettlement site is a vital period that will be used for soil improvement mechanisms using low cost and effort, and readily accessible inputs. Nitrogen fixing crops (legumes) are one of the most cost effective and natural ways to improve the nitrogen content of the soil. During the wet season of 2013, several nitrogen fixing crops were tested for their suitability to be grown in the Houaysoup area with positive results.
486. With suitable crops identified, starting from 2014, a soil improvement program will

commence for the paddy rice field areas. This will be continued throughout the dry season of 2014-15 as well and accordingly a provisional irrigation system will be installed. This program will start by quickly demarcating the area identified for the irrigated paddy fields in consultation with current land users as well as with PAPs from the 5 resettlement villages. The identified paddy land area requires some land levelling in to form fields that can be easily irrigated. Care will be taken during this process to ensure top soils are not lost and the upper fertile soil layers are carefully maintained as much as possible.

487. Once the soil is sufficiently levelled for rice paddy cultivation, a nitrogen fixing crop will be planted in the 2014/15 dry season, irrigated by the provisional system. Depending on outcomes of crop experiments at the demonstration farm, a double cycle crop is targeted. During a double cycle, an initial crop will be planted and subsequently ploughed back into the soil after reaching an optimum of nitrogen fixing, and early resettlement of Hatsaykham. Subsequently a second crop will be planted and left standing until first rice planting for the wet season of 2015.
488. The area will be fenced by a standard agricultural electric wire fence and patrolled by two villagers hired for the purpose to prevent large livestock from feeding on the crops. Once the crops have reached an optimum level of nitrogen fixation, cattle might be allowed to graze, depending on crop choice, to actively attract livestock to forage and additionally fertilize the land. Based on the 2014 experiments, the program of soil improvement through nitrogen fixing plants will be repeated in following years on the remaining 400has until full resettlement is completed. Lime may be added to the soil the year prior to Resettlers arriving to start increasing the soil pH. A start in 2014 for this program is needed to allow for a 2 to 3 year intensive soil improvement program for paddy fields in the resettlement site.
489. Local labour from Hatsaykham or Hat Gniun will be employed for various activities, such as seeding, establishing the agricultural electric fence (run on solar power), patrol the area, applying lime if required and harvesting of crops if peanuts or other harvestable crops have been selected.
490. A further soil improvement technique is the application of Bio-char; this can be any of carbide made of agricultural waste, food waste, thinned wood after charred. Soil mixed with bio-char becomes soft, porous, permeable and then suitable for plants to grow well. Moreover it provides microbes living close together with suitable residence due to its porous medium, which supply nutrient such as nitrogen, potassium, phosphorus to help plants' growth. The Project is exploring the option of biochar development with a research institute based in Chiang Mai, Thailand.
491. Effective Microorganism (EM) is used as another soil improvement techniques, it refers to any of the predominantly anaerobic organisms, consists of lactic acid bacteria, ferment, a particle of element such as photosynthesis bacteria. Research at the Houaysoup site has shown environmental destructions caused by symptomatic treatment; for example agrichemicals for plants damaged by blight and insects and antibiotic for ill animals, in which microbes so called "good bacteria" participate and decay organic matters. When EM is applied into the above conditions, various anti-oxidation materials and nutrients are produced, moreover it will stop organic matter from decaying, which creates suitable

conditions for plants and animals.

6.3.3.3 Irrigation

492. In the resettlement area, an irrigation system will be installed. The Water quantity for the irrigation system is designed to be $1.04 \text{ m}^3/\text{sec}/1,000\text{ha}$. The irrigated water will be reserved in the pond at the north area after intake from the re-regulation reservoir and distributed throughout the paddy area. Examples of the type of appropriate local irrigation systems are shown below.



Figure 15: Photos of irrigation channels in Bolikhan District

493. From the flood analysis, the lands with EL. 170 m corresponds to the flood water level of 30 year return period at the confluence point with the Nam Ngiep River. As a result, if left unprotected, this area could be flooded more frequently than would be desired. A saddle dam will be built upstream of the Houaysoup paddy lands, to protect for even greater than 1,000 year return period. Any floodwaters from the mountainous areas around Houaysoup will be discharged through the Houay Soup River to the Nam Ngiep River, ensuring that only irrigation channel water will reach the paddy rice fields.
494. In 2UR, smaller irrigation systems have been developed in the 1980s. Discussions with the PAPs indicated that they are no longer in use and repairs would be necessary to make use of them again. Part of the irrigation system is situated in the reservoir area and is thus lost for future use, but part of it can be revived even after impoundment. After the decision for relocation within village boundaries rather than resettlement in the second half of 2013, villagers suggested several locations where small-scale irrigation together with land development would allow an increase of irrigated paddy rice fields. The Project will work together with the PAPs to implement viable options.

6.3.4 Upland Rice Swidden

495. Upland rice fields in the resettlement site will be at higher elevations, greater than EL. 176, on the sides of the paddy fields. The total area is initially estimated to be 200 ha, but this may be revised upwards or downwards following PLUP, depending on PAP preferences on how to use the 6000ha and how to distribute their own livelihoods efforts, of which upland rice fields are just one of several options (e.g. plantations, cash crops, etc.). As all PAPs moving to the resettlement site will receive paddy rice fields with higher planned productivity than upland rice fields, it may prove that PAPs will reduce the area of upland rice cultivation.
496. Similarly, in Zone 2UR swidden rice cultivation will not be a focus of the Project's livelihood activities due to limited productivity of this form of income generation. Other options as cash crops or irrigated paddy fields will be the main focus of the livelihoods program due to increasing land limitations throughout the country.

6.3.5 Agricultural Development

6.3.5.1 Cash Crops

497. Several Cash crops are currently produced in the area near the resettlement site and upper reservoir zone, such as cassava, corn and rubber. These cash crops are mostly produced based on contract farming. The project has commissioned an experienced consultancy company for a Rapid Market Assessment to obtain a better understanding of the market mechanisms for these and other cash crops, which will form the base for further livelihood activities and relating marketing assessments in the resettlement site. Improved communications with electricity supply and better roads, will open more opportunities for ready markets of cash crops at the Houaysoup site.

6.3.5.2 Horticulture and Food Sufficiency

498. All displaced households relocating to Houaysoup will be supported by the Project 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. Vegetables are currently produced for home consumption and rarely find their way to the market; because of previous bad road conditions the cost for transportation and wastage is too high. Consequently, current production levels do not really have a surplus and everything is consumed by individual households. However, the increase of workers at the construction site has already resulted in villagers in Hatsaykham and Hat Gniun responding to demand by growing a variety of vegetables for local sales. Necessary initial inputs are low and income earned normally stays with the women of a household, resulting in more productive re-investments, such as in the small shops sprouting up. The new resettlement site will be brought closer to Bolikhan district town as well as to the provincial capital Pakxan with its larger markets, by the improved access roads. Similarly, through the construction of the road 1D, villagers in the upper reservoir area are now closer to markets in Xiengkhouang and Khammouan provinces.

499. Apart from improved market potential due to better road access and introduction of new consumers, vegetable gardens are an essential element in the support of food sufficiency and the provision of adequate nutrition at household level. Accordingly the Project is supporting development of vegetable gardens by provision of residential areas with enough land for vegetable gardens and livelihood trainings for interested PAPs, with a focus on women and those less able to go to the fields. This is a particularly useful livelihoods option for more vulnerable PAPs, who may have restricted mobility and are less able to move far from the house.

6.3.6 Livestock Development

6.3.6.1 Estimation of Houaysoup Carrying Capacity for Large Livestock

500. The Project currently estimates an allocation in Houaysoup of 600ha of grassland for pasture. Calculating that for average Lao cattle of a size of 200 to 250 kg one hectare is needed for 6 cattle this results in a carrying capacity of 3,600 heads of cattle and buffalo on the 600ha of grassland, more than the total number of counted cattle of 2LR and Z3 according to the 2011 data.

6.3.6.2 Cattle raising

501. The second most important livelihood strategy of the PAPs next to rice cultivation is cattle raising. Affected people consider large livestock as their bank savings. When these villagers want to make a large investment e.g. build a house, purchase a motorbike or marriage of their children, they raise money through selling livestock. They also consider the cattle as security for “good health”, in time of illness they could sell individual animals to get medical treatment. Apart from these pragmatic financial roles, the bull also has an important role in the Hmong culture for fighting with other bulls. Raising cattle is a very lucrative business as long as sufficient fodder can be found. People in 2LR have a large number of cattle and the Project has agreed on a livestock improvement program as an important component of the LIRP, including vaccination to guarantee a healthy and sustainable stock of cattle in the resettlement site and prevent transmission of disease from one locality to another on relocation. Furthermore, the Project will assess current cattle raising procedures and assess potential for improvement as part of the support measures.

6.3.6.3 Swine Raising

502. The Project will focus on smaller livestock as well, allowing livelihood options with faster profits and easier differentiation of size of activities based on available capital by the individual PAPs. Small livestock are more accessible to poorer and vulnerable families, and are therefore an important strategy for poverty alleviation. The Project will focus on: (i) improvement of productivity based on existing expertise and techniques of PAPs and (ii) a limiting the necessity of external input by training of trainers with interested and qualified people from the villages themselves which are able to link improved techniques with local, traditional methods. At the same time, these trainers will be supported to engage in their own businesses, such as breeding piglets.

6.3.6.4 Poultry Raising

503. Every family usually has at least one or two chickens, and poultry is an important option in livestock raising. Poultry is mainly raised for the market sold to middlemen who come to the village to buy. Occasionally poultry will be used for consumption by the household themselves; most often this is on religious days or with festivals. Food is the main cost for the villager who determines either making a loss or making a very good profit. When farmers have surplus rice to feed poultry then this can be very profitable. While large poultry enterprises provide cheap poultry from mass production to the markets throughout the country, people in the country still prefer “Kai Laad”, chicken from the villages, which has less meat, but more taste; and can demand a much higher market price. Poultry raising is also an important livelihoods strategy that the Project will focus on for poorer and more vulnerable households, as investment requirements are low, birds can be kept near the home, and the demands of raising them are limited.

6.3.6.5 Improved Fodder Development

504. For all three livestock options, fodder is a key factor in calculating if a livestock business is profitable or not. For large livestock, the development of productive and sustainable grazing areas is important. The Project will invest in soil and fodder improvement for grazing areas, starting before physical relocation of the resettlers. For medium and small livestock, value chains are important, with production of fodder for pigs and poultry from own rice, maize, or other crop planting needed to reduce the necessity to buy in from outside. Value chains will be enhanced either within a household by diversifying farming activities or by the diversification of activities within communities with different households focusing on different activities. Allocation of land for crops other than rice is planned for the resettlement site and already available in 2UR.
505. If households choose livestock raising as a key livelihood activity, the Project will support the preparation of appropriate pens, shelters, and roost facilities for pigs and poultry.

6.3.6.6 Veterinary Services

506. The health of livestock is a key element in successful livelihoods development. The Project is focusing on this from the outset by facilitating a vaccination program for large livestock before resettlement, to guarantee a clean start in the resettlement site or in the event of self-relocation. The Project will work together with experienced local veterinary services from either district or village towards this goal. In Houaysoup, the Project together with the PAPs will establish necessary infrastructure and procedures to develop clean and safe livestock areas via water supply, fencing, disposal/recycle of manure, and livestock registration and monitoring.

6.3.7 Forestry

6.3.7.1 Commercial Trees

507. An area will be designated for rubber trees or other commercial trees in the hilly area in the northwest zone of the Houaysoup resettlement area to replace the area of lost rubber

plantations belonging to 2LR. The area preliminarily designated as production forest in Houaysoup is currently classified as unstocked forest.



Figure 16: Typical area planned for rubber tree plantation

508. An area of 400 ha can support a total of about 150,000 rubber trees (385 trees/HH). On average 30 ml of latex includes 30~40% rubber, and a rubber tree produces a maximum of 3 to 3.5 kg of latex per year. Processed rubber is purchased by Chinese company based in Pakxan, at 70 THB/kg (20% increase in volume) while raw material is purchased at 65 THB/kg⁶⁶. However, as PAPs will not lose, but be able to continue to use existing rubber plantations within the limits given by the Watershed Management Area, communities might still decide during the PLUP process to opt for other plantations or land usages for commercially productive trees. The project will provide respective expertise and extension programs to support and align with decisions made by the PAPs during the PLUP. In 2UR, community forests continue to be available after impoundment of the reservoir and can be used for improved forest activities under the auspices of the Watershed Management Plan (see EIA).

⁶⁶ 2012 prices.



Figure 17: Rubber processing

509. Next to commercial trees as rubber, Teak, Agarwood, and Eucalyptus (all present in the current villages) offer opportunities for alternative investments bringing equal or better rates of return in both the short and long term. One of these alternatives is Yang Bong, a tree with a fragrant bark for making incense sticks, which is planted by some farmers already and has a ready market. The Agro Biodiversity Initiative (TABI) project in the Lao PDR has carried out research on propagation, processing and marketing of the Yang Bong tree. The Project is currently considering Yang Bong tree planting for PAPs, but will conduct more detailed research to determine current marketability, possible limitations and opportunities.
510. This tree is relatively easy to grow and its bark can be harvested for the first time after 3-4 years, providing good prospects for sustainable harvesting. The productive life of the tree is estimated to be 18-20 year. Some plantations in Salavan and Savannakhet have been established with seed from Vietnam; however seed is still available in Lao PDR, and some seed sources are established in Champasak, Sayaboury and Bolikhamxay, which will be explored by the Project.
511. Export destinations are Bangkok, Chiang Mai (Thailand), Hanoi (Vietnam). From Oudomxai, annually about 47 tonnes of peuk bong is exported to Thailand, where it is used for making insecticides (1993). Farmgate price in 1997 was US\$0.1/kg. Export price per kg was US\$0.26-0.50 for an average of 325 tonnes between 1995 and 1999. Thai prices in 1997 for the white variety was 8 Baht/kg dry; and for the red variety 6 Baht/kg dry (2.5 Baht/kg for the collector, 12-13 Baht/kg in Bangkok). A household in Savannakhet may earn US\$10/day, and collect 356 kg per year at US\$0.3/kg (2004). In the north current prices vary from US\$0.05-0.5/kg.
512. A tree which also has regained popularity amongst practitioners and other project developers in the Lao PDR such as IFAD and Theun Hinboun is *Moringa Oleifera*. Propagation is done by sowing seedlings or cuttings. The ecology needed for this tree consists of general annual rainfall: 750- 2500 mm; Normal temperature range: 9-37C; Altitude range: 0 to 1000 m; Soils: pH 5.5-7.5; and it can grow on soils with low fertility with best results on alluvial soils. While looking at the specific conditions at the Houaysoup resettlement site the Project strongly considers the promotion of large scale production of the *Moringa* tree, however detailed research on possible limitations and opportunities regarding growing conditions and marketability will be carried out by the Project prior to

any decision making.

513. Due to its light crown the tree is ideal for agro forestry intercropping purposes. The tree can be pruned, lopped, coppiced or pollarded for fuel wood purposes. The leaves of the tree can be used for fodder for livestock. Also many parts of the trees are used for human consumption and have scientifically proven medical properties. The seed pods are particularly high in vitamin C, but are also a good source of dietary fiber, potassium, magnesium and manganese (Fahey, 2005). Mature seeds yield 38–40% edible oil called *ben oil* from its high concentration of behenic acid. The refined oil is clear and odourless, and resists rancidity. The seed cake remaining after oil extraction may be used as a fertilizer or as a flocculent to purify water (Lea, 2010). Moringa seed oil also has potential for use as a biofuel (Rahid et al, 2008).
514. Global markets are providing signs that Moringa products are becoming increasingly popular under consumers. Eco-Business forum believes that Moringa Oleifera can play an important role in meeting the Global Demand for New Economical Sources of Feed, Food & Fuel (www.Eco-Business.com, 7 Sept 2013). Anecdotal evidence in the Lao PDR suggests that it has a rate of return which sounds very promising. Seeds for propagation can be purchased from Thai producers against a value of 160,000 KIP/kg (3000-4000 seeds). With a tree spacing of 5x 5 m (ideal for seed production), and with an area of 1 hectare under production nine hundred (900) trees can be planted. Together these trees can produce seeds up to 3-4 kg/tree/ harvest and can be harvested under ideal circumstances 3 times/year. Based upon these numbers a total of 8100 kg/ha of seeds can be produced per year. A French Company working in Attapeu and Sekong has verbally expressed interest to buy all produced seeds for 40.000 KIP/kg. The production of 1 hectare of Moringa seeds would then have a monetary value of 324,000,000 KIP on a yearly basis. Not only is Moringa an excellent tree for individual families to have in their garden and consume different parts of the tree for their medicinal properties and their ability to fight malnutrition, moreover it suggest that when Moringa is planted on a larger scale it could bring considerable extra income to families livelihoods.

6.3.7.2 Non-Timber Forest Products

515. Rural residents in Lao PDR depend on NTFPs (Non-Timber Forest Products) for many needs such as food, medicine and construction materials. While most NTFPs are used by the households themselves, some products are sold and can be an important seasonal source of income (providing currently 15% of cash income for the PAPs of this project based on 2011 data). NTFPs with high potential for income development are rattan, resin from *Dipterocarpus alatus*, mushrooms, bamboo shoots, wild fruit, and wild vegetables. The Project intends to allocate around 3,000 ha of forest along the south end of the Houaysoup (on the north bank of the Houay Kinguak Nai River), where there already is rather dense forest cover, as production forest for NTFPs. This will be discussed with PAPs, as these kinds of forests need strong support, management and ownership from villagers to be preserved in a sustainable way. Projects throughout the country struggle in sustaining forests and related NTFP incomes, with short term profits to be made from timber products as well as slash-and-burn upland crop fields.



Figure 18: Typical area of mixed deciduous forest

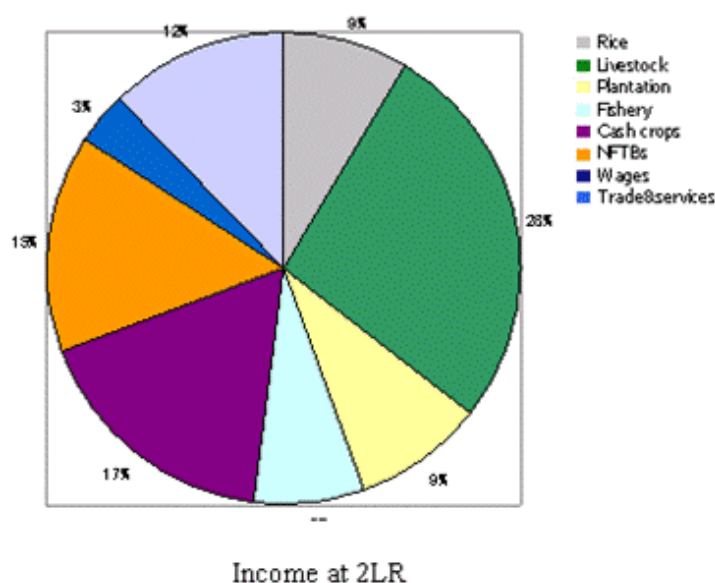


Figure 19: Income at 2LR

516. The Project will establish an NTFP program to assess the current use and availability of NTFPs and at what levels they can be harvested in this area sustainably. There will be introduction of commercial NTFPs and enrichment planting as appropriate. This program will extend to 2UR, even though the villagers already report a constant reduction in the availability of NTFPs in the upper reservoir area over the last years and well before Project impacts will be felt.

6.3.8 Agricultural Extension

517. The Project will work with district Departments of Agriculture and Forestry (DAFO) in Thathom, Hom and Bolikhan districts, to support and enhance on-farm livelihood activities for PAPs both before and after relocation.

6.3.8.1 Research and Training

518. A first step, already initiated by the Project, is research and training. Before appropriate livelihood development can take place, current conditions of the available land as well as available skills, needs and potential of PAPs, improved technologies, and market characteristics, have to be assessed. The Project focuses on community-driven development

rather than imposing external “best” technologies onto local farmers. Thus, training will follow participatory assessments and be strongly based on interaction between trainers and the PAPs. To establish sustainable trainings, the Project will engage in a training of trainers approach, to enable local PAPs to become trainers for their own communities.

6.3.8.2 Trials

519. While some trainings will take place in training centres and via study tours, the main focus will be on field trials in villages themselves. The Project will work together with interested PAPs in trials of improved techniques, seed varieties, breeding methods, and other fields of on-farm activities already in the villages, starting in 2014/15 in Zone 3, 2LR and 2UR, and extending these activities thereafter. By engaging in these trials, PAPs will not just get hands-on experience, but can also compare existing and improved methodologies and adapt them to the local context and their specific needs. By starting before impacts and physical relocation, a smoother transition process will be facilitated.

6.3.8.3 Support of Specialized Business Development

520. The Project will support interested households with skilled members in the development of small-scale local farming-businesses engaging in production of farming inputs: rice seeds, fingerlings, piglets, natural insemination, etc. This not only helps to develop profitable livelihoods, but also strengthens communities in providing locally tested inputs and advice, decreasing the dependence from external inputs. Lessons-learned from other projects have shown that these kinds of businesses are sustainable in the long term and allow continued transfer of knowledge once project inputs scale down.

6.3.8.4 Farmer Groups

521. Initial field missions suggest that some villagers are currently organized in farmer groups, for example cattle raising groups in Zone 2UR. For the purpose of learning advanced or new farming skills the Project farmers will be supported to organize themselves in interest groups for other on farm activities and at the Houaysoup site. Apart from the advantage of specific target groups to enable information dissemination or skills and knowledge training and transfer, these groups have an added value when dealing with marketing for agricultural products, securing market contracts, arranging transport, guaranteeing minimum production targets, accessing (micro-) credit, and improving quality standards of products and pricing. In Lao PDR 4 types of group have been identified:

- **Learning group:** Organized by community leaders to undertake an ad hoc community development activity (e.g., village environmental improvement)
- **Self-help group:** Organized by individual community members interested in a specific development activity (e.g., livestock raising, nutrition improvement, marketing)
- **Farmer production and marketing group:** A group consisting of 8-10 smallholder farmers who join to cooperate and modernize production; activities: crop production, livestock raising, seed multiplication
- **Farmers association:** Several farmer groups joining to form an association of farmer

groups; most often to improve negotiations for commodity and livestock prices

6.4 Off-Farm Activities

522. While on-farm livelihood activities form the main strategy of the Project to support transfer and enhancement of traditional livelihoods of PAPs and to invest in food security, off-farm activities are an important second element of the livelihood restoration program. This is particularly important for 2UR, where PAPs have opted to stay in their existing villages, despite the impacts they will experience on agricultural land. Part of the reason is their current high levels of engagement in livelihood change, supported by improved access to markets due to the new road 1D. But also in 2LR and Zone 3, off-farm activities have been requested by PAPs by the younger generation. Given that in the Project area, 60% are 20 years or younger, this becomes a key element in livelihood development. With mobile phones, DVDs, and even internet (in 2UR) reaching villages, adaptation to a broader national and international lifestyle is sought by many young people. The Project will support these young people in their aspirations, while at the same time providing information regarding the necessary steps and inputs of changing livelihoods and also discussing with them the related risks. Here, livelihood programs link closely to the cultural awareness program outlined in the SDP.
523. The Project will support PAPs who would like to engage in the service sector, while also supporting handicraft and small-scale production. The following subsections describe some opportunities which have been preliminary identified, and which have proved viable in other projects in Laos.

6.4.1 Shops and Transport

524. A key livelihood activity, in which PAPs engage already, is small-scale shops providing day-to-day products such as cosmetics, cooking oil, MSG, drinks, cigarettes, etc. This has proved already profitable business for PAPs in Zone 3 on a limited scale.
525. Profit on a larger scale can be achieved by trading local products and external goods. With increased access to district and provincial markets, the necessary cost of investment decreases and more PAPs have the chance to engage in such businesses. This is not necessarily to the disadvantage of traders within the communities, but can replace external traders and thus decrease dependence from these middlemen.
526. Transport of people is also a business opportunity. With improved roads and shorter distances to urban areas, peoples' mobility has increased and with it the demand for transport services. As with other services, there is, however, a limit to the demand and thus to the number of business opportunities.

6.4.2 Repair and other Services

527. Opening up a motorbike repair shop is one of the preferred alternative livelihood strategies expressed by PAPs. Initial investments are between six and nine million KIP. However,

depending on the market size, these investments can be regained within a short period of work.

528. Opening up a beauty salon is another option under discussion and has been raised during focus group discussions. Initial investment costs are higher than for retail-shops but lower than repair services. Both livelihood activities provide more opportunities for owners to improve their businesses than retail-businesses, based on their personal skill development.

6.4.3 Handicraft

529. Next to trading and services, the Project will support the development of handicraft activities. Here, too, it is essential to link to existing structures and adapt and improve activities.
530. In 2UR, weaving is a key program implemented by the local development cluster, including several villages of 2UR and Zone 1. The project will link to this program and provide support where necessary. It provides income to local women, is adaptable to other household activities, and supports the preservation of local culture on traditional clothes' colours and patterns. The cluster currently establishes value chains by exploring the possibility of breeding silkworms in connection with planting mulberry trees. Training will be provided on suitable designs and product development, to access local markets.
531. Basket weaving and small-scale processing of wood is another option, visible in the project area and a possible opportunity in connection with improved market access.

6.4.4 Training and Education

532. The examples of alternative off-farm livelihood activities have two things in common: while a certain financial capital is needed at the beginning, it relies on peoples' skills on developing a successful and sustainable business.
533. A non-formal education program, starting in 2014, will help provide literacy and math skills training to adults and to youth who have left schooling early. Furthermore, these programs connect to more detailed livelihood activity trainings, which range from household-finance trainings to agricultural activities trainings. Financial management for these types of small businesses will be provided.
534. The formal education program will include:
- Introduction of nursery in the affected communities as requested by the PAPs
 - Supporting primary and secondary schools with materials, training for teachers, and other support programs in cooperation with GoL, PAPs, and specialized development organizations
 - Establishing lower-secondary school in the resettlement site
 - Support female schooling rate in cooperation with the PAPs by addressing livelihood constraints on female schooling
535. A broad third block of educational programs will address health topics. Training on maternal and child health will be provided together with GoL institutions and specialized

development organizations. Furthermore, programs with the whole community will be installed, encompassing hygiene and public health (Cleanliness of house and living area, Nutrition and hygiene in the kitchen, Drinking water treatment, First aid training, Malaria prevention, electricity safety training, etc.). These are all essential elements for a sustainable livelihood development. However, as they benefit the communities as a whole, they are outlined in more detail in the SDP.

6.5 Fisheries

536. Fisheries in Lao PDR encompass normally three different types of income generation: fish catch, artisan fish raising, and collection of other aquatic animals.

6.5.1 Fish Catch in the Reservoir

537. Estimating fish catch possibilities in specific and development of fisheries on the reservoir in specific is a difficult task. The Project has engaged fisheries experts starting from 2014, to establish a fish catch monitoring program together with PAPs. While the steepness of the reservoir might reduce the potentials for fishing in some areas, the plains around the current villages of 2LR and 2UR might develop into productive fish breeding grounds, particularly useful for those households opting for self-relocation within the project area of influence. Studies of other hydropower projects show, that immediately after impoundment a windfall increase of fisheries can be expected, but consequently fisheries rates drop drastically if not managed properly. The experts working on the fish catch monitoring program will therefore develop together with PAPs a fisheries-co-management program to allow sustainable development of fish catch. Furthermore, reservoir fishing is different from river fishing and training is necessary, including adapted fishing technologies and safety measures for boat fishing in deep reservoirs.

6.5.2 Fish (catfish) raising

538. Catfish raising has been identified as an alternative activity in the livelihood of the PAPs. Fish is mainly raised for consumption. Food inputs are decided based on the profitability of fish raising and alternatives for purchased food inputs have to be elaborated together with the PAPs of the specific areas. It is important to address the issue of introducing raised fish into the reservoir, either intentionally or accidental. Cooperation with EMO is necessary on this specific topic.

6.5.3 Other Aquatic animals

539. Next to caught and raised fish, other aquatic animals are an important factor for household consumption, even though with reduced value for market consumption. Different agricultural activities, above all paddy rice field cultivation, will also allow the collection of other aquatic animals such as frogs, fingerlings, shrimps, etc.. The Project will promote organic inputs and the avoidance of chemical inputs into agricultural production to preserve the overall environment, but in specific to avoid negative impacts on consumption,

including other aquatic animals and water resources. The Project will investigate current consumption patterns and engage together with villagers in the continued use of other aquatic animals for consumption.

6.6 Market Access and Value Chain Development

540. Most of the livelihood options above are strongly linked to possibilities of market access, which the new resettlement site for 2LR and Zone 3/5 as well as the inter-provincial road D1 provide. However, market access cannot just be measured in distances but as well in the availability of appropriate products and an understanding of market functioning. Therefore, livelihood trainings will not only focus on technical skills, but also on integrating into a market economy. This starts basic with literacy and financial management, up to the understanding of market development.

6.6.1 Dry chillies

541. Growing chillies for home consumption has been a long standing tradition across all ethnic groups in Lao PDR society. This technique has been adopted for a range of other products such as: meat, mushrooms, river weeds, fish, and cassava roots. The Project considers providing training and introducing low-technology options for PAPs villagers who are interested in refining their drying chillies methods. This activity might be of particular interest of women who already have a very important role in planting, and harvesting of the chillies and food preparation.
542. Depending on the availability of materials, money and personal preference there are four main drying technology options: (i) sun drying; (ii) shade drying; (iii) smoke kilns; and (iv) cooking fires (UNIFEM, 1993). The technique of drying would be another step in the chilli processing chain and will add value to this product. When the product is dried properly and air tight packed it can be kept for longer period, it is lighter; moreover there is a market for villagers to sell dried chilli both locally and regionally

6.6.2 Banana slice production

543. Banana is produced on a wide scale in the Lao PDR, varying from large commercial plantations in the North of the country to small scale plantations found throughout the country for private consumption. Currently villagers either consume or the sell the fresh fruit at the local market or to traders. The value of this product can be enhanced by slicing the banana and either drying or frying the chips. Similar to drying chillies this practice might be of particular interest for women. When villagers are interested in learning these skills the Project will consider supporting with necessary skills and knowledge, as well as training in developing viable marketing outlets.
544. In 2006 the Lao PDR received support from FAO for the "Village level processing: empowerment through enterprise skills development in the Lao PDR, Myanmar and Vietnam" project. Its aim was to provide skill packages for farmers/rural entrepreneurs to coordinate group activities and develop food products that are acceptable to consumers. The

products were made in a cost effective and efficient way and had the potential to compete in higher value markets. In the case of the Lao PDR bananas were sliced and deep fried at the Crop Multiplication Centre (CMC). Findings of this pilot show that up to 80 bananas could be processed per day at household level. The monetary value was 400,000 KIP (USD42.32) per day, with a profit of about 200,000 KIP (USD21.16) per day. Note: These are 2007 prices, since then both the KIP and US Dollar have seen inflation, however the ratio between sales and profit remains valid. Further research is necessary to ensure the profitability and exact margins on this processing technique.

6.6.3 Preservation of seasonal fruits

545. A very common phenomenon in the Lao PDR is fruit spoilage. One can go to the country site and find trees hanging full of figs, mango, jackfruit and nobody to harvest them. This can be observed in the more remote Project communities as well. Or pineapple and bananas flood the markets because it is harvest season and sellers have to bring the price down because there is too much competition or consumers are not interested. As a result large quantities of fruit go rotten and are inedible. There are several techniques to preserve these fruits. Applying these techniques would ensure that people would not have to throw away rotten fruit, villagers have access to good vitamins throughout the year, and in optimal situation villagers would be able to sell these preserved fruits on local or regional markets.
546. For those PAPs interested in these activities, the Project will provide preservation skill and knowledge support in the form of training. Techniques under consideration include: (i) One of the most common and effective ways to preserve fruits is to prepare them and place them in air-tight containers, which are then heated. The high temperatures ensure that micro-organisms are killed and the enzymes are inactivated; (ii) Drying is one of the oldest preservation methods. The moisture level of agricultural products is decreased to 10-15% so that the micro-organisms present cannot thrive and the enzymes become inactive; (iii) preserving fruits by adding sugar will draw water out of the fruit, which "bind" the water molecules with the sugar molecules. The bound water is held so tightly that it is no longer available to support the growth of many types of microorganisms. In this way sugar act as preservation against spoilage. However, the acceptability of the finished product to various market outlets still requires testing, to determine whether this activity is worth pursuing.

CHAPTER 7 - Ethnic Development Plan

7.1 *Ethnic Groups in Lao PDR*

547. In the most recent national census (2005), the government of Laos recognizes 49 ethnic groups within 47 main ethnicities and 4 ethno-linguistic families⁶⁷. The Lao Front for National Construction (LFNC) recently revised the list to include 49 ethnicities and increasing to over 160 ethnic groups, which speak a total of 82 distinct living languages.
548. 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 Indigenous Peoples (IP) Policy purposes, the IP Policy refers to non-Lao Thai ethnic groups in the project area.⁶⁸
549. The 4 ethno-linguistic families in Lao PDR are categorized in: (i) Lao-Tai, (ii) Mon-Khmer, (iii) Hmong-Mien, and (iv) Sino-Tibetan.
550. 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 Lüè, Phouan and other Tai-speaking groups, representing approximately 65% of the population.
551. 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.
552. 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.
553. 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.

⁶⁷ These are Lao Tai (Tai K'dai); Mon-Khmer; Sino-Tibetan; and Hmong-Mien (also known as Hmong-Yao or Hmong-Iu Mien. Language mapping has not taken place in Laos.

⁶⁸ From a summary of the 2005 Population Census, on the website of the Lao Department of Statistics http://www.nsc.gov.la/Products/Populationcensus2005/PopulationCensus2005_chapter1.htm, viewed on 21 September 2009.

554. The designations of "Lao Theung" or "Lao Soung", though still used in provinces and districts, are not used in this REDP 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 REDP instead refers to ethnic groups in the project area by their ethnic identity.

Ethno-Linguistic	Language Family	No. of Ethnic Groups	Proportion of Population
Tai Kadai	Lao Phoutai	8	66.20%
Austroasiatic	Mon Khmer	32	23.00%
Hmong - lu Mien	Hmong Yao	2	7.40%
Sino - Tibetan	Tibeto Burman	7	2.50%
Sino - Tibetan	Hor Han	1	0.20%

Table 42: Ethnicity of Population (Source: ADB, Lao PDR: Northern Region Sustainable Livelihoods Development Project, August 2006.)

7.2 Ethnic Groups in the Project Impact Zone

7.2.1 Distribution of ethnic groups among the villages

555. There are 3 main ethnic groups in the PIZ (Table 43) and their distribution varies by zone. The three villages in the upper part of the reservoir which will experience partial seasonal flooding from the reservoir (sub-zone 2UR) are ethnically diverse. The largest village, Pou, has about 29% Lao Loum, 69% Hmong, and the rest Khmu. Piengta and Hatsamkhone are predominantly Lao Loum.

556. The four villages in the lower part of the reservoir (sub-zone 2LR) and the one village in the construction area (zone 3) are almost all Hmong. Although Hmong are traditionally highland residents, these communities live in the river valley and have adopted livelihood activities more typically associated with sedentary agriculture of the Lao. Their settlements are quite recent, with the oldest of the four villages established about 30 years ago. The lands were given to these villagers after the civil war, in gratitude for their support for the Pathet Lao. Many of the villagers moved from higher, mountainous areas, the traditional area where Hmong live, with some having moved from the Phu Katha region.

557. The host communities are ethnic Lao Loum. However, it should be noted that Ban Hat Gniun and Ban Hatsaykham (the Hmong community in Zone 3) have been linked as a single administrative entity for some time (Hatsaykham is considered a sub-village of Hat Gniun).

Village	HH	Population		Ethnic Groups					
		Total	Fem.	Lao	%	Hmong	%	Khmu	%
Pou	172	1,129	557	330	29.2	773	68.5	26	2.3
Piengta	82	454	210	436	96.0	10	2.2	8	1.8
Hatsamkhone	74	453	233	453	100	-	-	-	-

Village	HH	Population		Ethnic Groups					
		Total	Fem.	Lao	%	Hmong	%	Khmu	%
Houaypamom	37	254	122	-	-	254	100	-	-
Sopphuane	58	416	206	-	-	416	100	-	-
Sopyouak	126	916	439	19	2.1	897	97.9	-	-
Namyouak	163	1,149	564	-	-	1,149	100	-	-
Subtotal Zone 2	712	4,771	2,331	1,238	26.0	3,499	73.3	34	0.7
Hatsaykham	33	218	110	-	-	218	100	-	-
Subtotal Zone 3	33	218	108	-	-	218	100	-	-
Hat Gniun	67	371	157	371	100	-	-	-	-
Thahuea	50	265	122	234	88.3	-	-	31	11.7
Subtotal Zone 5	117	636	279	605	95.1	-	-	31	4.9
Total	862	5625	2718	1843	32.8	3717	66.2	65	0.01

Table 43: Population of Ethnic Groups in the Project Area (Source: Field Survey, 2011)

558. As all communities facing land acquisition and resettlement impacts (Zones 2UR, 2LR, and 3) are predominantly ethnic Hmong communities or Lao Loum, the Ethnic Development Plan (EDP) for this project is included here as part of the combined Resettlement and Ethnic Development Plan (REDP).

7.2.2 Cultural Practices of Hmong, Khmu, and Lao Loum

559. Cultural practices directly follow the groups’ ethnicity, and are evident in daily life as well as in rituals and festivals. Some of the key cultural characteristics of the main ethnic groups in the project area - Hmong, Khmu, and Lao Loum - are presented in Table 44.

Charac- teristics	Hmong	Khmu	Lao Loum
<i>Language</i>	Hmong-Mien Language Family; no specific letters;	Austroasiatic Language Family. no specific letters;	Tai-Kadai Language Family. specific letters;
<i>Usual diet</i>	non-glutinous rice, vegetables, fish, domesticated animals, and food foraged or hunted from fields, waters, and forests	non-glutinous rice, vegetables, fish, and food foraged or hunted from fields, waters, and forests	glutinous rice, vegetables, fish, domesticated animals, and food foraged or hunted from fields, waters, and forests
<i>Location of Village</i>	Near waterways in highlands with forests nearby	Near waterways in middle elevations with forests nearby	Near waterways in lowland or valleys, preferably with forests nearby
<i>Housing</i>	Houses are constructed directly on the ground; One room without	Rectangular house supported by 1.5m high wooden piles;	Houses are built on wooden piles with the floor from 1 to 2.5 meters above the ground;

<i>Charac- teristics</i>	<i>Hmong</i>	<i>Khmu</i>	<i>Lao Loum</i>
	<p>window;</p> <p>Walls made of vertical wood planks, wood and bamboo beam and thatch roof; 1 main upstream door and 1 optional lateral door;</p> <p>There is a fireplace in the corner or the middle of the house for cooking and heating;</p>	<p>Small windows</p> <p>Bamboo or wood walls, bamboo or plank floor and roof in thatch, bamboo or wood tiles;</p> <p>A single room with 1 fireplace and 1 private dormitory;</p>	<p>Floor and walls in wood or bamboo;</p> <p>Frame in hard wood;</p> <p>Roofing in thatch and bamboo tiles, locally in leaves and wood tiles;</p> <p>Large public dining room and private bedrooms separated with wooden or bamboo wall;</p>
<i>Main occupation</i>	<p>Rice growing, vegetable gardens, animal husbandry; fish in local waterways and forage and hunt in forests for supplementary food and other resources; traditionally practiced shifting cultivation;</p>	<p>Rice growing, vegetable gardens, animal husbandry; fish in local waterways and forage and hunt in forests for supplementary food and other resources; traditionally practiced shifting cultivation;</p>	<p>Rice growing, vegetable gardens, animal husbandry; fish in local waterways and forage and hunt in forests for supplementary food and other resources; traditionally practiced sedentary, rice-based cultivation;</p>
<i>Traditional handicrafts</i>	<p>Weaving</p> <p>Bamboo basket</p>	<p>Weaving</p> <p>Bamboo basket</p>	<p>Textile</p> <p>Rattan</p> <p>Wood carving</p> <p>Bamboo furniture</p> <p>Silk carpet</p> <p>Paper making</p> <p>Pottery</p> <p>silver and Gold work</p>
<i>Education</i>	<p>In basic statistics, Hmong have lower rates of achieved levels of formal education; however, this is strongly linked to remoteness and overall public education in Lao language; consultations with the PAPs showed a strong engagement by families in using education as a strategy to improve livelihoods of their children</p>	<p>Similar than for Hmong, achieved levels of formal education of Khmu are statistically lower than for Lao Loum. As with Hmong this is strongly related to remoteness and Lao Loum language capabilities.</p>	<p>Lao Loum show higher rates of school attendance and completed formal educational levels, linked to better access to formal education in regard to distance as well as language capabilities.</p>
<i>Health</i>	<p>While traditional</p>	<p>Traditional medicine plays</p>	<p>Public health facilities and</p>

<i>Charac- teristics</i>	<i>Hmong</i>	<i>Khmu</i>	<i>Lao Loum</i>
	medicine has been in use for many generations, in recent times in the Project area, the village health centres have become an essential reference for health support	an important role, but with increased access to urban areas, public health centres are of increasing importance.	pharmacies in urban areas are the core references for health support. Traditional medicine has just a subordinate role.
<i>Spiritual beliefs</i>	Spirits inhabit animals and other natural object.	They believe in the house spirit (hrooy gang), the spirits of water (horn), the spirit of the forest (hrooy phi), and others. Among the most feared are the hrooy poop and the hrooy suu;	Belief in spirits: Phi Phô, Phi Mê, Phi Ban, Phi Pop, Phi Muang, Phi Nam, Phi Pa
<i>Major festivals</i>	New year (Kinh Tiang). Marriage by kidnapping Healing, exorcism, rice cycle and spirit return ceremonies	New year (Kinh Tiang). Wedding and death ceremonies. Healing ceremonies	Lao new year (Pi May), boat festivity (Suang Hua), Rocket festival (Bang Fay), welcoming festivity(Baci), ancestor remembrance (Bun), weddings (Dong)
<i>Marriage</i>	Marriage traditionally has been initiated by “bride stealing” Consent-marriage has mostly replaced this custom. Afterwards, their parents negotiate a bride-price. Women may not marry within the same clan in which they are born. Strong patrilineal social systems.	Marriage traditionally arranged by go-betweens from boy’s family to girl’s parents. Consent-marriage has mostly replaced this custom. Basically patrilineal. However, after marriage, the new couple lives with and assists the wife’s family until the birth of their first child, when they then move in with the husband’s family. They then continue to stay with the husband’s family and the wife serves the husband’s parents	Marriage traditionally arranged by go-betweens from boy’s family to girl’s parents. Consent-marriage has mostly replaced this custom. Once a couple agrees to marry, their parents negotiate a bride-price.
<i>Village leaders and other influential villagers</i>	village headman heads of lineages elders local administrative organizations and groups	village headman local administrative elders organizations and groups, such as community forest group	village headman local administrative elders organizations and groups, such as community forest group

Table 44: Key traditional cultural characteristics of ethnic groups in the project area

560. During the field survey, the study team found there were some inter-marriage between ethnic groups, but rarely. Where villages are composed of different ethnic groups, they are able to live well together and share public spaces and resources, as well as public facilities and services. An example of this is the close relations between the ethnic Lao and Hmong in Pou Village.



House of Lao Loum of zone 2UR



House of Hmong of zone 2UR



House of Khmu of zone 2UR

Figure 20: Typical Houses of each Ethnicity in the project area

7.2.3 Khmu

561. No Khmu communities are impacted by resettlement. Some single households are affected by loss of cultivable land, who live along the access road and in 2UR. No loss of housing will be experienced. Affected Khmu are fully integrated into Lao majority population villages, and have not preserved their traditional social structure or distinct ethnic characteristics. For purposes of this REDP, they are therefore not considered a minority ethnic group eligible for consideration under ADB's SR3.

7.2.4 Hmong

562. 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.

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563. Hmong culture differs significantly from the majority Lao culture, both in terms of social organization 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, and which has written form, unlike many other ethnic group languages in Laos.
564. 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 (Figure 20) and comprises extended families of two or three generations. The siting of houses follows tradition, i.e. alignment from east to west, and the entrance of houses does not face the mountain. 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.
565. 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 lowland agricultural systems due to the moving out of mountainous areas.
566. Livelihood: Hmong are heavily reliant on swidden cultivation due to their late arrival in Laos and lack of available land in lowland areas of the country. However, those in the PIZ have resettled in affected villages comparatively recently and have taken up paddy cultivation on land made available to them by GoL in recognition of their services to the state during the last war.
567. The Hmong in the NNP1 project area are mainly found in the 5 villages of the construction site Zone 3 (Hatsaykham) and Zone 2LR (Namyouak, Sopyouak, Houaypamom and Soppuane). All will be significantly impacted by the Project and require resettlement with the full compensation and mitigation entitlements. Another village in 2UR has a significant population of Hmong community in Ban Pou, some of whom will be affected.
568. The Hmong in 2LR and 3 have relatively large swidden areas in relation to paddy land, but higher productivity from paddy than upland swidden. All Hmong villages do, however, have relatively large numbers of buffaloes, cattle and areas for vegetable gardens and orchards. Livestock raising is a particularly important component of the Hmong domestic economy.
569. Social Organization and Religion: 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. Elders represent village households in all discussions, particularly with outsiders, and it is unusual for any person or family to contradict elders in meetings. Hmong villages aim to be self-sufficient and autonomous with limited interaction with other ethnic
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groups.

570. 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.
571. 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 and age 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.
572. However, Hmong from PIZ affected villages have moved away from many of the customs and practices that mark them as ethnically separate from the larger Lao society, though death rituals remain strictly observed. Men and women no longer wear distinctive Hmong dress except a very few older women or on festival days, and everyday clothes are now purchased from the market instead of made at home. Livelihoods have shifted in emphasis, with paddy rice field production now more important than swidden, and different housing construction practiced with the introduction of solid two-storey houses in 2LR. The Project's consultation process has identified inter-generational differences of opinion about the future, and some households in Zone 2LR, particularly poorer families, are defying elders and opting to make different choices concerning their entitlements from the Project.
573. Hatsaykham (Zone 3) is closely related by kinship and clan membership to communities in 2LR and follows the same traditions and styles. Even though living close to a Lao Loum community and being administratively integrated into Lao-led village authority, no Lao Loum house styles can be observed and swidden cultivation remains the main form of agricultural production for domestic consumption with livestock being an important source of cash income, complemented by hunting and NTFP collection. There are still a few people playing "Kane" pipes, but there are no more people playing Hmong flute.
574. The Hmong ethnic group in the PIZ meet three out of four criteria to be considered as indigenous people as outlined in the SPS 2009:
 - (i) self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;
 - (ii) customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture; and
 - (iii) a distinct language, often different from the official language of the country or region.

575. However, the fourth criteria, “collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories” is more difficult to assess in the Lao context due to the old as well as more recent history of the country, i.e. large-scale population movements by a series of ethnic groups. As previously stated, the settlements of the Hmong community in Zone 2LR and Zone 3 are quite recent with the oldest having been established about 30 years ago; these lands were given to these villagers after the civil war, in gratitude for their support for the Pathet Lao. The Hmong communities, therefore, identify closely with these lands which they consider as their reward for fighting for their country. The Project, therefore, assessed in the REDP that they fulfil the criteria of ADB’s definition of indigenous people based on national discussions of customary land use rights and ethnic groups together with the criteria outlined in the ADB Social Policy Statement (SPS) 2009.

7.2.5 Lao Loum

576. Villages in Zone 2UR and Zone 5 are mainly Lao Loum, with a few Khmu households. These populations are well integrated into the wider Lao society and economy, and have a history of good relations with other ethnic groups in the area.

7.3 Project Components and Activities Impacting Ethnic Groups

577. Impact on Ethnic Groups in the Project Area are threefold:

- i. Resettlement of Hmong villagers from 2LR and Zone 3 and land acquisition in 2UR from inundation of the reservoir and construction areas at the dam site
- ii. Livelihood development activities with adapted techniques for villagers of 2UR, 2LR, and Zone 3
- iii. Worker influx in the construction area

578. Land Acquisition impacts by Access Road and Transmission Line are minor and careful alignment of the facilities allow the avoidance of any impact on physical cultural resources. Impact (iii.) is discussed in the SDP.

7.4 Impacts on Ethnic Groups

7.4.1 Cultural Beliefs and Practices

579. As the Hmong in the PIZ have already started the process of change in their cultural and livelihoods practices for many years, Project impacts on affected families may be less than expected. Nonetheless, there are impacts on cultural beliefs and practices, particularly on loss of correctly sited housing, loss of graveyards, and loss of lands that enable them to pursue customary livelihood choices. Additionally, literacy and fluency in the Lao language is limited, particularly among girls and women. Even for those Hmong fluent in Lao, interpretation of concepts and ideas from Lao to Hmong often present a challenge.

7.4.2 Land use Systems

580. A study on women's land tenure rights⁶⁹ noted that "within upland land use and resource management systems, men and women have developed different concepts of gender-specific rights and responsibilities as a method of ensuring sustainability of their livelihoods, of their communities, and of their cultural identities. Among animist communities, the relationship of people to land accessed by an identified group for individual or joint purposes and over which that group might have a collective claim, has an important spiritual dimension which regulates access, gender use, and seasonality of use. These lands have been used by such communities for centuries and the inheritable right to use them is well understood in villages. However, these rights are not recognised in law under the modern Lao state."
581. The Government of Lao (GoL) has taken a position where the Land Law applies to all citizens of Lao PDR. Differences among and between ethnic minorities in Lao PDR are too great for statutory law and policies to accommodate. However some traditions and practices are in line with the Land Law, while others are not.
582. The fragility of different systems is demonstrated by their ability to respond to external influences. Where these can be absorbed and cushioned, land use practices are maintained and gender-specific customary use observed. Where they cannot, the focus of custom and practice shifts as do perceptions of land and property rights. Sometimes this provides more customary and gender equity over land and property resources.
583. Impacts on land use systems will be total in Zones 2 and 2LR, and to some extent in Ban Pou in Zone 2UR. In shifting to the resettlement site of Houaysoup, the land use system will change with increase in irrigated sedentary agriculture and decrease in shifting cultivation. Because of severe constraints in the country at large on available land, forests and other natural resources due to population growth, pioneering slash-and-burn, and widespread award of land concessions to foreign investors, national policy is to limit swidden agriculture. Agricultural activities promoted in the NNP1 resettlement communities will be based on rice paddy, environmentally sustainable, multi-cropping in settled upland agricultural plots, and sustainable livestock management.
584. A major change on customary practices will be the promotion of statutory gender equity over tenure rights and responsibilities in the resettlement area (see section 7.6.3).
585. Further constraints on the usage of the watershed area in the reservoir area will be experienced via the environmental programs of the Project. This will mainly affect the limitation of extension of existing rubber plantations and usage of chemicals in these plantations. In the resettlement site, alternative forest areas are available and at the same time a sustainable usage of the watershed management area will be promoted. Details of activities and programs in the watershed are included in the Project's Watershed

⁶⁹ Elizabeth Mann & Ny Luangkhot, *Women's Land and Property Rights under Customary or Traditional Tenure Systems in Five Ethnic Groups in Lao PDR*, Land Policy Study No. 13 under LLTP II, GTZ Lao-German Land Policy Development Project, 2008

Management Plan.

7.4.3 Livelihoods

586. Traditional livelihoods practices will be affected by land loss and restricted forest use in the watershed. At the request of PAPs, the Project will respect traditional rice farming practices and work to extend existing knowledge and practice with the objective of improving yields, ensuring sustainable farming methods, and gaining food security, as described in Chapter 6.
587. A key concern expressed by resettlers from Zone 2LR concerns the soil quality of the Houaysoup resettlement site. The Project has started to address these concerns through conducting soil analysis, establishing a demonstration farm, and inviting both men and women from 2LR affected households to visit the site. Some households of the Zone 3 village of Hatsaykham are already cultivating land in Houaysoup, and the earlier resettlement of affected people from this Zone will be a good opportunity to demonstrate the Project's livelihoods support program in practice.

7.4.4 Customary Gender Patterns

588. Hmong culture traditionally follows a patriarchal and patrilocal social structure, with overall decision making powers, property and tenure rights remaining in the hands of men. The Project's principles of gender equity have to be reconciled with customary practice, while being consistent with both statutory national policy and law, as well as with international safeguards standards. Following separate discussions with Hmong women in affected villages, the Project will adopt a principle of gender equity where it may conflict with custom.
589. Many Hmong adults, and especially women, have little or no formal education and are illiterate or functionally illiterate in Lao language. This presents barriers for effective interaction with government officials and other outsiders, including many groups who provide social and economic development services and the project itself. This potentially leaves Hmong women, at a disadvantage, unable to take full advantage of the social and economic development opportunities and often open to exploitation or being taken advantage of by outsiders. Project measures to overcome these barriers and to ensure women's full and informed participation in Project consultation processes and programs are more fully described in section 7.6.

7.4.5 Tenure and Property Rights

590. The GoL has a number of a number of legal instruments governing land, property, inheritance and ethnic groups, as well as policies which have consequences on how men and women in Laos make decisions over land, property and inheritance. These laws are presented in Chapter 3.
591. In Laos, all land officially belongs to the state, which has the right to compulsory acquire or dispose of land as it sees fit. The Constitution (Article 5) also confirms the State's responsibility to protect the legal interests of land use rights holders. The amended Land

Law specifies that a Land Title is now the only legal document "considered as main evidence for permanent land use rights" (Article 49). This means that until eligible land is titled, all other documents may not provide permanent tenure security. In the past ten years or so, individual land and property tenure rights have been recognised by the state, and land title for housing and agricultural land is now accessible. However, land titling is typically confined to urban, semi-urban, and accessible villages, and the more remote villages such as those in Zones 2LR and 3 do not have individual land titles.

592. Community land is an even more difficult issue in Laos, and while rural villages usually have substantial community lands including grazing, forestry and public use (e.g. schools, meeting halls, etc.), forest and land legislation are quite generalised and do not provide categories which reflect ethnic groups' indigenous knowledge of different land types, nor soil and environmental differences, nor local land management systems. "Communal" land, over which a village community may have a customary or collective claim, is not recognised in law, and all land not registered to an individual or organisation is classified as belonging to the state⁷⁰.
593. Both individual and community land tenure, land use and property rights in Hmong communities of the PIZ are mostly secured informally at village level. The Project acknowledges these customary rights and the responsibility to address impacts on these rights in a culturally appropriate way. As women do not have land or property ownership rights under patrilineal inheritance practices among Hmong, some adjustments will be made by the Project to ensure women will be able to understand and choose a more gender equitable approach to land and property tenure. The measures are described in section 7.6.

7.4.6 Forest Use and Hunting

594. The impoundment of the reservoir will impact forest use for PAPs of Zone 3 and 2LR. Forest land has been identified at the resettlement site and has been designated for resettlers exclusive use. Some forest area above full supply level will still be accessible after impoundment across the reservoir. Forest use in the watershed will comply with the national framework on watershed areas and the Project's Watershed Management Plan, which includes prevention of illegal hunting and logging activities. Forest use in Houaysoup will be managed under agreements with PAPs arrived at as an output of PLUP.
595. A further risk to current and future land resources of resettlers are illegal activities by labourers belonging to the Contractor and sub-contractors' workforce. Collection of NTFPs and hunting, i.e. the usage of community resources, is prohibited under the Code of Conduct which every worker is required to sign. The Project is also strengthening its internal monitoring as well as that of public authorities, to prevent illegal activities in and around the construction site.

⁷⁰ Mann & Luangkhot, op cit

7.5 Consultations with Ethnic Groups

596. Consultations with ethnic groups in the PIZ have been taking place since the first feasibility studies in early 2000, with increasing information collection and dissemination since 2007. More active involvement with affected Hmong communities has happened since signing of Concession Agreement and preparation of social planning documents. Chapter 8 describes the full public consultation and disclosure process in more detail.
597. During public consultations from 2013 onwards, care has been taken by the Project to ensure that
- i. all community discussions with Hmong are conducted in the Hmong language;
 - ii. separate women and men's discussions and resettlement site visits have been organised ;
 - iii. environmental information and Zone-specific Detailed Entitlement Matrices have been translated into Hmong language for easier reference to village elders;
 - iv. 3D models of the resettlement site development have been prepared and used in good faith negotiations for PAPs in 2LR and 3;
 - v. visits have been facilitated by the Project for PAPs from these two impact zones (both men and women) to Houaysoup;
 - vi. Hmong staff have been recruited to work full time on Project activities.
598. Meaningful consultations with Hmong communities have thus been undertaken over several years to solicit their participation in designing, implementing and monitoring measures to compensate and mitigate Project impacts.
599. Hmong communities affected by the Project have provided their endorsement of project activities, and have confirmed they are ready to physically relocate and that the natural resources on which they currently rely will either be lost or have restricted access in future. The process of obtaining Broad Community Support (BCS) from these communities is described in the following chapter.
600. At the same time, communities in Zone 2LR and 2UR have freely expressed their concerns. The Project has responded to these concerns positively, as reflected in the adjustments made to compensation entitlements, livelihoods development programs, and mitigation measures; including the option of self-relocation with cash compensation for those who do not wish to move to Houaysoup.

7.5.1 Resettlement Site Selection

601. One of the most important concerns raised by PAPs in Zone 2UR, Zone 2LR, and Zone 3 has been selection of the Resettlement site.
602. The main consideration for the Project in the selection of a resettlement site is to have an area able to support all affected households requiring resettlement, and which is acceptable to both affected communities – whether relocating or host – as well as to district authorities

and the PRLRC. The Project has encountered difficulties in identifying a site fully acceptable to both GoL as well as to all PAPs.

603. In Zone 2UR, the original intention of GoL was to relocate all affected people to the Nam Pha site to create a new village of mixed ethnicity. This was not well received by PAPs, many of whom were reluctant to leave remaining lands and houses that would be unaffected by the reservoir, and with Lao-Thai ethnic households reluctant to co-reside in the same village with Hmong households.
604. Based on consultations with PAPs, the decision was reached not to relocate to Nam Pha but to relocate within existing villages, enabling PAPs to continue either living in their unaffected houses or cultivate unaffected land. Although moving within existing villages will be more cost effective for the Project as well as preferable to PAPs themselves, it will present livelihood restoration challenges to find suitable replacement land or develop replacement land of the same productive quality. Project staffing structure and strategies therefore will be different in this impact Zone than in others.
605. The following resettlement sites have been considered for 2LR and Z3:
- Samtoey area, Vientiane Province (for 2LR)
 - Phalavaek area, Vientiane Province (for 2LR)
 - Phukatha area, Vientiane Province (for 2LR)
 - Pha-Aen area, Vientiane Province (for 2LR)
 - Nam Choi, Bolikhamxay Province (for 2LR)
 - Hat Gniun, Bolikhamxay Province (for Z3)
 - Houaysoup, Bolikhamxay Province (for Z3 and 2LR together)
606. Originally the 4 communities from 2LR were to be resettled separately from those in Hatsaykham as well as from each other. However, the inhabitants of all 4 villages expressed the preference to stay nearby. This option was not possible in the immediate vicinity of their existing villages of 2LR as land was not available. After inundation, only land above 320MSL would be available which is high upland. These were not considered suitable for resettlement nor for future ability to sustain and improve livelihoods. .
607. Because resettlement of whole communities across provinces is no longer recommended nor supported by the policies of Vientiane Province and Bolikhamxay Provinces, only areas within the same province as the villages to be resettled were initially considered. The list of recommended sites with the potential to hold a large community was established in consultation with affected communities and GoL. Those presenting the greatest potential were the Samtoey area, the Phalavaek area, the Phukatha area, and the Pha-Aen area.
608. Samtoey area at first appeared promising since it was an old settlement of some of the people now in Zone 2UR. However, there were several drawbacks for this choice:
- The area is located in the mountainous region with high altitude and in a deep forest. Because it is remote, it is difficult to reach. Building a long access road to the area and development of a resettlement site there would be difficult.
 - The area is rich in biodiversity and with dense forests. Clearing land for

agriculture and for a new village or villages would lead to very high environmental impacts, with destruction of considerable forest area and reduction in biodiversity.

- Relatively suitable flat area is insufficient as productive land is limited.
- There would be high risk of pioneering slash and burn being re-introduced.

609. The Phalavaek area was promptly discarded after an initial site visit with representatives of the affected communities and GoL. Phalavaek is an area that already has a high population density and there would be little extra productive land available for distribution to the newcomers.
610. The remaining potential promising areas were in the valley of Pha-Aen and Phukatha. These areas are located in the same valley and connected with each other. The relatively flat land appropriate for agriculture stretches for about 30 kilometres, giving potential to expand the resettlement area along the access road between each of the existing communities. The creek, Nam Pung, that runs parallel to the access road, has potential to supply enough water for the new community. However, these areas are being occupied by uncontrolled immigrants, and a part of land is in the National Biodiversity Conservation Area (NBCA) zone. As a result, representatives of the affected communities decided that another area would be needed.
611. Some of the sites the affected 2LR communities had in mind were located in Bolikhamxay Province. After discussion between Vientiane Province and Bolikhamxay Province governments and the developer, it was finally agreed that the 4 communities could be resettled across provinces. One site suggested by PAP representatives was rejected by Bolikhamxay Province as being allocated to another project. After further consultation, the Houay Soup area, located on the opposite bank of Ban Hat Gniun in Bolikham district, Bolikhamxay Province, was selected as the most appropriate resettlement area. This area was extensively studied and enlarged in size to 6000ha from allocation of 2000ha, to have sufficient land available for livelihood activities.
612. The sub-village of Hatsaykham (administratively a part of Hat Gniun), which will be inundated by the re-regulating reservoir, was originally planned to be resettled near the main village of Hat Gniun. However, after the Houay Soup area was selected as the resettlement site for the 4 communities of 2LR, the people of Hatsaykham requested to join the main resettlement area as well, as they prefer to join their fellow ethnic Hmong from 2LR, some of whom are also relatives.
613. Despite this long history of site selection lasting over several years, some PAPs are still not fully satisfied with the current site. While there is agreement on a number of positive characteristics, including size, access to forest resources, access to markets, and infrastructure which will be provided, diverging opinions exist on the suitability of the soil in the Houaysoup area. While research at the demonstration farm outlines that with limited, non-chemical inputs soil improvements can be reached with the same or better results as currently in 2LR, where people improved their rice fields over several decades and with an additional irrigation system, rice production can perform on a stronger level than in 2LR, some PAPs are not yet convinced by the plan of soil improvement.

614. The Project has responded in three ways:
- i. resettlement of Hatsaykham will become a pilot program and good performance of soil improvement and productivity will enhance the trust of people in the feasibility of the resettlement site. People of Hatsaykham have no objection to the resettlement site, as they are already currently cultivating in the Houaysoup area.
 - v. Secondly, an early start of livelihood activities programs in 2LR including trials in the area will prepare the PAPs for the resettlement, while simultaneously improving the livelihoods skills of those who may not opt to move to Houaysoup.
 - vi. Thirdly, people demanded the option of self-relocation with cash compensation in lieu of replacement land. Although not acceptable to provincial GoL initially, this option does satisfy criteria in the Concession Agreement, and has now been agreed to by both the Project and the PRLRC. Detailed Entitlement Matrices have therefore been prepared for each impact Zone, taking into account the specifics of each Zone's situation. As outlined in Chapter 6, self-relocation will not be confined to cash compensation for lost assets, but will include livelihood restoration activities and livelihood planning before physical relocation, transitional allowance as a lump-sum, and livelihood activities after physical relocation, and inclusion in the monitoring program, provided PAPs self-resettle within the project area of influence in Hom, Thathom, and Bolikhan districts.

7.5.2 Consultation and Disclosure Process

615. Communication with Hmong PAPs started early on in the process. First consultations were held during JICA's development of feasibility studies in 2000 and consequently information has been collected from PAPs for the development of the draft social documents. However, communication was not always clear, as short-term consultants were providing opinions and differing ideas, and at the same time the Concession Agreement was not signed yet, thus the strategic framework not yet in place. With the elaboration of the Concession Agreement, Annex C and its final signing in April 2013, project information became clearer. At the same time the Project started hiring long-term consultants and staff, allowing the development of a consistent consultation process. Over the last year, many rounds of consultations and negotiations took place with improved methods, including the constant usage of Hmong language and female Hmong facilitators. A safeguards-trained community consultation and development team consisting of Hmong speaking staff furthermore enhanced the Project's capabilities to consult with the ethnic communities. The Project strengthened its capacity to engage in meaningful consultations, not aiming for fast and official consent, but to establish a consultation process acceptable to both Hmong PAPs as well as to the Project, which will extend over the whole implementation period. During this process, agreements were reached and at the same time diverging opinions revealed, allowing a joint approach to improve the Project's resettlement and ethnic development plan and to start its implementation in a cooperative manner. More details, including a list of consultations conducted can be found in Chapter 8.

7.5.3 PAP Concerns and Project Responses

616. The consultation process over the project design period resulted in several design adaptations to comply with the requests and concerns of PAPs. The following table complements the list from Chapter 2 on Project adaptations to minimize impacts.

#	Hmong Villagers Concern	Project Response	Timeframe of consultations
1	Selection of appropriate resettlement sites	Several sites have been assessed together with the PAPs from 2LR	2007-2012
2	Influx of Workers and Impacts on communities	Implementation of mitigation measures outlined in the SDP including a Social Management and Mitigation Program	2010-2014
3	Hatsaykham would like to join the Hmong communities from 2LR	Original plan of relocating villagers from Hatsaykham closer to the main village Hat Gniun has been revised to allow Hatsaykham PAPs to resettle to Houaysoup	2011-2012
4	The new resettlement area should be (a) an independent village, (b) the Government of Lao should transfer the new village land to belong to Hom District and (c) keep the title of a "Competition Combatant Village"	Ad (a), the Project will support the necessary administrative steps; Ad (b) a change of provincial boundaries (now with Xaysomboun) can be requested with support by the Project, but it is ultimately a GoL decision and unlikely Ad (c) the Project will support this and there is a general agreement among the RMU to also support this request	2011-2012
5	The reservoir clearance and cutting of economic wood must not exceed the water level (flood level)	The requested issue is clearly stated in the contract between the developer and GoL and biomass clearance is just allowed for inundated areas.	2011-2012
6	Propose project developer to extend rice supplement program from five to six years	The Project agreed to a rice supplement program of 5 years; worried about potential dependences created by such programs if lasting too long. At the same time the Project agreed that if an additional year is needed, GoL will address the Project for support. The rice supplement program should be seen as one aspect of the overall livelihood restoration support with a focus on enhancing ownership and independent livelihoods.	2011-2012
7	Beside the other village facilities which the project developer will construct, we also propose the project developer to construct village hall, this can be used as meeting hall, social activities shows (dancing show), culture and for other cultural events.	The Project agreed to this request and will construct a village hall in the resettlement site	2011-2012

#	Hmong Villagers Concern	Project Response	Timeframe of consultations
8	Propose to expand the agriculture land to Houay Khee Guak area, also help and facilitate Mr. Thongphet to meet national committee to explain on villagers concerns.	Land allocation for the Houaysoup resettlement site has been increased trifold to 6000ha. Mr. Thongphet was able to meet with national authorities several times and additional the villagers were able to deliver letters to the National Assembly, containing their requests ; The Project is acquiring the necessary allocation certificates for the resettlement site for the people of 2LR and Zone 3	2011-2014
9	Propose Government to reserve the protection rights, the rights for land use and villagers' assets which will remain above full supply level (Livestock raising land, gardening land and others land)	PAPs are allowed to continuingly use these areas in a sustainable way if not creating negative impacts on soil, water, forest, and environment in correspondence with national legislation and the corresponding watershed management plan.	2011-2014
10	Soil Conditions in Houaysoup	Demonstration Farm and several site visits by PAPs; soil improvement starting in 2014;	2011-2014
11	Propose Government to allow villagers for fishery priority (fishing, selling- and buying fish) in the reservoir of NNP1 and giving rights for management of forest in the area of existing village.	The usage of the reservoir is regulated by public authorities, which did not provide a definitive answer on the request. The Project supports the rights of PAPs on the reservoir, amongst others with a fisheries-co-management program.	2011-2014
12	The project developer should compensate paddy land by cash to each individual land owner before the resettlement, when they arrive to the new resettlement village they can also have land provided by the project developer.	GoL requests compensation in line with Decree 192/PM. Following this instruction, the Project suggests a formula which guarantees all PAPs replacement paddy fields equivalent to what they legally own and in the case of lands under customary use, what is allowed to be legalized under law, and for landless PAPs a minimum number of paddy fields in the resettlement site. This will be increased depending on the number of people opting for resettlement to Houaysoup and those opting for self-relocation to places of their choice. This entitlement is outlined in the Draft Detailed Entitlement Matrix and will be adapted according to the negotiations between Project, GoL, and PAPs.	2011-2014
13	Propose project developer to compensate all affected assets before the resettlement as well as supports on transportation of all moveable assets of villagers to the new resettlement village.	The Project will compensate all affected assets as outlined in the Entitlement Matrix either in kind or in cash. Support for transportation has been integrated into the Detailed Entitlement Matrices	2011-2014

#	Hmong Villagers Concern	Project Response	Timeframe of consultations
14	Propose for agriculture land allocation to villagers at the same time as project construction period in order to allow villagers to clear the land and start planting other cash crops before the resettlement or resettlement earlier than planned.	The Project suggests improving soil before allocation of land in the resettlement site. PAPs will be included in the soil improvement program and a regulated and fair land allocation shall take place afterwards. The Project targets resettlement for 2017, one year before impoundment, allowing for a smooth transition.	2011-2014
15	Propose for job opportunities for 4 affected villages (especially the job which can be done by villagers) this will allow villager for better income.	The livelihood activities program includes a component for off-farm activities. Furthermore, the Labour Management Plan outlines measures to facilitate hiring local workers.	2011-2014
16	The village head man of Ban Nong/Sopyouak also proposed: The project developer and government must take back the rights of land use of Hat Gniun villagers and other villagers who stay in the new resettlement area and leave this land available for the newcomer (who will move to new resettlement site), this is to prevent other villagers living mixed with the new project resettlers.	After initial discussions with different ideas if existing land use should be continually tolerated or compensated and re-allocated, it has been decided that the Project will compensate all existing land users in the resettlement site, so that the full 6000ha can be handed over to the PAPs from Zones 2LR and 3.	2011-2014
17	Residential Area in the resettlement site	Change of resettlement layout to comply with villagers' choice of area	2013
18	Illiterate Hmong women fear not to understand the processes in the new resettlement site closer to urban areas	Resettlement preparation activities including trainings and literacy classes. Adoption of visual communication methods suitable for non-literate and appointment of female Hmong facilitators	2013-2014
19	Sustainability of Resettlement	Land development prior to resettlement; trials and pre-resettlement trainings; provision of a wide range of livelihood activity options in the resettlement site	2013/2014
20	Opportunities at the Resettlement Site especially for children and young adults	Establishment of school facilities up to high school; vocational training programs; scholarship program; on- and off-farm livelihood programs access to urban areas access to information technology infrastructure	2013/2014
21	Request for investigating land in Khammouan Province as potential resettlement site	GoL rejected resettlement to an area several hundred kilometres away	2014
22	Request for re-investigating land close to Phalavaek, amongst others supported by district officials in Phalavaek	The Project investigated together with GoL the area, and while there is residential land available close to Phalavaek town, there is little agricultural land available; definitively not for all four	2014

#	Hmong Villagers Concern	Project Response	Timeframe of consultations
		villages of 2LR. The Project will support further investigations to analyse potentials of the area for self-resettling households.	
23	Self-resettlement and cash compensation	The Project agreed to three options for resettlers with PAPs and GoL: resettlement to Houaysoup, self-resettlement within the Project area of influence with follow-up activities by the project, and self-resettlement outside the Project area of influence with no follow-up by the Project; agreed criteria apply to each option to ensure economic viability of resettlement	2014
24	Younger people would like to split from their relatives and move to the resettlement site	The Project agrees to household splits as long as this does not cause the establishment of vulnerable households; several options are possible: <ul style="list-style-type: none"> i. both new households move to the resettlement site, ii. both new households self-resettle, iii. one new household resettles to the resettlement site, the other household self-resettles 	2013-2014
25	Request for several community support activities in the existing villages	Provision of solar power panels to Houaypamom; provision of school equipment for Namyouak and Sopyouak; improvement of water supply system in Soppuane; livelihood activities program will start mid of 2014	2014
26	Self-monitoring of PAPs	The Project has hired a Deputy Manager for Social Monitoring and will integrate the suggestion into the detailed monitoring action plan; for fish-catch-monitoring, self-monitoring by PAPs will be essential	2014

Table 45: Consultations, PAPs’ Concerns, and Project Responses

7.5.4 Broad Community Support

7.5.4.1 Requirement for Broad Community Support (BCS)

617. Although the Hmong of Zones 2UR, 2LR and 3 have integrated their economic activities broadly into the broader settled Lao economic model, and the basis of their livelihoods does not differ from that of majority Lao in the same circumstances, their lifestyles and cultural practices continue to define ethnic identity. This is notable among Hmong by funeral and death ritual practices, which make other ethnic groups unwilling to relocate to live in the

same villages, as expressed by PAPs in Zones 2UR and 3⁷¹. Additionally, sites associated with Hmong spiritual customs and identity such as graveyards, will be affected by Project activities and will need spiritual ceremonies to be conducted at the Project's cost, physical relocation is required, and commercial use of PAPs natural resources in the form of the dam, reservoir and associated infrastructure will occur. The Project has therefore taken the position that BCS is required under ADB's SPS (SR3), and consultations were undertaken to ensure this is obtained.

618. The Project has worked on consultations since 2011. From June 2012, more emphasis was given to arriving at BCS, and a more structured consultation process towards this started in August 2013. Impacts/risks, mitigation measures and benefits were explained to affected communities, a video record kept, and records of meetings were signed by communities agreeing in principle to the Project going ahead. Copies of these minutes have been included in the revised REDP. All villages now express the wish to enter good faith negotiations. Communities reported this was the first opportunity for them to express their opinions, and they have been informed that their concerns will be listened to.
619. Assessment of BCS is based on meaningful consultations with PAPs, a strong mutual information base, integration of people's knowledge, requests, and traditions into the mitigation plans, the development of culture-sensitive livelihood options and plans, and last but not least the collective expression of consent with the project to go ahead as reflected in minutes of meetings. This process was well documented to allow its verification by external monitoring agencies. Detailed documentation can be found in Annex A and in pictures, audio files, and videos showing strong discussions among the stakeholders, requests by PAPs, and finally agreements on a common position to move forward.
620. The Project has demonstrated how it has involved ethnic groups in preparing social safeguards documents, including the SIA, SDP and REDP, and will fully involve Hmong communities in implementing the SDP and REDP. The REDP reflects the Project's response to expressed concerns of ethnic groups through the revision of resettlement procedures and mitigation measures, to better meet a Project design that is more culturally appropriate and also exceeds what local unaffected communities and land users are receiving. These measures are more fully described in section 7.6.

7.5.4.2 Process and Outcome of Broad Community Support in Zone 3

621. For Hatsaykham, BCS is needed, as the Hmong community has to resettle. As for other impact zones, during the early phase of the project with no Concession Agreement signed, just limited information was available and accordingly consultations rather vague. However, Hatsaykham early on was satisfied in general with Houaysoup as the resettlement site; currently large parts of their agricultural areas are already situated there, thus allowing the community to continue their previous agricultural life. Initially the plan was to relocate the houses inside the village boundaries of Hat Gniun (the main village). As Houaysoup became the most promising choice for resettlement of villages from 2LR, people in

71 Lao residents of Hat Gniun (Zone 3) do not want to live with Hmong, neither do Tai Dam or Lao APs in Zone 2UR villages

Hatsaykham expressed their wish to move with the other four predominantly Hmong communities as a fifth village into Houaysoup. Even though this would be no longer relocation inside village boundaries, the resettlement impact for Hatsaykham would be limited, as the new resettlement site is even closer to the current village than the actual main community of Hat Gniun village, of which Hatsaykham is currently an administrative sub-village. Additionally, people from Hatsaykham already use land on the other side of the Nam Ngiep in the Houaysoup area for agricultural production.

622. Resettlement and consolidation with 2LR affected communities in Houay Soup would allow Hatsaykham PAPs to gain the advantages of the new resettlement site: water and electricity, new houses, developed paddy fields and further land for cash crop and forest production, and last but not least a series of community facilities: an extended school up to secondary level, health facilities, a market, and a renovated, all-weather-road towards Pakxan. These changes will considerably alter lives of PAPs from Hatsaykham, and be accompanied by livelihood restoration programs provided by the project, towards a positive development.
623. Their main concern is that villagers from 2LR might not join in Houaysoup and consequently the Project would not implement all entitlements; their target is that the resettlement site should develop into a small town. The Project will provide provisional infrastructure already before early resettlement and thus material evidence that their entitlements will be implemented.
624. Due to this clear positive balance, people from Hatsaykham have expressed their support of the project on an early stage and have since then continued to cooperate with the project. This included regular meetings of Hatsaykham elders with people from 2LR, explaining the topography, the possibilities, and the challenges of the Houay Soup area.
625. In April 2014, the Detailed Entitlement Matrix for Zone 3 was disclosed in Hatsaykham. People are satisfied with the entitlements and have requested that its implementation should follow the compensation process as applied during the compensation for the Access Road. They requested that existing assets in Hatsaykham should be carefully assessed and compensated if they cannot use the specific plot any longer. They furthermore discussed house designs and will provide further input over the coming months, when replacement housing is under construction. PAPs also requested the Project to engage strongly in mitigation of impacts from the start of construction. The Project will form a team for this purpose, starting work in June 2014, prior to main site construction.
626. Broad Community Support has thus been ascertained for Ban Hatsaykham.

7.5.4.3 Process and Outcome of Broad Community Support in 2LR

627. Communities in 2LR were constantly consulted with since the early project phases and more frequently since 2011; but during the early discussions, these consultations initially assessed the support of the project with limited information. Key questions could not be answered in detail, including entitlements, resettlement plans, and livelihood options, as no Concession Agreement was signed. Thus, it was difficult for the communities to take a decision on the project. Despite the affected villagers support for the GoL development policy they were not confident in making a decision at this stage.

628. As soon as the CA was finalized and approved by GoL and Company, the social team explained the project scope and entitlement in details. Since August 2013, impacts and entitlements have become clearer to communities, and agreements by the Project to PAP requests have been confirmed. Among communities affected by the Project have now no objection to either physical relocation or commercial use of natural resources, and BCS has been obtained. Details of this agreement can be found in Annex A.
629. ADB's SPS requires the conduct of meaningful consultations with ethnic groups to solicit their participation in designing, implementing and monitoring measures. If PAPs have serious differences and disagreements in relation to the project or its components, the Project must undertake good faith negotiations to resolve such differences and disagreements.
630. Several concerns were expressed by PAPs of 2LR, primarily those who were sceptical of the feasibility of the soil conditions in the Houaysoup resettlement site and demanded either an alternative resettlement site or cash compensation and self-relocation. As all other alternative resettlement sites had been explored over a period of several years, and Houaysoup was the final site agreed by GoL, this option was no longer available. However, the Project conducted good faith negotiations to address dissenting opinion, and has offered the option of self-relocation with cash compensation, thus satisfying SPS criteria. The Project is also committed to prepare PAPs for self-relocation, to continue livelihoods support and monitoring for those relocating within the project area of influence, and to ensure that sustainable livelihoods have been established. This option is acceptable to those PAPs who do not wish to move to Houaysoup. In addition to allay concerns about soil quality, the Project, in cooperation with Hatsaykham sub-village, which will be relocated in early 2015, will demonstrate measures to improve productivity of land in Houay Soup during the 2 years prior to physical relocation of affected people from the lower reservoir; convincing more people to relocate to Houaysoup.
631. During good faith negotiations in Zone 2LR more diverse voices and options were expressed to the Project, with poorer households and younger people supporting the choice to move to Houaysoup. Richer PAPs with acquired land and business interests elsewhere in the district prefer to stay in the area. The latter are the dominant voices during village consultation meetings. Both opinions have now viable options to address impacts.
632. PAP confidence was further encouraged by feedback received from Hatsaykham village on the process of land acquisition and compensation related to access roads. The robust and transparent process has improved their perception that the Project will both undertake the relocation procedure in a proper manner and will deliver the entitlements it has promised.

7.5.4.4 Process and Outcome of Broad Community Support in Zone 5

633. The last directly and significantly impacted communities discussed in the REDP are the host villages of Ban Hat Gniun and Ban Thahuea, as they are closest to the construction site and the potential resettlement area of Houaysoup. Field surveys, interviews and public consultations were held with these communities. Their attitudes and opinions about being a host community, with possible adverse and positive impacts, were solicited.
634. Host communities have no objection to villages from Z2LR and Z3 relocating to

Houaysoup nor to Houaysoup becoming a separate administrative unit. Hatsaykham has been a sub-village of Hat Gniun for some decades and people of both communities know each other quite well, regularly participating in social events or activities of each village, while the children of Ban Hatsaykham continue their final years of primary education at the Ban Hat Gniun School. Some community resources will be shared between host and relocated villages, such as schools, clinics and roads, while others will be exclusive to the resettlers, including agricultural land and forests. The river will act as a village boundary on both sides.

635. Their attitude is positive towards resettlement site development, expressed during village consultations:
- i. The people of Ban Hat Gniun welcomed the development during public consultations. They see it as an opportunity to raise their living standards through new livelihood opportunities;
 - ii. They look forward to the problem with road transportation during wet season to be resolved with construction of a new all-weather access road;
 - iii. The introduction of a secondary school and clinic to the area (which will be shared between all seven communities) will ease the current need to travel long distances for these services, as the concentration not only allows new buildings but also gives GoL the opportunity to concentrate resources and provide staff to these community facilities;
 - iv. Electricity provision is another service that they have long required;
 - v. Improved market proximity and better transportation will also stimulate the local economy;
 - vi. They welcome the development program, especially training in various land based and non-land based skills, to which they are entitled as host communities.
636. In term of impacts from construction of the project, the following issues were raised by the host villages;
- i. Social disturbance; drunkenness, cultural difference and possible cultural conflicts with the construction workers – these were issues raised, but at the same time felt to be manageable.
 - ii. The people expect to have the opportunity to work as unskilled or semi-skilled labourers or other jobs for the dam construction and operation.
 - iii. Impacts from noise, dust, and water quality (in the Nam Ngiep) are expected, but again anticipated that the project is able to manage it.
637. Lastly, some households of the two villages use land in the prospective resettlement area. Accordingly, these households are entitled to the same compensation, livelihood restoration, and monitoring programs as the resettled households. Detailed Entitlement Matrices have been discussed in the village and as well during the national consultation, where people from all areas joined. PAPs from Z5 are satisfied that the Project finally goes ahead after many years delay. Concerns include the social impact of workers' influx, dust, and fast driving of trucks. The Project is implementing a Labour Management Plan (see SDP for details) and is starting a social program for the construction site. It has immediately

increased the frequency of road-watering and is installing speed bumps at the entrance of villages.

638. Broad Community Support has thus also been ascertained for the host communities Ban Hat Gniun and Ban Thahuea.

7.6 Measures to Mitigate and Address Concerns

7.6.1 Revised Entitlement Matrices

639. To clarify the entitlements outlined in the Concession Agreement and to adapt them to the local context of the different zones, the Project has developed Detailed Entitlement Matrices, for each zone (see Chapters 11-18). These entitlements incorporate requests from the PAPs, and Project obligations under the CA and international safeguards requirements, including support for poor and vulnerable households and transitional support over the time of physical relocation.

7.6.2 Project Staffing

640. The project has engaged ethnic Hmong staff in key positions of the Social Management Office (SMO) of the Environment and Social Division to work regularly with affected Hmong communities. This includes female staff, as many Hmong women have no working knowledge of Lao language and need translations, including gender-segregated discussions. For new positions within SMO, knowledge in Hmong language is mentioned as an additional asset taken into account during candidate evaluations. The senior community relations teamleader guiding these teams is a female Khmu.
641. An anthropologist with expertise in Hmong culture is currently being hired by the Project for resettlement preparation and support while resettled communities adapt to their new surroundings, to help assure that all aspects of the process, including follow-up livelihood interventions, are conducted in ways that respect the traditions and cultures of the affected communities. This expert will also assist in other zones of the project where there are ethnic minorities. She will be engaged under the Social Management Office of the ESD.
642. The Project's Independent Advisory Panel, consisting of 4 persons, includes a specialist in Hmong culture. He is regularly in contact with the ethnic groups in the Project area, with a focus on 2LR and Hatsaykham, and advises the Project on implementation of appropriate resettlement and livelihood activities.

7.6.3 Gender Rights

643. The Project is applying a principle of gender equity to all Hmong men and women in compensation processes, mitigation measures, and livelihoods support programs. Specific steps to ensure such equity includes:
- Inclusion of women's views in consultations during village consultation meetings and via separate men and women's focus group discussions as well as of women's

- participation in inter-village and provincial and national consultation meetings
- Inclusion of women to visit the Houaysoup resettlement site
 - Joint spousal authorization and receipt for compensation documents
 - Joint bank accounts in the names of husband and wife
 - Land tenure documents in both, husband's and wife's name
 - Family entitlements including separate housing for second and third wives
 - Land tenure in the second and third wife's names and a second named family member of the wife's choice, to reduce vulnerability related to their status as second and third wives
 - Consultation of women as well as of men to develop appropriate design and inputs to livelihoods programs
 - Adult literacy programs for women
 - Higher primary and secondary school attendance of girls
 - Health programs focusing on maternal and child health
 - Women included on village grievance committees

7.6.4 Resettlement Site Landuse Zoning

644. The resettlement site will be entirely dedicated to PAPs of the Hmong ethnic group, who are the main beneficiaries of all social and livelihoods support programs. Shamans from Zone 2LR have already visited the site, conducted spirit ceremonies, and declared the area suitable for relocation.
645. While the Project prepared a draft analysis of possibilities regarding land use in the resettlement site based of conditions and technical solutions, PAPs have been, and will continue to be, closely involved in the planning of land use through PLUP, as described in the previous chapter. In mid-2013, the Project presented a physical 3D model of Houaysoup to PAPs in 2LR and Z3, suggesting a section for the residential area but at the same time requesting PAPs for their inputs. The suggested area was close to the river and accessible to the left bank side. The PAPs argued that they would prefer to stay further up in the hills. The Project agreed with this request and allocated additional financial resources to develop the residential areas with more inputs needed in regards to access roads and land levelling. Further land use planning will take place prior to the relocation of Hatsaykham, to ensure there are no disputes between the five villages. Land zoning and land use planning will be undertaken with villagers from Hatsaykham as well as those households from the 4 villages of Zone 2LR who are opting to relocate to Houaysoup.
646. In addition to land use zoning, all households relocating to Houaysoup will be consulted over (i) their choice of housing style (ii) how many households will split into separate family units (iii) which family units wish to live next to each other, and (iv) correct orientation of the house to satisfy customary practice. Details of the Houaysoup site are more fully outlined in Chapter 14.

7.6.5 Resettlement Site Housing and Siting

647. The Project has prepared several housing designs, including traditional Lao Loum style, traditional Hmong style and mixed styles (see chapter 14). The Project has engaged with the PAPs on the development of these designs and has hired as staff a Hmong architect, which allows close planning to the aspiration and needs of Hmong PAPs. Not all Hmong households are choosing traditional Hmong style houses, as already reflected in existing villages, where some Hmong have built Lao Loum style or mixed style houses.
648. As well as overall house design, the Project takes into account specific cultural characteristics, for example the siting and orientation of the house as well as Hmong traditions of living in compound close to relatives. This is addressed in the design of the residential area, but also during the process of allocating land plots, where the Project will ensure that relatives preferring to live and cultivate lands close to each other have the possibility to do. This will also facilitate Hmong practice of sharing labour between close kin and clan members.

7.6.6 Community Graveyards

649. During public consultations, the loss of graves and burial sites were an important concern of affected people. They requested that traditional ceremonies be performed for each burial site. They also requested that compensation will be made for graves which are less than 5 years old, with the rate of compensation differing according to the age of death of the person, whether they were less than 18 years old or aged 18 and over.
650. This impact on burial sites and graves will be in the 4 villages in sub-zone 2LR, because the sites will be submerged at least 50-70 meters under water after the inundation of the main reservoir.
651. The Project agreed that PAPs are entitled to community graveyards in the resettlement site. Additionally, they agreed to cover the cost of ceremonies associated with relocation of graves or spirits of ancestors. As there are numerous graves and these ceremonies take some time, the rituals will take place well before any relocation is required, commencing with Hatsaykham village. The Project is now aware, after consultations with the PAPs, that the timeline is an important consideration with respect to the Project's overall implementation until physical relocation is planned in 2015 for Hatsaykham and 2017 for 2LR. The Project will develop detailed plans for every community, clan, and household during 2014 and start implementation in consent with the PAPs in 2015 before the rainy season.

7.6.7 Prioritize Women's Adult Literacy and Girls Schooling

652. Details on how to prioritize Hmong women's adult literacy and girls schooling are outlined in the SDP. The Program included in the Gender Action Plan includes:
- Establishing nursery schools to reduce tasks of mothers to free them to participate in other and income generating activities.
 - Improvement of labour saving devices in the home
 - Holding workshops on family planning for both men and women in separate

sessions

- Promoting the target of all girls finishing at least the mandatory level of primary school (Grade 5) into the community agenda, and preferably completing secondary level
- Providing adult education/non-formal education for women including literacy and skill development trainings
- Providing a reserved quota of 40% of post-secondary education scholarships

7.6.8 Improve Women's and Children's Health

653. Ethnic groups have the least access to public health facilities in the national context, which includes the PAPs in 2LR and Zone 3. The Project has developed a Public Health Action Plan, addressing key community concerns and responding to health issues particularly affecting Hmong women and children. This includes a health baseline, nutrition, maternal, reproductive health, and child health programs, and constant monitoring of key indicators during the resettlement phase to mitigate stress situations. Details can be found in the SDP.

7.6.9 Capacity Building

654. Women in 2LR raised the concern of not being able to cope with the proximity to more urban areas and modern facilities. Two key items raised during several meetings were literacy and banking. PAPs raised their concern that speaking Hmong and just little Lao in addition to being illiterate would make communication to new neighbours in the area difficult. Furthermore, most of them have never used banking services and have no understanding of the processes and entitlements relating to bank accounts.
655. The Project has addressed these issues by integrating literacy and family financial training programs, including a section on banking, into their plans. Implementation for the second program has already started along the Access Road, including Hatsaykham, while the literacy program will start in mid-2014.
656. The same concerns were expressed by women in Hatsaykham prior to land acquisition and compensation for access roads. The Project's methodology of repeated explanations, family financial training and guidance at every stage, has proved very popular with women, as have the joint bank accounts. Women reported satisfaction with these steps, and that it has reduced disputes between husbands and wives, and within families, over use of money and of resources. Although initially unfamiliar with bank books, Hatsaykham women are now more familiar with what they are, how they can be used, and the concept of joint consent as to withdrawal and use of compensation money. The prior experience of Hatsaykham is proving a useful pilot model for Hmong families in 2LR who are interested to move to Houaysoup, and the piloting process will continue with the earlier relocation of Hatsaykham to the resettlement site in 2015.

7.6.10 Livelihoods Restoration

657. A concern of the Hmong PAPs is reduction of income sources and consequent potential of

poverty and increase of mental and physical stress as a consequence of Project impacts. As outlined in the previous chapter, a livelihood program will be implemented well before actual impacts, starting from assessment of livelihood options, improvement of agricultural techniques and financial training. Training will not be the only inputs, but stress will be placed on field trials, participatory methods, family livelihoods planning, and training of trainers. Poorer families in 2LR are particularly interested to avail of these opportunities, and are more vocal in their intention to relocate to Houaysoup.

658. The Project will engage in the development of agricultural land conditions by establishing irrigation systems, land development, and soil improvement, as outlined above. The Project focuses thereby on organic materials, avoiding chemical inputs, which have to be purchased from outside. However, fertilizers and pesticides are already in use by 2LR Hmong communities for their rubber plantations, and thus techniques to protect and enhance agricultural production are not new to them.
659. In addition to external monitoring, an internal monitoring team under the SMO will continuously follow up on all aspects of livelihood development, assessing key targets outlined in Chapter 10, and including poverty elimination, maintaining economic parity, and net income improvement. Following recommendations from the international consultation conducted in April 2014, the Project is elaborating possibilities of participatory monitoring, a key element already included in the Fish Catch monitoring program.

7.6.11 Hatsaykham and Zone 2LR

660. The original resettlement plan for Hatsaykham agreed by the stakeholders was to relocate Hatsaykham within the administrative boundaries of Hat Gniun, of which Hatsaykham forms part as a hamlet. Following the decision for Houaysoup as a resettlement site for the villages from 2LR, Hatsaykham requested to move to the Houaysoup area, to be close to their Hmong relatives. This request was explicitly directed to the Provincial Governor by the community and consequently answered positively by the Governor as well as the Company. Some PAPs might still choose to self-resettle into the main village of Hat Gniun as agreed under entitlements already described.
661. During a consultation meeting in July 2013, the Hatsaykham community agreed to be the first community to resettle, to avoid long-term exposure to construction works and to relocate directly to Houaysoup. They did not want to move into a temporary location for 2 to 3 years and then relocate again. Repeated moving would provide the feeling of being transient and not allowing them to establish a home. Accordingly the Project agreed to expedite the development of the Houaysoup site and built provisional infrastructure ahead of the final infrastructure to be concluded before the resettlement of PAPs from 2LR. An additional consideration by the PAPs for their decision is that the distance to move is quite short – on the opposite bank of the Nam Ngiep river from their current village, where many of their agricultural fields are already located.

7.6.12 Joint Spousal Authorization and Receipt

662. The Project promotes the joint spousal authorization and receipt in all cases: ownership rights to properties, rights to receive compensation, rights to participate in training or any development activities as outlined above are for both male and female members of PAP households. Husband and wife must be present at the time of having assets registered and when receiving compensation, and both must give their signatures, or thumbprints for those who cannot write their names, on any legal endorsements, papers or claims. Where compensation payment is made into bank accounts, the account will be opened with the assistance of the Project in both the husband and wife's joint names. Land titles will be issued in both husband's and wife's name or in case of a second or third wives in Hmong households with more than one wife, the respective wife can choose to put her name as well as the names of one of her son's or other family members' name on the document.

7.6.13 Addressing Future Concerns

663. The consultation process has started, and continues, with the intention of being proactive and quick to respond to any future concerns of ethnic groups. The Project has undertaken constant interaction with the Hmong communities, and is already demonstrating its land acquisition and compensation methodologies with Hmong communities along the access road. This has gone far to establish improved levels of trust between the Project and PAPs, and will remain the key to a resettlement and livelihood restoration program sensitive to culturally appropriate benefits and implemented in a culturally sensitive manner.

7.7 *Culturally appropriate benefits*

664. SPS SR3 requires sharing of project benefits in a culturally appropriate way. As most of the PAPs impacted by Land Acquisition and Resettlement, the majority of benefits described in this document goes to Hmong PAPs. In addition to what has already been described, these further include:
- i. Raising income and housing to the nationally defined minimum standards, with a focus on culturally appropriate livelihood and house design choices
 - ii. Offering culturally appropriate livelihood development activities
 - iii. Establishing a cultural awareness program outlined in the SDP
 - iv. Implementing a scholarship program with quotas for (female) ethnic group students
 - v. The agreed payment of 195,000USD per year during the Project's operation period into a community development program shall according to Project policy be used for community driven development and thus available to ethnic groups in the key Project villages. The affected communities shall be involved in the design of this program, as will local public institutions.

7.8 Risk Analysis of Impacts Outside the Project Zones

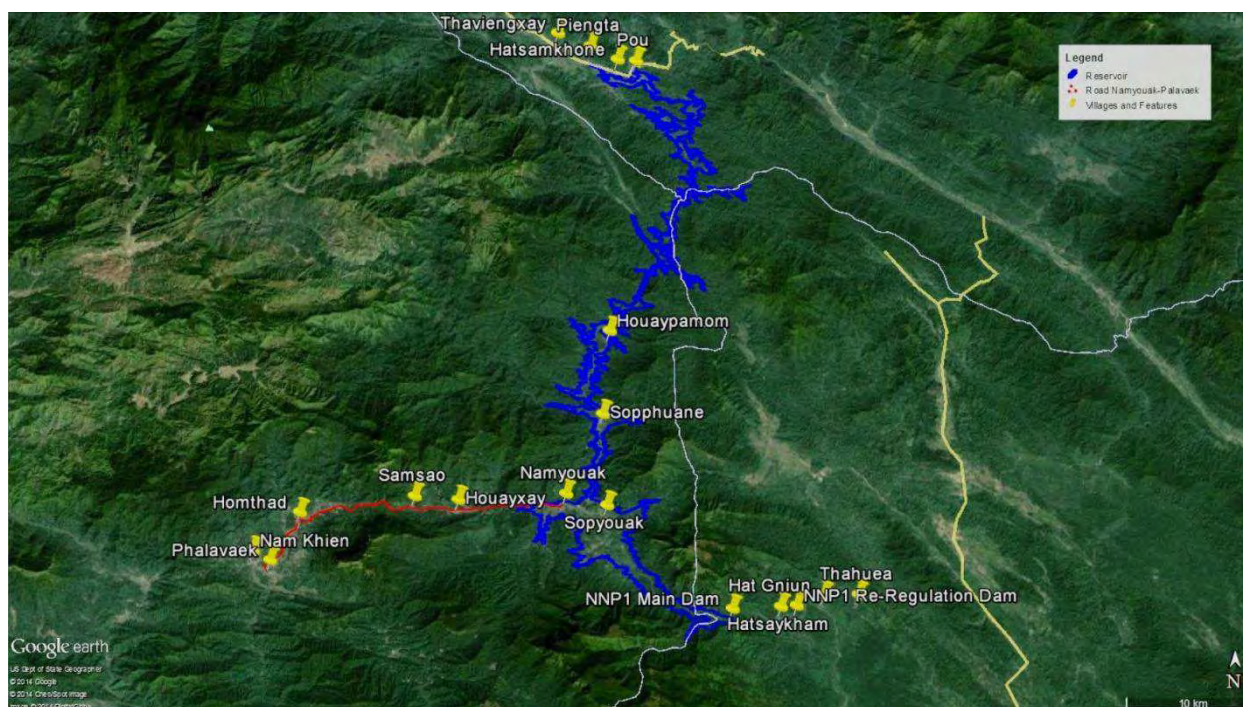


Figure 21: Geographic Conditions of the Reservoir Area

665. As described in Chapter 2, the NNP1 reservoir is very long and narrow, impounding the steep Nam Ngiep river valley extending from the gorge close to Hatsaykham via a basin where the four villages of 2LR are located, continuing as a steep valley all the way to the edge of the reservoir along the plain of the three upper reservoir villages. Given this geographic shape, no access to this area is given from most sides. Mountain ranges in the east and west leave access to the reservoir only open via the river coming from Hatsaykham, via the mountainous road from the Hom district town, Phalavaek, in the west and via the river from the three northern villages of 2UR. The 3D view in Figure 22 underlines the predominance of mountains in the area.
666. Given this geographic characteristic, all impacted villages are located along the river as described for Zones 1 to 5. The five predominantly Hmong communities around the reservoir (Namyouak, Sopyouak, Soppuane, Houaypamom, and Hatsaykham) are described in detail in this Ethnic Development Plan. Three other ethnic group communities (two Khmu and one Hmong) far upstream are divided from the reservoir by several Lao Loum villages of Zone 1 and the three villages of Zone 2UR. They are included in the analysis of Zone 1 in the SIA and are not expected to experience any major impact from the Project, except inclusion in the Project's overall health and community awareness program outlined in the SDP and the Watershed Management Plan (see EIA). The related program of sustainable usage of the Watershed Management Area is further supporting a strengthening and protection of traditional usage of natural resources from external commercial impact.
667. The only other villages with potential access, though very limited, to the river outside the immediate scope of the Project are located along the road to Phalavaek: Houayxay, Samsao, Homthad, Nam Khien, and finally Phalavaek, extending along a stretch of around 40km of

mountainous road. All of these villages are predominantly Hmong. The first village, Houayxay, is located around 10km from the most western village of 2LR, Namyouak. As until recently motorbikes have not been available to most of the villagers, hence, with respect to the natural resources in the project influence zone, they do not access natural resources close to the Nam Ngiep River; making use of own large water and forest resources located around their communities rather than walking several hours to the Nam Ngiep area occupied by the four 2LR villages. It could be guessed that resources in the area may be abandoned after the resettlement of the villages of 2LR and thus open for these other villages. However, villagers of 2LR requested, and the Project responded positively, that access to the areas not impacted by the impoundment of the reservoir will be restored and even after resettlement, villagers of 2LR will continually be able to use natural resources in the area. As the map provided above shows, access via the reservoir from the Houaysoup resettlement site to most of the areas of 2LR will be faster than for people travelling from the villages in the west, divided by several hills. Taken together, no change in the usage of natural resources is expected to result from the Project for the western villages.

668. With respect to impacts on cultural ties, these villages have also limited cultural ties to the four villages of 2LR. The Hmong clan system extends throughout the country and beyond and accordingly families of 2LR are also related to families in these villages. With Phalavaek the capital of Hom District, administrative ties link the 4 villages of 2LR to the other villages in the west, too. However, these ties do not form a close bond. For example, during Hmong New Year (the most important and only broad communal Hmong festivity) the four villages of 2LR celebrate together; formal invitations get extended to public authorities and other villages in the district, but the broad majority of participants come from the four villages only. Accordingly, it is expected that no cultural systems and identities in the west of 2LR get impacted by resettlement of the four villages.
669. Other project activities analyzed for potential impacts on these communities would be biomass removal from the reservoir. There could be increased traffic on public roads due to reservoir logging, however, the concession to log has not yet been awarded. It is therefore not known which roads might be used. Nevertheless, as per CA Appendix C Clause 71, and the EMP, NNP1PC will have the overall responsibility for the implementation of the Biomass Clearance Plan through the following: (i) provision of management, planning and control through EMO; (ii) engaging a Contractor with appropriate technical and management expertise to clear the proposed reservoir area; and (iii) provide training for clearance team staff in operations methods, health and safety, UXO surveys and management, chance Find procedures for physical cultural resources, environmental awareness, etc. Hence, if existing roads which extends from Houayxay, Samsao, Homthad, Nam Khien to Phalavaek will be used or any activity related to biomass removal or influx of workers or camp followers will have potential impacts on communities, particularly issues related to community health and safety, cultural and ethnic impacts and sensitivities, physical and cultural resources etc, these will be mitigated through the various environmental and social management plans such as the Project's biomass clearance plan, traffic management plan, labor management plan and public health action plan under the SDP. Moreover, if there any direct or indirect impacts which might occur on other Hmong

villages on account of the various Project activities, these will be assessed under the Project's commitment to address unanticipated impacts in accordance with the CA and in consultation with district and provincial authorities, and the Project will prepare updated safeguards plans as required consistent with SPS and the REDP. Measures to address unanticipated impacts are also covered in the REDP in the Policy Gap analysis (section 3.1.1) and Section 5.13.

670. Finally, the option of self-resettlement might lead to physical relocation of households from 2LR closer to the district town. However, an analysis has to be related to the choices of the individual PAPs, which will be due just in 2015. The condition of credible sustainability of their self-resettlement plans and approval by public authorities to self-resettlement based on such an assessment will prevent any disruption or adverse impacts on other communities; with the follow-up commitment by the Project being a further reassurance that the Project will closely monitor any potential changes in socioeconomic systems in the districts of the project area of influence to make self-resettlement a success.

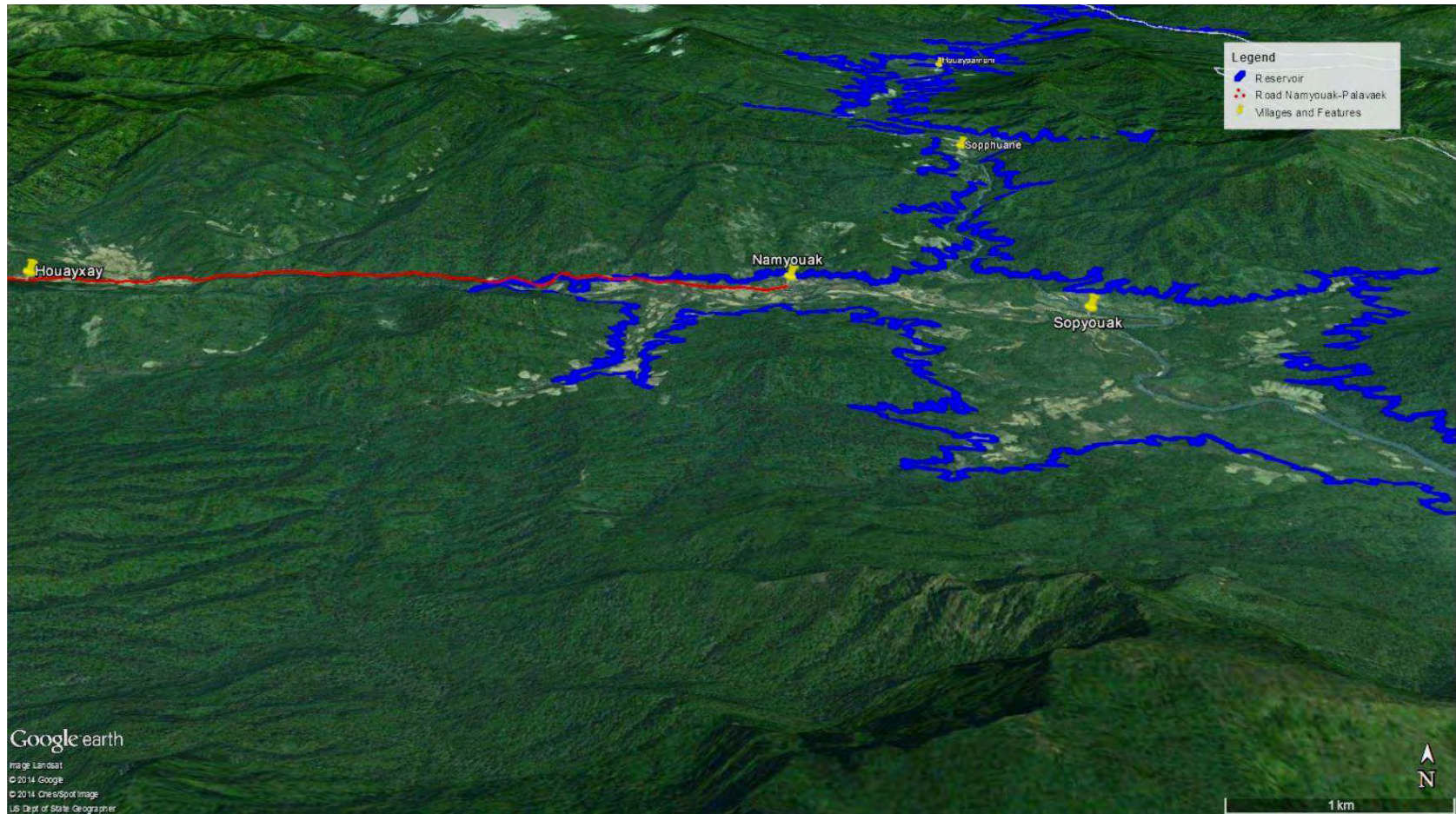


Figure 22: Surrounding Area of 2LR

7.9 Institutional Arrangements for Project Implementation

671. The Project operates within the framework of international and national standards, together with PAPs, GoL, and external monitors. The overall GoL and Company structure is outlined in Chapter 9. Specifically important for the EDP are several components:

- As outlined above, Hmong staff has been, and will continue to be, hired by the Company to allow communication in the PAPs' language
- Internal and external specialists on the Hmong ethnic group support the planning and implementation of the measures outlined above
- The Project works together not just with formal administrative organizations in the villages, but incorporates also traditional leaders
- A specific task, to be implemented by GoL, is the establishment of a new administrative unit in Houaysoup Village. The Project will facilitate consultations between the PAPs and GoL.
- Details on workers-community relations can be found in the SDP
- Further details on resettlement site and resettlement of 2LR and Zone 3 can be found in Chapters 13, 14, and 18.

CHAPTER 8 - Public Consultation, Participation, and Disclosure (PCD)

8.1 Introduction

672. The NNP1 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 on-going 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 Ngiep 1 project in this spirit and will continue to be so.
673. Since 2007, and more intensively since August 2013, there have been numerous public consultation and participation briefings, presentations and meetings, which have taken place at the local, regional and national levels (section 8.5). A dialogue has been established with the various stakeholders directly and indirectly involved in the Project and interested in the Project’s public consultation program (see section 8.2). This process has led to the consent of the affected households to the social and resettlement program developed with them, and presented in this REDP, including the dispute resolution mechanism should the plans be not implemented or be as successful as they are presented.

8.2 Stakeholders

674. 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 NNP1 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.
675. A full stakeholder analysis is presented in the SIA. Identified groups are presented in the following table:

Stakeholder	Potential Project Impact	Relative Priority of Interest	Key Stakeholder Interests in the Project
<i>Primary Stakeholders</i>			
<i>Directly affected people, i.e. displaced PAPs: who</i>	(-)(+)	1	<ul style="list-style-type: none"> The comprehensive environmental, economic, social and cultural impacts of

Stakeholder	Potential Project Impact	Relative Priority of Interest	Key Stakeholder Interests in the Project
will lose their property or lose livelihood opportunities due to inundation of the NNP1 reservoirs, and/or construction of various Project components			the Project <ul style="list-style-type: none"> • What properties and how much property will be affected? Privately owned or public property? • What will they get in return? • How will the losses be compensated or the impacts be mitigated? • Where will they be resettled? • How will their livelihoods be affected by the Project? • Who are the main people responsible or the people or organizations to contact in case compensation or mitigations measures are unsatisfactory? • Can they take part in the Project as workers or some other capacity? • What will be their sources of income after the project? • Will they still be able to continue their existing ways of life or livelihoods?
<i>Indirectly affected people, i.e. non-displaced PAPs:</i> who are in the same communities as some of the directly affected people, or who share the Nam Ngiep basin	(-)(+)	2	<ul style="list-style-type: none"> • What will be the impacts of the project? • Can they be certain there will be no direct impacts to them? • Will they also have the right to participate in the development programs or other activities of the Project that can provide benefits? • Is there any chance for them to be hired to work for the project? • What will be their livelihoods with the project? • Will they still be able to continue their existing ways of life or livelihoods?
<i>Labourers and other staff</i>	(+)	3	<ul style="list-style-type: none"> • Good living conditions in the workers' camp and good facilities • Adequate protection in hazard prone areas or protection from hazardous materials • Sufficient training for the assigned tasks
Village Organizations: Village Headman and Deputy	(-)(+)	1	<ul style="list-style-type: none"> • Continuation of existing organizational arrangements at the new resettlement sites

Stakeholder	Potential Project Impact	Relative Priority of Interest	Key Stakeholder Interests in the Project
Village Security Police Health Volunteers Lao Youth Lao Women Union Front for National Construction			<ul style="list-style-type: none"> • Boundaries and land use of the new villages • Land reallocation criteria and fair application of the criteria • Management of newly introduced development projects • Priority of participation in the newly introduced development projects or activities • Ability to be the first line of approach for Grievance Procedures
Secondary Stakeholders			
Developers: NNP1PC EGATi KANSAI LHSE	(+)		<ul style="list-style-type: none"> • Costs • The most economical and practical process • The fastest way to implement the plan efficiently • Efficient and effective communication with stakeholders • Investment profit and positive image • Ability to meet loan and legal requirements of GoL and Lenders
Development Lenders: ADB and JBIC + Banks adhering to Equator Principles (Development Banks)	(+)		<ul style="list-style-type: none"> • Reduce poverty among APs and promote national development of Lao PDR • The Project is implemented according to approved plans and Concession Agreement • Affected people are adequately compensated • Integration of the Project into the overall plans and policies of the banks • Assure compliance with social and environmental safeguards to protect people, flora, fauna, and environment in the project area • Managing reputational risk to the Banks based on sound project planning and implementation
Commercial Lenders: different commercial banks from Thailand and other countries	(+)		<ul style="list-style-type: none"> • Dividends • Continuing repayment of debts • Reputation from being involved in a

Stakeholder	Potential Project Impact	Relative Priority of Interest	Key Stakeholder Interests in the Project
			<p>development project</p> <ul style="list-style-type: none"> • Avoidance of bad publicity due to project controversies
<p><i>Government of Lao PDR</i> via various line ministries, Prime Minister's Office MONRE MAF Ministry of Communication, Transport, Post and Construction Ministry of Industry and Handicrafts DOE Ministry of Labour and Social Welfare Ministry of Information and Culture Ministry of Education Ministry of Health</p>	(-)(+)		<ul style="list-style-type: none"> • Integration of the Project into the National Development Plan 2010-2015 and the Millennium Development Goals • Implementation of activities according to the Concessions Agreement • Sustainability of positive developments • Budget in-flows • Development of infrastructure • Technology transfers • Minimizing environmental and social impacts • Benefits to the local people, distributed thoroughly and evenly • Effective communication between the Project, GOL authorities, provincial and district counterparts, and affected people • Involvement of district and provinces in project implementation
<p><i>GOL Authorities at Provincial Level:</i> Vientiane Province, Xaysomboun Province, Bolikhamxay Province</p>	(-)(+)		<ul style="list-style-type: none"> • Integration of Project and its elements into provincial development plans • Selection and management of personnel required to help implement and/or monitor the Project
<p><i>GOL Authorities at District Level:</i> Hom District, Bolikhan District, Pakxan District, Thaphabath District, Pak Ngum District, Thathom District</p>	(-)(+)		<ul style="list-style-type: none"> • Integration of Project and its elements in district development plans • Selection and management of personnel required to help implement and/or monitor the Project • Benefit to the district and local people • Land use and land reallocation, + issuance of legal tenure documents
External Stakeholders			
NGOs and other external stakeholders	(-)(+)		<ul style="list-style-type: none"> • Impacts on environment within Nam Ngiep watershed • Impacts on environment of the Mekong River • Impacts of the Project on local people

Stakeholder	Potential Project Impact	Relative Priority of Interest	Key Stakeholder Interests in the Project
			and the Lao PDR <ul style="list-style-type: none"> • Issues of culture, gender, ethnicity, etc. • Compliance with IFI safeguards policies
Media	(-)(+)		Accompanying hydropower development in Mekong sub-region and disclose information to a global public, including the national audiences of developers

Table 46: Project Stakeholders

8.3 PCD Process

8.3.1 Approach

676. As usual for a project of this nature public consultation and disclosure has started and continue to be implemented through a three-phase process.
677. 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 obtained from, and also disseminated to, the stakeholders. This started to some extent when the first feasibility studies were undertaken in 1991, although the objective was not to achieve any consent from the population and the process is not documented. Some consultations focused around the GoL commissioned study of alternatives, economic analysis, and the environmental management plan. This information is important for both the Project as much as for PAPs to adequately evaluate and plan for project implementation. This phase fully commenced with the first studies undertaken by the Environmental Research Institute of Chulalongkorn University in 2007.
678. 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 has been obtained from Zones 2LR and 3, and from host communities in Zone 5. Data and information collected have been disclosed in affected villages in Zones 2UR, 2LR, 3 and 5, to formulate compensation and offsetting measures, including resettlement planning. It is on-going with Asset Registration, Confirmation Surveys as well as a full Socioeconomic Survey, establishing the baseline for compensation and livelihood restoration activities.
679. This leads to a third phase of active and iterative involvement and participation in the project design and implementation, which is expected to increase after Financial Close and to continue during the project implementation. Livelihood restoration models will be further developed in this stage, including the layout of the new village and the design of the most

appropriate irrigation system for the replacement agricultural land in the Houaysoup resettlement site.

680. Accessibility of information and participation has been enhanced through establishing information centres in the three Project districts. Consultations were free of intimidation or coercion, with PAPs openly addressing concerns and requesting adaptations by the Project. Using focus group discussions, interviews, written and verbal and translations throughout the project cycle has helped to integrate men, women and vulnerable people into the consultation process. The resulting assessment of stakeholder needs and wants provides a base from which early decisions can be made.



Figure 23: Consultations among PAPs about project suggestions (July 2013)



Figure 24: PAPs' remarks and suggestions during joint consultation meeting of representatives from 5 villages on the designated resettlement site of Houaysoup (July 2013)

8.3.2 Consultation Methodology

681. During the public consultation and disclosure, it has been important to take into consideration
- i. the local authority structures, ensuring however that participation in consultation was not dominated by local authorities,
 - ii. the need to enter into good faith negotiations with affected ethnic group households,
 - iii. the active participation of women and vulnerable groups and the consideration of their needs and wants in planning of mitigation measures; and
 - iv. proper documentation of the process as well as accurate recording of participation and results of the stakeholder information and consultation process...
 - v. various communication and disclosure formats to suit the needs of village level situation.
682. In all cases the villagers were notified prior to the public consultation team's arrival. Letters were sent by the staff of the district office to inform village authorities of pending visits and to inform residents within the villages themselves. This notification allowed villagers to adjust their daily activities and find time to attend meetings. All surveys and visits included presentations and interactive discussions, and the display of graphics, including maps. A 3D

model of the resettlement site has been used in discussing potential resettlement plans (Figure 25). Most grass roots staff working on public consultation and participation for the project and GoL have been recruited from areas close to PAPs.

683. At regional level, consultations have been recognized as an important component of the overall communications strategy. Consequently, the establishment of an early working relationship between NNP1 Project and provincial officials and line agencies has greatly facilitated information sharing at the local and regional levels. Provincial officials and agency representatives have an integral part on all policy planning matters alongside Ministerial representatives. Consultation and participation at the regional level has sought to provide a forum for the exchange of information and idea between project representatives, the GoL and regional stakeholders. In May 2014, the international and national public consultation forums further allowed NN1PC to expand the consultation process to international and national organizations.



Figure 25: Discussion of Resettlement Site Development by PAPs based on 3D model (July 2013).

8.4 Consultation and Participation Activities

684. Activities and techniques for public consultation have been designed to suit the needs of each target audience as well as meet the requirements of the diverse and numerous stakeholders involved in this project, outlined in the previous chapter. The techniques adopted include the following methods:

- Use of *visual presentations* including pictures, diagrams and posters, especially at the local and regional level; lately, this included a 3D-model of the proposed

resettlement area.

- *Face-to-face and practical communication*; intensified in places where levels of literacy are recognized as being low. This includes the use of seminars, workshops, village meetings, semi-structured interviews, small group meetings, models, participatory rural appraisal techniques, and site visits.
- *Translation* into *Lao* language of project documents and summaries; these were used in particular for local leaders, regional officials and national stakeholders. Verbal translation into *Hmong* language during village consultation meetings
- Use of *local project information* centres in Thathom, Bolikhan, and Hom District. These centres enable the distribution of information about the project, collection of feedback from stakeholders, the ability to deal with inquiries and requests for additional information, and to form a place to conduct periodic meetings with village and district representatives. It furthermore supports the information dissemination policy outlined in the CA.
- Direct discussion with the stakeholders through electronic or written media, group and individual briefings, distribution of detailed project information, and field trips to the project area for *national and international stakeholders*.
- Dissemination of the project documents (EIA, REDP and Social obligations of the Company) through the Company and ADB websites
- Translation of Detailed Entitlement Matrices into Hmong language for Zones 2LR and 3
- Site visits for international stakeholders and independent monitoring agencies
- Focus Group Discussions
- Interviews with PAPs
- Workshops with PAPs
- Transect Walks with individuals from the communities
- Mappings with focus groups
- Household level asset registrations

685. Public consultation activities conducted have been recorded and documented with summaries provided in Lao and English, to be found together with participants lists and other documentation in Annex A. Further details on these techniques can be found in the SIA.

8.5 *The PCD process from initial studies to now*⁷²

8.5.1 Access Roads

686. Disclosure of information and consultations has taken place during preparation and implementation of the Access Road to ensure that PAPs and other stakeholders have timely information about land acquisition, compensation, and resettlement, as well as opportunities to participate in and express their preferences and concerns regarding the resettlement program starting in early 2013 with an intensive phase of consultations before the start of the compensation process from November 2013 to January 2014. NNP1PC and DCC with assistance from the village authorities has organized meetings and consultations and distributed information to keep PAPs informed about the impacts of the Access Road.
687. Discussions covered land loss due to road construction. First, it was emphasised that maximum effort would be made by the project not to acquire more land for roads than was needed at this stage. However, discussions also overlapped to a certain extent with entitlements for relocation of the whole village of Hatsaykham to Houay Sop. A distinction was made to PAPs as to compensation for roads impacts, as opposed to compensation related to physical relocation to Houay Sop.
688. The rights and entitlements of households affected by land acquisition were clearly explained in Hmong and Lao languages, to both men and women, and in a manner and form accessible to participants. Visual aids were used for those with limited literacy abilities. Important tools of accountability for the construction of the Access Road and in the LAR process are the land use survey, IOL calculations, Declaration Forms, Compensation Receipt Forms and No Longer PAP Forms. Declaration Forms use the calculated figures from the IOL forms. The numbers of PAPs and amounts in the Declaration Forms are accounted for by Compensation Receipt Forms, "No Longer PAP" Forms, so that it is clear if the compensation procedures are followed properly and if the PAPs are both correctly informed of their rights before compensation and satisfied with the process, methodology of assessing values and receipt of compensation. These forms were given and explained to ESD staff and DCC during the training and workshops.
689. More details on the PCD Process for the Access Road can be found in the LACP-AR.

8.5.2 Zone 2UR

690. From the beginning of the project planning phase in 2007/2008, the communities of 2UR have been continuously involved on the development of the Project's social documents and in the manner and style of compensation and mitigation measures due to Project impacts. During the early discussions, these consultations initially assessed the support of the project

⁷² For a list of all written documents related to these consultations please refer to Annex A, Appendix 2: Index of PAP Consultation Documentation; Annex A furthermore contains detailed information and documentation on these meetings in form of a summary of BCS agreements on village level, pre-CA consultations content, Minutes of Meeting, Lists of Participants, and Pictures.

with limited information, as the Concession Agreement was not yet in place. Accordingly, communication relied on broader policy terms and ideas rather than on concrete plans. This was considered by communities as vague and unclear communication while the finalization process for the CA continued.

691. The project entered a learning-phase regarding community engagement in project planning and decision making. This has been difficult, as livelihood options could not be discussed until technical circumstances of the project were finalized. On the legal side, this encompassed details of entitlements, which were also not yet finalized and therefore could not be disclosed. This created a confused situation as some local officials were already informing PAPs of what they could and could not expect from the Project, without direct knowledge of actual agreements.
692. As soon as the CA was finalized and approved by GOL and the NNP1PC (24 April 2013), the social team was more confident to explain the project methodology, scope and entitlements in detail and in concrete terms. With the subsequent consultations, the project became clearer to the communities and enabling PAPs to decide how to interact with the project. According to initial plans, PAPs in Zone 2UR were supposed to be relocated outside of their respective villages. However, following the development of a risk analysis and extensive consultations after the signing of the CA, PAPs in 2UR decided in September 2014 to relocate affected households within the village boundaries. Village authorities agreed to identify available replacement land for those people significantly impacted. Impacts on agricultural land will be countered by a combination of land development and alternative livelihood activity options. The decision by PAPs and the consequent entitlements as discussed during the meetings have been endorsed by district authorities and the PRLRC, and integrated into the Detailed Entitlement Matrices, which were then discussed again during village consultations in March/April 2014.
693. PAPs are satisfied with the decision to stay, even if this means the necessity for many to adjust their livelihood activities. During meetings with the Project as well as with monitoring missions from ADB and IAP, several suggestions were made by PAPs regarding different on- and off-farm possibilities (land development, small-scale irrigation, weaving, cash crops, fisheries, livestock raising, etc.), and the Project will work together with the PAPs to implement feasible options starting in the second half of 2014 after Financial Closure. New information over the project period will be integrated into updated versions of the REDP subplan for Zone 2UR.

Stakeholder Group	Date	Public Consultations and Disclosure, key information, timing and approaches taken	Participants	Content	Consultation Phase	Resulting Output
Zone 2UR villages: Villagers, Village	2007	Household and village survey at 3 villages	All households	Data collection for ESIA Draft	1	Preliminary Asset registration and Socio-

Stakeholder Group	Date	Public Consultations and Disclosure, key information, timing and approaches taken	Participants	Content	Consultation Phase	Resulting Output
Authorities						economic survey
	July 2011	Household and village survey at 3 villages	All households	Data collection for ESIA Draft	1	Initial Asset registration and Socio-economic survey; 2012 SIA/ REDP/ SDP
	October 2, 2011	Consultation Meeting at Ban Pou	PAPs: 181; GoL: 5; NNP1: 7; Consultants: 8	Information on updated ESIA reports and PAP's suggestions; focus-group-discussions have been conducted, too	2	2012 SIA/ REDP/ SDP
	October 3, 2011	Consultation Meeting at Hatsamkhone	PAPs: 100; GoL: 5; NNP1: 7; Consultants: 8			
	October 3, 2011	Consultation Meeting at Ban Piengta	PAPs: 72; GoL: 5; NNP1: 7; Consultants: 8			
	December 08, 2012	Focus Group Discussions at Ban Pou	Groups of 5-10 people	Ideas of development of women, youth, and elders and input and requests towards the projects	2	2014 SIA/ REDP/ SDP
	December 09, 2012	Focus Group Discussions at Ban Hatsamkhone				
	December 11, 2012	Focus Group Discussions at Ban Piengta				
	August 13, 2013	Village Consultation Meeting at Ban Pou	PAPs:109 ; GoL: 2; NNP1: 6	Presentation of project structure; entitlements; GRM; discussions on entitlements; decision to relocate within village boundaries and support project; BCS Agreements and request to the project;	2/3	2014 SIA/ REDP/ SDP
	August 14, 2013	Village Consultation Meeting at Ban Hatsamkhone	PAPs:70 ; GoL: 2; NNP1: 6			
	August 15, 2013	Village Consultation Meeting at Ban Piengta	PAPs: 89; GoL: 2; NNP1: 6			
	March/ April 2014:	Start of continuing work	NNP1PC,	Disclosure and discussions of	2/3	2014 SIA/ REDP/ SDP;

Stakeholder Group	Date	Public Consultations and Disclosure, key information, timing and approaches taken	Participants	Content	Consultation Phase	Resulting Output
	Several meetings including focus group discussions	of the Community Consultations Team in Pou, Hatsamkhone, and Piengta	Villagers	DEM 2UR, options of livelihood planning		Updated RAP, LIRP; DEM 2UR

Table 47: PCD Process with PAPs from 2UR

8.5.3 Zone 2LR

694. Communication with communities of 2LR started early, and the Project has spent more resources for the PCD process with 2LR than any other project zone, and in involving them in the planning of the Project’s programs. The PCD process as well as that of obtaining BCS and site selection has been described in Chapter 7. The Project developed Detailed Entitlement Matrices and discussed them with the PAPs during village consultations, the main concern being soil quality of the resettlement site and whether the Project will honour agreed entitlements in practice. PAPs have relatives adversely affected by another Hydropower Project in the area, and their experience has made 2LR PAPs very sceptical of promises from developers. The Project recognises this, and has worked hard to establish relationships of trust and to ensure that PAPs can have confidence that promises made will be promises kept.
695. During focus group discussions, more concrete requests were advanced, for example opportunities for young people, provisional livelihood support in the current villages, housing issues, and discussion of gender-sensitive provisions. More details can be found in the discussion of Broad Community Support for Zone 2LR in section 7.5.4 and new information over the project period will be integrated into updated versions of the REDP subplan for Zone 2LR.

Stakeholder Group	Date	Public Consultations and Disclosure, key information, timing and approaches taken	Participants	Content	Consultation Phase	Resulting Output
Joint Inter-Zone Village Meetings with Representatives of Zone 3 and Zone 5	July 2013	Consultations and resettlement site visit with elders from 2LR and Z3	2 x RMU representatives of every Province, Project staff, 6-10 male and female PAP	Information on project status; presentation of a 3D model of Houaysoup; decision of villagers on	2/3	2014 SIA/ REDP/ SDP; Draft Resettlement Site Plans

Stakeholder Group	Date	Public Consultations and Disclosure, key information, timing and approaches taken	Participants	Content	Consultation Phase	Resulting Output
			representatives from each village from 2LR and Z3	where to plan residential area; villagers comments and requests; site visit; traditional ceremonies		
Zone 2LR villages: Villagers, Village Authorities	October 31, 2007	Consultation Meeting at Sopyouak	PAPs: 62; GoL: 9; NNP1: 5; Consultants: 5	Data collection for ESIA Draft	1	ESIA Drafts
	September 16, 2011	Consultation Meeting at Namyouak	PAPs: 124; GoL: ; NNP1: 7; Consultants: 9	Information on updated ESIA reports and PAP's suggestions; focus-group-discussions have been conducted, too	1/2	2012 SIA/ REDP/ SDP
	September 17, 2011	Consultation Meeting at Sopyouak	PAPs: 92; GoL: 2; NNP1: 7; Consultants: 9			
	September 18, 2011	Consultation Meeting at Soppuane	PAPs: 34; GoL: 1; NNP1: 7; Consultants: 9			
	September 19, 2011	Consultation Meeting at Houaypamom	PAPs: 130; GoL: 3; NNP1: 7; Consultants: 8			
	March 4 to 7, 2012	Consultation Meetings at 4 villages	Total participants: 171			
	May 2012	Informal Meetings, with lenders at 4 villages			/	/
	August 31, 2013	Consultation Meeting at Namyouak	118 Participants	Presentation of project structure; entitlements; GRM; discussions on entitlements and RAP; BCS Agreements and request to the project;	2	2014 SIA/ REDP/ SDP; BCS Assessment
	September 1, 2013	Consultation Meeting at Soppuane	79 Participants			
September 2, 2013	Consultation Meeting at Houaypamom	51 Participants				
September 3, 2013	Consultation Meeting at Sopyouak	100 Participants				

Stakeholder Group	Date	Public Consultations and Disclosure, key information, timing and approaches taken	Participants	Content	Consultation Phase	Resulting Output
	September 3, 2013	Consultation with elders of all 4 villages	Around 40 incl. NNPL, elders plus additional villagers	Discussion of project timeline and next steps	2/3	2014 SIA/ REDP/ SDP
	4-5 December 2013	Participation at Hmong New Year	NNP1PC, Villagers and representatives	Informal discussions on project development	2	2014 SIA/ REDP/ SDP
	March/ April 2014: Several meetings including focus group discussions	Start of continuing work of the Community Consultations Team in the villages	NNP1PC, Villagers	Disclosure and discussions of DEM 2LR, options of resettlement, resettlement and livelihood planning	2/3	2014 SIA/ REDP/ SDP; Updated RAP, LIRP; DEM 2LR

Table 48: PCD Process with PAPs from 2LR

8.5.4 Zone 3

696. Communication with communities of Zone 3 started early on, involving PAPs in the development of the Project's social documents. In addition to land compensation and resettlement, culture, and livelihood development, the proximity to the dam construction site as well as the building of the Access Road have been topics of consultations. The Project developed Detailed Entitlement Matrices and discussed them with the PAPs during village consultation meetings. The main concern raised is the impact of the construction site and the timing for joining the villages of 2LR in the Houaysoup resettlement site. Broad agreement on the overall plan and entitlements was reached, as described in section 7.5.4 and new information over the project period will be integrated into updated versions of the REDP. Agreements on entitlements for land acquisition over the Access Road are included in the LACP-AR and covered in the Social Compliance Audit Report.

Stakeholder Group	Date	Public Consultations and Disclosure, key information, timing and approaches taken	Participants	Content	Consultation Phase	Resulting Output
Joint Inter-Zone Village Meetings with Representatives	July 2013	Consultations and resettlement site visit with	2 x RMU representatives of every Province,	Information on project status; presentation of a 3D model of	2/3	2014 SIA/ REDP/ SDP; Draft Reset-

Stakeholder Group	Date	Public Consultations and Disclosure, key information, timing and approaches taken	Participants	Content	Consultation Phase	Resulting Output
of Zone 3 and Zone 5		elders from 2LR and Z3	Project staff, 6-10 male and female PAP representatives from each village from 2LR and Z3	Houaysoup; decision of villagers on where to plan residential area; villagers comments and requests; site visit; traditional ceremonies		tlement Site Plans
Zone 3: Villagers, Village Authorities	2007	Household and village survey	All households	Data collection for ESIA Draft	1	Preliminary Asset registration and Socio-economic survey
	July 2011	Household and village survey at Hatsaykham	All households included	Data collection for ESIA Draft	1	2012 SIA/ REDP/ SDP
	September 25, 2011	Consultation Meeting at Hatsaykham	PAPs: 77; GoL: 1; NNP1: 6; Consultants:	Information on updated ESIA reports and PAP's suggestions; focus-group-discussions have been conducted, too; PAPs of Z3 requested to resettle to Houaysoup	1/2	2012 SIA/ REDP/ SDP
	May 2012	Informal Meetings, with lenders at Hatsaykham			/	/
	November 13-14, 2012	Focus Group Discussions at Hatsaykham	Groups of 5-10 people	Ideas of development of women and elders and input and requests towards the projects	1/2	2014 SIA/ REDP/ SDP
	December 18, 2013	Village Consultation Meeting	NNP1PC, RMU, villagers of Hatsaykham and Hat Gniun	Entitlements, Grievance Redress Mechanism, Access Road Development	2	2014 SIA/ REDP/ SDP; BCS Assessment

Stakeholder Group	Date	Public Consultations and Disclosure, key information, timing and approaches taken	Participants	Content	Consultation Phase	Resulting Output
	March /April 2014: Several meetings including focus group discussions	Start of continuing work of the Community Consultations Team in the villages	NNP1PC, Villagers	Disclosure and discussions of DEM Z3, options of resettlement, resettlement and livelihood planning, early resettlement, house designs	2/3	2014 SIA/ REDP/ SDP, DEM Z3

Table 49: PCD Process with PAPs from Zone 3

8.5.5 Zone 5

697. As host communities, the villages of Zone 5 have been involved in the development of social documents, including resettlement planning. Early on, the Project has been regarded by the host communities as a good development opportunity. The Project discussed its plans for the Houaysoup resettlement site and the necessity to address the usage of natural resources on the right bank site and of the river. Likewise, the possibility to make use of the new facilities at the resettlement site as school and health centres were discussed. As with Hatsaykham, their proximity to the dam construction site as well as to the Access Road have been key topics of consultations. The Project developed Detailed Entitlement Matrices and discussed them with the PAPs during village consultation meetings. The main concern raised by host villages during public consultation meetings is the impact of the construction. More details can be found in the discussion of Broad Community Support for Zone 5 in section 7.5.4 and new information over the project period will be integrated into updated versions of the REDP.

Stakeholder Group	Date	Public Consultations and Disclosure, key information, timing and approaches taken	Participants	Content	Consultation Phase	Resulting Output
Zone 4 and 5: Villagers, Village Authorities	October 29, 2007	Consultation Meeting at Ban Hat Gniun	PAPs: 30; GoL: 11; NNP1: 3; Consultants:	Broad consultation on env. and social mitigation measures	1	ESIA Drafts
	September	Consultation Meeting at Hat	PAPs: 54; GoL: 3; NNP1: 6;	Information on updated ESIA	1/2	2012 SIA/ REDP/

Stakeholder Group	Date	Public Consultations and Disclosure, key information, timing and approaches taken	Participants	Content	Consultation Phase	Resulting Output
	26, 2011	Gniun	Consultants:8	reports and PAP's suggestions;		SDP
	September 26, 2011	Consultation Meeting at Thahuea	PAPs: 51; GoL: 3; NNP1: 6; Consultants:8	focus-group-discussions have been conducted, too;	1/2	2012 SIA/ REDP/ SDP
	May 2012	Informal Meetings, with lenders at and Hat Gniun			/	/
	November, 14-15, 2012	Focus Group Discussions at Hat Gniun	Groups of 5-10 people	Ideas of development of women and elders and input and requests towards the projects	1/2	2014 SIA/ REDP/ SDP
	November, 15, 2012	Focus Group Discussions at Thahuea	Groups of 5-10 people	Ideas of development of women and input and requests towards the projects	1/2	2014 SIA/ REDP/ SDP
	December 17, 2013	Village Consultation Meeting	NNP1PC, RMU, villagers of Nonsomboun and Sisavath	Entitlements, Grievance Redress Mechanism, Access Road Development	1/2	2014 SIA/ REDP/ SDP; BCS Assessment
	March/ April 2014: Several meetings including focus group discussions	Start of continuing work of the Community Consultations Team in Pou, Hatsamkhone, and Piengta	NNP1PC, Villagers	Disclosure and discussions of DEM 2UR, options of livelihood planning	2/3	2014 SIA/ REDP/ SDP; Updated RAP, LIRP. DEM Z5

Table 50: PCD Process with PAPs from Zone 5

8.5.6 Transmission Line

698. Villagers along the transmission line have been consulted during preparation of an initial draft of the transmission line alignment by social and environmental experts of the Project. Once the final transmission line design is available, an updated assessment of the social impacts of the transmission line will be prepared together with the PAPs and integrated in a separate Land Acquisition and Compensation Plan – Transmission Line (LACP-TL). This document will provide further details on the consultation process over the coming months.

8.5.7 Other Areas

699. All communities with expected land acquisition and resettlement impacts have been described above. It is not anticipated that households from the wider project impact zone will be affected by land acquisition nor required to relocate, and consultations with villages in Zones 1 and 4 have been integrated via provincial and national meetings to address Project development as well as the preparation of planning documents. In case of unforeseen LAR impacts, additional consultations will be facilitated.

8.5.8 Districts and Provinces

700. Of key importance for REDP preparation and implementation is communication with stakeholders at district and provincial level, principally with the different agencies of public authorities who will be responsible for representing GoL with Project activities. This includes discussion on more strategic development of districts and provinces and the integration of the Project as part of these overall developments. The Project has presented and discussed its resettlement plans with these stakeholders, while regular district and provincial meetings are essential for:

- coordinating cooperation between RMU, Districts, and Projects
- agreeing Detailed Entitlement Matrices
- agreeing Compensation Unit Rates
- agreeing Cut-off-dates

701. During the implementation phase, further emphasis will be put on the integration of knowledge exchange between provincial and district agencies and the Project, for example on agricultural extension work, forest usage and management, health and education activities, and social mitigation measures in the construction site.

Stakeholder Group	Date	Public Consultations and Disclosure, key information, timing and approaches taken	Participants	Content	Consultation Phase	Resulting Output
Provincial and District Level: Bolikhamxay,	January 16, 2008	Public Consultation at Bolikhan	PAPs: 18; GoL: 32; NNP1: 9;	Presentation and consultation on the development	1/2	Draft ESIA Reports

Stakeholder Group	Date	Public Consultations and Disclosure, key information, timing and approaches taken	Participants	Content	Consultation Phase	Resulting Output
Vientiane, and Xieng Khouang Provinces (not included is day-to-day cooperation with the RMU and DCC and related meetings) / now Xaysomboun Province with the districts of Pakxan, Bolikhan, Hom, and Thathom District		District	Consultants: 10	of ESIA documents		
	January 18, 2008	Consultation and discussion at Hom District	PAPs: 16; GoL: 28; NNP1: 9; Consultants: 12	Presentation of first concepts of mitigation measures Collection of comments from the stakeholders participating in the meeting		
	February 21, 2008	Consultation and discussion at Thathom District	PAPs: 13; GoL: 56; NNP1: 8; Consultants: 5			
	April 22, 2008	Consultation and discussion at Bolikhamxay Provinces	PAPs: 23; GoL: 31; NNP1: 9; Consultants: 30	Understanding of the proposed ESIA reports presented by the Consultancy	1	Draft ESIA Reports
	April 24, 2008	Consultation and discussion at Xieng Khouang Provinces	PAPs: 43; GoL: 79; NNP1: 18; Consultants: 21	Company hired by the project Collection of comments and proposals from the related agencies on the ESIA draft as well as suggested mitigation measures	1	Draft ESIA Reports
	April 28, 2008	Consultation and discussion at Vientiane Provinces	PAPs: 22; GoL: 42; NNP1: 17; Consultants: 12		1	Draft ESIA Reports
	April 04, 2012	Consultation and discussion by Vientiane and Bolikhamxay Provinces	PAPs: 44; GoL: 38; NNP1: 29; Consultants: 3	Discussion of Project and GoL answers of 12 questions raised by 2LR villagers	2	2012 SIA/ REDP/ SDP
	June 09, 2008	Consultation and discussion at Hom District	PAPs: 10; GoL: 9; NNP1: 1; Consultants: 8	Presentation and consultation on the development of ESIA documents		
	June 12, 2008	Consultation and discussion at Pakxan District	PAPs: 14; GoL: 8; NNP1: 1; Consultants: 6	Presentation of first concepts of mitigation measures	1/2	Draft ESIA Reports
	July 2, 2008	Consultation and discussion at Thathom District	PAPs: 18; GoL: 4; NNP1: 1; Consultants: 4	Collection of comments from the stakeholders participating in the meeting		

Stakeholder Group	Date	Public Consultations and Disclosure, key information, timing and approaches taken	Participants	Content	Consultation Phase	Resulting Output
	November 5, 2008	Consultation and discussion at Hom District	PAPs: 8; GoL: 16; NNP1: 1; Consultants: 7			
	January 10, 2014	PRLRC Meeting	PRLRC, NNP1PC	Discussion of Access Road Entitlements, Cut-off-date, Compensation Rates	2	LACP Access Road
	February 26, 2014	Consultation with the newly established Province of Xaysomboun	GoL incl. Provincial Governor, NNP1PC	Discussion of Project, Entitlements, Standards, and Procedures	2	2014 SIA/ REDP/ SDP
	April 7, 2014	Consultation with the newly established PRLRC	PRLRC, NNP1PC	Resolution on Entitlements, Standards, Procedures, and Cut-Off-Date	2	2014 SIA/ REDP/ SDP; Detailed Entitlement Matrices
District Level: Bolikhan, Pakxan, Hom, and Thathom Districts (not included is day-to-day cooperation with the DCCs and related meetings) and meetings with districts above	January 16, 2008	Public Consultation at Bolikhan District	PAPs: 18; GoL: 32; NNP1: 9; Consultants: 10	Presentation and consultation on the development of ESIA documents Presentation of first concepts of mitigation measures Collection of comments from the stakeholders participating in the meeting	1/2	Draft ESIA Reports
	January 18, 2008	Consultation and discussion at Hom District	PAPs: 16; GoL: 28; NNP1: 9; Consultants: 12			
	February 21, 2008	Consultation and discussion at Thathom District	PAPs: 13; GoL: 56; NNP1: 8; Consultants: 5			
	June 09, 2008	Consultation and discussion at Hom District	PAPs: 10; GoL: 9; NNP1: 1; Consultants: 8			
	June 12, 2008	Consultation and discussion at Pakxan District	PAPs: 14; GoL: 8; NNP1: 1; Consultants: 6			
	July 2,	Consultation	PAPs: 18;			

Stakeholder Group	Date	Public Consultations and Disclosure, key information, timing and approaches taken	Participants	Content	Consultation Phase	Resulting Output
	2008	and discussion at Thathom District	GoL: 4; NNP1: 1; Consultants: 4			
	November 5, 2008	Consultation and discussion at Hom District	PAPs: 8; GoL: 16; NNP1: 1; Consultants: 7			

Table 51: PCD Process on District and Provincial Level

8.5.9 National Consultations

702. Discussions at national level have preceded actual establishment of the NNP1 project. This included discussions during the JICA feasibility studies and the decision to lower the dam to avoid impoundment of larger areas in Zone 1. Subsequently, preparation of the Project’s safeguards documents and the related plans were disclosed and discussed during meetings since 2011. This included also international stakeholders as NGOs and IOs during a consultation meeting in May 2014. Results and suggestions have been integrated into the social documents.

Stakeholder Group	Date	Public Consultations and Disclosure, key information, timing and approaches taken	Participants	Content	Consultation Phase	Resulting Output
Central Level: Stakeholders including international Finance Institutes, MONRE, other GoL Organizations and Agencies, General Public, and NGOs.	May 2011	Consultation and discussion at Hom District	GoL, NNP1, ADB, IOs, Media	Presentation of the Project and initial results of the social document preparation	1	2012 SIA/ REDP/ SDP
	July 2011	Technical Workshop and site visit to proposed resettlement site by MoNRE			2	2012 SIA/ REDP/ SDP
	April 2012	National Consultation Meeting	GoL, PAPs, NNP1, Media		2	2012 SIA/ REDP/ SDP
	March 2014	ADB Audit Mission Access Road	ADB, PAPs along Access Road including Zones 3 and 5, GoL, NNP1		2	Final 2014 LACP-AR

Stakeholder Group	Date	Public Consultations and Disclosure, key information, timing and approaches taken	Participants	Content	Consultation Phase	Resulting Output
	April 2014	Site visit of the National Assembly	PAPs from Zones 2LR, 3, and 5, GoL, NNP1	Discussion of resettlement plans	2	Final 2014 SIA/ REDP/ SDP
	May 2014	ADB Due Diligence Mission	ADB, PAPs from Zones 2,3, and 5, GoL, NNP1	Discussion of BCS and Social Documents	2	Final 2014 SIA/ REDP/ SDP
	May 7 2014 in Vientiane, May 9 2014 in Pakxan	2 Broad Stakeholder Forums incl. GoL, IOs, iNGOs, NPAs, Press, etc.	GoL, NNP1, ADB, IOs, iNGOs, NPAs, Media	Disclosure of Draft Social Documents and discussion of project, impacts, and social and environmental mitigation measures	2	Final 2014 SIA/ REDP/ SDP

Table 52: PCD Process on the National and International Level

8.6 The PCD Process in the future

8.6.1 Information centres

703. The Project has established and will establish several information centres where information will be provided in an open and appropriate manner, allowing national and international visitors but also to allow local people to access information in different languages and ways of communication as outlined above. These information centres will be open to visitors at the following locations:

- The NNP1PC Headquarter in Sisattanak District, Vientiane Capital (open since 2013)
- The NNP1PC office in Pakxan (open since 2011)
- The NNP1PC Demonstration Farm (open since 2011)
- The NNP1PC field office in Sopyouak (open since 2012)
- The NNP1PC field office in Thaviengxay (from 2014 onwards)
- The NNP1PC owners camp (from 2015 onwards)

8.6.2 Scheduled consultations and disclosures

704. As described, the Project is currently proceeding from Phase II to Phase III of consultations. Often there is no clear separation between Phase II and Phase III, which overlap in an ongoing process. Planning documents will be updated regularly and information collection and dissemination continue, while consultations and cooperation in the implementation of

the plans will move to the centre of PAP-Project relations.

- 705. As outlined in the following chapter on institutions, the Project has established a Social Management Office with different sections and teams, including community consultations, gender and ethnicity, resettlement preparation, etc., which works together with the villagers in achieving the targeted cooperative development of the Project.
- 706. The community consultations and development team are key in coordinating with villagers. They will be based close to the different communities and spend most of their time in the villages. Most of the recruited people have a Hmong background, including male and female staff. One sub-office has been active for several years, with three Hmong-speaking staff members based in Sopyouak village. Already being senior officers, they have been additionally trained on Project standards, and methodologies. The Project will continually supervise and coach the development of their expertise and their relation with PAPs by an experienced, internationally trained staff.
- 707. This team will be supported by other teams of the Social Management Office based in Pakxan. The staff of these other teams will focus on different aspects of the program with support from the community consultations team. Education/Health/Gender/Agriculture/etc. specialists will be in touch with affected village on a regular basis. Targeted frequencies can be found in the following table. Further details on the tasks and activities of each team can be found in Chapter 9. Rather than additional tasks, these (informal) consultations will be integral part of day-to-day work of the different SMO teams.

SMO Team	Base	Activities	Frequency of consultations with villagers
Community Consultation Team	Pakxan*	Constant interaction with communities on developing mutual knowledge	day-to-day
Livelihood Team	2UR and Z3+5	Development of Livelihood Activities, including Agriculture and Off-Farm Activities and Training Activities	2 out of 4 weeks a month
Project Lands and Compensation Team	Pakxan* + 2UR + 2LR	Registration and Measurement of Land; organization of cash transfer; documentation of compensation process	Except from the administrative part of the team, day-to-day
Resettlement Preparation Team	2LR	Adult Literacy program, site development, camp followers programs	3 out of 4 weeks a month
Health Team	Pakxan*	Development, implementation, and monitoring of health programs; provision of training to GoL Health Officers and village volunteers;	2 out of 4 weeks a month
Education	Vientiane/ Pakxan*	Development, implementation, and monitoring of education programs	2 out of 4 weeks a month
Ethnic and Gender	Vientiane/ Pakxan*	Development of specific cultural and gender programs; screening of gender-mainstreaming and non-discrimination throughout the project including documents	1 out of 4 weeks a month
Vulnerable Households	Pakxan*	Development, implementation, and monitoring of special programs for vulnerable households	3 out of 4 weeks a month

SMO Team	Base	Activities	Frequency of consultations with villagers
Infrastructure Team	Pakxan* + 2UR	Design and implementation of infrastructure development for resettlement site and 2UR	1 out of 4 weeks a month
Social Monitoring Team	Vientiane/ Pakxan*	Design of specific monitoring programs, implementation of monitoring, and analysis together with information section	2 out of 4 weeks a month
Social Documents Team	Vientiane*	Development of Social Planning Documents	1 out of 4 weeks a month
ADB Missions	Outside the country	Monitoring of Project Development and Implementation of social mitigation measures and development programs	2 times per year plus additional missions as necessary
LTA	Outside the country	Monitoring of Project Development and Implementation of social mitigation measures and development programs	2 times per year
IAP Missions	Outside the country	Monitoring of Project Development and Implementation of social mitigation measures and development programs	2 times per year

Table 53: Benchmarks of Community Interactions for SMO Units

**Remark: Once the Owners Camp next to the dam site has been developed, offices will be moved to this camp as far as possible.*

8.6.3 Informal mechanisms

708. Informal communication between Project staff and stakeholders occurs on a daily basis, made easier by the increasingly enhanced presence of Project staff in villages at the start of Project implementation. This adds to the PCD effort of the project. However, at the beginning of the Project, informal communication of external consultants led to misunderstandings between Project and PAPs. To avoid this in future, several measures will be taken:

- NNP1PC staff will dress and behave as representatives of NNP1PC and thus stakeholders should be able to differentiate the Company from other people present in the area
- Staff will be regularly updated on the project, to ensure consistent messaging and disclosure of information. All technical personnel working directly on the Project will be briefed on community relations and coordinate with the community consultations team.
- Any instance of informal consultation where a concern has been raised is recorded and presented to the community consultations team for appropriate action.
- Any PAP can approach NNP1PC staff at any time, or lodge a grievance if desired.

8.7 Stakeholder Inputs into Project Design

709. The consultation process over the project design period resulted in several design

adaptations to comply with the requests and concerns of PAPs. The following table complements the list from Chapter 2 on Project adaptations and overlaps with the analysis in Chapter 7 regarding Broad Community Support.

Project zones	Villagers Concern	Project Response	Timeframe of consultations
Z1/2UR	Inundation of most villages in 2UR and some villages of Zone 1	Reduction of the dam height and resulting full supply level to 320MSL	2000-2007
2UR	Villagers of 2UR do not want to lose access to the new main road D1	Resettlement to a new site have been given up in favour of relocation within village boundaries and increased livelihood activities	2013
2UR	Usage of the Drawdown Zone	The Project will support villagers regarding the usage of the drawdown zone, after having clarified legal issues with GoL and technical issues with agricultural engineers	2014
2LR	Selection of appropriate resettlement sites	Several sites have been assessed together with the PAPs from 2LR	2007-2012
2LR	12 Questions by Villagers from 2LR (details see Annex A; updates in 7.5.3)	Response provided with cooperation of GoL and Project in favour of the PAPs if allowed by GoL regulations	2011-2012
2LR	Soil Conditions in Houaysoup	Soil Tests; Demonstration Farm and several site visits by PAPs; soil improvement starting in 2014; Trails starting from 2014	2011-2014
2LR	Illiterate Hmong women fear not to understand the processes in the new resettlement site closer to urban areas	Resettlement preparation activities including trainings and literacy classes. Adoption of visual communication methods suitable for non-literate and appointment of female Hmong facilitators	2013-2014
2LR	Self-resettlement and cash compensation	The Project agreed to three options for resettlers with PAPs and GoL: (i) resettlement to Houaysoup, (ii)Self-resettlement within the Project area of influence with follow-up activities by the project, and (iii)self-resettlement outside the Project area of influence with no follow-up by the Project; agreed criteria apply to each option to ensure economic viability of resettlement	2014
2LR	Younger people would like to split from their relatives and move to the resettlement site	The Project agrees to household splits as long as this does not cause the establishment of vulnerable households; several options are possible: i. both new households move to the resettlement site, ii. both new households self-resettle, iii. one new household resettles to the resettlement site, the other household self-resettles	2013-2014
2LR	Sustainability of	Land development prior to resettlement; trials	2013/2014

Project zones	Villagers Concern	Project Response	Timeframe of consultations
	Resettlement	and pre-resettlement trainings; provision of a wide range of livelihood activity options in the resettlement site	
2LR/Z3	Residential Area in the resettlement site	Change of resettlement layout to comply with villagers' choice of area	2013
2LR/Z3	Opportunities at the Resettlement Site especially for children and young adults	Establishment of school facilities up to high school; vocational training programs; scholarship program; on- and off-farm livelihood programs access to urban areas access to information technology and infrastructure	2013/2014
Z3	Hatsaykham would like to join the Hmong communities from 2LR	Original plan of relocating villagers from Hatsaykham closer to the main village Hat Gniun has been revised to allow Hatsaykham PAPs to resettle to Houaysoup	2011-2012
Z3/Z5	Influx of Workers and Impacts on communities	Implementation of mitigation measures outlined in the SDP including a Social Management and Mitigation Program	2010-2013
Z3	Concerns on Water Supply	Investigations on additional water sources in the area together with PAPs; constant monitoring of water quality in the area as outlined in the EIA	2014
Access Road	Compensation Rates not high enough and request of field visit to other hydropower project	Visit to other large hydropower project facilitated. Compensation rates above local market rates	2014
Access Road	Dust in villages along the Access Road	Regular watering of the road Construction of tarmac-sealed road within villages	2013-2014
Project-wide	Inclusion of PAPs into monitoring processes	For the fish-catch-monitoring process, this has been planned already; for other monitoring processes, the newly hired deputy manager for social monitoring will integrate the idea during the implementation of Project monitoring	2014
Project-wide	Access to fisheries in impacted areas	A fisheries-co-management program will be implemented	2014

Table 54: Consultations, PAPs' Concerns, and Project Responses

710. The Detailed Entitlement Matrices, output of Project standards, best practices, and recommendations based on stakeholder consultations, were endorsed on 7 April 2014 by the PRLRC and subsequently discussed with PAPs. These DEMs form the base for current activities and common planning between the Project and PAPs of the implementation of the entitlements. This also is a key element of obtaining and maintaining Broad Community Support to the Project, with details outlined in each zone chapter.

8.8 *Institutional Arrangements for the PCD Process*

711. As outlined in the next chapter on Project institutional arrangements, the Project invested in the establishment of an organizational and staffing structure for an effective PCD process. This encompasses above all three key units:
- A community consultations team under the Social Development and Monitoring section, formed by experienced and safeguards-trained officers; this team is responsible for communication between the Project and PAPs
 - A company-wide communication team under the Administrative Division, engaging in PCD with external stakeholders, including press, IOs and NGOs
 - A GoL relations team under the Administrative Division with officers assigned for SMO and EMO facilitating communication between the Project and different levels of Government
712. Next to these specific teams, all staff of the Social Management Office will be constantly interacting with PAP. Details are outlined in the next chapter.

8.9 *Grievance Redress Mechanism*

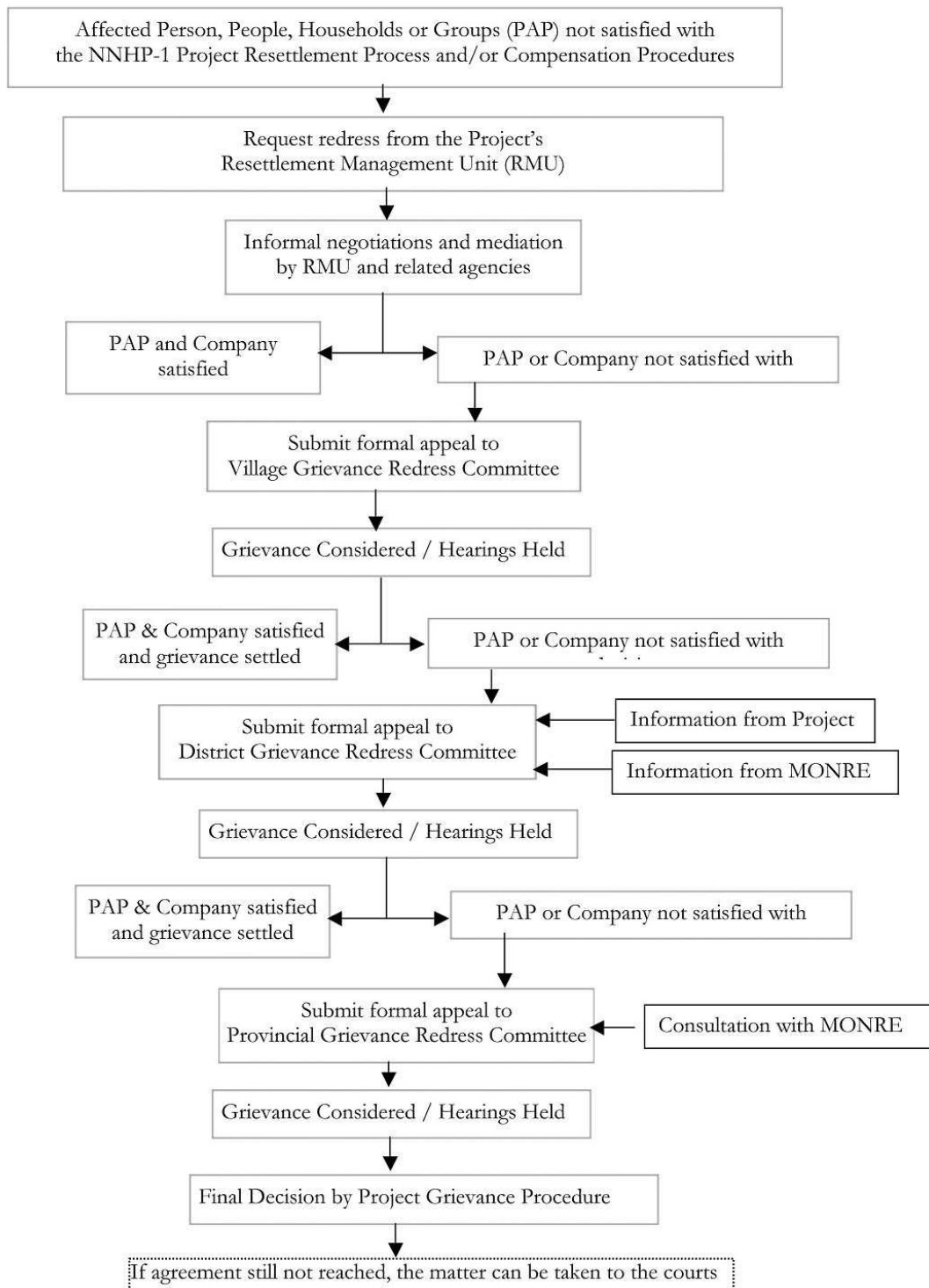
713. Most complaints and grievances in resettlement arise mainly due to (i) a lack of transparency, (ii) weak information dissemination, and (iii) implementation procedures without adequate consultations, disclosures, and participation of the affected persons. But, irrespective of how well conceived, planned and executed the resettlement and livelihood restoration program may be, individual, household, or village complaints are likely to be encountered.
714. 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 NNPI. 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.
715. 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.
716. 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.

717. 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.
718. The phases of conflict development and appropriate interventions can be summarized as follows and are outlined in the flow chart in Figure 26:
- 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.
719. 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 Detailed Entitlement Matrix, he or she has the right to make a claim.
720. The Environmental and Social Division of NNP1, through its Community Consultation and Development Unit will 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.
721. The PRLRC in consultation with appropriate authorities will establish the Grievance Redress Committees (GRC) at the village, district and provincial levels, to address any complaints and grievances pertaining to land acquisition, compensation and resettlement that are brought forward by PAPs. The GRC on village level guarantees that access to the grievance redress mechanism is easy and transparent for PAPs.
722. The GRC will comprise⁷³ the following members, among others:
- Representatives of Provincial authorities and agencies (only for the Provincial Grievance Redress Committees);
 - Representatives of District authorities and agencies (only for the District Grievance Redress Committees and Provincial Grievance Redress Committees);
 - Village headmen;
 - Representative of PAPs;

⁷³ CA, Annex C, Appendix 8

- Representatives from mass organizations, such as the Lao Women Union, and elder councils;
 - Local non-profit organizations; and
 - Representative from the Project.
723. The CA adds time frames for decisions on every committee level. The meeting of the Village Grievance Committee will be held in a public place, no more than 15 days from the date of formal receipt of the grievance. The meeting of the District Grievance Committee will be held in a public place, no more than 20 days from the date of formal receipt of the grievance (following the meeting of the VGC). The last step on provincial level within the GRM can last another 20 days after formal receipt of the grievance.
724. The purpose of the grievance procedure is to ensure that PAPs have the means to assure that they have been adequately and satisfyingly protected from adverse impacts of the project, or if impacts cannot be avoided that they are satisfied they have obtained adequate compensation and that their entitlements are delivered sufficiently and on schedule. If an affected person or group or community feels they have not been adequately protected or compensated, have not received the entitlements due to them, or otherwise believe they have been unfairly affected by the project, that person or group or community has the right to make a claim. The Grievance Procedure will cover both social and environmental issues.
725. The GRM system is based first on customary methods of dispute resolution in Lao PDR as well as among ethnic communities including Hmong, which is by consultation with elders and respected persons at village level. Most disputes are resolved at this level, and this process is well accepted by GoL. Because Hmong culture depends on an authority system of male elders, care has been taken to ensure that women and poorer households are able to access GRM if they choose. This has been prepared by the Project through individual household discussions as well as separate men and women's meetings, where Project processes have been explained to PAPs. If the complainant is not satisfied with the outcome through customary, village dispute resolution channels, a grievance can be submitted to the next level, which is to the VGRC. A representative of the Lao Women's Union is appointed to each village grievance committee, who will be trained, together with other members of the village grievance committee as part of a GRM training programme, how to assist women, vulnerable persons and the non-literate, to understand the GRM, what is on a complaints form, and how the form should be completed and submitted. Heightened awareness of Hmong women's equity in the LACP process has already been achieved with compensation payments for land acquisition along the access roads being made in the names of both husband and wife, bank books issued in joint spousal names, and both spouses required to sign or thumb print all relevant documents after explanation of what is contained in those documents.



Schematic of the Grievance Procedure for the NNHP 1 Project

Figure 26: Schematic of the Grievance Procedure for the NNHP 1 Project (Source: CA, Annex C, Appendix 8)

Part III – Institutions and Monitoring

CHAPTER 9 - Institutional Arrangement

726. While it is the responsibility of the project owners and developers to mitigate any adverse social and environmental impacts and to assure that social conditions will enhance the lives and livelihoods of the people in the project area, including internal monitoring systems, it is also the task of provincial, district, and village authorities to be directly involved in implementing resettlement and environmental and social development programs in close consultation with the developer. External monitoring by MoNRE and Lenders will further support this process. This includes the public authorities' monitoring of the effectiveness of the mitigation measures, of public participation and involvement, and of the protection of rights and livelihoods of the people affected by the project. Furthermore, to the extent possible, mitigation measures and development activities are to be carried out through or with the cooperation of the government at the local, district, provincial and national levels.
727. The institutional arrangements for NNP1 build upon existing institutional structures that have been established for hydropower projects in Laos, or that otherwise concern environment or social or economic issues relating to this project. They are intended to provide the means to implement the environmental and socioeconomic mitigation measures, development activities, and monitor effectively, while also building the capacity of local residents, administrative organizations, and government agencies. Vientiane and Xieng Khouang provinces have experience of hydropower projects being constructed in their districts, but none to current international safeguards standards. Part of these 2 provinces' staff will be re-assigned to work in the newly re-formed Xaysomboun Province. Bolikhamxay has experience of Nam Theun 2 in Khamkeut district, but not on a day-to-day program implementation basis. EDL has experience of working with ADB to international safeguards standards for transmission lines and the Nabong sub-station.
728. The NNP1 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 Deputy Managing Director who will report to the Project's Managing Director, and at the same authority level as the Engineering and Construction Deputy Managing Director and the Administrative and Financial Deputy Managing Director. This person shall be responsible for the overall implementation of all environmental and social obligations set in the Concession Agreement, the REDP and Action Plans described therein, and the necessary interactions and coordination with the various parties, as shown on the overview of the institutional framework in Figure 27.
729. The roles of GoL at the national level will be facilitated through the Joint Steering Committee (JSC) and the Ministry of Natural Resources and Environment (MONRE) as the primary supervisory and monitoring bodies. A Secretariat of the JSC will include key government agencies and organizations involved in the environmental and social components of the Project, specifically the Department of Environmental and Social Impact Assessment (DESIA) of MONRE, the Department of Energy Promotion and Development (DEPD) of the Ministry of Energy and Mines, and the Resettlement Management Unit

(RMU) established for this project.

730. An Environmental Management Unit (EMU) will be established in MONRE to oversee monitoring of the project from an environmental perspective.
731. A Provincial Resettlement and Livelihood Restoration Committee (PRLRC) has been established to be the lead authority to approve project-related policies and plans, entitlements consistent with the CA, and project activities; supervising and monitoring the implementation of social measures, including resettlement; and to provide the mechanism for public involvement, for decisions on compensation, and for the expression and resolution of grievances. Due to the specifics of the project, i.e. its activities and impacts in two provinces, the establishment of the NNP1 PRLRC is a pilot in Lao PDR, encompassing representatives of both provinces. Originally, as the majority of resettlement activities will be in Bolikhamxay Province, including the new resettlement site, the Governor of Bolikhamxay Province was appointed as the Chair of the PRLRC, with the Vice Governors of Vientiane and Xieng Khouang Provinces serving as vice-chair persons. With the establishment of the Province of Xaysomboun, replacing Vientiane and Xieng Khouang Province in the project area, the internal structure of the PRLRC has been updated and the Governor of Xaysomboun has become the new Chair of the PRLRC, with the Vice Governor of Bolikhamxay becoming the vice Chair of the PRLRC.
732. A Resettlement Management Unit (RMU) has been established by the PRLRC in both Bolikhamxay and Xaysomboun provinces, to coordinate the day-to-day work of government in resettling the most severely affected people in the project area, together with the technical assistance, financial support, and related work of NNP1PC through the Project's Environment and Social Division. As with the PRLRC, both project provinces have been integrated.
733. At the project level, the project owner has established an Environment and Social Division (ESD), responsible for implementing the relevant programs for the implementation of the mitigation measures. An Environmental Management Office (EMO) in the ESD will be responsible for environmental mitigation measures and monitoring, while a Social Management Office (SMO) will be responsible for social and economic mitigation measures and monitoring, including cooperation with the RMU on the resettlement process. The SMO encompasses several units: a resettlement and livelihood restoration section for the lower reservoir and resettlement site; a livelihood restoration section for the upper reservoir area; and geographically cross-cutting a social development section, an information-analysis-and-documentation section, and a monitoring section.
734. The overall framework of GoL-Project-cooperation is shown in the Figure 27. This framework is indicative and might be modified during the implementation phase as agreed between the parties, while the detailed structure of SMO is outlined in Figure 28.
735. Each Action Plan outlined below will describe in more details how these and any other relevant institutions will be included for a cooperative approach on mitigation measures.

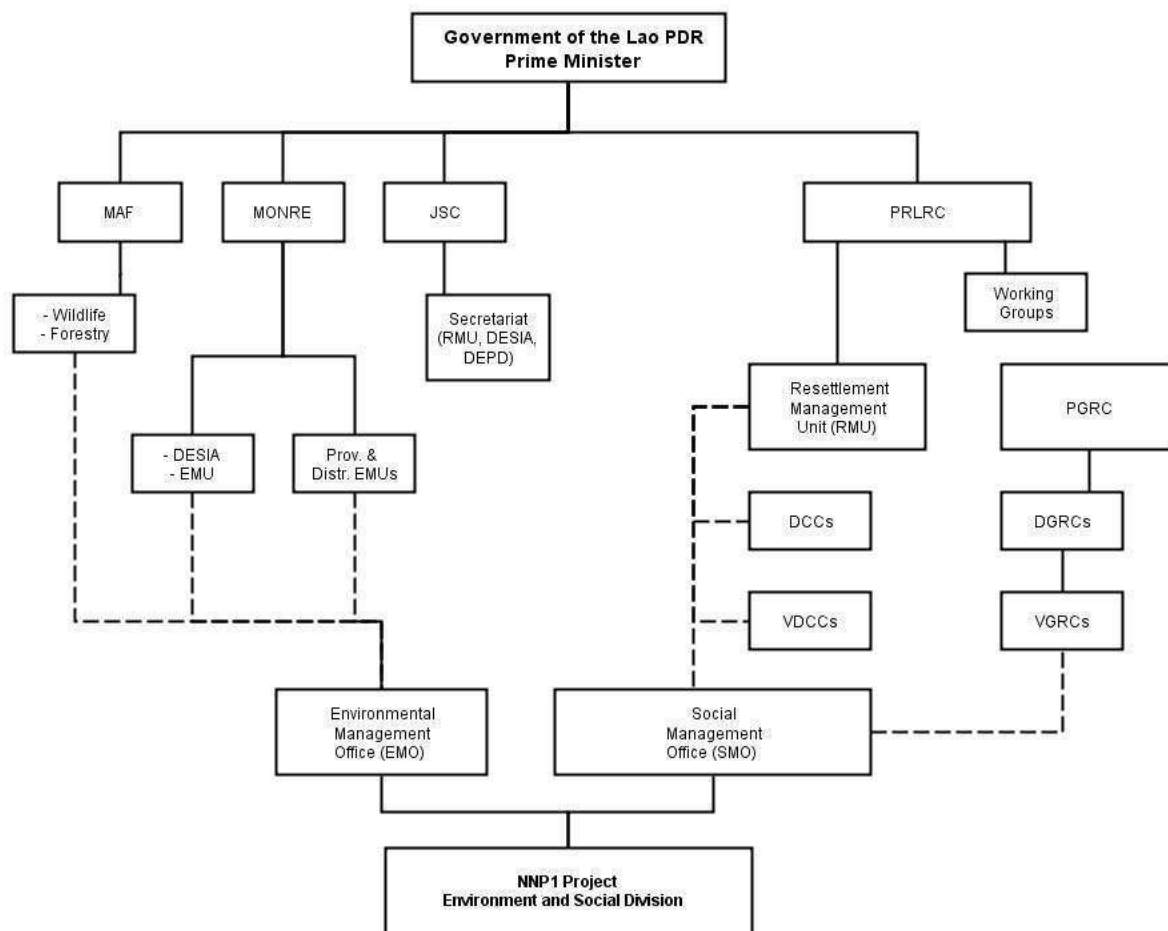


Figure 27: Institutional Arrangements for the NNP1 Project

9.1 Overall E&S Organization for the NNP1 Project

9.1.1 Environment and Social Division

736. NP1PC has established an Environment and Social Division (ESD) of the Project. The ESD consists of an Environmental Management Office (EMO) and a Social Management Office (SMO) to enable the Project to meet all of its environmental and social obligations, including resettlement, compensation, livelihood restoration, and other works. These are all to be carried out in close cooperation and in coordination with the relevant government organizations set up to implement environmental and social aspects of the project, such as the EMU, the PRLRC, the RMU, the DCCs and the VDCs, and government agencies responsible for various works as described above.

737. Among the ESD’s responsibilities are:

- Manage the environmental, social, economic, and resettlement components;
- Monitor and report to the developer on the effectiveness of implementation of the mitigation measures, social development activities, and resettlement program; and
- Coordinate activities during construction and after construction with relevant

government agencies, with the aim of improving the environmental performance of the project during its operating phase.

738. The ESD is the first point of contact for the EMU and other offices of MONRE and the RMU and indirectly (through the EMU and MONRE) for all other government agencies or offices, corporations, or for NGOs involved in the mitigation of environmental, social, and economic impacts of the project and/or sustainable economic and social development of the people. The ESD will also be the main contact between the project and affected people.
739. The ESD will be responsible on the Developer's side to handle all complaints and grievances arising during implementation of the EMP, SDP, and/or the REDP, and will to resolve problems with offended parties as well as the Grievance Redress institutions along the Grievance Redress Mechanism outlined above.
740. An ESD Deputy Managing Director (DMD) heads the ESD on a full time basis. He or she will closely work with the subordinated SMO and EMO Managers, which are responsible for the work of the respective offices. The DMD will report directly to the project proponent Managing Director. His or her role will be to ensure that the mitigation and monitoring measures are implemented and that the applicable standards in the schedules of the EMP, SDP, and REDP and those also applicable to the operation of the project are applied. Breaches of the standards detected during compliance monitoring and mitigation measures undertaken to resolve the problem and the success or otherwise of these measures will be reported to the NNP1PC Managing Director by the DMD.
741. Further duties of the DMD are:
- Coordination, supervision, monitoring and reporting on activities undertaken in the EMP, SDP and REDP
 - Liaising between the Managing Director, SMO and EMO Manager, the Government Agencies, and the contractors for implementation of E&S requirements, and concerned or contracted NGOs.
 - Supervising and monitoring together with the managers of SMO and EMO field activities of ESD staff in relation to implementing the EMP, SDP and REDP.
 - Supervising specific routine technical tasks of the ESD such as water quality monitoring
 - Reporting to the Managing Director.
742. To implement these tasks, the DMD will be aided by full and part time national and international staff and consultants in SMO and EMO; as well as by GoL Relations officers and an ESD administration support.

9.1.2 Environmental Management Office

743. Major tasks of the Environmental Management Office (EMO), mentioned here for reasons of comprehensiveness and described in detail in the environmental documents, is to collect all the baseline data and information and conduct subsequent monitoring of all aspects of the environment that could be affected by the project, such as fish and other aquatic resources,

hydrology, water quality, river bank erosion, forest cover, etc., and implement the mitigation measures in the EMP.

744. Thereby, monitoring environmental indicators in the project area is one task, while monitoring of construction is another. The later includes the preparation of detailed plans with the contractors on the management and mitigation of environmental aspects of different construction sites, including access roads and transmission lines, ensuring the contractors provide adequate environmental facilities and management for the work sites, and monitoring safety of the workers in the work sites; the latter links to activities of the SMO.

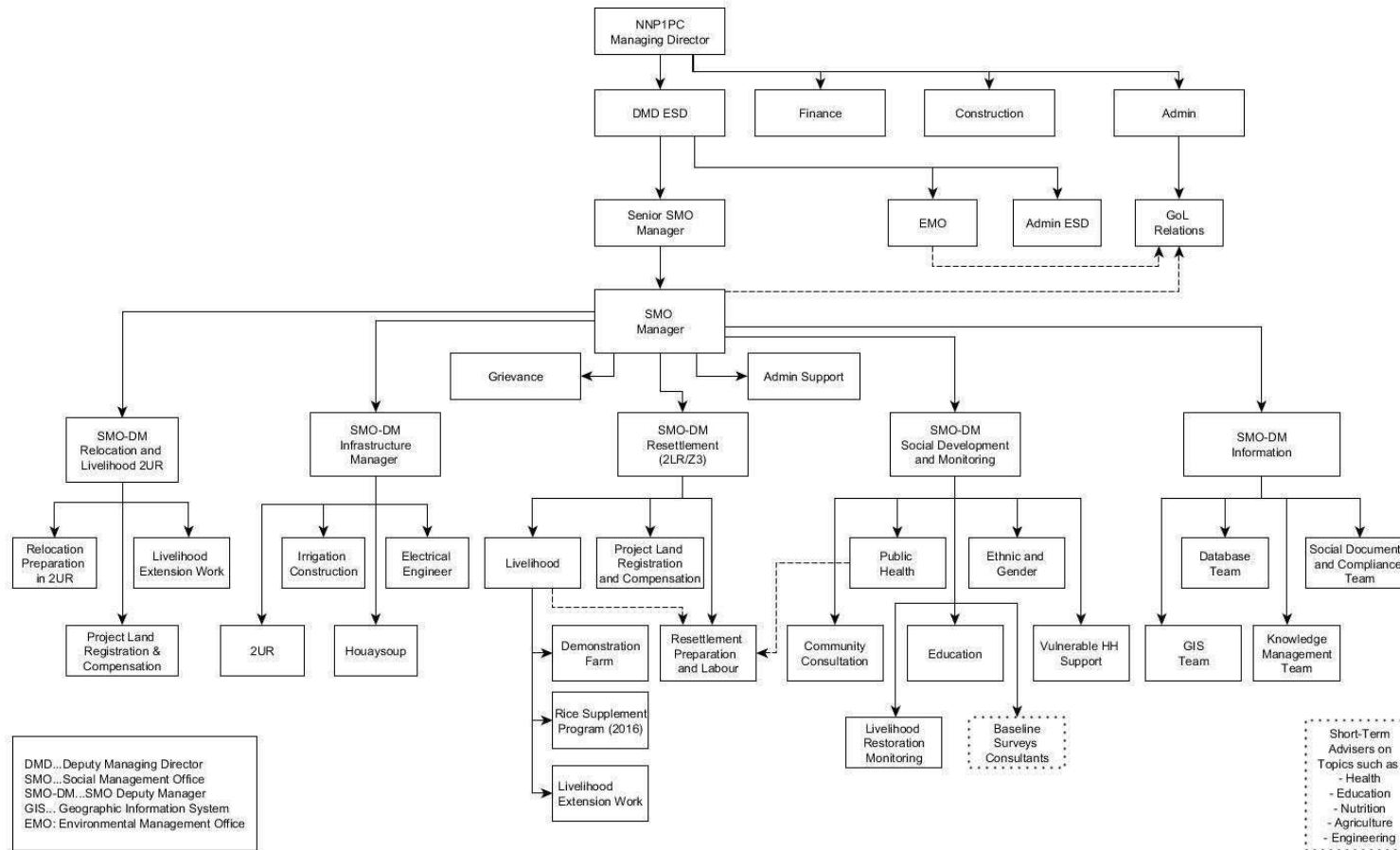


Figure 28: ESD – Organizational Structure with Focus on Social Impacts and Mitigation Measures

Remark: All teams will get inputs from and work together with relevant GoL national, district, and village institutions to achieve the set targets. This chart is still in progress and has not yet officially been approved by the Board of Director and is still susceptible of minor changes.

9.1.3 Social Management Office

745. The social aspects of the Project will be planned, implemented, and monitored by the Social Management Office together with PAPs and GoL authorities. It encompasses a
- i. resettlement section for the resettlement of villages in the lower reservoir area;
 - ii. a livelihood restoration section for the upper reservoir area;
 - iii. an infrastructure section;
 - iv. a social development and monitoring section; and
 - v. an information, analysis, and documentation section.
746. The SMO Office has its main office at the Company's headquarter in Vientiane and several field offices in Bolikhamxay and Xaysomboun Province.

9.2 ESD Vientiane Office

9.2.1 Office Location

747. The Vientiane office of SMO is in the same compound as all other divisions of NNP1PC in Sisattanak District, Vientiane Capital. This allows close cooperation with company management and the other divisions (environment, technical, finance, and admin division). The office is the main base for the social management, the social development and monitoring section and the information, analysis and documentation section.

9.2.2 Social Management

748. The Social Manager and the Deputy Managers of the different sections are currently based in the Vientiane office. From here, the development of the program and the strategic implementation gets coordinated. Frequent field travels ensure communication between the offices and integration of information from the field into management decisions.

9.2.3 Social Development and Monitoring section

749. The Social Development and Monitoring section is considered a cross-cutting section which works in all project zones. Accordingly, most of the staff of the Social Development and Monitoring section will be moving between the different field offices, depending on the tasks needed to be implemented at that point of time.
750. The Social Development and Monitoring (SD) section will have primary responsibility for all consultations in the project area as well as community and human services aspects of the resettlement and livelihood improvement process. It will initiate and monitor consultations, health programs, education programs and a range of community development initiatives.
751. The section will be headed by an experienced Deputy Manager with proven social mitigation and development project experience, who will report directly to the SMO Manager and work closely with the relevant GoL agencies and staff. The SD section will seek intermittent input from an Ethnicity Specialist and a Gender Specialist, both during

detailed planning, and the commencement of implementation, in order to ensure that ethnic and gender aspects are mainstreamed. The SD section will also ensure that the needs of vulnerable groups are addressed.

752. The main tasks of the four teams in the Social Development and Monitoring section will consist of the following:

9.2.3.1 Community Consultation Team

753. The community consultation team has the following tasks:

- Participatory planning support for resettled people and villagers in adjacent villages, ensuring that local concerns and beliefs are incorporated.
- Participatory planning for downstream, the watershed and project construction land areas.
- Establish consultation feedback loops between affected households and project implementing organizations.
- Ensure that gender and ethnic issues are incorporated into planning procedures and implementation.
- Ensure that all affected households are familiar with content and mechanisms of the Grievance Procedure.

9.2.3.2 Health Team

754. The health team has the following tasks:

- Facilitate preparation of a comprehensive long-term health strategy and annual implementation plan for resettled people and other project affected groups.
- Oversee construction of new and upgrading of existing health facilities and the transfer to and orientation/training of Ministry of Health (MoH) staff for these facilities.
- Establish baseline data on the health status of the population in project affected villages; facilitate annual surveys to measure changes in health status against the baseline; report to the project proponent, MoH and any other relevant GoL line ministry on changes in health status.
- Liaise with MoH at national, provincial and district level to link project supported activities with GoL health initiatives.
- Provide direct monitoring and support to Provincial Health Office (PHO) and District Health Office (DHO) staffs to conduct regular monitoring and supervision of health facilities and service delivery standards.
- Liaise with health and safety officers appointed by dam site construction companies on issues related to effects on the population of adjacent villages of risks to health such as water pollution, dusts, and vehicular accidents, and potential risks of STD/HIV/AIDS and other communicable diseases.
- Liaise with multilateral, bilateral and NGO agencies active in health sector programs, to maximize cooperation and minimize duplication; participate in MoH activities to facilitate sector-wide coordination.

9.2.3.3 Education Team

755. The education team has the following tasks:

- Facilitate development of a comprehensive education and training strategy and plan, for resettled people and other project affected groups
- Oversee the reestablishment and upgrading of school facilities
- Assist District and Provincial education authorities in recruiting teachers and link up with GoL education initiatives
- Monitor education programs and school attendance
- Implement the Project's scholarship program

9.2.3.4 Ethnic and Gender Team

756. The ethnic and gender team has the following tasks:

- Ensure ethnic-sensitive planning and implementation by advising and controlling all other project activities
- Implement programs outlined in the Ethnic Development Plan including cultural awareness programs
- Ensure gender-mainstreaming by advising and implementing all other project activities to mainstream measures that will provide opportunities and/or empower women
- Assist the health team regarding different aspects of women's health
- Implement programs outlined in the Gender Action Plan

9.2.3.5 Vulnerable Household Support Team

757. The vulnerable household support team has the following tasks:

- Ensure vulnerable household-sensitive planning and implementation by advising and controlling all other project activities; and
- Implement vulnerable household support programs, including the extension of transitional assistance.

9.2.3.6 Social Monitoring Team

758. Good practice in resettlement requires continuously incorporating the learning that takes place in programs using a variety of implementation strategies and institutional models, allowing the Social Development Plan as well as Livelihood Restoration Programs to evolve as needed. Monitoring provides the mechanism by which to do this. Monitoring and evaluation will occur as part of the overall Monitoring and Evaluation Plan. Participatory self-monitoring by affected people will be essential to accurate monitoring. For example monitoring of the effectiveness of the health team in providing access to health services will be undertaken by individual resettled people through their own personal assessment of the community's access to health services with support by the monitoring team.

759. Taken together, the Social Monitoring Team has two main tasks: the first is to coordinate the establishment of baseline surveys in cooperation with the social development teams

regarding a range of indicators, including social, socioeconomic, and health data. Throughout the following years, the section will then use this baseline data in monitoring the development of the impacted communities along the assessed indicators and propose adaptations to the other sections to fulfil livelihood restoration targets. Also, the Social Monitoring section will work as SMO representative in the Project's Contractor Compliance Management Committee, the joint committee encompassing all divisions of the Company (see section on contractors).

760. The Monitoring Unit will thereby include the following specialists full time or part time:
- i. A project monitoring Specialist with a strong background in mathematics or statistics and a relevant social or natural science plus experience in planning, implementing, monitoring and evaluating resettlement plans or projects to international standards on large hydropower projects, and preferably with relevant experience in Lao PDR or elsewhere in the region.
 - ii. Social Development Specialists with strong background in relevant social sciences and demonstrated experience in organizing and managing socioeconomic data collection and analysis, PRA, group facilitation, and with relevant experience in the Project area.
 - iii. Surveyors with demonstrated experience in household surveys, data input and analysis and participatory rapid appraisal techniques, and group facilitation will be used. Surveyors and monitoring team leaders will have an equal gender mix and local language skills.
 - iv. An Ethnic and/or Gender Specialist who will probably be a member of the social development team will assist the monitoring unit to ensure that Ethnic and Gender issues are included in the various monitoring programs.

9.2.4 Information, Analysis, and Documentation section

761. The Information, Analysis, and Documentation section is a cross-cutting section, cooperating with all other sections in collecting data, managing its storage, analyse data and provide resulting information back to the other sections. This data will be used, too, to compile the social planning and reporting documents, thereby analysing compliance with national and international standards and providing advice to the SMO management team for a decisive analysis. The section will furthermore store all information and documentation along data and document security system. While centralized information is stored and managed in Vientiane, the section has staff in the field offices, responsible for data collection and quality control.

9.2.4.1 Database Team

762. The database team has the following tasks:
- Operation of a database server system
 - Operation of an ICT data management system

- Development of Databases: Census, Asset Registration Access Road, Asset registration 2UR, Asset registration 2LR, Asset registration Houaysoup, Socioeconomic Survey Access Road, Broad Socioeconomic Survey, Health Survey, Grievances, Other DB as necessary

9.2.4.2 Knowledge Management Team

763. The knowledge management team has the following tasks:

- Establishment of a conceptual knowledge management system for SMO
- Implementation as an ICT-based knowledge management system for SMO accordingly
- Processing of field reports and other internal information qualitative information as requested
- Monitoring of the knowledge management system for SMO
- Analysis of data and provision of results to other sections
- Preparation of lessons-learned/best practices reports and tool-kits

9.2.4.3 GIS Team

764. The GIS team has the following tasks:

- Production of general maps of the project area, activity locations and facilities made available upon request
- Production of detailed Asset registration information available in a GIS system, for impact analysis and compensation procedures
- Production of Land Use and Land Use Planning tools available for the resettlement area and 2UR and analysis of activities above full supply level in 2LR
- Production of economic, poverty, vulnerability, livelihood and agricultural productivity and other social mapping

9.2.4.4 Social Documents and Compliance Team

765. The social documents and compliance team has the following tasks:

- Documentation of compliance-related activities
- Checks compliance of activities related to social standards (Lao, Lenders, International)
- Cooperation with Monitoring Unit on Compliance Data Collection
- Regular data analysis to check on compliance inconsistencies
- Provision of information to and accompaniment of monitoring missions
- Provision of compliance reports
- Completion and regular updates of Social Reports as required by the CA and International Financing Institutions
- Facilitation of the preparation of Action Plans

9.3 ESD Xaysomboun Field Office

9.3.1 Office Location

766. In Xaysomboun the SMO will have activities implemented in 2UR and 2LR villages and will coordinate where necessary with GoL at the provincial capital. Therefore, several locations will be operational:
- Thaviengxay, a larger village next to the three villages of 2UR
 - Sopyouak, one of the two larger villages in 2LR
 - Eventually temporary offices in Phalavaek and/or in Xaysomboun town to coordinate with district and provincial authorities of Hom district and Xaysomboun Province
767. For the villages of 2LR, in the resettlement preparation phase staff from the Resettlement section (see below) will be based in the field office in 2LR and move afterwards together with the resettlers to the Houaysoup resettlement site.

9.3.2 Resettlement section 2UR

768. The Resettlement section in 2UR has similar land acquisition and compensation tasks as the Resettlement section for 2LR/Zone 3 inasmuch as it will organize the land acquisition, compensation and resettlement process, and provide all resettlement-related livelihood programs. Further overlapping details are outlined in section 9.4.3 describing the resettlement section of 2LR. While the program in 2UR is smaller than for 2LR/Zone 3 due to minimal impact on housing and lesser impacts of overall land loss, a strong focus on livelihoods activities is necessary and staff will be appointed to work in the 2UR field office. Additional staff from the other offices will backstop the resettlement section, as will staff from the infrastructure, social development and monitoring sections.

9.4 ESD Bolikhamxay Field Office

9.4.1 Office Location

769. Currently, the SMO operates from an office in Pakxan town and from the demonstration farm in the Houaysoup resettlement site. In 2015, the main Bolikhamxay office will move to the owner camp at the dam site. Main SMO sections in Bolikhamxay are the Infrastructure section and the Resettlement section. The latter includes the team which worked on the Access Road compensation process.

9.4.2 Infrastructure section

770. The Infrastructure section will work with the Resettlement Management Unit to provide technical and financial assistance in all infrastructure development related to compensation and mitigation measures for host and affected people, including infrastructure for the provision of all livelihood planning and programs and technical advice for the

implementation and monitoring of the relocation process for households to the new resettlement area.

771. The Unit will be headed by a Deputy SMO Manager with proven infrastructure development experience, who will report directly to the SMO Manager, and work closely with the RMU and other GoL support staff (see below).
772. The tasks of the team in the Infrastructure section will be as follows:
- Coordinate with the RMU on infrastructure issues
 - Ensure access to new sites/adjacent villages through the construction of new bridges and roads; and rehabilitation or upgrading of existing transportation facilities
 - Develop low land paddy fields with well-organized irrigation systems and non-acid soil
 - Ensure that effective water supply is provided to all new sites/adjacent villages, through the installation of wells and piping systems
 - Ensure irrigation is well constructed, water is available when appropriate, and operational at new sites
 - Ensure that housing and other relevant structures are constructed at the resettlement site and for villages with relocation inside village boundaries; and that community and service buildings for resettled people are constructed or rehabilitated
 - Ensure that the resettlement site has reliable electricity supplies and is linked to the Lao grid in accordance with GoL planning

9.4.3 Resettlement section

773. The Resettlement section will work with the Resettlement Management Unit to prepare compensation and resettlement to the new resettlement site, to organize the resettlement process itself, and to provide all resettlement-related livelihood programs. Together with the RMU, it will carry primary responsibility for livelihood restoration and improvement for the villages in Bolikhamxay. In addition, it will coordinate with the RMU in all compensation and relocation issues related to Project Construction Lands in Bolikhamxay Province.
774. The section is headed by a Deputy Manager with proven resettlement implementation experience, who reports directly to the SMO Manager, and works closely with the RMU and other GoL staff. The section includes a livelihood team, a project lands and compensation team, a resettlement preparation team, a site preparation team, and a camp followers team.
775. The activities of the resettlement section encompass all activities to implement a successful resettlement of people from 2LR and Z3 to the Houaysoup resettlement site and cooperation with the host communities including but not limited to:
- Coordinate with the RMU on resettlement issues
 - Ensure establishment of necessary baseline information
 - Prepare all logistical arrangements for resettlement
 - Coordinate resettlement preparation together with the resettlement infrastructure team, including the development of residential and agricultural areas as well as the

preparation of public infrastructure

- Restore and enhance Resettlers livelihoods
- Further tasks of every team of the resettlement section as outlined below

9.4.3.1 Livelihood Team

776. The Livelihood Team coordinates with the RMU to develop suitable agricultural systems and carries out extension and technical support work to ensure food security and income targets for resettled people and villagers in adjacent villages. Core tasks are:

- Support of agricultural activity development
- Ensure sustainable livestock and aquaculture development for all households (resettled people and adjacent population) by training and coaching
- Support of GoL veterinary services
- Establish project nursery(s) for the development of tree crops and domesticated NTFPs and support their proliferation with extension work
- Facilitate management of the village forest resources through zoning, regulations and raising awareness, and through clarifying rights and responsibilities over different land zone areas
- Investigate markets and marketing-chains for agricultural produce and forge links with middlemen and cash crop companies
- Facilitate the implementation of savings and credit schemes.
- Assist villagers in developing off-farm livelihood alternatives including handicraft and small-scale business opportunities and identify market channels
- Together with the Monitoring section, monitor livelihood development until income targets are reached and sustained

9.4.3.2 Project Lands and Compensation Team

777. The Project Lands and Compensation Team has the task to:

- Consult with the PAPs on impacts and the process of land acquisition and compensation
- Coordinate with the RMU to register the assets lost due to construction activities in Project Construction Lands as well as the assets lost to acquire resettlement and relocation sites
- Prepare all necessary papers to document the asset registration and the agreements with the PAPs
- Coordinate with the RMU to undertake cash compensation to entitled PAPs via Bank Accounts

9.4.3.3 Resettlement Preparation and Labour Team

778. The Resettlement Preparation and Labour Team includes the resettlement preparation unit and the labour unit. The Resettlement Preparation Unit has the following tasks::

- Liaise with the Social Development section in carrying out resettlement preparation activities for the PAPs who have to resettle, including adult education, vulnerable

households preparation, resettlement information and consultation

- Liaise with Livelihood section to ensure PAPs benefit from early livelihood activities, where required
- Coordinate with the Site Preparation Team for the resettlement process
- Finally integrate with the site preparation team into the livelihood team
- Liaise with Infrastructure section to ensure all infrastructures are in place for villagers who have to resettle from Project Construction Lands areas
- Implement all activities at the demonstration farm to develop necessary expertise for farming at the resettlement site
- Coordinate with the Resettlement Preparation Team for the resettlement process
- Support DCC and VDC in setting up protocols for camp followers
- Support GoL authorities in monitoring and controlling camp followers activities
- Support the Social Development section in supporting respective teams in all issues relating to camp followers
- Coordinate with the host communities to facilitate a successful transition period

779. The Labour Unit has the following tasks:

- Coordinate with other members of the Contractor Compliance Committee (CCC) to ensure the implementation of the Labour Management Plan
- Support PAPs if they would like to work for the Project
- Coordinate with livelihood activities teams regarding employment trainings and opportunities
- Initiate and facilitate necessary awareness programs
- Conduct site inspections together with EMO to ensure
- Monitor employment targets and recruitment, wages and benefits in coordination with the monitoring team
- Provide a contact persons for worker's grievances directed towards the CCC
- Coordinate support for the Lao Federation of Trade Unions
- Coordinate with the Lao Federation of Trade Unions if they request for conflict resolution

9.5 GoL Organization

780. GoL has established the national level organizations responsible for setting policy and directions, for supervising and monitoring NNP1. The project provides additional resources so that these organizations can provide efficient and effective support to the implementation and monitoring of the mitigation measures and development programs under the project.

9.5.1 Provincial Resettlement and Livelihood Restoration Committee

781. GoL has established a Provincial Resettlement and Livelihood Restoration Committee (PRLRC) to oversee and monitor the planning and implementation of resettlement, compensation, livelihood restoration, and other social development activities of the project according to the provisions in the CA, Annex C, Appendix 5. The PRLRC has established the

Resettlement Management Unit (RMU), the District Coordination Committees (DCC), and the Provincial, District, and Village Grievance Redress Committees (PRGC, DGRC, VGRC); and will supervise and instruct the RMU, the DCCs, and the Village Development Coordination Committees (VDCs) concerning the implementation of the resettlement, compensation, livelihood restoration, and other social measures. The VDCs will be established by the DCC. The PRLRC, now chaired by the Governor of Xaysomboun, will be responsible for these activities in all areas affected by the Project, and will work closely with the Environment and Social Division of the Project.

782. Other members of the PRLRC are District Heads of all the Districts affected by the Project, Directors of the relevant Provincial government offices, and a representative from the Lao Front for National Reconstruction. The Head of the RMU will serve as Secretary to the Committee.

9.5.2 Resettlement Management Unit

783. A Resettlement Management Unit (RMU) has been established by and serves under the direction of the PRLRC, consisting of officials seconded from relevant GoL agencies or personnel hired directly by the RMU, based in one of the two RMU offices in Xaysomboun respectively Bolikhamxay. The RMU administers the resettlement, compensation, livelihood restoration, and other social development activities of the project and ensure participation of all relevant GoL agencies in these activities. A list of activities has been outlined in the CA, Annex C, Appendix 5. The RMU works in coordination with the Social Management Office (SMO) of the Project. The RMU and SMO will have, according to the CA, its office in a District in each of the Xaysomboun Province and Bolikhamxay Province to be determined by PRLRC.
784. The RMU will be headed by a Manager, with first-hand experience with resettlement, compensation and rural development issues. Two RMU Co-Coordiators shall be senior qualified officials, one from each Province (Bolikhamxay, Xaysomboun), with first-hand experience with resettlement, compensation and rural development issues, and selected from GoL line agencies at the provincial level, to work under the direction of the RMU Manager and coordinate the implementation of the social measures in their respective provinces. RMU Members will be selected from GoL line agencies at the provincial level, with other technical staff contracted to assist as needed with the implementation of the social measures.

9.5.3 District Coordination Committees

785. The PRLRC will establish District Coordination Committees (DCC) on recommendation of the RMU in districts affected by the project. The DCCs will work under the supervision of the PRLRC and the RMU, and in cooperation with the SMO. The DCCs will help implement the various registration surveys, resettlement, compensation, livelihood restoration, and other social development works of the Project. This will also include the construction or provision of roads, buildings, rural electrification, bridges, water supply, and other infrastructure projects related to resettlement and livelihood restoration works; provision of

health services, education, occupational training, and other social development programs; agricultural development programs; and cultural and ethnic minority programs. Furthermore, the DCC will participate in the grievance redress processes.

786. The DCCs will consist of the District Governor, as Chairperson, and representatives from the District Natural Resources and Environment Office, the District Public Works and Transportation Office, the District Agriculture and Forestry Office (DAFO), the District Health Office, the District Education Office, the District Information, Culture and Tourism Office, the District Labour and Social Welfare Office, Police, Militia and Army, the Lao Youth Union, the Lao Women Union (LWU), Lao Front for National Construction (LFNC), and other contract staffs required.

9.5.4 Village Development Coordination Committees

787. The DCCs will establish Village Development Coordination Committees (VDC) as necessary in those villages affected by the project. With the support of the SMO and DCCs, the VDCs shall be the implementing body for the management and implementation of the resettlement, livelihood restoration, and other social development works and activities. The VDCs are expected to represent the villagers in the affected areas, and to voice their concerns and assure their needs are met.
788. The VDCs will consist of the Head of the Village as Leader of the committee, and village authorities (Mass organizations, public security, defence, etc.), village elder representatives (Naew-Hom), Lao Women's Union representatives, other skilled members of the community, representatives of all ethnic groups, and representatives of all vulnerable groups, as members.

9.6 *Coordination with Technical Units of NNP1*

789. Mitigation measures related to labour and environment (Labour Management Plan, see SDP) will be implemented by the technical division, contractors, and/or subcontractors. Day to day supervision of the contractors/subcontractors will be part of construction supervision to be carried out by supervision and safety engineers. Ensuring compliance with environment, health, safety and social standards is the responsibility of the ESD. Thereby, the Project uses a respective joint Contractor Compliance Committee involving staff from all divisions of NNP1PC: SMO, EMO, Civils, HR, and Procurement with SMO taking the lead.
790. This Committee will monitor and evaluate the contractors and subcontractors' compliance with environmental, labour, and social components. This monitoring will include unannounced checks and site-visits to assure compliance. Non-compliance with national laws and international commitments and standards regarding environment, health, safety and social standards will have consequences for the contractors' and subcontractors' overall contract-situation with the Project and not just towards ESD. Thus, cooperation with this Committee will be a mutual interest between all involved parties.
791. The bidding packages for the civil works contracts (including the contracts for the access roads and transmission lines) will include clauses covering resettlement and other social

mitigation measures such as

- The contractor and subcontractors shall preferentially hire skilled and unskilled labour from local communities.
- The contractor shall avoid placing fill or spoil on agricultural, cultivated or productive land.
- Consultation must be undertaken with village administration regarding the placement of fill and spoil within village boundaries;
- The contractor shall avoid using agricultural, cultivated or productive land for borrow or cut. Consultation must be undertaken with Village Administration regarding the location of borrow pits or areas of cut within village boundaries;
- The contractor shall assist with the clearance and preparation of replacement land, as identified in consultation with the affected communities and recorded in the updated resettlement plan;
- The contractor shall replace or restore any damages caused to land or structures (including irrigation channels and ditches and other community property resources) to the satisfaction of the PAPs and village administration. If land or structures cannot be restored to their original condition, the contractor must compensate the PAP according to the compensation and replacement rates identified in the resettlement plan and finalized during the process of detailed measurement survey and updating resettlement costs; and
- All resettlement activities will be coordinated with the civil works schedule.
- The contractors and subcontractors have to comply with all social and environmental standards the Project agreed to follow
- The contractors' and subcontractors' employees have to comply with these safeguards and the contractors and subcontractors are reliable to establish a system to contain illegal behaviour.
- The contractors and subcontractors shall comply with the national labour laws and shall take measures to comply with the relevant International core labour standards.
- Disputes between workers and local villagers will be solved via the Grievance Redress Mechanism

9.7 Other Partner Organizations

792. While the Company will establish strong expertise in-house as outlined above, it will rely on external assistance for specific topics – from nutrition advice, to PLUP planning, to establishment of independent market price analyses. Thereby, it will work together with either single national and international expert consultants or with respective, high-reputational institutions. These can encompass civil society organizations, universities, and research centres, depending on the expertise available. This allows the Project to make use of knowledge, but as well to link the activities of the Project to the wider context of development in Lao PDR.
793. Several civil society organizations have already expressed their interest to work together in

implementing common aims. It is thereby understood, that there are different interests involved in this process, with different institutional structures, weaknesses and strengths. However, when properly managed in a transparent way, the Project is convinced that it can become successful for all stakeholders involved.

794. A first, major step is the integration of civil society organizations into the Broad Stakeholder Forum, taking place in Vientiane on May 7 2014. Comments and suggestions (for example to elaborate how to integrate PAPs into social monitoring) have been taken by the Project and integrated into the social documents. Following up from this first meeting, institutions and Project can assess the different areas where cooperation is feasible and promising.

9.8 Coordination between different parties

795. Bringing together the different and diverse tasks to implement the REDP, environmental plans, construction of the dam, and other tasks outside the Project is a difficult tasks, for which the above organizational charts have been developed to allow easier coordination. Regular meetings along the lines of responsibility are necessary, but as well coordination meetings between these different areas:
- On a management level, this will take place regularly, while
 - On a temporary base working groups and communication arrangements will be implemented, for example the Access Road compensation process, integrating resettlement, data management, GoL-relations, grievance, and monitoring staff. Regular meetings with GoL between field staff and lower-rank GoL officers but as well between company management and higher-ranking GoL officers

CHAPTER 10 - Monitoring and Supervision

796. Monitoring arrangement for the NNP1 project will continuously be updated in consultation with various parties involved; the affected peoples by the project, the developers, GoL, ADB and the other lenders.
797. The monitoring process will follow ethnically sensitive approaches that take into account differences in social locations, culture and livelihood systems. A key aspect of monitoring processes is to conduct meaningful consultations with affected people, particularly those from ethnic groups, during internal monitoring and independent monitoring by external monitoring groups. In earlier consultation meetings, participants were mainly represented by village authorities who could understand Lao language, with no special arrangement for minority languages was taken into account. This approach has now been changed, with translation into Hmong provided and village consultation meetings divided into different focus groups, amongst others women, elderly, and youth.
798. Monitoring of grievance resolution from all affected peoples and specifically those from ethnic groups is reflected through the grievance committee at village and district levels as outlined in the previous chapter. Records of complaints and grievances will be kept and semi-annual monitoring reports will provide information on key issues raised by affected people.

10.1 Adaptive Management

10.1.1 Adaptive management approach

799. Adaptive management is an explicit and analytical process for adjusting management decisions to better achieve management objectives. It is a learning tool which recognizes that knowledge about natural resource systems is uncertain, that not every scenario can be foreseen, and that people change their minds during project implementation. Therefore, some management decisions are best been taken in a way that allows to reduce the risk arising from that uncertainty. Trials and iterative adaptations of plans based on monitoring and lessons-learned .
800. The concept of adaptive management is readily understood because it represents "learning by doing". However, actually implementing adaptive management is neither simple nor intuitive. This complexity stems from the large number of interconnected potential scenarios and related uncertainties. Advanced technologies can support organize the relevant information, simplify the analysis of the scenarios, and assist in the search for optimal solutions.
801. 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.

10.1.2 Adaptive management for NNP1

802. Implementation of resettlement and ethnic development programs is one of the situations where adaptive management can be used due to the uncertainties connected to overall social developments as well as changing preferences of individual households. The Project establishes a knowledge management system, based on modern information technologies, which allows iterative adaption of plans based on changed circumstances and success of previous implementation steps. To remain transparent, strategic changes will be implemented in quarterly reports and regularly updated planning documents; provided to the involved stakeholders. Baselines will also be updated with different frequencies depending on the volume of collected information, normally between 6 months and 2 years.
803. The key is thereby constant monitoring internally and frequent monitoring externally, providing the necessary feedback and evaluation of previous steps and tasks ahead as outlined in the next paragraphs.

10.1.3 REDP Key Performance Indicators and Monitoring

804. Internal and external monitoring will use a set of indicative key performance indicators next to the three obligatory tests outlined in the Concession Agreement (Poverty Elimination Test, Maintaining Economic Parity Test, and Net Income Improvement Test). These indicators are neither final nor exhaustive and will be revised as required during the implementation of the social monitoring system. Further indicators on overall community development, e.g. indicators in regard to the Gender Action Plan, overlapping with the REDP, are outlined in the SDP.

Performance Objective	Key Performance Indicator (KPI)
Disbursement of compensation payments	<ul style="list-style-type: none"> • Compensation payments disbursed according to number and category of losses set out in the entitlement matrix (women, men, and vulnerable groups) • Identification of the displaced persons losing land temporarily, e.g. soil disposal, borrow pits, contractors' camps (women, men, and vulnerable groups)
Restoration of Livelihoods	<ul style="list-style-type: none"> • No. of affected persons with replacement agriculture land (women, men, and vulnerable groups) • Quantity of land owned/contracted by affected persons (women, men and vulnerable groups) • No. of households with agricultural equipment (women, men) • No. of households with large/medium/small livestock (women, men) • Number of agricultural plot with access to irrigation(women, men, and vulnerable groups) • No. of affected persons under the rehabilitation programs (women, men, and vulnerable groups) • No. of affected persons who received vocational training (women, men, and vulnerable groups) • Types of training and number of participants in each (women, men) • No. and % of affected persons covered under livelihood programs (women,

Performance Objective	Key Performance Indicator (KPI)
	<p>men, and vulnerable groups)</p> <ul style="list-style-type: none"> • No. of affected persons who have restored their income and livelihood patterns (women, men, and vulnerable groups) • Extent of participation in vocational training programs (women, men) • Degree of satisfaction with livelihood programs (women, men) • % of successful enterprises breaking even (women, men, vulnerable groups) • % of affected persons who improved their income (women, men, and vulnerable groups) • % of displaced persons who improved their standard of living (women, men, and vulnerable groups)
<p>Development of ethnic institutions, values, and traditions</p>	<ul style="list-style-type: none"> • Number of Graves/Spirits relocated • Number of land titles issues to Hmong • Number of land titles issues to Hmong women • Number of Hmong girls attending school • Number of scholarships started by Hmong • Number of scholarships started by Hmong women • Number of personal histories recorded • Number of artefacts collected for the museum • Number of traditions recorded in a detailed way • Number of households achieving food security from own production/cash income • Average Number of smart phones in the household • Number of Televisions per household • Number of Hmong men/women working for salary • Number of sons and daughters studying in urban areas
<p>Employment</p>	<ul style="list-style-type: none"> • Preferential employment for working age member of significantly impacted PAPs • Recruitment of % unskilled workers (women and/or ethnic group people) during construction stage and % semi-skilled workers from the affected area • Priority training of working age member of significantly impacted PAPs • Recruitment of semi-skilled workers. Preferential employment for working age member of significantly impacted PAPs • % skilled workers (e.g. technical/laboratory and administrative/clerical positions) are women and/or Hmong people from the project
<p>Meaningful consultations</p>	<ul style="list-style-type: none"> • How many affected persons know their entitlements? • Number of general meetings (for both men and women) • Percentage of women out of total participants • Number of meetings exclusively with women • Level of participation in meetings of women, men, and vulnerable groups (specify if high, medium, low)
<p>Grievance Redress Mechanism for project-related complaints</p>	<ul style="list-style-type: none"> • Have any displaced persons used the GRM? What were the outcomes? (women, men) • Have grievances been resolved? (women, men) • What are the subjects of the grievances? (women, men)
<p>Institutional Arrangements</p>	<ul style="list-style-type: none"> • Have all land acquisition and resettlement staff been appointed and mobilized on schedule for the field and office work? (women, men) • Have capacity building and training activities been completed on schedule? (women, men)
<p>Benefit monitoring</p>	<ul style="list-style-type: none"> • Changes in patterns of occupation, production, and resource use compared

Performance Objective	Key Performance Indicator (KPI)
	to pre-project situation (women, men) <ul style="list-style-type: none"> • Changes in income and expenditure patterns compared to pre project situation (women, men) • Changes in cost of living compared to pre-project situation (women, men) • Have displaced persons' incomes kept pace with these changes? (women, men)
Health	<ul style="list-style-type: none"> • Nutritional status of Children under 5 and women in reproductive age • Underweight, wasting and stunting of children • Causes of Death • Self-Rated Health Status • Average Number of Unhealthy Days in Past Month • Complications of Pregnancy/Birth • Premature Births • Births to Women under 18
Education	<ul style="list-style-type: none"> • Literacy rates • Highest educational levels • School attendance rate per week for primary and secondary school age children
Public Infrastructure maintenance	<ul style="list-style-type: none"> • Number of functioning water tabs • Number of days per week with solid waste collection • Number of days without electricity shortage per month • Kilometres of roads not passable during wet season

Table 55: Indicative Social Key Performance Indicators

805. A schedule of reporting on implementation of the REDP is described in Table 56. The schedule lists the frequency of monitoring and reporting. This table has to be adapted according to the development of programs as well as adaptations of internal ESD structures in cooperation with GoL authorities and PAPs.

Category	Parameters	Frequency
Planning Stage		
Relocation area	<ul style="list-style-type: none"> • Confirmation of PAPs for the facility plan 	At detailed design
Housing	<ul style="list-style-type: none"> • Confirmation of PAPs for the facility plan 	At detailed design
Paddy field	<ul style="list-style-type: none"> • Confirmation of PAPs for the location and arrangement 	At detailed design
Irrigation system	<ul style="list-style-type: none"> • Confirmation of PAPs for the location and arrangement 	At detailed design
Fish pond	<ul style="list-style-type: none"> • Confirmation of PAPs for the location and arrangement 	At detailed design
Cemetery	<ul style="list-style-type: none"> • Confirmation of new areas • Preparation of the replacement plan and arrangement for spiritual ceremonies 	Before respective mile stone
Construction Stage		
Construction of Resettlement Site	<ul style="list-style-type: none"> • Detailed plan completed according to the entitlement of PAPs 	Before respective implementation mile stone

Category	Parameters	Frequency
	<ul style="list-style-type: none"> • Construction progress of the resettlement sites • Required facilities are constructed according to the detailed design. • Participatory Land Use Planning of the resettlement site land use zones • Completion status of the facilities such as; • Housing area including house facilities and correct alignment of housing according to Hmong cultural requirements • Paddy field arrangement and allocation • Irrigation systems • Fish ponds • Residential areas • Community halls • Access roads • Cemetery 	<p>Monthly</p> <p>Before respective implementation mile stone</p>
Construction workers' area	<ul style="list-style-type: none"> • Behaviour of the contractors' workers from the point of view on the host villagers – compliance with Code of Conduct • Social environmental condition of the contractors' base camp 	<p>Monthly</p> <p>Monthly</p>
Resettlement Stage		
Housing	<ul style="list-style-type: none"> • PAPs' satisfaction levels on housing quality, alignment, and design 	Annual
PAPs	<ul style="list-style-type: none"> • Number of households relocated according to the planned schedule 	Quarterly
Belongings	<ul style="list-style-type: none"> • Number of households relocated according to the planned schedule 	Quarterly
Livestock	<ul style="list-style-type: none"> • Number of households relocated according to the planned schedule 	Quarterly
Cemetery	<ul style="list-style-type: none"> • Replacement ceremonies and transfer conducted 	Before respective implementation mile stone
Completion of Infrastructures		
Community infrastructure	<ul style="list-style-type: none"> • Number and quality of community infrastructure, social infrastructure and services 	Before respective implementation mile stone
Roads	<ul style="list-style-type: none"> • Alignment, width and length of access roads 	Before respective implementation mile stone
Water supply	<ul style="list-style-type: none"> • Number of water supply system • Setting condition of one water tap in each house with an operational water supply 	Before respective implementation mile stone
	<ul style="list-style-type: none"> • PAPs' satisfaction levels at quality of water supply 	Bi annual

Category	Parameters	Frequency
	<ul style="list-style-type: none"> Testing results of water quality 	
Irrigation system	<ul style="list-style-type: none"> Water supply system from the intake to each distribution weir 	Before respective implementation milestone
	<ul style="list-style-type: none"> Water distribution status of each irrigation area 	Quarterly
Agricultural replacement land	<ul style="list-style-type: none"> Condition of agricultural plot developed 	Quarterly
	<ul style="list-style-type: none"> Condition of agricultural plot with land titles (including non-affected plots continuing to be used by eligible APs) 	Quarterly
Operation phase		
Entitlement	<ul style="list-style-type: none"> Entitlement disbursement according to the entitlement matrix for the followings: <ul style="list-style-type: none"> Land entitlement. House entitlement Agriculture entitlement Other commercial activity entitlement Cash compensation Land titles awarded for housing and agricultural plots 	Quarterly
Grievance	<ul style="list-style-type: none"> Kind of grievance Status of the solution by the redress system Time taken to redress complaint Further obligations by the project 	At each progress, to be consolidated Quarterly
Livelihood and income restoration	<ul style="list-style-type: none"> Difference between before and after of the project 	Annual
	<ul style="list-style-type: none"> Development matters of the restoration 	Annual
	<ul style="list-style-type: none"> Further obligations by the project 	Annual
Community infrastructure	<ul style="list-style-type: none"> Utilization and management status 	Annual
	<ul style="list-style-type: none"> Necessity of repair and development 	Annual
	<ul style="list-style-type: none"> Cemetery condition 	Annual
Roads	<ul style="list-style-type: none"> Utilization and management status 	Annual
	<ul style="list-style-type: none"> Necessity of repair and development 	Annual
Water supply	<ul style="list-style-type: none"> PAPs satisfaction levels at quality of water supply 	Annual
Irrigation system	<ul style="list-style-type: none"> Utilization and management status 	Annual
	<ul style="list-style-type: none"> Necessity of repair and development 	Annual
Agricultural replacement land	<ul style="list-style-type: none"> Productivity of agriculture including paddy 	Annual
	<ul style="list-style-type: none"> Improvement of Soil Quality 	Annual
Fishery	<ul style="list-style-type: none"> Establishment 	Annual
	<ul style="list-style-type: none"> Productivity 	Annual
	<ul style="list-style-type: none"> Kind of fish 	Annual
	<ul style="list-style-type: none"> Consumption and trading 	Annual
Demography	<ul style="list-style-type: none"> Birth Spacing Control 	Annual
	<ul style="list-style-type: none"> Qualitative assessment on development of cultural preservation 	Annual

Table 56: Monitoring Plan REDP

10.2 Monitoring and Reporting by NNP1 and other parties

10.2.1 Monitoring by ADB and other Lenders

806. External monitoring will be conducted by experts who are highly experienced and not involved directly in any work of the Project. The experts will have extensive experience with the social issues in the area and familiar with the local language and socio-economic conditions. While different lenders as JBIC and ADB will have their own monitoring missions, in a more formal way lenders will be monitoring via the Lender's Technical Advisors (LTA).
807. The LTA will monitor the project regularly for providing information to the lenders in the latter's interests. It reports to the lenders via a lenders' representative, to which the reports are directed. Accordingly, LTA contracts are signed between a representative of the Project, a representative of the lenders, and a representative of the LTA.
808. The LTA will not just monitor environmental and social aspects of the Project but also financial and technical matters. International Experts in their respective fields will regularly visit the Project and inspect plans and implementation along report analysis and project site visits. A specific characteristic of the LTA's terms of reference is that they might issue non-compliance warnings, ranging over several steps from minor compliance problems to incidences requiring immediately attention.

10.2.2 Monitoring and inspections by MoNRE

809. GoL will also monitor and inspect the Project. Its responsibilities are regulated in CA Clause 34:
- i. GoL has the right to monitor and make inspections at any time and from time to time in regard to the Company's performance of its social obligations either by themselves or by hired external specialists
 - ii. GoL can impose penalties for breaches, violations, and failures as well as impose penalties for failure to report such incidences
 - iii. The Company has to provide support for GoL's necessary inspection and monitoring activities; this obligation is limited by scope
 - iv. The purpose of such GoL monitoring and inspection is to help ensure that the Company meets its, social, health, and safety obligations and to minimize differences of opinion
810. Support for MoNRE's monitoring tasks derives from the Independent Monitoring Agency (IMA)'s responsibility not just to monitor the project, but to train and enhance MoNRE's monitoring capabilities. The IMA's role is defined in the CA, requiring it to consist of experts with international experience in resettlement, social surveys, social auditing and monitoring on projects of a similar scope and size as the Project. The IMA is also responsible for training GoL staff in monitoring methodologies, and is thereby under the direction and supervision of GoL.

811. The Company and GoL shall provide the IMA with all relevant and all reasonably requested data and documentation in order to facilitate the effective monitoring and evaluation of the environmental issues and / or social issues, as applicable. This includes information on the implementation of socio-economic and asset surveys as well as data on income targets benchmarks. The independent Monitoring Agency's monitoring reports will be publicly disclosed⁷⁴.

10.2.3 Other Monitoring and Visitors

812. Further external monitoring will be done by agencies not directly integrated into the Project's organizational structure, i.e. national and international media and non-governmental organizations, for which the project will disclose information in an open and transparent way as outlined in the SIA, following national and international communication standards. Visitors are welcome to the Project site and will receive support from the Project if requested. At the immediate construction site, safety regulations apply.

10.2.4 Coordination of site visits by ESD

813. Site visits will be coordinated between the visitors and ESD. This includes coordination with GoL as well as informing PAPs, so that monitoring can proceed in an effective and smooth way for all involved parties. If several missions are in the Project area, coordination will be facilitated to reduce impact on PAPs, balancing it with the request of independency of the missions.
814. The Project will thereby provide convenient and safe arrangements, without trying to influence external monitoring and adhering to the overall Project policy of transparency. Information will be provided as requested and no restriction will be applied.

10.2.5 Internal monitoring and reporting by NNP1

815. The Concession agreement of the NNP1PC requires the company to engage in continuous, pro-active and comprehensive self-monitoring of the Company's activities, the Project and activities related thereto, all Adverse Impacts, and compliance with Standards, and compliance with the Concession Agreement and the provisions of Annex C. In addition to the requirement to monitor, the Company must notify and identify in writing to the relevant representative of MONRE (with a copy to Department of Energy Promotion and Development, Ministry of Energy and Mines) any breaches of Company obligations or other performance failures or violations under Annex C.
816. Starting from the beginning of preliminary works and consequent construction phase in September 2013 respectively mid-2014, the ESD will be responsible for monitoring the infrastructure construction of the resettlement areas and will establish a monitoring group for this purpose. The monitoring staff will report regularly to the RMU and ESD, GoL, ADB and other Lenders and to lender technical advisors on a monthly base. The reporting will

⁷⁴ Concession Agreement, Annex C, Clause 17

cover various environmental and social activities undertaken and related to the implementation of active environmental and social programs. It will present progress on schedules and other necessary timings, to identify potential difficulties and record corrective measures taken, and to evaluate the results of its own monitoring for the obligations set in the Concession Agreement.

817. The Concession Agreement, Annex C outlines (Clause 33) the obligations regarding self-monitoring of company programs:
- i. Self-monitoring and reporting by the Company to MONRE is intended to be the chief (but not exclusive) means of ensuring compliance by the Company with its obligations
 - ii. It encompasses continuous, comprehensive, accurate, timely, and pro-active self-monitoring of the Project's activities, Adverse Impacts, and compliance with standards and obligations to mitigate these impacts
 - iii. Self-monitoring by the Company will include without limitation the social monitoring indicators in the REDP.
 - iv. Breaches of company obligations have to be provided to MoNRE if it could lead to Adverse Impact on any Person (including without limitation PAPs);
 - v. The Company has to employ qualified, professional and experienced experts and other specialized resources as described in Chapter 18;
 - vi. Results of self-monitoring are not shared or released in any way to the public until and unless GoL has given its prior approval to do so in writing

10.2.5.1 Monitoring of Construction Activities

818. The Construction Monitoring Team (CMT) of NNP1 will undertake, on daily basis, a compliance monitoring of the contractors' environmental and social activities as per the ADB Environmental, Health, and Safety guidelines, the approved Environmental Management and Monitoring Plan, sub plans and site specific environmental plans prepared by the contractors. The contractors are also required to report to the developers about their progress, their monitoring system and their monitoring data on a monthly basis.

10.2.5.2 Monitoring of Operation Activities

819. Environmental and social impacts that will occur during the operation phase starting in late 2018 have been assessed in NNP1 environmental and social documents. These will be regularly updated, in particular before the start of the operations through confirmation surveys, submitted to MoNRE and ADB for approval. An Environmental Management and Monitoring Plan specific to the operations phase shall also be prepared before the starting, covering the issues requiring particular attention and monitoring.

10.2.5.3 Monitoring of Water Quality

820. The project's water quality monitoring program linked to the monitoring of reservoir water levels and water discharges by NNP1 power station is described in the environmental safeguard documents. The water quality monitoring program takes into consideration the water quality of inflows into NNP1 reservoir, the potential for fisheries in NNP1 reservoir,

and opportunities for uses of water and aquatic resources at the downstream. The water quality monitoring program will start early on of the construction period by sampling water quality on monthly basis. This will allow not just assessment of Project impacts, but also to differentiate impacts from another hydropower project upstream. The program will continue till the rainy season of 2022, after 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 added. The quarterly reports by the working group will include the measured water quality parameters and the sampling points.

10.2.5.4 Monitoring of Resettlement Activities and Measures for Women and Ethnic Groups

821. To closely follow actual social impacts by the resettlement activities, including compensation of affected households, appropriate monitoring and feedback of monitoring outputs will be conducted. The first change will be result from resettlement. Changes in location, land and water uses will directly affect the resettled peoples, especially during initial stage for the first 5 years.
822. The resettlement process for affected people in Khum Hatsaykham and Zone 2LR (4 villages) need to be completed before the rainy season of 2015 and 2018 respectively to avoid that people are negatively affected and/or marginalized. 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 cropping. The working group 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 peoples housing and livelihoods with all data disaggregated by gender and ethnicity; satisfaction of affected ethnic minorities with resettlement process; implementation of ethnically sensitive social development and livelihood activities; health indicators by ethnic groups.

10.2.5.5 Monitoring of Fish Catch

823. Fish catch monitoring program will be established for new fish pond program and fishing in the reservoir. The program will adopt a participatory approach, and consist of some fishers in each village monitoring their daily fish catch by documenting types, numbers and sizes of fish caught. During bi-annual group interviews in each of the villages of 2LR, Khum Hatsaykham, Ban Hat Gniun and Ban Thahuea, these data will be discussed to review fishing grounds, fishing methodologies, 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 obtain cash and imputed income from fisheries, collection of NTFP's, and hunting. These monitoring and surveys will be carried out at least twice before the wet season of 2018, enabling estimation of appropriate cash compensation to affected households to be finalised, if such compensation is required based on information obtained during surveys and

monitoring activities. The quarterly monitoring 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 2012.

824. At the downstream villages and the upstream villages surveys are required if any project impacts can be expected on household fish catch after the rainy season of 2018. If the village surveys that will be held at all upstream and downstream villages starting in the dry season of 2012 – 2013 determine that households income may be impacted (trade and consumption of fish), a household fish catch monitoring program would be set up at the villages that would be similar to that monitoring program proposed for the villages of 2LR, Ban Hatsaykham, Ban Hat Gniun and Ban Thahuea. If during monitoring activities it may turn out that the proposed monitoring schedule and/or targeted fishing households would need adjustments, this will be reported.

10.3 Independent Monitoring

825. For projects that are deemed by ADB to be highly complex and sensitive, as NNP1, ADB requires the client to engage an independent advisory panel during project preparation and implementation as outlined above. The NNP1 IAP was formed in 2013 and includes four international experts with high reputation and knowledge on their specific field of expertise. One member is a specialist in Involuntary Resettlement with decades of working experience in Laos and with international development institutions; a second member is a Hmong expert.
826. The IAP meets at least three times during the project design, pre-construction and construction phase and twice annually thereafter. Visits to the project area are arranged at the IAP's request, including field visits. IAP members are supplied with complete sets of documents before field visits and will be briefed in Vientiane. The IAP normally visits the greater project area and the project proponents for a week or two.
827. After each meeting the IAP provides the Sponsors, GoL, and ADB with a signed copy of its findings and recommendations before departure. For social issues, ADB requires that the IAP review issues of Involuntary Resettlement and Indigenous Peoples and social documents to address them; and, if necessary, recommend changes in project design to comply with the SPS SR2 on Involuntary Resettlement and SR3 on Indigenous Peoples. In addition, the IAP will also review issues and concerns related to women and other vulnerable groups and propose measures to address them. This includes, but not be limited to:
- i. Resettlement: Assess whether resettlement has been minimized, whether sufficient preparation has been undertaken for restoration of income and living standards of the affected peoples; and review the timetable, budget and institutional capacity to implement resettlement. And also assess the adequacy of the resettlement sites and determine the need for Broad Community Support (BCS).

- vii. Indigenous Peoples: Review whether Indigenous Peoples have security of tenure over forest and forest products, whether the Resettlement and Ethnic Development Plan (REDP) are culturally appropriate, if cultural heritage requires protection and establish that meaningful consultation has taken place. And also assess the adequacy of the resettlement sites and determine the need for BCS.
- viii. Other social plans: Review measures to protect and improve the socio-economic conditions of the project affected people and make recommendations as appropriate.

10.4 Disclosure of Monitoring Reports

- 828. NN1PC will consolidate internal monthly reports with key findings from the on-going monitoring and agreed actions taken to address any issues arising during the monitoring period. This monthly progress review will ensure that important issues are immediately rectified. NN1PC will prepare quarterly monitoring reports, the monitoring indicators and format to be agreed with ADB, on REDP implementation and submit this to ADB for review and public disclosure on ADB's website. NN1PC will prepare a mid-term report on REDP implementation after commercial operations date (COD). NN1PC will agree with ADB on a proper form and substance of various monitoring reports to be submitted periodically. At the end of the resettlement implementation period, NN1PC will prepare a resettlement completion report.
- 829. Semi-annual monitoring reports will be prepared by the IAP and LTA based on review of NN1PC internal monitoring reports, site visits and interviews with affected people. Monitoring reports will be made available for public disclosure on ADB website. The detailed terms of reference for external monitoring will be agreed with Lenders for the pre-construction, construction and operations phases of the Project.

Part IV – Zone-Specific
Compensation, Livelihood
Restoration and Resettlement
Action Plans

CHAPTER 11 - Sequence of Activities by Project Zones and Sub-Zones

830. The following Gantt-Chart outlines the major activities the Project will conduct in the following ten years. Activities started already as well as social monitoring apply to all Zones until 2028. Key dates of the REDP already achieved include:

11.1 Consultations

- Consultations initiated from 2007
- Environmental & Social Obligations, Annex C, Concession Agreement (CA), signed April 2013
- Intensive community consultations with Project Affected Persons (PAPs) starting from May 2013
- BCS Assessment extended from September 2013 to May 2014
- Land Acquisition and Compensation Procedures (LACP) discussed and agreed with PRLRC December 2013
- LACP for Access Road discussed and agreed with PAPs December 2013 - January 2014
- Good Faith Negotiations undertaken in 2LR, March and April 2014
- Draft Entitlements and Social Documents disclosed on NNP1 website March 2014;
- National and international consultation forums May 2014
- Final Social Documents disclosed June 2014;

11.2 Resettlement Site Development

831. Resettlement Site Development starts also in 2014, in two phases:

- Phase 1: from mid-2014 to March 2015, the Houaysoup resettlement site will be prepared for the early resettlement of Hatsaykham village, including house construction, provisional public infrastructure, PLUP with PAPs from Zones 2LR and 3, paddy rice fields demarcation and pasture development including soil improvement.
- Phase 2: March 2015 to late 2016, remaining house construction for villagers from 2LR, public infrastructure finalized, paddy rice fields, pasture, and cash crop fields developed, and an irrigation system installed

11.3 Resettlement Zone 3

- Mid 2014: Asset Registration and updated Baselines for Hatsaykham
- April 2015: Hatsaykham to relocate before Lao New Year
- 2nd half of 2014: Cash compensation for final assets not compensated in kind

11.4 Resettlement Zone 2LR

- 2nd half of 2014-mid 2015: Asset Registration and Baselines for villages of 2LR
- As above: Livelihoods support programs commence
- 2015-2016: Spiritual ceremonies conducted for relocation of graves in 2LR
- Dry season 2017: 2LR villages relocate to Houaysoup and self-relocation where this option is preferred
- Cash compensation for non-replacement assets to be paid at the time of resettlement

11.5 Resettlement Zone 2UR

- Late 2014-mid 2015: Asset Registration and Baselines for villages of 2UR
- As above: Livelihoods support programs commence
- First quarter of 2018: House relocation of 15 villagers in 2UR completed
- 2nd Half 2015: Assets not compensated in kind will be compensated in cash

11.6 Livelihood Activities and Monitoring

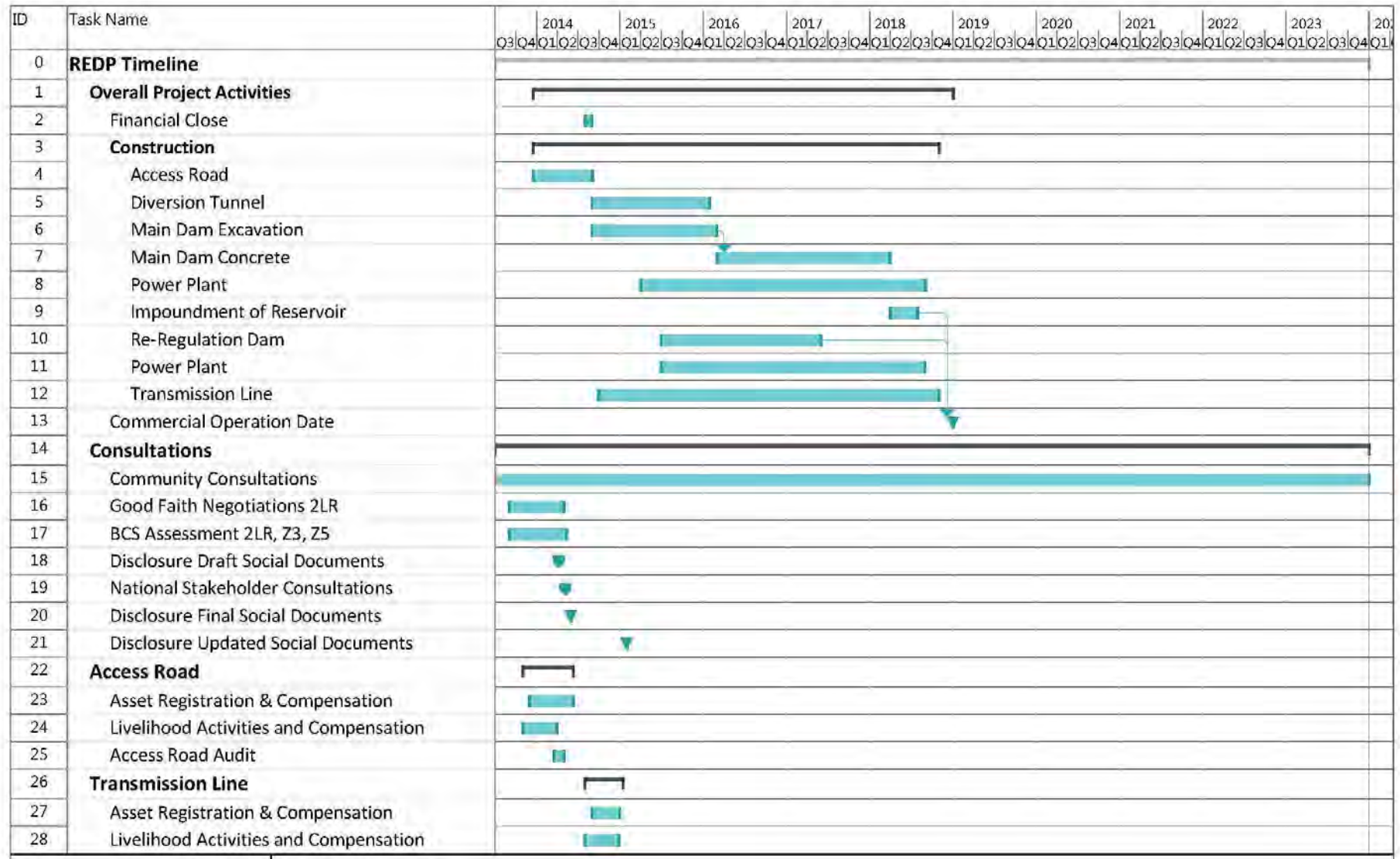
- Family financial management training already started in affected and host villages
- June 2014: livelihoods support activities also start in all REDP zones and will extend until the end of 2023, five years after COD.
- Social monitoring accompanies resettlement and livelihood activities, extending until end of 2028, ten years after COD.

11.7 Access Road/Transmission Line

- November 2013-May 2014: Access Road asset registration and compensation
- Transmission Line-related asset registration and compensation activities will start after finalization of the route alignment, scheduled for late 2014

11.8 Gantt-Chart

832. Detailed activities outlined in this REDP are presented in the following Gantt-Chart.



ID	Task Name	2014				2015				2016				2017				2018				2019				2020				2021				2022				2023				2024			
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2								
29	Transmission Line Audit																																												
30	HSK Resettlement Development																																												
31	Project Land Certificate																																												
32	Design																																												
33	Topographic Survey																																												
34	Asset Registration																																												
35	Compensation																																												
36	Construction 1st Phase																																												
37	UXO Survey																																												
38	Rehabilitation of Existing Access Route																																												
39	Paddy Field and Cultivation Land																																												
40	Soil Improvement																																												
41	Grassland Preparation																																												
42	Grass Plantation																																												
43	Access Route and Transmission Line																																												
44	Bridge Construction																																												
45	Barge Operation																																												
46	Land Clearance for Residential Area																																												
47	House/Community Building Construction																																												
48	Construction 2nd Phase																																												
49	UXO Survey																																												
50	Paddy Field and Cultivation Land Preparation																																												
51	Soil Improvement																																												
52	Construction Irrigation System																																												
53	Grassland Preparation																																												
54	Grass Plantation																																												
55	Access Route and Transmission Line																																												
56	Cash Crop Preparation																																												
57	Land Clearance for Residential Area																																												

ID	Task Name	2014				2015				2016				2017				2018				2019				2020				2021				2022				2023				2024			
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2								
58	House/Community Building Construction																																												
59	Zone 3																																												
60	Pre-relocation Phase																																												
61	Asset Registration & Compensation																																												
62	Resettlement Preparation																																												
63	Livelihood Programs Pre-Relocation																																												
64	Transition Phase																																												
65	Hatsaykham Physical Relocation																																												
66	Transitional Assistance																																												
67	Rice Supplement Program																																												
68	Stabilization Phase																																												
69	Post-Relocation Livelihood Programs																																												
70	General Community Development																																												
71	Health Program																																												
72	Social Mitigation Program																																												
73	Education Program																																												
74	Zone 5 (Host villages)																																												
75	Water Supply Program																																												
76	Livelihood Programs																																												
77	Health Program																																												
78	Education Program																																												
79	Co-Management Programs																																												
80	Public Infrastructure Upgrade/Construction																																												
81	Zone 2UR																																												
82	Livelihood Development																																												
83	Livelihood Programs																																												
84	Relocation for 15 HHs																																												
85	Relocation Preparation																																												
86	Relocation																																												

ID	Task Name	2014			2015			2016			2017			2018			2019			2020			2021			2022			2023			2024	
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	
87	Land Acquisition																																
88	Asset Registration																																
89	Cash Compensation																																
90	Public Infrastructure Upgrade/Construction																																
91	Agricultural Land Development																																
92	In-Kind Compensation																																
93	Safety Zone Monitoring																																
94	General Community Development																																
95	Health Program																																
96	Education Program																																
97	Zone 2LR																																
98	Pre-FC Social Activities																																
99	Pre-Relocation Phase																																
100	Asset Registration																																
101	Relocation Preparation																																
102	Pre-relocation Livelihood Programs																																
103	Spiritual Ceremonies																																
104	Livelihood Plan Development for																																
105	Compensation Process																																
106	Physical Relocation																																
107	Self-Resettlement																																
108	Resettlement to Houaysoup																																
109	Transitional Assistance																																
110	Rice Supplement Program																																
111	Stabilization Phase																																
112	Post-Relocation Livelihood Programs																																
113	Overall Community Development																																
114	Health Program																																
115	Education Program																																

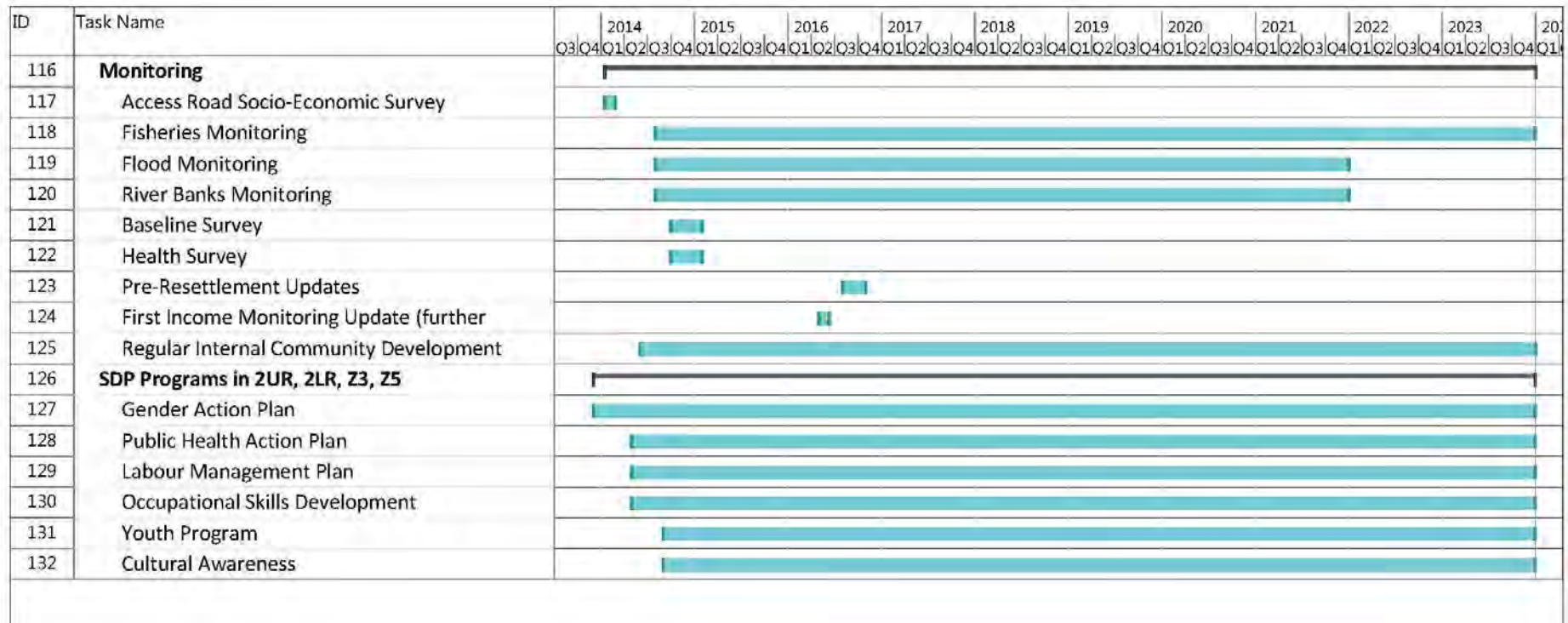


Table 57: Gantt-Chart REDP-related Project Activities

Social Impacts During Construction Works

833. The following Chapters 12 to 16 address Project impacts caused by pre-construction and main construction works, and the action plans to avoid, minimise or mitigate such impacts.
834. Chapter 12 summarises activities for Access Roads, for which a separate Land Acquisition and Compensation Plan - Access Roads (LACP-AR) has already been prepared and disclosed on the NNP1 website. Chapters 13-16 present the Project's LACP sub-plans for Zone 3 (Hatsaykham village), the Houaysoup Resettlement Site, Zone 5 (Host Communities) and the Transmission Line.
835. Each subplan presents the impacts, Detailed Entitlement Matrices, resettlement and livelihood mitigation measures, specific measures to address impacts on ethnic groups and vulnerable households, and the budgets to manage the various activities. Each will be updated as a stand-alone document on a rolling basis. Zone-specific implementation schedules are included in Chapter 11.
836. Mitigation measures against adverse social impacts of the construction itself and related influx of workers and camp followers are presented in the SDP.

CHAPTER 12 - Access Roads Land Acquisition and Compensation Program

12.1 Background

837. To connect the dam site and resettlement site with major roads, access roads will be constructed or upgraded. To address impacts from land acquisition, a Land Acquisition and Compensation Plan – Access Road (LACP-AR) was prepared and endorsed by MoNRE in 2013. This chapter presents summarised information from the full document, which is available on the NNP1 website⁷⁵. A An international social consultant hired by ADB conducted a Social Compliance Audit in March 2014 with the objective of assessing the adequacy of the LACP-AR and its implementation against SPS, and to identify any non-compliance or outstanding social risks associated with the works.
838. The project site is located 41 kilometres north of the provincial capital of Bolikhamxay, Pakxan, and will be connected to National Road 13 South which links Vientiane Capital with Pakxan via a provincial road from Pakxan to Ban Nonsomboun. The Project will upgrade and construct the section of road from Ban Nonsomboun to the Project Site at Ban Hat Gniun. Additional works are needed on other permanent and temporary roads. These are listed in Table 58, as is the construction status as of March 2014. The LACP-AR was prepared to describe the scope of impacts of these roads, and outlines the plans to avoid, mitigate or minimise such impacts.

⁷⁵ www.namngiep1.com

Work	Dimensions	New/ Improve	Commenced	Completed Works	On-going Works
A ¹ Road	L=21.2km Width=3.7m Ex.=80,000m ² Emb.=51,600m ² Sub-basecourse=8,160m ³ Pipeculvert=9locations Ditch=24,500m	Rehabilitate then improve	Feb-2013; Rehabilitation Jan-2014; Improvement w/o PPA Feb-2014; Improvement within PPA	Rehabilitation	Siteclearing Excavation Embankment Sub-basecourse Pipeculvert Ditch
JICA Road	L=2.25km Width=3.5m Pipeculvert=2locations	Rehabilitate	Dec-2013	Rehabilitation works	To be rehabilitated depending on actual road condition
T12 Road	L=0.72km Width=3.5m Ex.=6,000m ² Emb.=6,000m ² Ditch=720m Drainage=4locations	New	Jan-2014	Siteclearing Excavation Embankment Ditch Drainage	N/A
T5 Road	L=0.88km Width=3.5m Ex.=2,000m ² Emb.=7,000m ² Sub-basecourse=2,200m ³ Pipeculvert=7locations Ditch=880m	New	Jan-2014	Siteclearing Excavation Embankment Pipeculvert	Sub-basecourse Ditch
P1 Road	L=0.32km Width=3.7m Ex.=50,000m ² Emb.=10,000m ² Sub-basecourse=16,000m ³ Pipeculvert=26locations Ditch=890m	New	Jan-2014	NA	Siteclearing Excavation Embankment Sub-basecourse Pipeculvert Ditch
P2 Road	L=1.84km Width=3.0m Ex.=55,700m ³ Emb.=3,600m ² Sub-basecourse=2,250m ³ Pipeculvert=7locations Ditch=1,840m	New	Feb-2014	N/A	Siteclearing Excavation Embankment
T1&T2 Road	L=1.58km Width=3.0m Ex.=64,300m ³ Emb.=5,000m ² Sub-basecourse=3,800m ³ Pipeculvert=5locations Ditch=1,570m	New	Feb-2014	N/A	Siteclearing Excavation Embankment
T4 Road	L=1.94km Width=3.5m Ex.=7,000m ³ Emb.=1,900m ² Sub-basecourse=1,560m ³ Pipeculvert=5locations Ditch=1,940m	New	Feb-2014	N/A	Siteclearing Excavation
Temporary bridge	L=5.7m Width=3.0m Truss Composite Plate Girder type Ex.=1,000m ³	New	Feb-2014	N/A	Siteclearing Excavation
Quarry at STA 9.4km	Area=2.0ha Capacity=9,000m ³ Ditch=80m Production of crush stone=7,600m ³	New	Mar-2014	Siteclearing	Ditch Production of crush stone

Ex.=excavation;

Emb.=embankment.

1=Estimated 0.8km from STA 6.7km to STA 1.5km of Road A lies within Houay Ngua Provincial Protected Area (PPA).

Table 58: Project Roadworks - construction status as of end March 2014

839. From Ban Nonsomboun to the dam site, improvement of existing dirt roads and construction of new roads are required as follows:
- Upgrading from Ban Nonsomboun to Ban Hat Gniun and the JICA road from Ban Hat Gniun to the dam site, totalling 30.45 km length
 - A permanent road from Ban Hat Gniun to the dam site, 11.16 km length
 - Temporary roads between Ban Hat Gniun and the dam site, totalling 16.81 km length
 - Total length of Access Road improvements, upgrade, and new construction between Ban Nonsomboun and the NNP1 dam site will be 58.42 km. etc.
840. The compensation process for these different roads started in 2013 with asset registration, establishment of unit rate assessment methodology, declaration of cut-off date, with actual payments starting from January 2014 and completed early May 2014. The compensation principles and the policy framework are described in Chapter 5 of this REDP.
841. The updated LACP-AR provides detailed information on community profiles and socioeconomic information, scope of land acquisition and resettlement impacts, consultation and disclosure activities, grievance mechanism, detailed entitlement matrices, schedule, budget, and implementation arrangements.
842. In March/April 2014, the Project updated the Socioeconomic Survey in all villages, encompassing all PAPs in Nonsomboun and Sisavath and all households of the communities of Thahuea, Hat Gniun, and Hatsaykham, which included an assessment of vulnerable households. Results of the survey are available in the Updated LACP-AR.

12.2 LACP-AR Audit Findings

843. To satisfy its SPS and Safeguards Requirements 4 covering Special Requirements for Different Finance Modalities (SPS, SR4, paragraph 12), the ADB commissioned a social audit of the Project's implementation of the LACP-AR. This was undertaken in March 2014. The audit's aim is to assess the adequacy of the Plan's implementation, to identify gaps between the Plan and what is actually happening in affected villages, and to determine whether implementation is consistent with ADB's SR2 (Involuntary Resettlement) and SR3 (Indigenous Peoples) principles and requirements. Any gaps between policy and practice would be addressed in a Corrective Action Plan (CAP), which sets out necessary steps to improve social safeguards compliance. The audit is confined solely to social safeguards compliance on the Project's access roads and to its corresponding implementation Plan. Nonetheless, the extent of compliance on these initial road works will reflect the status of the Project's implementation approach and capacity, and whether they are sufficiently robust enough to address future safeguards demands elsewhere in the Project. Previous ADB missions and the IAP have conducted assessments of the compensation process several times as part of their overall Project assessment and specifically for the Access Road:
- ADB's Due Diligence Mission in October 2013
 - IAP Mission in November 2013
 - IAP Mission in May 2014

- ADB's Due Diligence Mission in May 2014

844. The Social Safeguards Compliance Audit Mission in March 2014 recognized the greatly improved activities of the Project in implementing the LACP-AR, and confirmed broad compliance with SR2 and SR3. Since 2013 NNP1PC has enhanced its institutional structure, data management, consultation process and land acquisition procedures, greatly improving its compliance with both its own CA as well as with ADB's SPS requirements under SR2 and SR3. The table below highlights issues for remedial action, which are described more fully in the Social Safeguards Compliance Audit Report (2014).

Gaps/ Issues Identified	Proposed Corrective Action Plan	Target Schedule of Implementation in 2014	Responsible Unit	Budget	Remarks
<p>1. Asset Registration. Finalise asset registration for Right Bank roads, analysis of socioeconomic survey data, and include in updated LACP-AR</p>	<ul style="list-style-type: none"> • Obtain final endorsement from PRLRC for Houaysoup area as designated resettlement site • Obtain go-ahead from DCC for final asset registration on land use in the Houaysoup site • Finalise asset registration and compensation payments for Road T8, Spoil Area and Dyke Area on right bank • Work with DCC to manage newcomers settling in affected villages, particularly in Hatsaykham • The DCC should issue instructions preventing newcomers settling in village Hatsaykham, especially as the cutoff date for the main construction area has not yet been declared • Update data for LACP-AR 	<ul style="list-style-type: none"> • Immediately but no later ADB Board approval of the Project • mid June • continual • mid June • 1st June 	<ul style="list-style-type: none"> • RMU and PRLRC • PRLRC • DCC • SMO asset registration team + RMU + DCC • DCC + SMO • DCC • SMO 	<p>Overall SMO operation budget including staffing, operations, and equipment of 13,238,000USD before COD (see REDP)</p>	<ul style="list-style-type: none"> • This is urgent and should be immediately finalised • This is urgent and should be immediately undertaken
<p>2. Outstanding Compensation Payment and land re-registration</p> <p>2.a Remaining 13% of identified APs have not yet been compensated</p>	<ul style="list-style-type: none"> • Finalise outstanding compensation payments for left bank roads • Obtain a sign-off from the village <i>naibaan</i>, DCC and RMU on road sections immediately after asset registration is completed. Subsequent compensation 	<p>Earliest possible, depending on GRM outcomes</p> <ul style="list-style-type: none"> • mid-July 	<p>RMU + AR Compensation Team (ARCT)</p> <p>RMU +</p>	<p>100,000USD in extra compensation values (including Line 2c)</p>	<ul style="list-style-type: none"> • In the future, the cutoff date should be endorsed by <i>naibaans</i> and confirmed by the DCC. Any compensation claims thereafter should go through the GRM

Gaps/ Issues Identified	Proposed Corrective Action Plan	Target Schedule of Implementation in 2014	Responsible Unit	Budget	Remarks
	<ul style="list-style-type: none"> applications should go through the GRM • Arrange for re-registration of amended land titles in Sisavath and Nonsomboun 	<ul style="list-style-type: none"> continuous as sections are completed 	ARCT RMU + DONRE/ PONRE		
2.b No decision yet on compensation arrangement for community owned land	Finalise community land compensation	<ul style="list-style-type: none"> by end September • by mid-July 	ARCT + RMU	7400USD	
2.c Not all APs have been identified	Undertake asset registration for Right Bank and finalise AP numbers. Validate initial estimate of 40HHs	Upon completion of asset registration: validation by end June	ARCT + RMU	See line 2a	These numbers are not anticipated to be significant but list has to be completed
3. Access Restrictions - watercourses have been disturbed restricting access of farmers to their fields	<ul style="list-style-type: none"> • Consult with farmers prior to work being undertaken and to ensure access is retained to fields. Wet season watercourse blockage was drawn to the attention of the technical department, and corrective action requested. • The Project should coordinate with engineers to ensure Sisavath farmers are able to access their fields with tak taks, and that blockage of natural watercourses for farmers in Hatsaykham is overcome so that 2014 rice 	<ul style="list-style-type: none"> immediately for both actions 	ARCT + Technical Unit + Contractor	Budget included in the overall construction costs	<ul style="list-style-type: none"> • In most instances this has already been remedied, but some complaints in Sisavath and Hatsaykham still need addressing. • The AP in Hatsaykham was additionally advised that the GRM is the method to lodge any complaints with the Project

Gaps/ Issues Identified	Proposed Corrective Action Plan	Target Schedule of Implementation in 2014	Responsible Unit	Budget	Remarks
	fields have temporary access to irrigation sources prior to the village's relocation				<ul style="list-style-type: none"> This should be monitored until issue has been settled
<p>4. Grievance Procedure: this remains limited in application. Training is required at all levels so that APs and GoL understand the process of GRM.</p>	<ul style="list-style-type: none"> Meet with RMU to discuss programme of steps required, for implementation after Phimai Institute formal GRM, conduct training for affected villages, RMU and DCC SMO to invite Nam Theun 2 RMU to share its GRM experiences with NNP1, or RMU/DCC to visit Khammouane province Establish GRM database and issue grievance application forms to village GRM committees 	<ul style="list-style-type: none"> by end June 	<p>RMU + SMO + DCC</p> <p>as above + Village GRM committees</p>	<p>9,000 USD for trainings with GoL</p>	
<p>5. Labor Management Plan, Public Health Action Plan - The Project needs to sharpen both its understanding and monitoring of its obligations with respect to supervising the activities of contractors and sub-contractors and advance the implementation of these Plans.</p>	<ul style="list-style-type: none"> Training/Orientation on Labor Management Plan, Public Health Action Plan including monitoring of contractors' and sub-contractors' performance in relation to the LMP The Project to keep track of how many persons from affected villages are able to obtain work and under what contractual conditions It is recommended the RMU is 	<p>immediately for all steps</p>	<p>Project Labor and Health Management Unit + Contractors + RMU/DCC</p>	<p>figures congruent as in the SDP/REDP: divided according to needs in the different areas of the PIZ; a total figure of 437,000USD for health including camp followers and SMO labour management lump-sum before COD;</p>	<ul style="list-style-type: none"> Obayashi is implementing many good environmental practices, but it is not fully compliant with good practice / the measures contained in the project Sub-Plans. Some current practices have to be modified, but good practice is easily achievable. As a goodwill gesture, it is recommended that

Gaps/ Issues Identified	Proposed Corrective Action Plan	Target Schedule of Implementation in 2014	Responsible Unit	Budget	Remarks
	<p>supported to work with the DCC to define boundaries of Thidadao site, to restrict where camp followers may settle, and to address infrastructure problems arising from contractors' needs as well as from arbitrary settlement of newcomers</p> <ul style="list-style-type: none"> • The TLC sub-contractor must cover the open sullage water pit to prevent outbreaks of malaria, dengue and other water-related diseases occurring • Contractor and sub-contractor to appoint designated person responsible for first aid, ensuring training if necessary, plus monitoring to ensure that 1st Aid equipment is always kept fully stocked • The issue of clean water supply for Hat Gniun and Thidadao area must urgently be addressed by the Contractor • The Project must improve its monitoring of Contractors' activities, including prevention of contamination of local water sources 			<p>Additional values derive from SMO operation budget including staffing, operations, and equipment of 13,238,000USD before COD as outlined in the REDP</p> <p>Further values derive from the overall, original contractors' budgets, as contracts are budgeted based on implementation according to Project Standards</p>	<p>the Project arranges a daily bus to transport school children daily to and from Thaheua and Hat Gniun</p> <ul style="list-style-type: none"> • To underpin good relations with affected villages, it is recommended that Thaheua village water supply is fast-tracked • Domestic water supply for Hat Gniun must urgently be addressed before the 2014 wet season
<p>6. Employment and other livelihood opportunities for local community members</p>	<ul style="list-style-type: none"> • NNp1 to review data from the socioeconomic survey (which is under way), and to screen for a variety of employment 	<ul style="list-style-type: none"> • by July 	<p>SMO + Contractor + sub-</p>	<p>A total of 360,000USD for occupational skill development before COD divided over the</p>	

Gaps/ Issues Identified	Proposed Corrective Action Plan	Target Schedule of Implementation in 2014	Responsible Unit	Budget	Remarks
	<p>possibilities and establish a focal point which people seeking work can approach</p> <ul style="list-style-type: none"> Explore other livelihood opportunities like some villages (e.g. Hatsaykham) are intending to provide vegetables and livestock to the Contractor on a regular basis. 		<p>contractors</p> <p>SMO livelihood support team</p>	<p>PIZ according to necessity between the different areas</p>	
<p>7. Public Health Action Plan</p>	<ul style="list-style-type: none"> The PHAP must be urgently brought forward to address current and future health issues relating to camp followers, drug use, labour/community relations, water and sanitation demands with Hat Gniun village as a priority action area 	<ul style="list-style-type: none"> immediately 	<p>SMO + district and village health workers</p>	<p>See above</p>	<p>Training of local health workers is high priority, as are water, sanitation infrastructure prior to increased presence of labor force + camp followers</p>

Table 59: LACP-AR Corrective Action Plan

CHAPTER 13 - Zone 3: Resettlement Action Plan for Construction Area

845. There is only one affected village in Zone 3, which is Ban Hatsaykham (village), a sub-village of Ban Hat Gniun. Zone 3 is the construction area for the main dam, the regulation dam and related facilities.
846. Ban Hatsaykham is located on the left bank of the Nam Ngiep River, about 2.5kms downstream from the main dam site and before the regulation dam. The village was founded in 1993 by Hmong families migrating from Phou Hong area near Phou Katha. Its residents are related to upstream Hmong, including in Zone 2LR and some households migrated from 2LR villages to Hatsaykham over the past 20 years. Village access is by foot or motorcycle through rugged terrain via a dirt path that can be travelled by 4-wheel drive vehicles during the dry season, but during the wet season is inaccessible. Though the village is located beside the river, transport along the river is difficult during the rainy season due to the many rapids, rock outgrowths, and cascades in this part of the river. It is about 21 km to its district centre, Bolikhan District.
847. Ban Hatsaykham is located in the reservoir area of the re-regulation dam and all households will be inundated. The location of the main components is shown in Figure 3. The inundated area is limited in the current residential area but the area is also affected by the construction preparation area such as base camp and saddle dam. As a result, Ban Hatsaykham will be affected by construction activity from Phase 1. Construction of the contractor's camp will be scheduled in the earliest stage, so Ban Hatsaykham will be resettled as early as possible with a projected physical relocation date before Lao New Year 2015. A social management program to address impacts from workers and camp followers-relations has also been prepared, as described in the SDP.

13.1 Socioeconomic Profile

13.1.1 Demography and Population Changes

The village was founded in 1993 by 13 Hmong families from the Wang and Xong clans, migrating from Phou Hong area near Phou Katha. These families had relationship and relatives upstream including in Zone 2LR. The migration was guided by GoL’s policy. The village is administratively amalgamated with Hat Gniun, a Lao Loum village located a few kilometres away.



Figure 29: Khum Hatsaykham

- 848. A census and socio-economic survey were conducted with every household of the village, to determine all the expected losses and better plan the social and economic development activities needed to mitigate losses.
- 849. Survey results show the original 13 families have now expanded to 33 households with a total affected population of 218 people (Table 60). Of these, 9 persons are of Lao ethnicity.

Item	Village
	Hatsaykham (sub-Village of Ban Hat Gniun)
Population Structure (people)	217
Household Number	33
Male (people)	110
Female (people)	108
Size of Household(people/HH.)	6.58
Ethnicity	Hmong: 208 Lao Loum: 9*

Table 60: Population Profile of Zone 3 (Source: People number by Survey 2011 and ethnicity by Survey 2012)

Remark: in the 2011 survey, all PAPs of Hatsaykham declared themselves Hmong

- 850. Population structure is shown in Table 61.

Age	Male	%	Female	%	Total	%	M:FRatio
<5	17	15.74	19	17.27	36	16.51	0.89
5-10	16	14.81	21	19.09	37	16.97	0.76

Age	Male	%	Female	%	Total	%	M:FRatio
10-15	17	15.74	17	15.45	34	15.60	1.00
16-20	12	11.11	13	11.82	25	11.47	0.92
21-25	12	11.11	11	10.00	23	10.55	1.09
26-30	9	8.33	5	4.55	14	6.42	1.80
31-40	14	12.96	9	8.18	23	10.55	1.56
41-50	3	2.78	6	5.45	9	4.13	0.50
51-60	4	3.70	3	2.73	7	3.21	1.33
>61	4	3.70	6	5.45	10	4.59	0.67
Total	108	100.0	110	100.0	218	100.0	0.88

Table 61: Age and Sex Structure of Hatsaykham (Source: Field Survey 2011)

851. Comparing census results from 2005 with the Census of 2011, a population increase from 165 to 218 can be seen, i.e. a population growth of 32.1%. Points for the resettlement action plan are as follows;

- Around half the population is under age 15 and females exceed males by 12 % in this generation.
- Among older children, males and females are almost same number.
- The generation from 26 - 30 years old is extremely small, especially for females

13.1.2 Ethnicity

852. Most villagers are from the Hmong ethnic group. One HH is headed by a Lao Loum husband, who came from Ban Tha Bat in 1996 and married a Hmong woman. 9 people of the HH, except his wife, are registered as Lao Loum, including relatives of his wife.

13.1.2.1 House Style

853. The house style is mainly one-storey floor type built on rammed soil with the kitchen separate from the main house. But some elevated Lao-style houses for bed rooms have been adopted, with kitchens of Hmong type. It means the villagers will not always maintain customary Hmong style and will adopt alternatives as preferred.



Figure 30: Typical House Style in Ban Hatsaykham

13.1.3 Social Organization and Cultural Relations

854. Social Organization and Cultural Relations follow the general pattern as discussed in Chapter 7. Of special importance is the historical as well as continuing clan-based relation to the villages of 2LR, where people from this community originate. This led to the request to resettle together with PAPs from 2LR rather than the alternative, which was to move closer to the centre of their current administrative unit, Hat Gniun.

13.1.4 Infrastructure

855. As seen in Table 62, infrastructure and services in Ban Hatsaykham are poor. Water, both for drinking and other household uses, comes from the river or the nearby stream. More than sufficient water is available throughout the year and the quality is considered fairly good.

856. With the exception of a school for 1 to 3 grades, public services are available in the main administrative village of Ban Hat Gniun. The village has privately owned small shops,

similar to those in other villages, where soaps, detergents, and other daily household goods can be purchased.

857. As elsewhere, a significant number of villagers are members of the Lao Women's Union, Lao Youth Union, and Lao Workers' Union.

Items	Existing Condition
1. Infrastructure / service	
Electricity	None - but due to be provided in 2014 by EdL under a rural electrification program
Drinking water source	Nam Ngiep, Houay Say
Water use source	Nam Ngiep, Houay Say
Transport/ Communication Problem	Dirt Road dry season only Boat with engine No telephone line, but mobile phone is available already.
2. Social Welfare	
Market	None
Pre Primary/Nursery	None
Primary School	Grade1-3; at Ban Hat Gniun for Grade 4-5
Temple	None
Health Centre	None
Cemetery	1.2 ha
Grocery	Available
Water Supply	Available
Underground Water Well	None
3. Private and Public Organization (number of members)	
Lao Women's Union	30
Lao Youth Union	52
Lao Workers' Union	7

Table 62: Infrastructure of Hatsaykham (Source: Field Survey 2011)

13.1.5 School Attendance

858. Hatsaykham has a one-room school for grades 1 to 3. School attendance rates are low, during main agricultural seasons due to the need of children's help. Furthermore, the regular non-presence of the assigned teacher reduces the number of school days for children from Hatsaykham. This reduces even further in higher grades, where students have to walk

several kilometres to Hat Gniun.

859. Khum Hatsaykham has a newly established school with Grades 1 to 3, and with one teacher on service. To continue their studies beyond Grade 3, the children have to travel 4 kilometres to Ban Hat Gniun. Some children stay overnight at Ban Hat Gniun, while some choose to commute by boat.

13.1.6 Literacy

860. The Project has used educational levels as proxy indicator for literacy. Similar to most other rural communities in Lao PDR, nearly 32 per cent of the people in Ban Hatsaykham have no formal education or have had only a couple years of schooling. 48 per cent of the people have attained primary school education, but not higher. Another 19 per cent of the people have attained high school education. Nearly all of the people who have completed primary or high school education are younger residents. 2 persons have completed university education.

Education		
No Formal Education	70	32.1%
Primary School	104	47.7%
Secondary and High School	42	19.3
University	2	0.9%

Table 63: Education Profiles of Affected People of Zone 3 (Source: Field Survey 2011)

13.1.7 Health

861. As with the villages of Zone 2LR, where the residents are also Hmong, the people of Khum Hatsaykham practice animism. When people become ill, they first turn to local animist spiritual healers or traditional medicines. When illnesses become more serious, they go to modern health facilities in the district of Bolikhan or to the provincial hospital at Pakxan. While road access to Bolikhan is difficult during rainy season, Pakxan can be reached first by boat and then by car all year long in around 2 hours. After the access road has been completed, Bolikhan can be reached in half an hour by motorbike or car.
862. Table 64 lists the illnesses reported by the people of Khum Hatsaykham at the time of the survey. Diarrhoea is the most prevalent. All the communicable diseases reported are seasonal and temperature-dependent with the levels of rainfall and humidity playing an important role in their occurrence. Missing sanitation facilities are a further aggravating factor.

Village	Number of People								
	Malaria	ARI	Diarrhoea	Fever	Lung	Skin disease	Eye disease	Dengue fever	Parasites
Hatsaykham	0	0	7	3	4	0	0	0	0

Table 64: Infection Diseases Found in the Surveyed Villages of Zone 3 (Source: Field Survey 2011)

13.1.8 Gender Issues and Status of Women

863. Consultation meetings with female villagers resulted in the following gender issues being identified by PAPs:
- Around 24 % of females have no formal education and around 25 % did not complete primary school
 - Early marriage (15 to 16 years)
 - High demand of physical labour including raising of children and care of livestock, as well as most of house works
 - Informally no property rights for females recognized
 - No traditional right to divorce for females
 - Husbands as lone decision makers; practice of polygyny
 - No opportunity to learn new livelihood activities as weaving, tailoring, and food preservation techniques
 - Health problems such as diarrhoea, womb pain, body ache; distance to Pakxan hospital is a further health-related issue and access available only during the dry season

13.1.9 Information and Services

864. As outlined in the section 4.10, personal communication channels have been an important component for the acquisition of information. Without electricity, all-year weather road, or telephones, most means of communication are restricted. However, during the past few, these facilities are increasingly being introduced, opening up the community to improved sources of information. With the commencement of construction activities, an even more strong interaction with outsiders will take place.

13.1.10 Agriculture and Horticulture Landuse

865. Table 65 presents the patterns of land use in Khum Hatsaykham. As with the other villages upstream from the dam site, about 86 per cent of the total village land is forest area. 18 per cent of the total land is considered privately held. Of this, about 96 per cent, or 14 per cent of the total land area, is agricultural land. 68 % of the privately held agricultural land is for rice production, with the ratio of paddy land to upland rice land about 34:61, not too different from the ratio found in other communities upstream from the dam site. Only about 0.70% of the total land area are residential plots.
866. 8.8 per cent of the total land area is considered public or common property. Most of that is public grassland for grazing. The other public properties are a cemetery and school land.
867. Much of the forest land is used by or managed by the community. About 40 per cent of the total area and 52 per cent of the forest land is community and conservation forest. Another 22 per cent of the total area and about 29 per cent of the forest land is production forest. 11 per cent of total area is un-stocked forest.

Land Use	Hectares	%
Private Properties		
Residential area	5.48	0.62
Paddy rice field	33.76	3.85
Upland rice field	60.6	6.90
Fish Pond	0.68	0.08
Other Cultivated Land	38	4.33
Total Private Properties	138.52	15.78
Public Prosperities		
Cemetery land	1.20	0.14
School Land	0.70	0.08
Grass Land	67	7.63
Total Public Properties	68.90	7.85
Forest and Others		
Un – stocked forest	97	11.05
Production forest	193	21.98
Community Forest	244	27.79
Conservation Forest	107	12.19
Buffer Zone	25	2.85
Other land use	4.60	0.52
Total Forest Land	670.6	65.34
Total	878.02	100.00

Table 65: Land Use Pattern of Zone 3, Khum Hatsaykham (Source: Field Survey 2011)

868. The average agricultural holding is about 0.85 ha, of which 0.53 ha is private holding and the other 0.32 ha jointly cultivated. A full accounting of the land holdings of the villagers was made at the time of the survey, to enable adequate compensation calculation.

13.1.11 Rice Sufficiency

869. An assessment of rice sufficiency showed that 64 per cent of the villagers grow enough rice themselves to consume for more than 10 months of a year round. The remaining 36 per cent of them suffer from rice shortages for 1 to 8 months a year. For those months, they mainly rely on food purchases or exchange in kind. As with households in 2UR and 2LR, the Project will make a qualitative analysis of all of these households to understand how rice insecurity is linked to food insecurity. In the period immediately following relocation, food insecurity will not be an issue due to the planned Rice Supplement Program. However, additional information on food insecurity will outline the households for whom livelihood development requires additional inputs.

Village	Number of households	Households with year-round rice sufficiency (months)		
		12 - 10	10 - 6	6
Hatsaykham	33	63.6 (%)	30.3 (%)	6.1 (%)

Table 66: Rice Sufficiency in Khum Hatsaykham (Source: Field Survey 2011)

13.1.12 Livestock

870. Livestock is an important socioeconomic factor in Hatsaykham with most households owning animals and some households having a large number of large livestock. The following table provides an overview:

Livestock	Total Number of Livestock in Hatsaykham
Cattle	155
Buffalo	166
Pigs	248
Goats	20
Chicken	713
Fighting Roosters	8
Ducks	34

Table 67: Livestock in Hatsaykham (Source: SES Access Road 2014)

13.1.13 Forest Utilization

871. Non-Timber Forest Products are not an important source of cash income but are used for home consumption, complementing other food elements as described in Chapters 4 and 7. Preliminary analysis of data from the Access Road Survey finds that timber products are increasing in importance for household income.

13.1.14 Hunting

872. Hunting is an important tradition as well as livelihood activity for people from Hatsaykham, with men out of contact for days to spend time in the forest to hunt birds and animals. To avoid resource conflicts with local hunters, the Project's Code of Conduct explicitly denies workers from outside the right to hunting in the area.

13.1.15 Fisheries

873. Fisheries are an essential element of nutrition for people from Hatsaykham, who even in low fishing season consume fish several days per week, as a preliminary analysis of fish consumption from Access Road Socioeconomic Survey Data show. The Project implements a fish-catch-monitoring program to complement this assessment, to grasp the seasonal changes, difficult to be assessed via a broad baseline survey.
874. As elsewhere in the area, river fishing is the task of the men. They use cast nets, fishnet, and sometimes fishhooks. While most of the fish they catch is for home consumption, some surplus is on occasion sold at the market, at Ban Somseun or at Pakxan.

13.1.16 Other Sources of Income

875. Household income of people in Khum Hatsaykham comes from livestock and fishery. Hunting and trade & service income are the next most important sources of cash income as presented in the next section.

13.1.17 Imputed Income

876. During the 2011 survey, no imputed income was assessed. The Project recognizes that imputed income is an important factor for rural households depending on subsistence livelihoods, and will integrate respective assessments into the legal baseline study 2014. Preliminary data from the Access Road show that imputed income in Hatsaykham still encompasses a large portion of total income (see section 4.18).

13.1.18 Cash Income

877. The 2011 survey finds that the total income of the households of Khum Hatsaykham is consistent with that of other villagers upstream from the dam site, in this case around 8 million kip (1,000 USD) /household per year. Updated data will be provided after the conduction of the legal baseline survey.

Activities	Amount (kip / year)	Percentage (%)
Rice production	294,900	3.59
Livestock	3,244,848	39.45
Forestry and Plantation Trees	38,181	0.46
Vegetable	158,060	1.92
Fishery	1,330,909	16.18
Hunting	884,848	10.76
Non Timber Forest Products (NTFPs)	414,545	5.04
Wages	166,667	2.03
Handicrafts	0	0.00
Trade and service	850,000	10.33
Other	842,393	10.24
Total	8,225,351	100

Table 68: Yearly Household Income Activities (Source: Field Survey 2011)

13.1.19 Total Income

878. The Zone 3 RAP will update the total household income estimates based on new information gathered in Baseline Survey. However, preliminary data analysis suggests that the total income (including imputed income) far exceeds the cash income assessed during the 2011 survey, which corresponds to the risen values of household expenditures, outlined in the next section (see section 4.20).

13.1.20 Household Expenditure

879. Based on 2011 data, the major expenses of affected people are for daily living; food, clothes, education for children, and medicines and health care. Other expenditures are for investments in agriculture, for seed and tools. 70 per cent of households did not report any debt. Of those who did, 3 were because of health costs, 2 for investments, and 2 for other reasons.

880. As preliminary data from the Access Road Socioeconomic Survey shows, see Table 37, expenditure patterns change in quantity and quality. Food and drinks including alcohol continue to account for a third of household expenditures in Hatsaykham. Health care and education materials remain also an important expenditure and so do clothes. Changes are increased investments into accommodation development and petrol.

13.1.21 Poverty

881. While Hatsaykham is on community level poorer than other REDP villages according to the 2011 assessment, changes are now beginning to emerge with better access to markets and infrastructure. This also diversifies the inequalities between the households, because while most villagers can now rely on a strengthened economic structure, indicated for example by the livestock data presented above, a few households in the community remain poor. The vulnerability-assessment for the Access Road noted 6 poor households in Hatsaykham.

13.1.22 Vulnerable Households

882. 4 of these six poor households also meet other criteria of vulnerability: 2 households with a female Head and 2 households with disabled family members. While they overlap with households experiencing rice insufficiency, special attention will be paid by the Project to the specific kinds of vulnerability, which will extend transitional assistance, develop household-specific alternative livelihood options, and provide health support. For households having persons with physical disabilities, care will be taken to ensure the replacement housing is easily accessible.

	No of vulnerable HH*	Landless	Elderly	Female	Disabled	Absolutely Poor	Other Problems
Hatsaykham	6	0	1	4	0	3	3

Table 69: Vulnerable Households in Hatsaykham (Source: Vulnerability Report Access Road 2014)

**Remark: HHs might be found with several indicators of vulnerability*

13.2 Scope of Land Acquisition and Resettlement

884. Residents of Ban Hatsaykham will lose all their residential properties and their productive lands. The whole community of 33 household and 218 people needs to be resettled. Their choice is to resettle with villagers from 2LR to the Houay Soup Resettlement Area.

885. There will be environmental impacts around the construction area, affecting water quality, fishing, creating dust and noise, as well as waste. Infrastructure, such as an access road, will need to be built before construction begins, and this, too, will have impacts on water, noise, etc. The construction will require influx of a large number of workers, and this will also affect the local physical as well as social environments.

886. Because of these impacts as well as the eventual loss of all lands, the people of Ban Hatsaykham will be moved already early 2015 to reduce the impacts from the construction site.

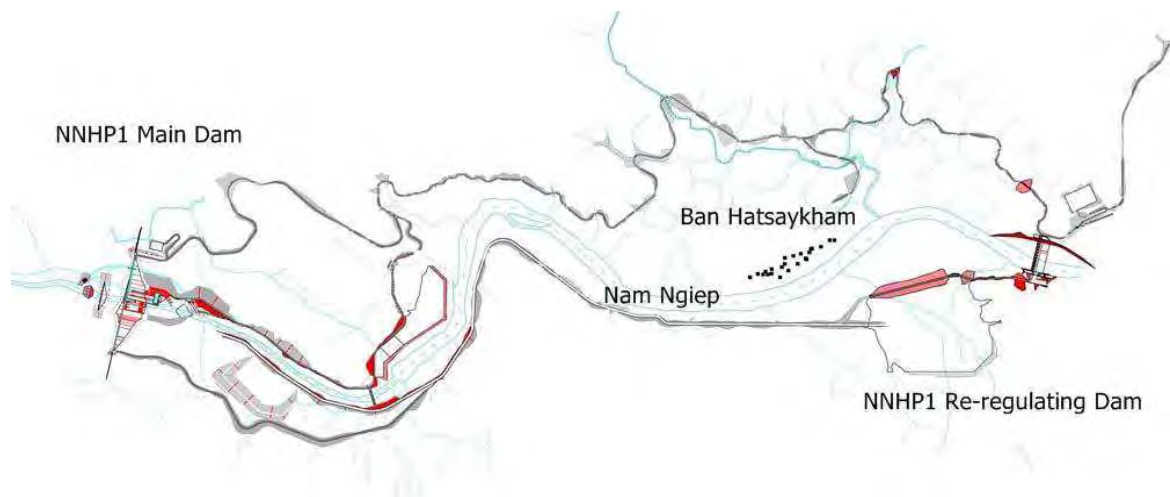


Figure 31: Map of Affected area of Khum Hatsaykham by Inundation

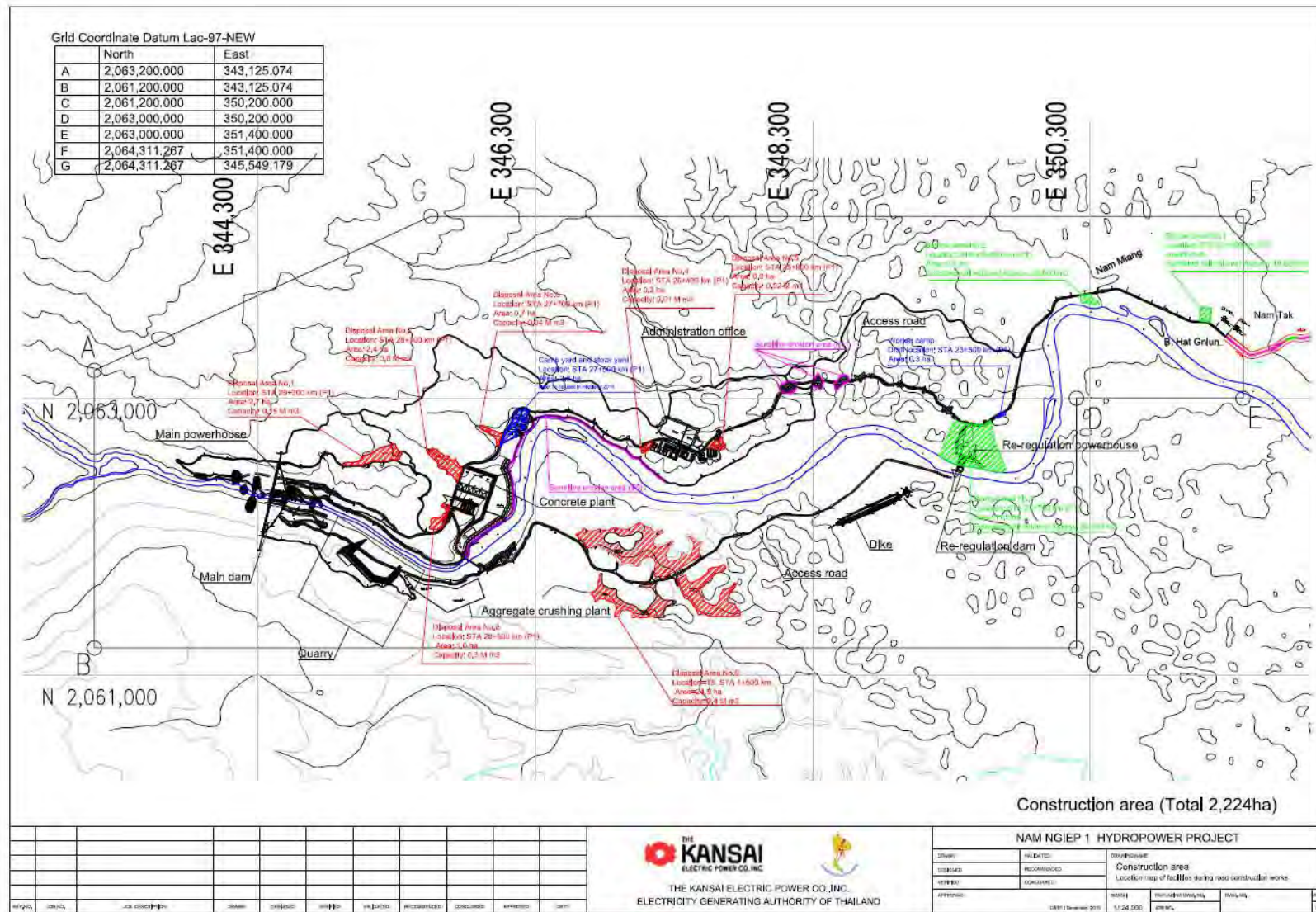


Figure 32: Map of Affected area of Khum Hatsaykham by Facilities

13.2.1 Loss of Structures

887. In Hatsaykham, all 33 houses will be inundated by the re-regulation pond. Thus, all households have to resettle. Further structures are presented in Table 70.

Structures lost	# of structures
1. House	33
2. Granary	11
3. Field hut	-
4. Animal Pens	12
5. Fence	*
6. Water well	-

Table 70: Losses of Structures in Zone 3
(Source: Field Survey 2011)

* These data are currently missing and will be registered during the Confirmation Survey to be conducted after Cut-Off-Date and together with all other assets compensated accordingly.

13.2.2 Loss of Lands

888. Impact on Land for Zone 3 results from three different sources: Land acquisition for the Access Road, Land Acquisition for Construction Land, and Inundation by the re-regulation pond. Impacts regarding the Access Road are covered separately by the LACP-AR. Due to the need for resettlement to Houaysoup, all households are already categorized as significantly impacted and therefore eligible for income and livelihood restoration measures.

Category of Impacts	Description of Impacts	
Loss of agriculture land:	Paddy rice 33.76 ha Upland rice 60.6 ha Other cultivated land 38 ha	Fish pond 0.68 ha Grass land 67 ha
Loss of residential land:	Residential 5.48 ha	

Table 71: Loss of Lands in Hatsaykham (Source: Field Survey 2011)

13.2.3 Loss of Crops and Trees

889. These lands include furthermore a number of trees such as Agar Wood and fruit trees that have been planted by the villagers. They will have to be compensated, with the PAPs able to keep the salvaged wood.

890. In addition to any compensation for the loss of these lands and other resources in cash and/or in kind, the project will initiate changes to resource utilization patterns that can provide people with stable and sustainable livelihoods (for NNP1 compensation, resettlement, and livelihood restoration policies and entitlements please refer to Chapters 5-7).

Category	Tree Type / Age	Number of Trees Impacted
Loss of fruit trees or standing crops:	Mango	234
	Jackfruit	99
	Tamarind	15

Category	Tree Type / Age	Number of Trees Impacted
	Longan	15
	Coconut	4
	Banana	635
	Lemon	26
	Orange	35
	Rambutan	0
	Milk Custart	7
	Guava	0
	Pineapple	12,150
Agar Wood	3-5 years	1620
	3-14 years	864
Teak	3-5 years	37
	15 years	20
Hardwood	2-5 years	633
	3-5 years	4

Table 72: Loss of Trees in Zone 3 (Source: Field Survey 2011)

13.2.4 Impact on Income and Livelihood

891. Resettlement to the Houaysoup site will bring new opportunities and constraints, amongst others the necessity to reduce swidden culture, higher population rates and access to District, Province and beyond. However, as the resettlement site is just opposite the river, the impact will be less compared to resettlers from Zone 2LR.

13.2.5 Gender Issues

892. The following topics are fears of adverse impacts expressed by villagers:

- Unstable income status due to change of income sources
- Increasing mental and physical stress due to potential poverty
- Weakening of conjugal ties and loosening of family bonds due to urbanization. As a result, family work for wives and older female family members might increase, as children might leave their parents earlier

893. Mitigation measures are integrated into the Gender Action Plan, outlined in the SDP. Measures to empower women and ensure they benefit from the Project are also incorporated in the GAP.

13.2.6 Community Resources

894. There is a basic school up to grade 3 in Hatsaykham Hamlet, which will have to be replaced

in the resettlement site.

895. Cultural Assets impacted include a cemetery, which, however, will not experience impact after careful design of project activities. However, ceremonies will be conducted to invite the spirits of the deceased to move to Houaysoup along with Hatsaykham's living residents.

13.3 Entitlement Matrix and Mitigation Measures

13.3.1 Consultation and Disclosure

896. Consultations and Information Disclosure for Hatsaykham are outlined in Chapter 7 as well as in section 8.5.4. PAPs have been strongly integrated into the development of the REDP planning, of which the most important are:
- Change of resettlement site: PAPs will resettle to Houaysoup instead of relocating closer to Hat Gniun following their request and with a positive response by the Project and PRLRC
 - A BCS assessment took place in Hatsaykham up until the first quarter of 2014 with positive result.
 - The Detailed Entitlement Matrix for Hatsaykham has been disclosed to PAPs in March and April 2014. Consultations on the Houaysoup Resettlement site layout and house design have also been carried out in May 2014.
 - The overall REDP planning has been disclosed and discussed during these consultations as well as during the national consultation in May 2014, where PAPs from Hatsaykham were present.
 - On-going consultations accompany the resettlement implementation with targeted physical relocation in March 2015

13.3.2 Entitlements, Assistance and Benefits

897. General Principles are presented in section 5.2. The following details apply to Hatsaykham specifically:

Kind of Impact and Entitlement	Compensation Policy Zone 3 for impacts other than the Access Road
1.a.1 Loss of entire agricultural land holding, or in case of partial loss of land, the remaining land is rendered economically unviable or even if some land remains, the loss of land leads to severe impact on household income and living standards for legal owners with valid title or customary	<p>PAPs will be entitled to:</p> <ul style="list-style-type: none"> • A package encompassing <ol style="list-style-type: none"> i. replacement agricultural land in the designated resettlement site in accordance the entitlements outlined below and ii. where impacted land exceeds the land allocation in the designated resettlement site, cash compensation as defined in section 5.2.7 for the areas which cannot be compensated with replacement land. <p>For clarification, the full entitlements outlined below will be</p>

Kind of Impact and Entitlement	Compensation Policy Zone 3 for impacts other than the Access Road
<p>or usufruct rights, who therefore have to resettle.</p>	<p>allocated to the PAPs, regardless if their land impacted is less than the replacement land provided. Replacement agricultural land (comprised of items (a) to (d) below) will be based on household size⁷⁶:</p> <ol style="list-style-type: none"> a. Paddy rice fields: equivalent area of a minimum of 0.1ha¹ of paddy rice field per household member of households resettling to the resettlement site (value multiplied by the number of household members and combined in one land title in the name of both heads of household) with a household minimum of 0.3ha and a household maximum of 1.5 ha AND b. Tree plantation land: a minimum of 0.1ha¹ of plantation land per person resettling to the resettlement site (value multiplied by the number of household members and combined in one land title in the name of both heads of household) AND c. Cash crop garden land: a minimum of 0.1ha¹ of plantation land per person resettling to the resettlement site (value multiplied by the number of household members and combined in one land title in the name of both heads of household) AND d. Firewood land: a minimum of 0.08ha¹ of plantation land per person resettling to the resettlement site (value multiplied by the number of household members and combined in one land title in the name of both heads of household) <ul style="list-style-type: none"> • Land titles will be provided with all related costs borne by the company in accordance with section 5.2.15 • The replacement agricultural land is to be surveyed for UXO and rendered safe as outlined in section 5.2.16. • For PAPs meeting the criteria for self-resettlement (section 5.2.10) and requesting in writing to self-resettle, cash compensation for the lost agricultural land will be paid based on the principles in clauses 0.7 and 0.8 <i>described above</i>. • Transition allowance for a period of three months as outlined under clause 3.a • Income substitution and transfer costs during re-establishment

⁷⁶ Actual size will depend on the total number of people deciding to move to the resettlement site; current numbers are based on the assumption that all people move to the resettlement site, including a natural growth rate of 5% per year; actual numbers will be maximized by dividing all suitable land among the resettlers at the time of resettlement minus the land kept for second generation allocation as forest land/NTFP area under community usage.

Kind of Impact and Entitlement	Compensation Policy Zone 3 for impacts other than the Access Road
	<p>as outlined under clause 4</p> <ul style="list-style-type: none"> • For those choosing to resettle to the Project’s designated resettlement site or to self-resettle within the project area of influence as defined in section 5.2.17, income restoration measures as outlined under clause 4 • For those choosing to resettle to the Project’s designated resettlement site, an in-kind Rice Supplement Program based on a provided consumption per household of 0.7kg per day per adult and 0.5kg per day per child (under 15 years) according to section 5.2.13; rice supplement will be provided according to the following sequence: <ul style="list-style-type: none"> ○ Months 1-24 of resettlement: 100% of household consumption ○ Months 25-36 of resettlement: 75% of household consumption ○ Months 37-48 of resettlement: 50% of household consumption ○ Months 49-60 of resettlement: 25% of household consumption
<p>2.a.1 Loss of residential, commercial, industrial or institutional land without sufficient remaining land and PAPs will be required to resettle for</p> <p>a) Legal owner with valid title or customary or usufruct rights</p> <p>b) Persons later accepted for inclusion by the Grievance Committee under the Grievance Procedure</p>	<p>PAPs will be entitled to the following:</p> <ul style="list-style-type: none"> • An equivalent area of land in any case not less than 800m2 for residential land and equivalent land for commercial, industrial or institutional land of equal locational value, similar characteristics, and access to facilities in an acceptable location in the designated resettlement site. • The replacement land and entire village area is to be surveyed for UXO and rendered safe. A certificate shall be issued by the UXO clearing company certifying that the land has been cleared of UXO in accordance with the applicable Law. • Land titles will be provided in accordance with section 5.2.15 • The identification of all residential replacement land and land plots shall be based on consent or broad community support of the physically displaced ethnic households and with the support of the local authorities and the Company. • The residential land plot shall be demarcated and fenced at the cost of the Company, both in terms of labour and material. • The residential land plot shall be adequately levelled and shall provide comparable access to employment, production and economic opportunities, to medical and social services, and to education services. • The Company shall support the establishment of new home

Kind of Impact and Entitlement	Compensation Policy Zone 3 for impacts other than the Access Road
	<p>gardens, including the promotion of new and improved techniques (organic farming, for example) and diversification of the crops, during the first four years after resettlement.</p> <ul style="list-style-type: none"> • Replacement with commercially suitable land which is both of at least equal value and of at least equal size. • Location of replacement commercial land must be: (i) suitable for continuation of viable commercial activities, and (ii) acceptable to the Resettlers. • If suitable replacement of the commercial land cannot be found, or if Resettlers’ prior commercial activities cannot be continued, or if the Resettlers don’t wish to continue such activities, then the company shall pay cash compensation as outlined in sections 5.2.7 and 5.2.8
<p>3.a.1 Total permanent loss of structures, with insufficient land in community to reorganize, such as where all structures and lands are inundated.</p> <p>Or</p> <p>Total permanent loss of structures, or where after partial permanent loss the remaining structure is rendered unviable for continued use, but there remains sufficient land for reorganization.</p> <p>Including secondary structures such as boundary walls, wells, animal sheds, granaries, etc. which are not part of the main structure/house.</p> <p>a) Legal owner with valid title or customary or usufruct rights covered by the census and their natural growth (including children of registered households who may have formed new</p>	<ul style="list-style-type: none"> • Section 5.2.11 applies where there is a split of households <p>PAPs will be entitled to the following:</p> <ul style="list-style-type: none"> • Replacement structures of equivalent standard (small/medium/large depending on size of affected structure) In the designated resettlement site • Project Affected Persons shall be entitled to the compensation of 1 newly-built house per household. In case that any household comprises of 9 or more members, such household shall be entitled to either (a) another additional 1 newly-built house per family unit or (b) additional space and facilities within the same house adequate for the needs of the residentially joint household depending on family structure. The decision between the two options shall be made by each household with 9 or more members. • Each replacement house for each resulting household (includes multiple replacement houses in cases of extended families) shall comprise the area as follows: <ul style="list-style-type: none"> a. 50m² for up to 5 people (small size) b. 75m² for 6 to 8 people (medium size) c. 100m² for more than 9 people (large size), together with <ul style="list-style-type: none"> a. Independent Toilet/bathroom with a septic tank b. kitchen, c. functioning electric wiring and d. lighting throughout connected to electricity supply e. water supply (1 water-meter with tap per household). <p>The Company shall bear the cost of installing one electricity</p>

Kind of Impact and Entitlement	Compensation Policy Zone 3 for impacts other than the Access Road
<p>families after the cut-odd date, but excluding the relatives of a spouse who previously resided outside the area).</p> <p>b) Persons later accepted for inclusion by the Compensation Working Group or the Grievance Committee under the Grievance Procedure</p>	<p>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> <ul style="list-style-type: none"> • 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. • All replacement houses shall be constructed of new materials of good quality, supplied by Company at its cost. The house will use durable structure and walls and durable roofing material (such as corrugated metal sheets). • Several standard designs (of different sizes) shall be prepared in consultation with the Resettlers and selected by the affected households and approved by PRLRC. The selection of construction materials shall be part of the consultation. The number of toilets will be adjusted to the size of the household. 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. • House design to be finalized in consultation with and in consideration of the preferences of structure owners and to be approved by PRLRC; • Siting of housing to ensure proximity of families to each other and to maintain pre-resettlement social relationships as desired will be discussed and agreed with PAPs during design of residential area in the resettlement site. • Existing outbuildings and ancillary structures (sheds, coops, rice storage barns, etc.) shall be compensated by cash; if requested, they can be replaced by equivalent asset. • Each existing house and outbuilding shall be dismantled with care intending to preserve the value of materials contained therein to the extent possible. • Where the resulting materials are in good condition and have continuing value as decided by the Resettler, they shall be transported to the site of the Resettler’s new house at the Project's expense and given to Resettler. Each Resettler shall have the right to be present at the dismantling of the existing house and outbuildings to assist in determining which materials are to be retained and which are to be disposed. • All costs of labour required for both replacement house and outbuildings construction and existing houses and outbuildings dismantlement will be borne by the company.

Kind of Impact and Entitlement	Compensation Policy Zone 3 for impacts other than the Access Road
	<ul style="list-style-type: none"> • All costs of transporting new and recovered materials to new sites and the cost of removal for disposal of materials without further use. • For the construction of the new houses as well as the dismantling of old houses, local workforce (men or women) shall be engaged (incl. semi-skilled or non-skilled), which might include people from the village. People involved in the construction and dismantling of houses will receive the level of remuneration offered locally for a job of similar nature, qualification and responsibility. The employment of workforce in the construction shall be in full compliance with the Lao Labour law and the core labour standards as required under ADB’s Social Protection Strategy 2001. • 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; • For PAPs eligible for self-resettlement along the criteria outlined in section 5.2.10, compensation will be made at full replacement cost at current market value without depreciation or deductions for salvaged material. • Residential areas will be connected by roads, which will also provide access to public facilities and agricultural plots. 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 prepared by the project and approved by the PRLRC. • For those choosing to resettle to the designated resettlement site or self-resettle, transition allowance for a period of three months encompassing items a, b, c, and d listed below: <ul style="list-style-type: none"> ○ Essential food items other than rice, such as cooking oil, salt, high protein items such as dried meat, eggs and other items as advised by a Nutritional expert and provided in kind (except for self-resettlers, for which a one-off lump-sum allowance in cash equivalent to the value of entitlement will be

Kind of Impact and Entitlement	Compensation Policy Zone 3 for impacts other than the Access Road
	<p>provided together with items (b), (c), and (d); adding to their overall package) and</p> <ul style="list-style-type: none"> ○ Electricity for 3 months paid as a monthly allowance of 50,000 LAK per Month and ○ Water fee for 3 months paid as a monthly allowance of 20,000 LAK per Month and ○ Solid Waste collection fee, paid as a monthly allowance of 10,000 LAK per Month. <p><i>All cash compensation will be made as outlined in sections 5.2.7 and 5.2.8.</i></p>
<p>3.b.3 Movable fence which can be reasonable dismantled and rebuilt without significant loss of construction materials</p>	<p>All impacted PAPs will be entitled to:</p> <ul style="list-style-type: none"> ● Cash compensation for labour requirement for dismantling and rebuilding of fences made from durable materials (such as barb wired and concrete posts); based on average labour costs as agreed by the PRLRC; ● Salvage of fencing materials ● A percentage of the affected fencing materials used is expected not to be salvaged and therefore compensated in cash at replacement value as agreed by the PRLRC <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>6 Loss of standing crops that could not be harvested for owners of affected crops</p>	<p>The project together with the RMU will inform the PAP in advance of the timing of impacts on standing crops (and will complete land-related compensation) with sufficient time given for the PAP to harvest these crops. The timeframe will take into consideration crop growing cycles and harvesting requirements.</p> <p>In the case that the project requires urgent access to and/or temporarily or permanent acquisition of land and is not able to provide sufficient advance notification as outlined above, the project will provide cash compensation equivalent to 10 times the market value of damaged or lost crops.</p> <p>In the case that sufficient reasonable advanced warning (taking into consideration crop cycles including land preparation but no less than 2 months)</p> <ul style="list-style-type: none"> ● not to engage in crop production is ignored, while the compensation process is completed already ● or crops ready for harvest have not been harvested in a reasonable time frame, <p>such compensation will not be provided.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>7.a Loss of fruit or nut trees for owner of affected trees or</p>	<ul style="list-style-type: none"> ● For fruit/nut trees bearing fruits, cash compensation will be

Kind of Impact and Entitlement	Compensation Policy Zone 3 for impacts other than the Access Road
<p>person with customary usage right or right to harvest (to be validated by village authorities)</p>	<p>paid based on the average annual value of the produce, established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC, multiplied by 10.</p> <ul style="list-style-type: none"> For fruit/nut trees seedlings, which are not yet bearing fruits, cash compensation will be paid based on inputs such as seedling, land clearance and annual maintenance at rates as established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC. <p>The PAP is allowed to salvage wood resulting from the clearance of land from fruit/nut trees as long as it does not interfere with project activities;</p> <p>At least two months’ notice will be given to PAPs to harvest prior to any site clearance.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>7.b Loss of timber trees for owner of affected trees or person with customary usage right or right to harvest (to be validated by village authorities)</p>	<ul style="list-style-type: none"> For timber trees cash compensation will be paid based on replacement cost equivalent to current market value based on type, age and diameter at breast height (DBH) of trees, at rates established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC. <p>The PAP is allowed to salvage wood resulting from the clearance of land from timber trees as long as it does not interfere with project activities;</p> <p>At least two months’ notice will be given to PAPs to harvest prior to any site clearance.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>7.c Loss of production trees for owner of affected trees or person with customary usage right or right to harvest (to be validated by village authorities)</p>	<ul style="list-style-type: none"> For production trees already producing, cash compensation will be paid based on the average annual value of the produce at rates established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC based on the age of the tree, multiplied by 10. For production trees seedlings, which are not yet producing, cash compensation will be paid based on inputs such as seedling, land clearance and annual maintenance at rates as established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC. <p>The PAP is allowed to salvage wood resulting from the clearance of land from production trees as long as it does not interfere with project activities;</p> <p>At least two months’ notice will be given to PAPs to harvest prior to</p>

Kind of Impact and Entitlement	Compensation Policy Zone 3 for impacts other than the Access Road
	<p>any site clearance.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>7.d Loss of construction trees for owner of affected trees or person with customary usage right or right to harvest (to be validated by village authorities)</p>	<ul style="list-style-type: none"> For construction trees cash compensation will be paid based on replacement cost equivalent to current market value based on type of trees at rates established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC. <p>The PAP is allowed to salvage wood resulting from the clearance of land from construction trees as long as it does not interfere with project activities;</p> <p>At least two months’ notice will be given to PAPs to harvest prior to any site clearance.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>7.e Loss of perennial plants for owner of affected plants or person with customary usage right or right to harvest (to be validated by village authorities)</p>	<ul style="list-style-type: none"> For perennial plants cash compensation will be paid based on replacement cost equivalent to current market value based on type of plant at rates established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC. <p>The PAP is allowed to salvage the plant materials resulting from the clearance of land from perennial plants as long as it does not interfere with project activities;</p> <p>At least two months’ notice will be given to PAPs to harvest prior to any site clearance.</p> <ul style="list-style-type: none"> <i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i>
<p>7.f Loss of fishponds</p>	<ul style="list-style-type: none"> For fishponds, replacement fish pond of equal size and/or productivity and amenity plus assistance to stock and feed fish or lump sum cash payment equivalent to three years of productivity as agreed with PAP; Participation in aquaculture program;
<p>10 Unforeseen Impacts</p>	<p>In case of any additional impacts identified during implementation, appropriate entitlement measures would be included.</p>

Table 73: Compensation and Benefits Entitlements Zone 3

13.3.3 Income Restoration and Rehabilitation

898. Chapter 6 describes in detail, how the Project will work with PAPs on different livelihood activities to restore livelihood and enhance economic development. As a community to be resettled to Houaysoup, PAPs will be entitled to the full livelihood restoration program, including the following measures:

Kind of Impact and Entitlement	Compensation Policy Zone 3 for impacts other than the Access Road
4.1 Loss of trade / livelihood / occupation or business incomes for business owners	<p>All impacted PAPs will be entitled to Income Substitution as follows:</p> <ul style="list-style-type: none"> • Cash Compensation for Loss of Business Income equivalent to three months of potential net profit in case of permanent closure based on an assessment endorsed by the PRLRC. • Cash Compensation for Loss of Business Income equivalent to potential net profit of closure period up to three months in case of temporary closure based on an assessment endorsed by the PRLRC. <p>For resettlement, a temporary closure period of 2 weeks is assumed, unless proven to be longer.</p> <ul style="list-style-type: none"> • Participation in livelihood restoration programs based on priorities identified by affected households during consultations between individual PAPs, NNP1PC, and DCC; this can include for example trainings for alternative livelihood activities or enhancement of current livelihoods based on the individual preference of the PAP.
4.2 Loss of trade / livelihood / occupation or business incomes for wage employees	<p>All impacted PAPs will be entitled to Income Substitution as follows:</p> <ul style="list-style-type: none"> • In case of permanent closure cash compensation for loss of wages equivalent to three months of wages as indicated in the employment contract; in the case such an employment contract is not available, the wage will be based on an assessment of a wage for a comparable employment endorsed by the PRLRC. • In case of temporary closure, cash compensation for loss of wages equivalent to the closure period of wages as indicated in the employment contract; in the case such an employment contract is missing, the wage will be based on an assessment of a wage for a comparable employment endorsed by the PRLRC. <p>For resettlement, a temporary closure period of 2 weeks is assumed, unless proven to be longer.</p> <ul style="list-style-type: none"> • Participation in livelihood restoration programs based on priorities identified by affected households during consultations between individual PAPs, NNP1PC, and DCC; this can include for example trainings for alternative livelihood activities or enhancement of current livelihoods based on the individual preference of the PAP which can include: <ul style="list-style-type: none"> ○ support of employment in reconstructed enterprise or package for re-employment or starting a business ○ participation in Occupational Skill Development Programs which shall be designed to match the PAP's aspirations and potentials

Kind of Impact and Entitlement	Compensation Policy Zone 3 for impacts other than the Access Road
4.3 Loss of trade / livelihood / occupation for PAPs	<ul style="list-style-type: none"> • Stream-Bed/Bank Gardens shall be compensated in accordance with decisions by PRLRC <p>All resettlers moving to the designated resettlement site as well as those self-resettling within the project area of influence as defined in section 5.2.17 will be entitled to:</p> <p>Participation in livelihood restoration programs based on priorities identified by affected households during consultations between individual PAPs, NNP1PC, and DCC; this can include for example trainings for alternative livelihood activities or enhancement of current livelihoods based on the individual preference of the PAP which can include a selection of the following if found to be suitable for the area.</p> <ul style="list-style-type: none"> • On-Farm Activities: <ul style="list-style-type: none"> ○ Agricultural livelihood restoration program: intensive agriculture program (irrigated land allocation in the designated resettlement site, fertilizer, seed, agricultural extension program) ○ Suitable and functioning irrigation system including pumps, gates, gauges, and distribution systems for all the replacement paddy agricultural lands in accordance with standards issued by Ministry of Agriculture and Forestry, Lao PDR in the designated resettlement site. ○ Complete array of plants, tree saplings, cuttings, seeds and other biomaterials as well as tools and equipment if necessary, each year for a period of not less than three (3) years, in amounts sufficient to carry out all agricultural plans and optimize the productive capacity of all agricultural lands including paddy, terraces, garden plots forage plots, and forests. ○ Participation in aquaculture Program ○ If necessary, provision of tools and equipment in sufficient number and quality (including replacement tools and equipment where such items are worn out or damaged) for successful agriculture, fishery and other work of all types which are proposed under Concession Agreement, Annex C, Appendix 7 • Off-Farm Activities: <ul style="list-style-type: none"> ○ Package for employment or starting a business ○ A range of feasible production and income generating options which will ensure household targets are met ○ Priority for employment in project-related jobs ○ Participation in Occupational Skill Development Programs which shall be designed to match the PAP's aspirations and

Kind of Impact and Entitlement	Compensation Policy Zone 3 for impacts other than the Access Road
	<p>potentials.</p> <ul style="list-style-type: none"> For students committing to work either in a public function (teachers, medical staff, etc.) in the designated resettlement site or with NNP1PC, eligibility to compete for a scholarship program established and funded by the Company; scholarships will be allocated via a competitive selection process with gender quotas
4.4 Transportation of Livestock and Livestock Development Programme	<ul style="list-style-type: none"> At the time of resettlement of 2LR, PAPs of Hatsaykham are entitled to keep 5 large livestock per household in the resettlement site, if properly vaccinated, registered, and in good health. The project will facilitate vaccination through a vaccination program and registration implemented by the village veterinary volunteer and bear all costs related to the vaccination program. The remaining herd size must be sold to the market prior to resettlement of 2LR. The date will be announced at least 1 year in advance. If the designated resettlement site can carry a larger number of livestock based on an assessment of carrying capacity of the land in relation to a Participatory Land Use Plan, this figure may be revised in agreement with the project. A livestock development programme for the designated resettlement site shall be prepared and implemented at the cost of the project to improve livestock management (including animal health, provision of grazing and forage land) and marketing (access to existing markets and networks in the province). The livestock development programme will be included in the updated subplan for Zone 3.

Table 74: Livelihood Activities Entitlements Zone 3

13.3.4 Community Resources & Infrastructure

899. As outlined in Chapter 14, at the new resettlement site the Project will provide public infrastructure including electricity and water supply, school, health centre, and village hall. In specific they are entitled to:

Kind of Impact and Entitlement	Compensation Policy Zone 3 for impacts other than the Access Road
5 Loss of access to common resources and facilities including loss of access to rural common property resources and urban civic	<ul style="list-style-type: none"> Land and river use areas will be assigned in the designated resettlement site through a participatory land use planning process for the purposes of identifying and zoning: <ul style="list-style-type: none"> community forests and/or unstocked forests grazing areas,

Kind of Impact and Entitlement	Compensation Policy Zone 3 for impacts other than the Access Road
amenities, including community grazing areas, fishery and other riparian resources, NTFPs, community cemeteries for communities/Households	<ul style="list-style-type: none"> ○ restocked fishing areas, ○ firewood gathering areas ○ and other common resources as identified in consultation with local authorities, PAPs and the project <ul style="list-style-type: none"> ● Access to fishery resources in the middle and lower section of the reservoir as well as downstream of the re-regulation dam ● Assistance to develop a sustainable zoning and land use plan for use of common resources including a Fisheries co-management program for fisheries on the reservoir and downstream ● All replacement community forests and grazing lands to be surveyed for UXO on a sample base and UXO clearance if identified; UXO awareness program will be implemented, to enable rapid response should a PAP find a UXO and require safe disposal. ● For cemeteries and graves: excavation, movement and reburial in a culturally acceptable manner and to a location agreed upon by the PAPs, and/or ceremonies in impacted villages to enable transfer of the spirits of the deceased, whichever is culturally acceptable to PAPs. ● Access to the designated resettlement site via a bridge downstream of the re-regulation dam across the Nam Ngiep river and an all-weather road connecting the resettlement site with the District Centre.

Kind of Impact and Entitlement	Compensation Policy Zone 3 for impacts other than the Access Road
<p>8.b Loss of public infrastructure and cultural properties for Communities / Households who have to resettle</p>	<ul style="list-style-type: none"> • For temples, spirit houses and other historical, cultural and religious structures: dismantling, relocation and reconstruction in a culturally acceptable manner and in a location agreed with PAPs • Replacement of temples, shrines and other religious structures shall be of equivalent appearance and configuration, and both not less than the same size and not less than the same value, and in any event acceptable to the community. • Provision for all appropriate rituals and acceptable arrangements for relocation of movable items and their re-establishment at new site. • Provision for appropriate rituals and ceremonies for cemeteries, holy sites, and other immovable cultural landmarks prior to Resettlers’ relocation, and establishment of analogous replacement cultural resources wherever possible of at least equivalent size (e.g., new cemetery appropriately sited). • Roads with appropriate drainage facilities, culverts and bridges connecting all residential plots • Agricultural tracks leading to all major areas of the designated resettlement site providing reasonable access to the different kinds of livelihood activities and resources but not necessarily to each single plot • A school from primary school to high school grade • School equipment, including benches, tables, and blackboards, and an initial supply of text books, pens, and similar equipment, as per the requirements set by the Ministry of Education. • A teacher residence house will be constructed. 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. • A library connected to the school, and • A public health centre initially equipped with all required items for daily use in accordance with GoL standards for health centres, and then operated on a self-sustaining basis • One community building for village meetings and administration. It shall be designed to allow the presence of 2 persons per household • A roofed market with durable roofing material and concrete floor, shall be constructed. Its surroundings shall be properly

Kind of Impact and Entitlement	Compensation Policy Zone 3 for impacts other than the Access Road
	<p>drained. It shall provide a covered area of at least 300 m².</p> <ul style="list-style-type: none"> • A Bus station • A Museum explaining the history of the communities and supporting preservation of culture and traditions <p>All replacement facilities will be at original or better condition; and with designs and locations agreed in consultation with the communities and relevant government authorities in accordance with the relevant applicable standard in Lao PDR of similar buildings. All shall be</p> <ol style="list-style-type: none"> a. covered with durable roofing material b. have a concrete structure c. be connected to electricity (except cemeteries and roads) d. have access to the water supply system (except cemeteries and roads) e. have toilets connected to a septic tank (except cemeteries and roads) f. UXO clearance to a depth of 1 metre for all community infrastructure land as outlined in section 5.2.16. g. Fencing of all community buildings (except cemeteries and roads) h. Community land and state titles will be facilitated by the Company as outlined in section 5.2.15

Table 75: Community Resources and Infrastructure Entitlements Zone 3

13.3.5 Special Measures for Vulnerable Households

900. A dedicated program for the most vulnerable people will be prepared by the Company in consultation with those people, and included in the updated REDP to assure there are no additional adverse impacts. Results of the Confirmation Survey will be analysed to provide a meaningful program for the vulnerable groups including the women, disabled, poor, and the elderly. This program will include but not be limited to special transitional assistance for one year instead of three months, with the option to extend if deemed necessary. A further key element of the Project's policy is to provide a minimum of paddy rice field land at the resettlement site for every poor family without paddy fields. For families with no sufficient labour to make use of this land, additional support will be provided, for example in assisting to negotiate a rental of this land to other resettlers.

13.3.6 Project-related Employment

901. Along the Access Road, PAPs from Hatsaykham are already working in the Project's construction work. The Project establishes a monitoring system to analyse employment statistics of PAPs in regard to the commencement of the constructions at the dam site in the second half of 2014. The Project's SMO is hiring a labour management officer, supporting the employment of PAPs through linking Company, contractors and subcontractors with PAPs

looking for employment as well as in linking employment-related livelihood activities with the Project's construction work.

13.4 Budget and Financing Plan

902. The budget for the Resettlement of Hatsaykham encompasses several positions in the overall SMO budget. This includes budget for compensation and livelihood activities. Compensation values for the Access Road are included in the LACP-AR. Overall budget for resettlement site development in Houaysoup is presented in Chapter 14. Additionally, the Project will invest in qualified staff in appropriate numbers to support these different activities; staffing budget is presented together with the overall SMO Budget in Chapter 19. Overhead costs for surveys are also included there. Health education and training, camp followers, labour management, and education programs are described in details in the SDP, as is the cultural awareness program. They overlap strongly with livelihood restoration programs for PAPs addressed in the REDP.

Plan components	Assumptions made in the preparation of the budget	Total Pre-COD	Total Post-COD	Estimated Quota HSK	HSK Pre-COD	HSK Post-COD
<u>Livelihood restoration programs</u>		4,022,600	3,360,000		173,835	83,745
Food security	Rice supplement program of 1,291,000 (assuming 0.7 kg rice per head per day) before COD + some rice facilities and 1,017,000 of rice supplement program after COD	1,291,000	1,017,000	7.9%	101,989	80,343
Transitional Allowance		201,000		7.6%	15,276	-
The budget covers: <ul style="list-style-type: none"> • 3 month allowance in cash • 3 month allowance in kind • 1 year support for Vulnerable PAPs (cash and food support other than rice) 	400 PAH at 30\$ each for 12,000\$ 3,000 PAP at 46\$ each for 137,250\$ 50 PAH at 120\$ each for 6,000\$ 250PAP at 180\$ each for 47,750\$				-	-
Resettlement preparation						-
Budget covers study tours, training, focus groups, etc. for preparing PAPs to new livelihoods	Lump sum	50,000		5.4%	2,700	-
Agricultural extension & on-farm trials					-	-
Budget covers trials, demonstration, study tours, farmers' schools	Lump sum	100,000		5.4%	5,400	-
Support to PAPs initiatives for establishment of providers of agricultural inputs & services					-	-
This budget covers equipment and facilities for farmers' groups initiatives regarding seedlings/ seeds and fingerlings/young animals production, mechanized services for planting/drying, etc.	Lump sum of 137,600\$	137,600		5.4%	7,430	-
Income restoration: the budget is indicative as the allocation will be dictated by the wishes coming from the communities	198,000\$ is booked for the Rice component, 61,000\$ is booked for	760,000	63,000	5.4%	41,040	3,402

Plan components	Assumptions made in the preparation of the budget	Total Pre-COD	Total Post-COD	Estimated Quota HSK	HSK Pre-COD	HSK Post-COD
<p>For Rice it involves particularly the provision of seeds, agricultural tools, and soil improvement and training in the different zones</p> <p>For Cash crops & fruit trees it includes particularly the provision of seeds/seedlings/saplings, bio-fertilizers, lime or bio-pesticides and training</p> <p>For Livestock it includes the provision of animals (breeders), pens, vaccination, pasture development and training.</p> <p>For Aquaculture it includes the provision of fingerlings, ponds/cages and feeds as well as training and fisheries co-management.</p>	<p>Cash crops & fruit trees, 386,000\$ is booked for Livestock and 178,000\$ is booked for Aquaculture.</p>					

Table 76: Sub-Budget Livelihood Restoration Program Zone 3

903. Above numbers are based on the overall livelihood program, divided among the beneficiaries, which include in different quantities PAPs from Zone 2UR, Zone 2LR, Zone 3, and Zone 5 based on number of households in the 2011 survey.

Plan components	Assumptions made in the preparation of the budget	Pre-COD	Post-COD
Compensation Zone 3			
<p>This budget includes:</p> <ul style="list-style-type: none"> • dismantling and transportation of 33 houses with granaries and corrals • Fruit trees and industrial plants • Perennial plants and trees • Community & Cultural site/Cemetery • 10% reserve for newcomers 	<p>6,000\$ for the dismantling and transportation of 33 houses (150\$/unit) with granaries and corrals. 38,000\$ for 13,000 units fruit trees & industrial plants of various unit prices.</p> <p>22,000\$ for 3,000 perennial trees & plants. 27,000\$ for the cemetery and graves ceremonies</p>	105,000	0

Table 77: Sub-Budget Compensation Zone 3 (not included land acquisition for Access Road and Houaysoup)

13.5 Institutional Arrangements for Land Acquisition and Compensation

904. The overall institutional structure for the REDP is outlined in Chapter 9. Staff is based in the Vientiane Office as well as in the Bolikhamxay field offices, currently in Pakxan and the Demonstration Farm in Houaysoup. Another field office will be at the owner's camp close to Hatsaykham.
905. PAPs from Hatsaykham have been among the first to work on a day-to-day basis with the teams involved in the Access Road Compensation, who will continue to interact with the community for the resettlement to Houaysoup (see section 12.5). Project staff are already familiar with PAPs of Hatsaykham due to compensation of Access Road impacts. The livelihood and community consultation teams will play key roles in resettlement implementation. Of special importance for Hatsaykham is the resettlement preparation and labour team, which also includes officers for worker-community relations to address any possible social impacts from construction labourers and camp followers.
906. The Resettlement infrastructure section within SMO is essential in the preparation of the resettlement site infrastructure, and will coordinate closely with the technical unit to this end.

13.6 Schedule of LAC Activities and Resettlement

907. Key dates for Hatsaykham resettlement are:
- Asset Registration and Baselines for villages of Zone 3 will start in mid-2014
 - Spiritual ceremonies will start in the second half of 2014
 - Hatsaykham will physically relocate in dry season 2015;
 - Self-resettlement is planned for the same time
 - Assets not compensated in kind will be compensated in Cash at the time of resettlement to ensure effective investment for livelihoods at the resettlement site
908. Further details on the timeline can be found in the Gantt-Chart in Chapter 11.
909. Because the Hatsaykham community is located in the Construction Area, it will be necessary to resettle the community as soon as possible, prior to the establishment of the base camp and no later than the start of major construction works in the area. The number of affected households to be resettled is relatively small. Some PAPs might still choose cash compensation and to self-resettle into the main village of Hat Gniun as they are entitled to. During a consultation meeting in July 2013, the Hatsaykham community agreed to be the first community to resettle to the permanent Resettlement site. They did not want to move into a temporary location for 2 to 3 years and then relocate again. Repeated moving would provide the feeling of being transient and not allowing them to establish a home. An additional consideration by the PAPs for their decision is that the distance to move is quite close – to the opposite bank of the Nam Ngiep where many of their agricultural fields are already located.
910. Because of the early resettlement of Hatsaykham, it will function as a pilot project for the

main resettlement program. It will enable the RMU and ESD the opportunity to test their assumptions, verify predictions, and work out solutions to problems before the main resettlement phase.

911. The early resettlement however has 3 temporary disadvantages:

- i. Full public infrastructure facilities will not yet be in place and temporary facilities will be provided. Electricity will be provided through solar power cells, water supply via hand pumps (3-5 would provide sufficient water, depending on the number of households after entitled household splits) and a temporary school structure will be provided. These temporary facilities will be of at least equivalent standard as the current facilities or better and will remain for use after all households have received domestic water supply to the house.
- ii. The irrigation system is not yet ready; paddy rice fields and other agricultural lands cannot yet be allocated on a family basis. In consultation with the communities additional transitional assistance will be considered as a possible compensation strategy for the extended transition period of this community compared to the other Resettlers.
- iii. EdL has recently provided electricity to the village, while road rehabilitation is providing improved access to Pakxan and enhanced livelihood opportunities. Early relocation to Houaysoup will mean households lose easy access to business opportunities and have more limited access to Pakxan. This may well create resistance to early relocation.



Figure 33: Village leader from Hatsaykham explain the Resettlement site to villagers in Sopyouak during consultation meetings on 3rd of September 2013

13.7 Monitoring and Reporting

912. The overall monitoring and reporting structure of the Project is outlined in Chapter 10. A monitoring team will be formed and until then, the community consultations and development team is the first one to monitor the Project's implementation of resettlement and land acquisition. In March/April 2014, the Project conducted a Socioeconomic Survey for the communities along the Access Road, which provide information on the socioeconomic situation of Hatsaykham. A more detailed resettlement baseline survey will be implemented in mid-2014. From this baseline, the development of the different indicators outlined in Chapter 10 and in its updated version adapted by the monitoring team will be assessed.
913. External institutions conducted assessments of the Project's impact and activities in Hatsaykham as part of their overall Project assessment:
- ADB's Due Diligence Mission in October 2013
 - IAP Mission in November 2013
 - ADB's Social Audit Mission in March 2014
 - IAP Mission in May 2014
 - ADB's Due Diligence Mission in May 2014
914. Further external monitoring missions will take place regularly as outlined in Chapter 10. Reporting will also follow the structure outlined there. Of specific importance is the disclosure of information to 2LR, so that the resettlement of Hatsaykham can become a convincing pilot activity for the people from 2LR.

CHAPTER 14 - Houaysoup Resettlement Site

14.1 Resettlement Site Selection

915. The Project together with PAPs and public authorities investigated several potential resettlement sites:
916. The following resettlement sites have been considered for 2LR and Z3:
- Samtoey area, Vientiane Province (for 2LR)
 - Phalavaek area, Vientiane Province (for 2LR)
 - Phukatha area, Vientiane Province (for 2LR)
 - Pha-Aen area, Vientiane Province (for 2LR)
 - Nam Choi, Bolikhamxay Province (for 2LR)
 - Hat Gniun, Bolikhamxay Province (for Z3)
 - Houaysoup, Bolikhamxay Province (for Z3 and 2LR together)
917. The best feasible option turned out to be the Houaysoup resettlement site. Details of the resettlement site selection process can be found in section 7.5.1.

14.2 Prior Land Use

918. A preliminary survey of existing land use at Houaysoup resettlement site was carried out in June 2011, finding existing land uses of 5.6 ha of paddy, 50.1 ha of grassland and some areas under shifting cultivation.
919. A second survey of land use and land claims by PAPs at Houay Soup was conducted in October 2012. The purpose of this land use survey was to determine the extent of lands already claimed and/or used in the resettlement site that may require compensation, reallocation, or livelihood restoration under the Resettlement and Ethnic Development Plan of the Project, and also to identify the households that claimed or used those lands.
920. The 2012 survey found that households in 2 communities currently use land in Houay Soup, from Hat Gniun and Hatsaykham (a sub-village of Hat Gniun). Forty-four (44) households claim a total of 70.5 ha of land, most for upland rice cultivation with only small areas for paddy or commercial tree cultivation.
921. Twenty-one (21) of the households are from Hat Gniun village, claiming 28.62 ha of land as shown in Table 78 below. Only 4 of these households have some form of land certificate for a total of 10 ha. Only 3 of these 21 households currently use the land they claim at Houay Soup, totalling about 9 ha. Two of these have paddy fields and all 3 grow commercial trees. The majority of villagers from Hat Gniun used the land at Houay Soup only during 2004 to 2007, when a project supported by the government of Luxembourg provided funds to help people open new lands for agriculture. However, the project ended after a few years (it was claimed the project had insufficient funds, in particular for inputs required for soil improvement), and after the project ended most of the villagers did not continue using the lands they claimed.

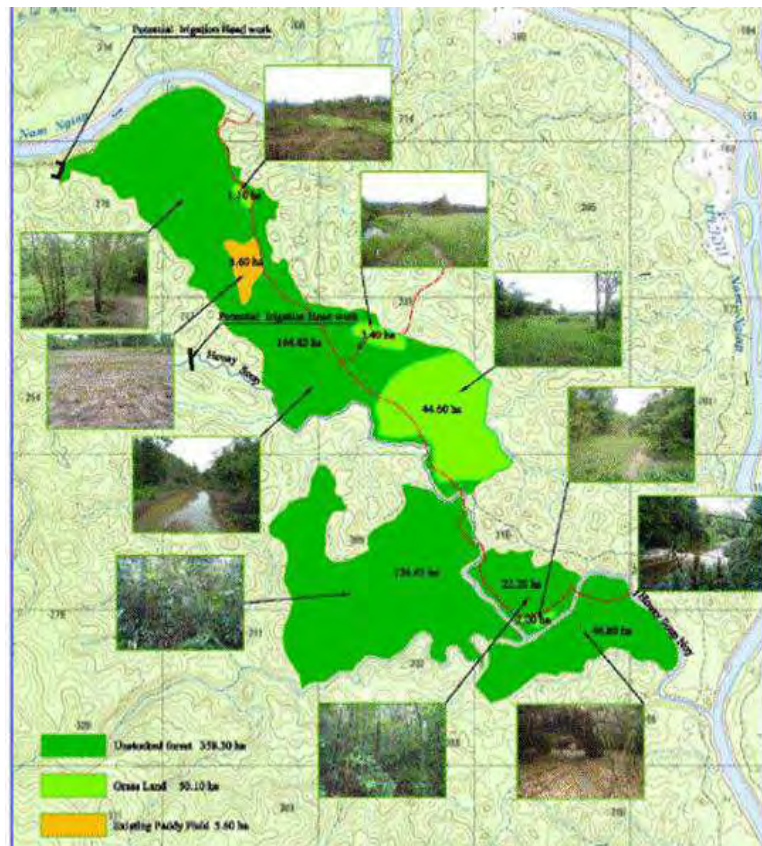


Figure 34: Existing land uses in Houay Soup in June 2011

922. In contrast, the 23 households from Hatsaykham (out of a total of 33 households in the village) who claim lands at Houay Soup use them as a key resource for rice production. They claim a total of about 42 ha, averaging 1.82 ha per household, ranging in size from the largest holding of 6 ha to the smallest of 0.8 ha. None of households from Khum Hatsaykham have a certificate for their land, even though most started to use this land in 1994 or soon thereafter. Most have continued to use these lands ever since as the main source of rice to support their families. Twelve (12) of the households use the land solely for upland rice, and another 10 households use the land for rotating upland rice fields. Some households from Hatsaykham also joined the project supported by the Luxembourg Government, but unlike those from Hat Gniun, they did not stop using the land when the project ended. This is in part because Houay Soup is located much nearer their village and also as because these lands are important to their livelihood.
923. There is no loss of housing structures expected for Houaysoup. Furthermore, the project did not identify any secondary structures in the future resettlement site.
924. More precise surveys will be conducted following as part of the Confirmation Survey mid-2014, prior to any development of the land for resettlement, to determine the exact amounts and types of compensation that will be required. This will be announced publicly and done in a transparent way, so that potential land users from other villages downstream will be registered appropriately in case they have verifiable land claims.

	Items	Hat Gniun	Hatsaykham
1	Total households	67 HHs	33 HHs
2	Households that use or claim land in Houay Soup (no. HH)	21 HHs	23 HHs
3	Total land used or claimed in Houay Soup (ha)	28.62	41.84
4	Average land used or claimed in Houay Soup (ha)	1.36	1.82
5	Maximum land size (ha)	4	6
6	Minimum land size (ha)	0.48	0.8
7	With land title	10 ha, 4 HHs	0 ha, 0 HH
8	Without land title	18.62 ha, 17 HHs	41.84 ha, 23 HHs
9	No longer using the land	19.62 ha, 16* HH	0
10	Currently using the land	9 ha, 3* HH	41.84 ha, 23 HHs
11	Land used for Paddy	2.64 ha, 2 HHs	-
12	Land used for Upland rice	9.48 ha, 12 HHs	11.65 ha, 12HHs
13	Land used for Upland rice and Paddy	10 ha, 4 HHs	-
14	Land used for Rotating upland rice field	2 ha, 1 HH	-
15	Land used for Upland rice and crop field	-	3 ha, 1 HH
16	Land used for Upland rice field and rotating upland rice field	-	27.19 ha, 10 HH
17	Land used for Commercial Trees	4.5 ha, 2 HHs	-
18	Land used for Pasture	none	None

Table 78: Current land use and land claims at Houay Soup (Source: 2012 Survey)

* no information for one household

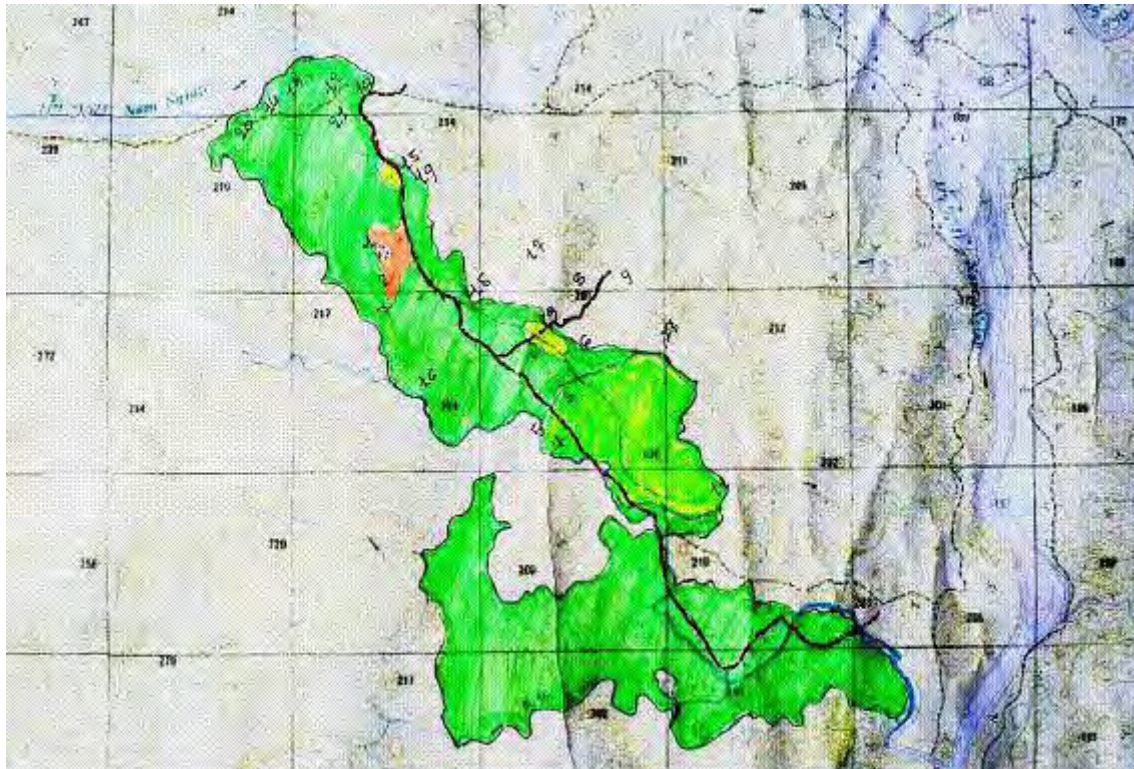
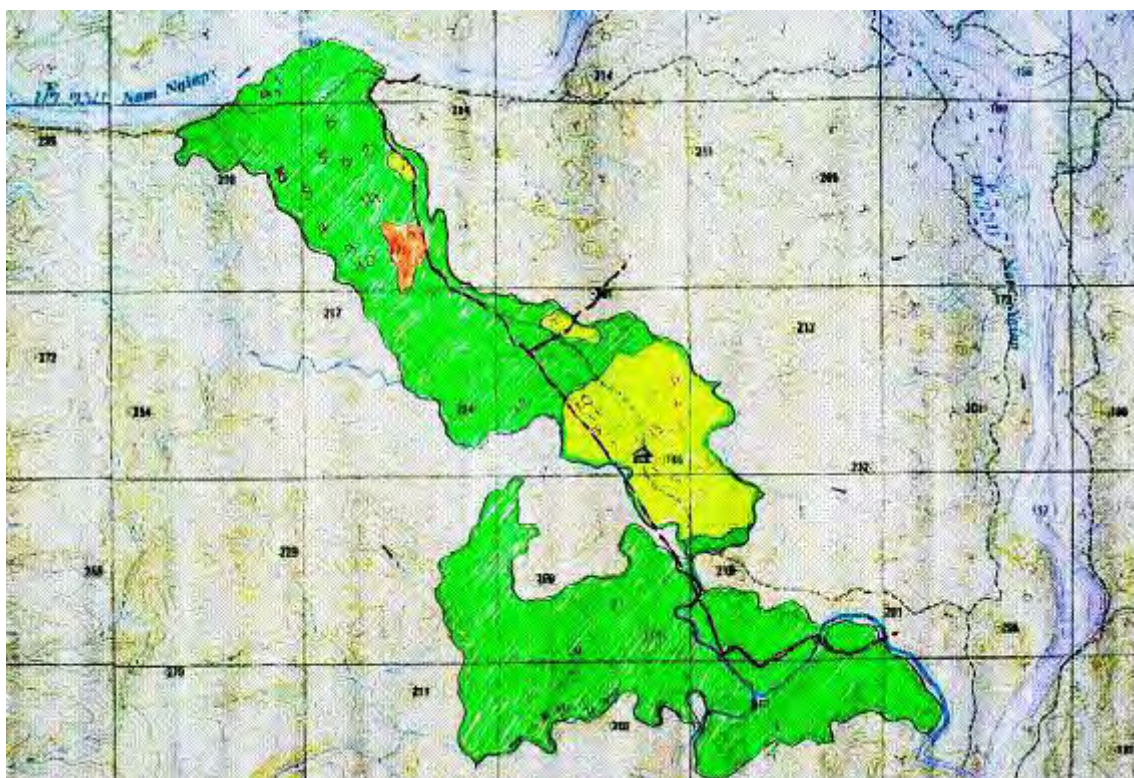


Figure 35: Marked land use at Houay Soup by households from Hat Gniun (Source: 2012 Survey)



REMARK: Red areas: existing paddy fields; yellow areas: grass land; green areas: unstocked forest.

Figure 36: Marked land use at Houay Soup by households from Hatsaykham (Source: 2012 Survey)



Figure 37: PAPs indicating land use / claims in Houay Soup (Source: 2012 Survey)

14.3 Land Use Planning and Zoning

925. Community consultations were started by the Project from July 2007 in Ban Houaypamom, Ban Sopphuane, Ban Sopyouak, Ban Namyouak and for Hatsaykham Sub-village to understand villagers' preferences regarding the configuration and composition of the new resettlement villages. The results of the map-making exercises of ideal maps reveal that the PAPs prefer the following:

- Orientation of the new village along a road system with each house having access to the road. Infrastructure with access based on a road network will provide a more stable link to the outside, and with it access to markets and new livelihood opportunities. Orientation of individual housing units to be sited according to custom and adjacent to neighbours and family members as agreed.
- Improvements such as electricity, access to running domestic water, and private toilets.
- Each household would prefer to have their own garden area.
- The construction of community buildings and facilities, such as a school, market, clinic, and village hall.
- The creation of religious structures, which should be located outside the grouping of houses, as is the practice in traditional villages;
- Availability of sufficient land for rice paddies and other fields to grow corn, sugar cane, or other crops, and plots for vegetables surrounding the village.
- Sufficient grazing land to support existing livestock.

926. The people of these five communities also indicated that residential areas should form the core of the village, which would then be surrounded by gardens and fields, with forests located at a greater distance from the core.

927. This kind of plan would create a sense of security and allow for continual social interaction. The actual plan of the new resettlement villages will depend on the specific location and topography of the new sites, and on discussions with villagers as to where the various houses, community buildings and fields should be situated.

928. When the ideas for the new village were presented to the villagers in graphic form, their first

reactions were positive since many people welcomed the potential lifestyle improvements. Their main concern was the potential effect on food security, but this did not mean that they are presently already food secure and self-sufficient in rice production. The communities in the study area are accustomed to exchanging or selling forest products and buffalo to make up for shortages in rice production. Hence, the opportunities to continue and improve livelihood activities such as gardens, fruit trees and livestock in their new lives would help to provide even greater food security, in ways that are already familiar to them and would build on their existing food-producing practices. For further details, see Chapter 6 on livelihood activities.

929. As already noted a resettlement site of 6,000 ha will be prepared for PAPs to consolidate into one village administration the 4 villages at zone 2LR (384HH) and 1 village from zone 3 (Hatsaykham: 33HH). At least 420ha of this land will be available for paddy fields (more than now being used as paddy in the existing communities) as well as additional rain-fed land for upland crops, vegetable gardens, fruit and commercial tree plantations, and community forests, to assure continued sustainable livelihoods, as described in Chapter 6.

930. In discussions with PAPs, the initial concepts of the land use for the 6,000 ha were expressed as follows:

- Be protected against flood by a saddle dam and be accessible through an all-weather-road bridge connecting to the access road
- Have paddy fields with irrigation channels (420 ha), upland rice field (150 ha) and other cultivated land including rubber and other commercial tree plantations (820 ha)
- Have pasture land (600 ha), and forest for firewood (300 ha)
- Have additional area secured as forest for NTFPs
- Have a community with community facilities (50 ha) built on slightly higher elevations
- Have cemetery areas selected by PAPs
- Include adequate household and community infrastructure, including electric supply, water supply, and garbage disposal areas

Items	Current Status (2LR)	New Site
House	Wooden/Bamboo House	New House of equal quality but at least on minimum standard will be provided; due to other Project’s having problems to acquire sufficient high quality wood, the Project will provide the option of concrete housing structures.
Rice fields	Average 0.69ha/HH of non-irrigated paddy fields; 0.82ha/HH of upland rice fields	Available average of 1ha/HH with irrigation system; 0.36ha/HH of upland rice fields; the initial legal

		entitlements will be slightly lower, to allow for a margin of error in data; practically, the number might be even higher, depending on the number of PAPs opting for self-resettlement; furthermore, entitlements will take into account household sizes
Other cultivated land	Average 1.77ha/HH	Average 1.97ha/HH of cultivated land including tree plantations
Access Road	Difficult access in wet season	All-Year-All-Weather Road
Water supply	Water pipes	Tap water
Electricity connection	N/A	Electricity connection to each house
Community buildings	Low-standard buildings	High-standard buildings
Accessibility to other communities and markets	Difficult due to remote areas	Close to the provincial capital and further on to the national capital

Table 79: Community concept of land development of Houay Soup

931. Actual allocation of private land will follow two principles outlined in the CA: land-for-land compensation and poverty alleviation. As PAPs do not have to confirm their choices for different options (cash or land) until the Confirmation Survey has been conducted as well as compensation rates disclosed by the PRLRC, final numbers will be provided after these choices have been made. It would be difficult to assess housing standards based on wood, as it is increasingly difficult to acquire suitable wood for houses in Laos and a major issue in other Projects is the failure to do so. Therefore, this Project will provide the option of concrete housing structures. Community structures have to follow the regulations of the GoL line agencies (Ministry of Education/Health/Public Works and Transports/Home Affairs, etc.) for respective public infrastructure and the Project will coordinate with these agencies in the finalization and implementation of infrastructure development plans.

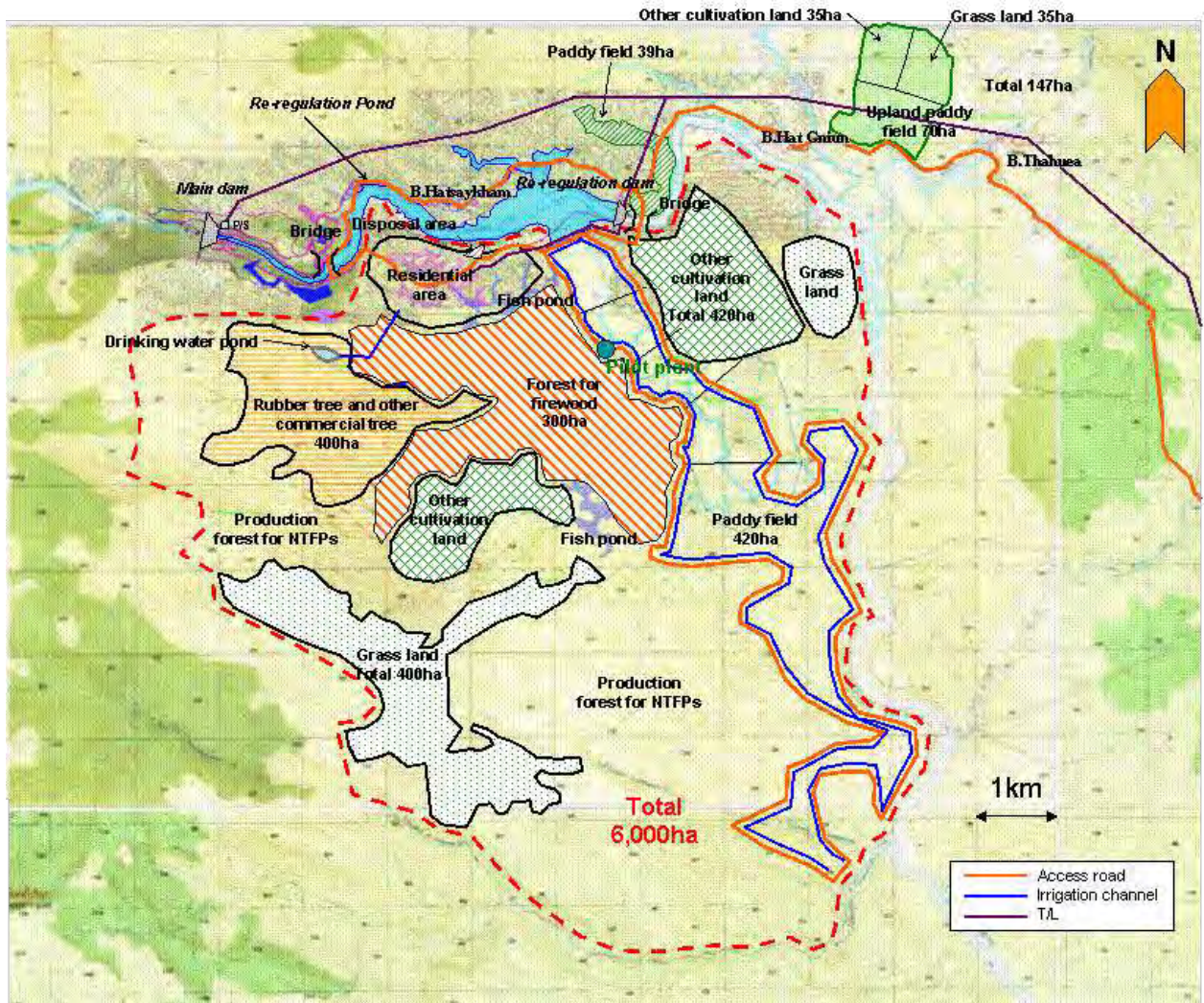


Figure 38: Land demarcation plan discussed with PAPs / Residential Area moved after request from PAPs



Land Allocation Early Resettlement Hatsaykham

Type of Land Use	Existing Land Use		Proposal Houaysoup	Remarks on Houaysoup
	2LR	Z3		
1.Private Land				
1.1 Residential Area	44ha	5.5ha	70ha	800 m ² x 450HH plus village infrastructures like Access Roads and electricity and buffer space
1.2 Paddy fields	264 ha	33.6 ha	420 ha	Ave. 1ha/HH with irrigation channel
1.3 Upland Rice Fields	313 ha	60.6 ha	150 ha	Ave 0.36ha/HH
1.4 Other Cultivated Land	680 ha	38 ha	820 ha	Ave. 1.97ha/HH (as with paddy fields, initial legal entitlements will be slightly lower, but all available land will be allocated to the PAPs and their communities)

Type of Land Use	Existing Land Use		Proposal	Remarks on Houaysoup
	2LR	Z3	Houaysoup	
1.5 Fish Pond	3 ha	0.7 ha	NA	
1.6 Other land use	1,432 ha	NA	NA-	
1.7 Buffer of land for future use			400ha	
2. Public Land				
2.1 Community facility	4 ha	-	*	School, clinic, village hall, etc.
2.2 Cemetery	11ha	1.2ha	12ha	
2.3 Grazing Land	263	67	600	For 3,000 cattle (a survey on carrying capacity for livestock in Houaysoup will be conducted following pasture preparation, before final determination of how many large animals can be taken to the resettlement site)
2.4 Drinking water pond	-	-	NA	
2.5 Fish ponds	-	-	NA	
2.6 Disposal Area	-	-	1	
2.6 Pilot Plant	-	-	5	
2.7 Forest for Firewood	-	-	300	Ave 1m ³ / person-year
2.8 Production Forest	2,510	NA	3,222	
Total	5,540	206,6	6,000	

Table 80: Comparison of land demarcation inundated areas / resettlement area

Name	Namyouak	Sopyouak	Sopphuane	Houaypamom	Hatsaykham	Total
<i>Households</i>	163	126	58	37	33	417
<i>Population</i>	1,149	916	416	254	218	2,953
<i>Of which female</i>	564	439	206	122	108	1,439

Table 81: Reprint of Population Numbers (for Reference)

932. The initial land use allocation used for discussion with the PAPs is shown in Figure 38 above. Based on these discussions, the PAPs have suggested some minor shifts in the location of the residential area. The final designation of those lands will be determined after further consultation with the PAPs and their representatives and be finally based on a participatory land use planning process as outlined in Chapter 6.
933. A major issue with community infrastructure is not just its provision, but also its operation and maintenance. Different line agencies (e.g. Dept. of Health, Dept of Education) are supposed to include infrastructure maintenance of those buildings such as clinics, schools and teachers' housing, as part of their annual budgets. In reality no such funds for maintenance are forthcoming, and villages in Laos with such infrastructure typically have to source funds for maintenance of all public buildings from their own communities.
934. The Project is aiming for a sustainable and independent resettlement site with no

dependence on external organizations, following the stabilization phase. Therefore it will work together the new inhabitants of the resettlement site to develop models of financing operation and maintenance of infrastructure. This includes several options:

- Operation and Maintenance by a commercial operator, financed by fees to be provided by the inhabitants of the resettlement site
- Operation and Maintenance from a village fund; in this case there will be discussions as to how this village fund can be financed. The Project will establish market booths, which the village can rent out to achieve income for village activities
- Operation and Maintenance from the Project's Community Development Program; in the event that it can be implemented without creating dependencies and reduced ownership
- Operation and Maintenance via neighbourhood groups
- Operation and Maintenance by self-funding measures, for example fees at the bus station for its maintenance

935. None of these systems is ideal, but the selected model and its implementation depends on infrastructure costs to operate and maintain, and even more so by the attitude of the resettlement site inhabitants towards these measures. In detailed consultations, the PAPs and the Project will decide and implement measures for each infrastructure and adapt if necessary over the resettlement preparation and consequent stabilization phase. The Project will provide the necessary technical training for the maintenance of the water supply system.

14.4 Work undertaken to date and schedule of site preparation activities

1. Site preparation activities will start in mid-2014, following the legal assignment of the resettlement site to the Project. In the meantime, the Project prepared detailed plans incorporating comments and suggestions of PAPs, described below in addition to the plans outlined in Chapter 6. The Project hired a Hmong architect as teamleader to allow a better understanding as well as easier communication with PAPs on their needs and aspiration. He is continually sharing his designs with the PAPs and integrating their recommendations to enhance PAPs' ownership on the resettlement site design and development.

14.4.1 Conceptual Design of the Resettlement Site

2. Typical of rural communities in the Lao PDR, the affected villages are mostly self-sufficient agricultural based communities. Their livelihood relies heavily on productive land, natural water resources and productive forest. Within the community are residential properties and public properties.
3. In the resettlement community, the same principles are applied. Generally, the residential area is within the vicinity of their productive land. The agricultural based economy is still largely retained, though new economic opportunities are also provided. Their ethnic and traditional cultural practices also influence the overall planning.

4. The conceptual designs for the NNP1 resettlement sites have been laid out based on available space of the Houay Soup area on the opposite bank of the river from Ban Hat Gniun, Bolikhan District of Bolikhamxay Province. Enough buffer space will be provided for a potentially increasing number of households in the resettlement site as well as the different space requirements of different house types. The layouts of these resettlement sites are expanded based on geographical characteristic and slope of the area.

Item	Description
Replacement House including related components	450 ⁷⁷ houses at Houay Soup Area including 1 toilet per house (and 1 septic tank per property), one-point connected to the water supply system incl. water meter, and one connection to the electricity grid incl. electricity meter, and access to the village road system
Road	Access road Main road within community Alleyway between houses ensuring overhanging roofs do not encroach on neighbours' space
Market	A market; 500 m ² roof covered and 1,000 m ² opened area
Bus terminal	A bus terminal adjacent to the market
Health centre	A 1,000m ² health centre including 150 m ² health centre house and 2 housing for health personnel
Community hall	A Village Centre 300 m ² community hall
Village office	A village office nearby the community hall
School and related structures	1 nursery 1 primary school 1 lower secondary school 1 teachers' house
Community playground	1,600 m ² playground and sport facilities next to the school
Water supply	Natural gravity water piped system with a connection for every household To serve both the host community and the resettlers
Solid waste drop-off centre	An 80m ² drop-off centre including 40 m ² drop-off structure
Power line	22 kV, 20 km, 1 km from the connection point at Ban Hat Gniun 28km within the resettled community 43km within the host community
ESD &GoL office	A 600 m ² building

Table 82: Key infrastructure

5. Main components of the land use in the resettlement site, as noted above, will include paddy

⁷⁷ Estimated number, based on the number of HH impacted and possible split of 1 HH into 2 as per CA entitlement. Final number will be determined after the Cut of Date and Confirmation survey

fields, cash crop or upland crop fields, grazing land, community NTFP forest, firewood collection forest, conservation, cemetery, and residential area including community buildings and structures.

6. These lands, infrastructure, and structures will be provided in numbers and size appropriate to the number of people resettled in the community and taking into consideration the future expansion of the population (2nd generation households). The current national population growth rate is noted by ADB on 2.1%, with a rate of 1.3% projected by the UN for the coming years. The following calculations assume a maximum case scenario with an extraordinary strong average growth of 5%; even if it is expected that the actual number will be closer to 2.5%, combining the national trend with previous population growth rates in the villages as discussed in the SIA. The maximum case scenario would estimate for 10 years after COD 910 households and 6,450 people in the resettlement site. In the 6,000ha, the additional 36ha necessary for an extended residential area are available around the planned residential area. With the expansion going outwards on the edges, the extension will not interfere with the overall design of the resettlement site. The Project intends to develop all available paddy field land and hand it over to the PAPs. Considering a minimum productivity on two-season irrigated rice fields of an annual total of 6 tons per hectare on 420ha, this results for the projected number of 6,450 people a production of 390kg of rice per person per year from the paddy fields, or 1.1kg of rice per person per day. While thereby achieving self-sustained rice sufficiency, it should be highlighted that the Project additionally invests in livelihood programs on alternative income sources: livestock, crop production, tree plantations, and off-farm activities (see Chapter 6) as well as a strong focus on education, including a large scholarship program as outlined in the SDP. Proposed initial land allocations for all Resettlers amount to 2360ha (including fire wood forest) out of the more than 6,000ha, leaving approximately two thirds of the resettlement site not directly taken into cultivation or for residential purposes. The Project will also plan public areas in a size to accommodate the projected growth, leaving enough empty space to increase infrastructure volume depending on the effective growth, for example a large school area of 2 hectares with additional empty space next to it as outlined in Figure 39.

Figure 39: Conceptual design of Houaysoup resettlement area

Item	Number	Area/ Unit(m ²)	Required area(m ²)
1. House plot ⁷⁸	450	800	360,000
2. Market	1	1,500	1,500
3. Bus terminal	1	1,500	1,500
4. Health centre	1	1,000	1,000
5. Village office	1	600	600
6. School & teachers' house	1	20,000	20,000
7. Public office & Hall	1	2,200	2,200
8. Playground	1	1,600	1,600

⁷⁸ Estimated number, based on the number of HH impacted and possible split of 1 HH into 2 as per CA entitlement. Final number will be determined after the Cut of Date and Confirmation survey

9. Solid waste drop-off centre	1	80	80
		Total	358,480

Table 83: Spatial Requirements of each type of Building or Infrastructure of Houay Soup Resettlement Community

14.4.2 House designs

7. **The project affected** people who must resettle are entitled to new houses at the resettlement site. By the arrangement of the Resettlement Committee, they will have a chance to select a house design of their choice. Since those who are to be resettled are almost all Hmong in the case of Zone 2LR and all Hmong in Zone 3, the traditional housing of Hmong was studied for preliminary house designs.
8. Their existing houses can be divided into 3 broad categories⁷⁹:
 - Category I: 3% of houses have roofs made of a type of tiling, corrugated iron or wooden walls and cement floor.
 - Category II: About 20% of houses are single storey or raised slightly above ground (15%) with corrugated iron roof (19%), with corrugated iron wall (45.5%) and with wooden (15%) and cement floor (10%).
 - Category III: Most of the houses (77%) are single storey (85%) with bamboo roof (75%), with bamboo wall (55%) and with earthen floor (76%).

House size:

- Most of the houses (69%) have an area of 30-69 m².
 - 9% have an area less than 30 m², and
 - About 22 % have an area more than 70 m².
9. Traditionally, the Hmong house is rectangular in shape and built on the ground, not on stilts like the houses of many other groups (including the Lao Loum). The houses are made of wood, bamboo, and have a thatched roof of grass, bamboo, or wood. There is a fireplace in an alcove at one end of the house for cooking and heating, and usually the other end of the house partitioned for sleeping quarters for the entire family.
 10. Based on this information and their tradition, design of new houses (90%) will be of concrete floors and walls with corrugated roof and provided with proper sanitary facilities (Cat II). Those who already lived in Category I houses will have new houses with at least the same construction standard.
 11. The final designs will be prepared in consultation with the PAPs and take into account their customs and needs, house orientation, accommodation requirements and who wishes to live next door to whom. To facilitate the scheme, there are 3 choices of housing tentatively presented with this report. These designs were drafted based upon the trend of housing in Laos which has evolved over time. Based upon these designs, female PAPs have already informed the project that they would want the kitchen areas to be separate but attached to

⁷⁹ Based on the 2011 Survey

the houses, or in some cases a separate structure. Modern and more durable materials will be introduced into the house design, as required per CA Annex C. PAPs will also have the right to recover materials from their dismantled houses and structures (with no deduction in compensation costs or rights to new structures) and have those materials transported to the resettlement area at the project's cost.

12. Some of these houses of the communities were studied and the model houses based on those are presented below. The house standards shall be applied independently of the original house quality. A household currently owning a house of low standards is eligible for a house with improved standards provided by the project. The size and type of house shall be based on the number of members of the household. A minimum space shall be provided of at least 7.5m² per person, but the average space will be more than 10m² according to the house sizes outlined in the Detailed Entitlement Matrices. Current analysis shows a preference for bricks or concrete blocks as wall materials.



Figure 40: House model 1



Figure 41: House model 2



Figure 42: House model 3

14.4.3 Access Road and Transmission Line

14.4.3.1 Access road

13. An existing dirt road between Nonsomboun and Hat Gniun of 21.2 km will be improved for NNP1 construction and maintained during operation. An access road will be newly constructed between Nonsomboun and the main dam site on the left bank of the NNP1

River for NNP1 construction and maintained during operation. For details see the discussion of the Access Road in Chapter 12. Three permanent bridges will be built at the Nam Xao, Nam Tak and Nam Mlang rivers. A temporary access road will be constructed between the saddle dam and quarry site on the right bank of the NNP1 River and a temporary access bridge will be built at the exit of the gorge of the NNP1 River. A permanent access bridge will be built downstream of the re-regulation dam to cross from the main access road into the Houaysoup resettlement area. The total length of the access road between Pakxan and Houay Soup is around 50 km, which will become accessible in one hour by car after completion of the above works.

14.4.3.2 Transmission and power supply line

14. A 22kV transmission line will be constructed along the access road to supply electricity for NNP1 construction, which will be utilized to supply electricity to Houay Soup as well. This transmission line will continue to be effective after conclusion of main construction. The Project will contact the local distribution company to facilitate the installation of towers, power distribution lines and connection of each household and arrange for separate electricity meters to be installed in each household.

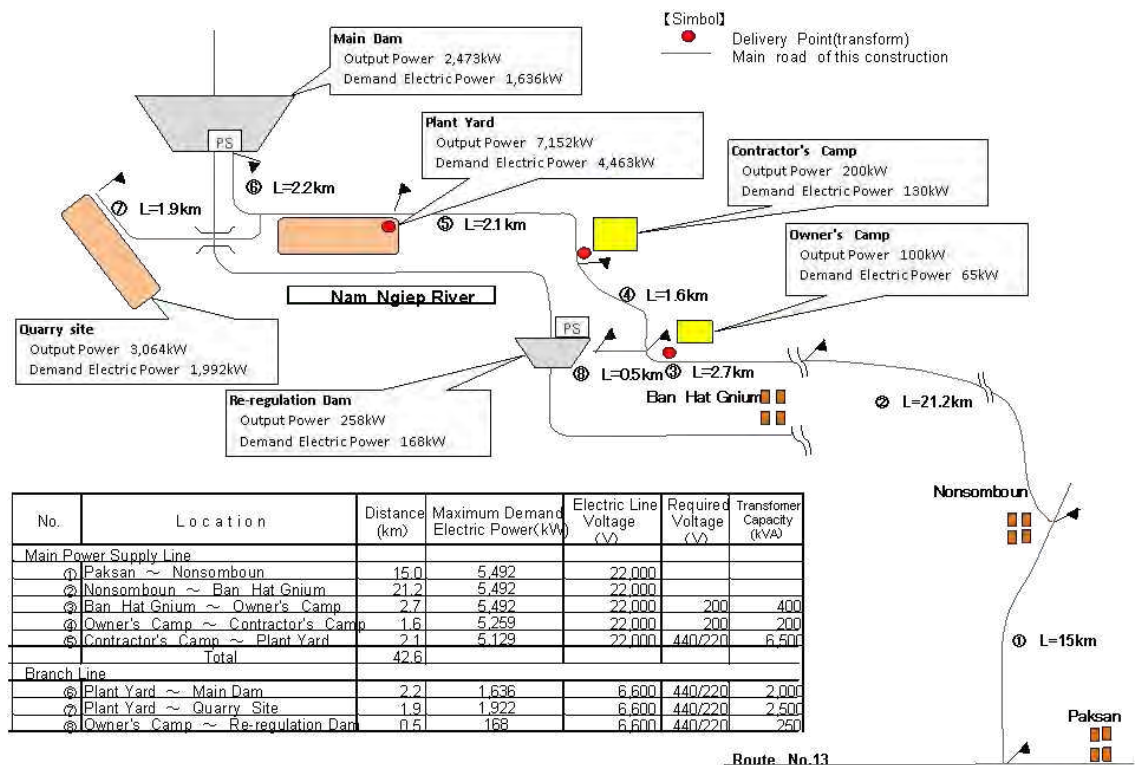


Figure 43: Power supply plan for NNP1

14.4.4 Public Infrastructure

14.4.4.1 Water Supply System and Sanitary System

15. Water supply system is to be provided to each house by water pipes and 2 taps at a bath and toilet, along with a water meter. The water source is mainly a water pond located upstream

of a tributary of the Houay Soup River to the west of the residential area. The watershed for this pond is approximately 6 km². The effective reservoir capacity is estimated to be 75,000 m³ after construction of a dam of 15 m high.



Figure 44: Weir site for drinking water pond and water quality

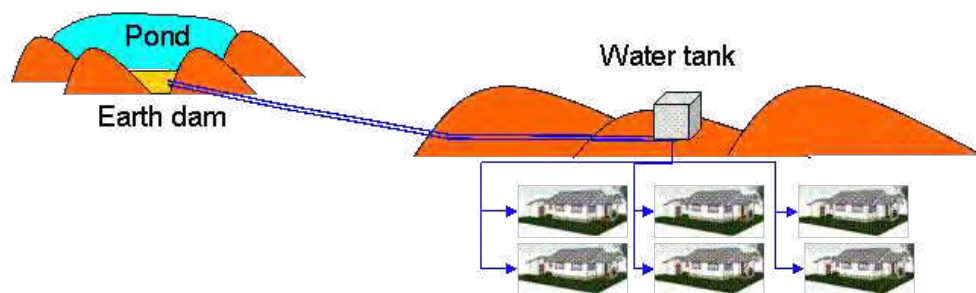


Figure 45: Image of water supply

16. The maximum water level will be EL. 300 m and the effective depth will be 5 m. The supplied water will be conveyed through a water pipe line with the natural gravity to the residential area. The daily water demand is designed for 100 litre/person based on the water demand forecast in 2025 for the rural areas of Lao PDR. In the case that this water demand is applied to 3,500 people, the reservoir capacity corresponds to 7 months demand per a year. If the rainy season lasts for 4 months, the water will be in short supply for the remaining 1 month during the dry season. To supply water periods of shortage, 2 options are planned:
 - i. **Well water from aquifer:** The well will be located near the dam site at the elevation of EL. 400 m. The potential aquifer will be checked by drilling survey. The water supply needs a pump system. The water will be conveyed to the weir site by a pipeline, and then utilize the same water supply system from the weir.
 - ii. **Additional pond downstream from the main water supply pond:** The maximum water level is EL. 200 m with the effective capacity of 200,000 m³ by the dam of 15 m high and the watershed area is 5 km² in addition to the upstream dam. Any water supply from this dam would need a pump system. This reservoir will also be utilized as one of the fish ponds.
17. **Water quality, treatment and distribution:** Water quality of the existing river around the

planned residential area was checked, as described earlier. The main concern in water quality is total coliform. This is largely caused by the grazing of livestock along the river as well as water use by upstream villages. To protect water quality, livestock will be prohibited by fences (installed by the project and further maintained by the community) to enter the watershed area for the water supply ponds.

18. Water conveyed from the pond and/or the well will be treated by filtration system to remove debris and impurities especially in the rainy season. The filtration system is located at the connection point of the residential area of EL 230 m and the water pipeline from the pond. After filtration, the water will be reserved in the water distribution tanks. There will be 2 tanks with the capacity of 30 m³ each.



Figure 46: Water tank and tap water at Theun Hinboun Ex HPP

19. **Sanitary System:** Septic tanks of brick or concrete will be provided for wastewater and sewage. They will be provided either for individual houses or for more than one house as appropriate.

14.4.4.2 Public Buildings

20. **School and Health Centre:** Nursery, elementary and lower secondary schools will be provided. The design of the school buildings will follow the basic design style of the Lao PDR, as seen in Figure 47.



Figure 47: Basic style of school

21. The facilities to be provided are:
- i. Nursery: estimated for 140 children age 3 to 5. There are now 268 infants aged 3 to 5 years in the 5 communities. As nursery school is not mandatory, it is expected that about half the children this age will attend. Two large rooms will be needed for this.
 - ii. Elementary: About 15 classrooms will be provided for 550 students.
 - iii. Lower secondary: About 12 classrooms will be provided for 430 students.
 - iv. Number of Toilets: 10
 - v. Teachers' offices: 2 rooms - 1 for nursery & elementary teachers, and 1 for secondary teachers.
 - vi. Teachers' housing: 1
 - vii. Total **area**: 5 ha including 2 playgrounds of 1.5 ha each
22. **Health centre**: A health centre will be located close to the residential area. The health centre be on 1 ha of land and will have 2 rooms, 4m x 4m each. It will also have 2 toilets, be built with concrete walls and slate or tiled roof, and be adequately supplied with first-aid equipment.



Figure 48: Basic style of health centre

23. **Community hall & village office**: A community hall and village office will be installed at the same area and the buildings located convenient to the centre of the residential area.



Figure 49: Basic style of community hall and village office

- Number of rooms: community hall: 1 nos. (20 m×30 m), village office: 2 nos. (110 m² in total)

- Number of toilet: 4 nos.
- Materials; wall: concrete, roof: slate.
- Total area : 0.5 ha

14.4.4.3 Economic Facilities and Services

24. **Market:** The market will be located close to a bus stop near the residential area.



Figure 50: Basic style of market

- Number of rooms: 1 nos. (20 m ×16 m)
 - Number of toilet: 2 nos.
 - Materials : wall : concrete, roof : slate,
 - Total area: 1 ha.
25. Small shops will be built around the central roofed market area, as is normal practices in markets across Laos. These small shops will be put up for lease at reduced cost for resettlers and at commercial rates for outsiders. The income generated from these leases will be used to:
- maintain the market area, including garbage disposal
 - contribute to the village development fund, managed by the community directly to pay for on-going operational expenses of the village authorities, including for example supplementing teacher salaries.
26. **Bus stop/station:** A bus station is to be located at the east zone of the residential area close to the market. The capacity is planned for mini-buses and song theo (converted passenger trucks).



Figure 51: Basic style of bus station

- Area of the building : 100 m²
- Number of toilet: 2 nos.
- Materials : wall : concrete, roof : slate,
- Total area : 1 ha

14.4.4.4 Solid Waste Disposal

27. A solid waste disposal site will be located in a small valley at the west end of the residential area. Access will be by a continuation of the main road beyond the residential area.
28. The area is designed based on the following specifications:
 - Disposal forecast; In Lao PDR, urban residents produce about 0.75 kg of solid waste per person each day. Worldwide, rural residents tend to produce about 1/3 to 1/2 the amount of solid waste as their urban counterparts. Therefore, we can expect the people of Houay Soup to produce solid waste of about 95 to 135 kg/person/year. Waste disposal facilities will be provided on an area of 1 ha to the west of the residential area. Assuming about 3,000 residents, producing an average of 100 kg of waste/person/year,
 - Yield: 0.1 ton/person/year, Subjected people: 3,000, Total yields for 5 years: 1,500 ton, Total volume: 3,000 m³ (Specific gravity: 0.5 ton /m³),
 - Dimension of a disposal pit : W 35 m ×H 35 m ×D 2.5 m,
 - Area of disposal in total : 1 ha,

<i>Environmental Quality</i>			
Water Pollution	Access to safe drinking water (percent of population: rural, urban, total)	60, 75, 64	2004
	Access to improved sanitation (percent of population: Rural, Urban, total)	36, 70, 44	2004
Solid Waste	Solid waste generation in urban areas (kg/capita/day)	0.75	2004
	Solid waste collection efficiency of urban households in the five larger urban areas (percent)	45	2003
	Number of sanitary landfills	5	2003
Air Pollution	Number of passenger cars per 1000 people	7.4	2003
	Carbon dioxide emission (metric tons per capita)	0.1	1999
General Health	Under-five mortality rate (number per 1,000 live births)	106	2000

Figure 52: Waste generation in Laos (Source: Lao PDR Environmental Monitor, Word Bank Vientiane)

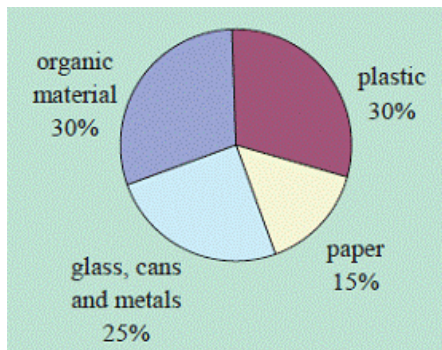


Figure 53: Comparison of typical content of waste disposal in 2001 by ADB

29. One pit will be prepared by the Developer with sufficient volume for the first 5 years if all people from 2LR and Zone 3 move to the designated resettlement site, though the area has a capacity for up to 10 years; deducting self-resettlers, this timeframe will increase. The waste disposal facilities can then be expanded as needed in discussion with the PAPs; using for example the Community Development Fund. The waste pit will be appropriately lined and protected to prevent seepage into the ground and groundwater in accordance to applicable environmental regulations.

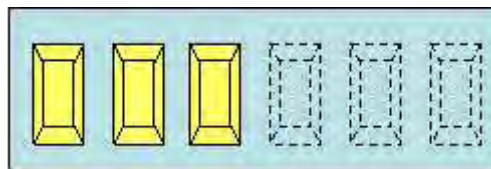


Figure 54: Schematic design of waste disposal area



Figure 55: Planned waste disposal area at Bolikhan District

14.4.4.5 Cemetery

30. Location and size of a cemetery area will be decided by villagers based on their customs and traditions. A tentative area has been selected in the forest to the east of the residential area.

14.4.5 Agricultural Land

14.4.5.1 Paddy Fields

31. Paddy fields are secured in the low land flat area of the elevation between EL. 176 m and EL. 170 m distributed along the Houay Soup River and the tributaries from the north to the south.



Figure 56: Low land, flat area planned for paddy field

32. The total paddy area is estimated as 420 ha, to be supplied with irrigation from the re-regulation reservoir for about 8 months during the dry season. PAPs now have an average of 0.69 ha of rainfed paddy land per household. The project will supply paddy fields of at least 0.1 ha per household member. However, more likely is an average of 0.15ha or more per household member; the final numbers depend on the number of PAPs choosing resettlement or self-resettlement, as all areas in the resettlement site, including the 420ha of paddy rice fields, will be allocated to PAPs either privately or as community held land. The paddy fields in the resettlement area will be irrigated, which will allow for more than 1 crop per year.

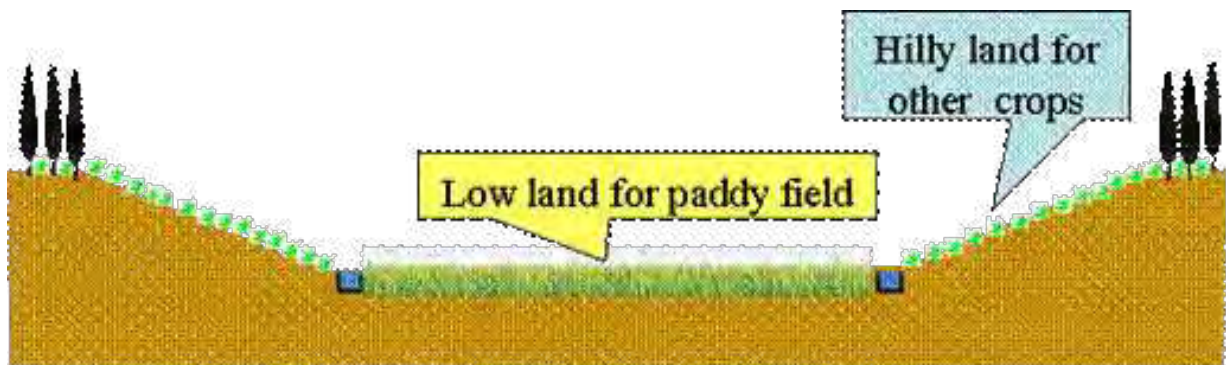


Figure 57: Layout of low land and hilly land along the Houay Soup River

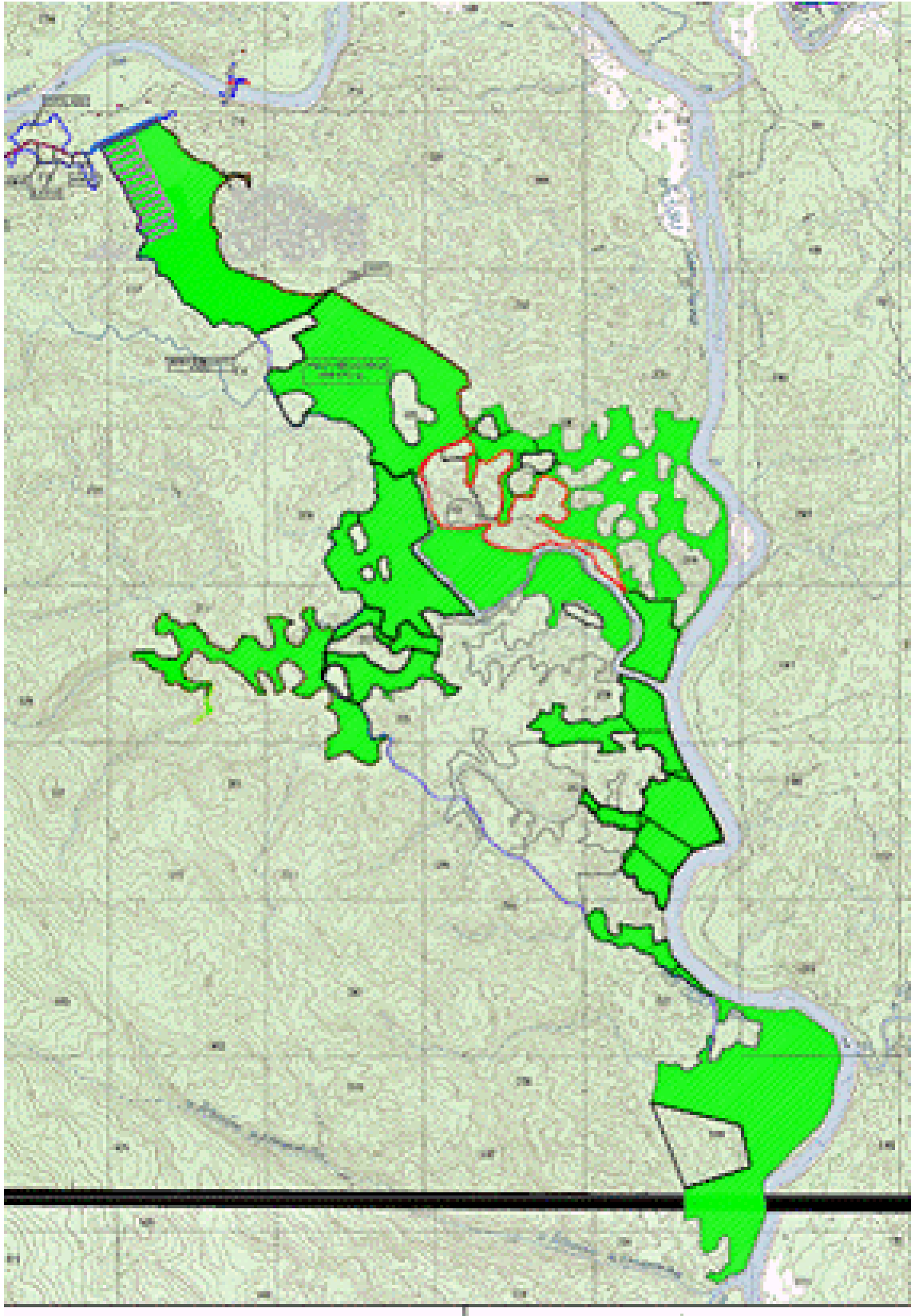


Figure 58: Layout of paddy field area in Houay Soup

33. On-going studies show that rice yields of 5 ton/ha or more can be produced with application of bio-char, lime, and EM.

14.4.5.2 Fishponds

34. Fishponds are planned at 2 areas, one is the north area close to the residential area along the upstream river of the Houay Soup River (referred to as the north fishpond) and another is the area along the Houay Soup River (referred to as the south fishpond).
35. The north fishpond will be created with a dam of approximately 15 m high and approximately 100 m of the crest, with a gross capacity estimated to be 1,000,000 to 1,500,000 m³. This north fishpond will be used as water control dam for the irrigation system connecting the re-regulation reservoir. The south fishpond is created by two dams of approximately 15 m high and approximately 50 m of the crest each, with gross capacity is estimated to be 350,000 to 400,000 m³.
36. The Project will assess together with the communities, how such fishponds can be managed by the communities in a sustainable way; based on assessments of community usage of fish resources by the World Fish Institute throughout Southeast Asia. The development of these fishponds does not deprive the PAPs from their entitlement to privately held replacement fishponds for their loss in the current communities.



Figure 59: Weir site of Southern Fish Pond

Fishponds

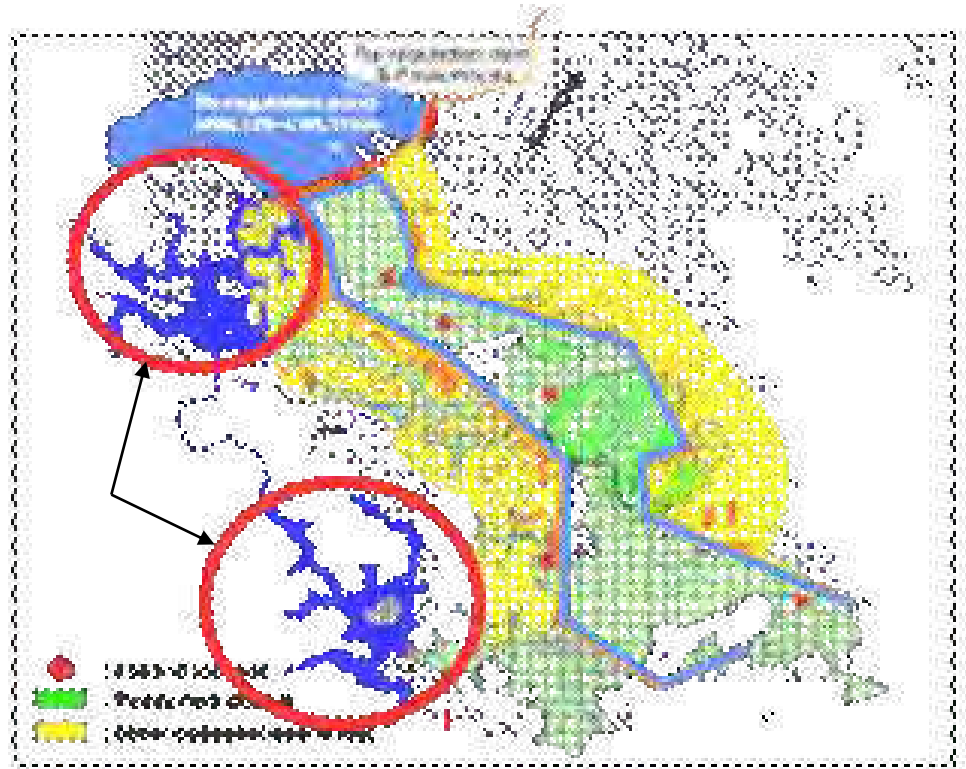


Figure 60: Location of Fish Ponds

14.4.5.3 Other cultivation land

- 37. Other cultivation lands for upland crops will be established in the hilly areas surrounding the paddy fields. The total area is conservatively planned to be 415 ha. It is now in lands classified as unstocked forest. As outlined above, a Participatory Land Use Planning process will establish the allocation of land; other than paddy fields and basic provisions for each PAP as stated in the Detailed Entitlement Matrices.



Figure 61: Typical area planned for cultivation land

14.4.5.4 Grassland

38. Grasslands for pasture are planned for the hilly area located in the north east zone of the resettlement area. About 600 ha of pasture land is planned to be established prior to relocation; a limit of large livestock to be resettled of 5 cattle/buffaloes per household is suggested by the Project. However, this recommended figure may be revised based on the actual number of households relocating to Houaysoup. As with all other numbers in this chapter, effective numbers will be the result of the PLUP, to be conducted over the following months with a targeted draft to be provided end of 2014. The whole process will extend over the date of relocation to allow PAPs adaptation of the land use planning based on experiences in the first years after relocation. The land planned for pasture is currently classified as unstocked forest.



Figure 62: Typical area planned for grass land

39. It is estimated that the 600 ha of grassland will be able to serve 2,400 head of beef cattle and 1,200 head of buffalo. The estimate of 5 head of livestock is based on existing assets and on the assumption that the cattle will produce at least 3 offspring each year, allowing 1 head of livestock to be consumed per year and another 2 heads to be sold.

40. Note:

Household consumption: $1 \text{ head} \times 250 \text{ kg} \times 50\% / 7 \text{ people} / 12 \text{ months} = 1.5 \text{ kg/person/month}$

For sale: $2 \text{ heads} \times 250 \text{ kg} \times 50\% \times 50,000 \text{ kip} = 12.5 \text{ Mkip}$

Income: $(12.5 \text{ Mkip} - 3 \text{ heads} \times 2 \text{ Mkip}) / \text{year} = 6.5 \text{ Mkip/year}$ (excluding costs of feed)

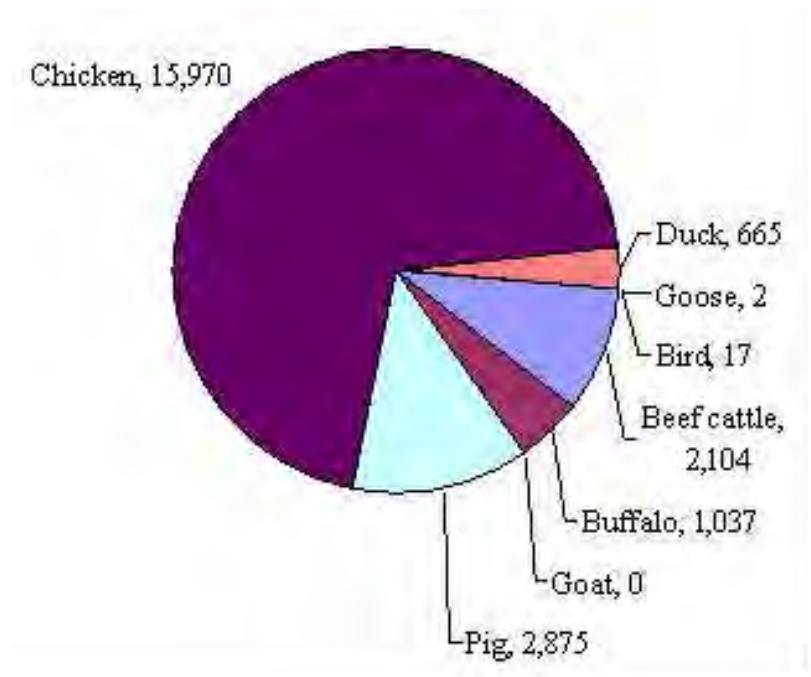


Figure 63: Livestock at 2LR

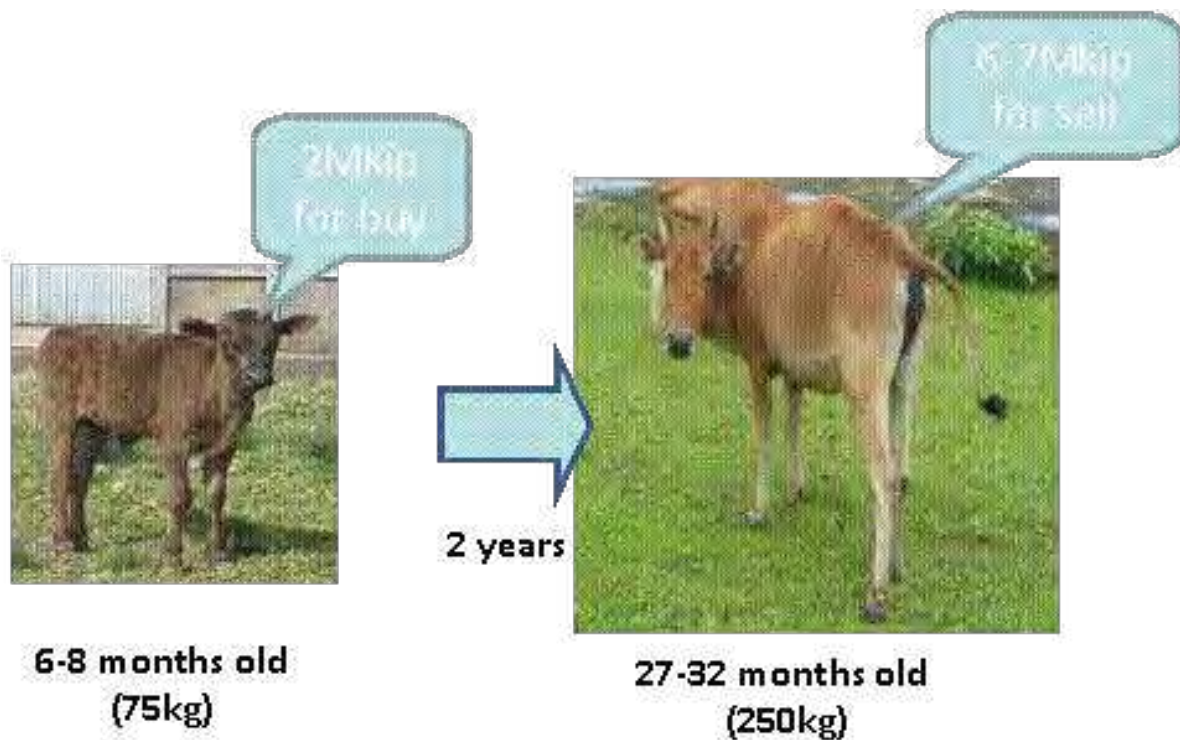


Figure 64: Process of beef cattle raising

14.4.5.5 Forest for firewood

- An area of about 300 ha of existing evergreen forest to the south of the residential area will be reserved as forest for firewood.



Figure 65: View of forest for fire wood

42. Fast growing trees such as Acacia Mangium that can be used as firewood or to make charcoal will be planted in this area. Around 1 m³ of firewood is required per person per year. A 10-year planting of Acacia Mangium produces 217 m³ in volume per ha, so 150 ha (or about 15 ha per year) would be sufficient to provide the fuel wood required by 400 HHs. Another 150 ha is available for contingency or to produce charcoal for sale. Trees equivalent to 3,000m³ will be replanted every year from the year of resettlement to COD.
43. Note:
- A person consumes firewood of 1 m³/year
 - Acacia Mangium (10-year) produces firewood of 217m³/ha
 - $1 \text{ m}^3 \times 3,000 \text{ persons} \times 10 \text{ years} / 30,000 \text{ m}^3 = 138 \text{ ha}$ rounded to 150 ha
 - From firewood, charcoal with 40% volume of firewood is produced.
 - $1 \text{ m}^3 \times 0.4 = 0.4 \text{ m}^3$ (0.52 ton), specific gravity: 1.3 = 30 kg x 17.3 bags
 - (60 x 20,000kip = 0.35 Mkip / person)



Figure 66: Procedure of firewood planting in ten years' time



Figure 67: Raw wood and kiln



Figure 68: Charcoal production from waste wood sawmill near Pakxan

14.4.6 Schedule

44. As outlined in section 11.2 the resettlement site development starts in 2014, encompassing two phases:
 - In Phase 1 from mid-2014 to March 2015, the resettlement site will be prepared for the early resettlement of Hatsaykham, including the construction of houses, provisional public infrastructure, paddy rice fields and pasture development including soil improvement. For infrastructure development, start of construction is depending on the length of the rainy season and is expected to start in September

2014.

- In the consequent Phase 2, extending until late 2016, the remaining houses for villagers from 2LR will be built, public infrastructure finalized, paddy rice fields, pasture, and cash crop fields developed, and an irrigation system for the paddy rice fields installed

45. Further details can be found in the Gantt-Chart in section 11.8

14.4.7 Budget and Financing Plan

46. The development of Houaysoup has as beneficiaries PAPs from Zone 3, Zone 4, and also Zone 5; the latter will encompass PAPs compensated for losses due to the acquisition of the resettlement site. Additionally, the Project will invest in qualified staff in appropriate numbers to support these different activities; staffing budget is presented together with the overall SMO Budget in Chapter 19. Overhead costs for surveys are also included there.

Code	Plan components	Assumptions made in the preparation of the budget	Pre-COD	Post-COD
	Houay Soup Resettlement site development		15,352,400	50,000
	UXO survey	<i>Lump sum of 780,000\$ (in Environment budget)</i>		
	Infrastructure development		4,735,000	-
	The budget covers: <ul style="list-style-type: none"> • Infrastructures: roads, electricity distribution, water supply, bridge, an irrigation system, a solid waste disposal, ponds • Land survey and acquisition • The Pilot Farm (resettlement centre) • Houay Soup certificate 	Access road & rural roads for 840,000\$; bridge: 1,420,000\$. Irrigation: 1,180,000\$; Electricity: 417,000\$ Water supply: 204,000\$; Land acquisition: 320,000\$ Pilot farm: 99,000\$		
	Agriculture Land development		1,613,000	-
	The budget covers: <ul style="list-style-type: none"> • Land development and fencing • Soil improvement 	Land development will concern a currently estimated 434 ha of paddy field (1,500 \$/ha), 434 ha of gardens (500 \$/ha) and 600 ha of grazing land (167\$/ha) for a total of 1,018,000\$. Soil Improvement of irrigated paddy and crop cultivation is budgeted for 595,000\$		
	Community Building		656,400	-
	The budget covers the construction of: school, health centre, village community hall and offices, market, bus stop, playground			
	Residential Building		7,852,000	-
	The budget covers the construction of approximately 420 housings and the housing design	418 housings for 7,733,000\$ assuming a unit price of 18,500\$. Housing most likely to be in bricks. A lump sum of 110,000 is provisioned for the design 6,800\$ are provisioned for HSK assets transportation And 2,400\$ for visits of 2LR villagers		
	Participatory Land Use Planning (PLUP)	A lump sum for PLUP before and after COD	50,000	50,000

Code	Plan components	Assumptions made in the preparation of the budget	Pre-COD	Post-COD
	Land Titling			
	Budget covers issue of land titles and updating of land titles	A lump sum before and after COD is considered. Assuming 4 land titles per each 400 HH at 125\$/each	200,000	
	<i>Additional Land acquisition in Houay Soup</i>	<i>Estimate is very rough because of uncertainty of land ownership and opportunistic claims.</i>	246,000	-

Table 84: Sub-Budget Houaysoup Resettlement Site Development Costs

14.5 PAP visits to site & views on its strengths and limitations

47. Several times, PAPs from 2LR visited the resettlement site. PAPs from Zone 3 know it by having already used agricultural land in the Houaysoup area over the last decades. Furthermore, PAPs from Zone 3 went together with a 3D Model of the site to the villages of 2LR and explained their current use of the site and expectations how it could be used in the future.



Figure 69: Site inspection by representatives of PAPS on Aug. 2011

48. In mid-2013 male and female PAPs' representatives visited the designated resettlement site, during which spiritual ceremonies were undertaken to consult on the feasibility of the site as the resettlement area – with positive outcomes. Further site visits will follow with focus groups, as suggested not just by the Project but as well by the PAPs.



Figure 70: Hmong and Lao Spiritual Ceremonies at the designated resettlement site in Houaysoup (July 2013)

49. As discussed in section 7.5.3, PAPs have first been concerned about the size of the assigned land, following which the Project achieved an increase of the GoL-assigned resettlement site from 2,000 to more than 6,000ha. In no other place observed in the Project-related provinces can be found an area of such large size with limited current land use, including feasible areas for paddy rice fields, cash crops, and residential land. Access to the River as well as to larger streams allows irrigation, access to the main reservoir will be provided and large forest areas are located on as well as behind the resettlement site. These are strengths explained by the PAPs from Hatsaykham to 2LR.
50. Regarding the expected infrastructure and access to urban areas, PAPs are satisfied. They know that closer connection to urban areas means a change of livelihood, which is a challenge above all for the older generation. However, they also expect that the resettlement site and its facilities can be a chance, above all for the younger generation. As such, they appreciate the Project’s plans.

51. The remaining concern is the soil quality in Houaysoup. As can be seen from a Report in Annex F, scientific data shows that some soil improvement is necessary in Houaysoup. Different from the rice fields in 2LR, no seasonal soil improvement work has been conducted in the last decades due to limited use. Meanwhile, trials at the demonstration farm also showed, that soil improvement for Houaysoup does not need expensive and/or chemical fertilizers but can be achieved with basic activities, as described in section 6.3.3: legumes, lime, and biochar. Nonetheless, PAPs in 2LR are not convinced yet, as they have no experience with this kind of soil improvement. Therefore, the Project will work from two angles:
- i. Rather than just bringing PAPs to the demonstration farm, it will bring the trials to 2LR and implement it with interested farmers. This is thereby already part of livelihood activities for the participating PAPs and at the same time it will integrate all PAPs of the villages in observing on a daily base development activities to be applied in Houaysoup
 - ii. Secondly, work conducted during early resettlement of Hatsaykham will show PAPs from 2LR that soil improvement is not just a theoretical possibility under demonstration farm conditions, but also on a larger area as the agricultural land prepared for Hatsaykham.
52. The Project expects this to diminish the doubts about the possibility of soil improvement in Houaysoup and with it a positive attitude towards the Houaysoup resettlement site.

CHAPTER 15 - Zone 5: Host Communities

53. The prospective resettlement site is located downstream of the re-regulation dam of the project on the right bank of Nam Ngiep River; encompassed by the small and big Houay Soup streams. Hat Gniun and Thahuea have been identified by the project as a specific Zone 5 due to their geographical vicinity to the resettlement site, some current private use of land in the resettlement area, and future sharing of community resources: higher level health and education facilities, markets, bus stations, sport venues, etc. require larger communities to function; the resettlement village provides this opportunity, to be shared with the host villages. All three villages, the two host villages and the new resettlement village, are and will be administratively independent from each other.
54. Ban Hat Gniun is a medium sized village located about 25 kilometres distant from its district centre, Bolikhan; the village is situated on the left bank of the Nam Ngiep River and is about 7 kilometres downstream of the main dam of the Project and about 3 kilometres downstream of the re-regulation dam. Ban Thahuea is also a medium sized village located on the Nam Xao River about 3 km east from Ban Hay Gniun.

15.1 Socioeconomic Profile

15.1.1 Demography and Population Changes

55. The population number of Ban Hat Gniun is 371 people in 67 households, with an average household size of 5.5; all are ethnically Lao Loum. The numbers in Ban Thahuea are 265 people in 50 households, with an average household size of 5.3, consisting of Lao Loum and some Khmu households.

Village Name	Local Name	HH	Population		Directly Affected Household	Ethnicity
			Total	Female		
Ban Hat Gniun		67	371	157	-	Lao
Ban Thahuea		50	265	122	-	Lao, Khmu
Total		117	636	279	-	

Table 85: Population profile of Ban Hat Gniun & Thahuea (Source: Field Survey, 2011)

56. As presented in section 4.2.4, data for both villages show a slight reduction in population numbers from 2007/8 to 2011. This can be attributed to the limited access to public facilities and employment throughout these years. However, with better access via Access Road, Electricity, and Communication Technology, it is expected that population numbers will again increase over the coming years.

15.1.2 Ethnicity

All the residents of Ban Hat Gniun and Ban Thahuea are following the lifestyle and culture of ethnic Lao Loum or Khmu. Their main staple is glutinous rice, which they eat with a variety of fresh or boiled vegetables that they dip in spicy sauces. Fish is also an essential part of almost every meal.

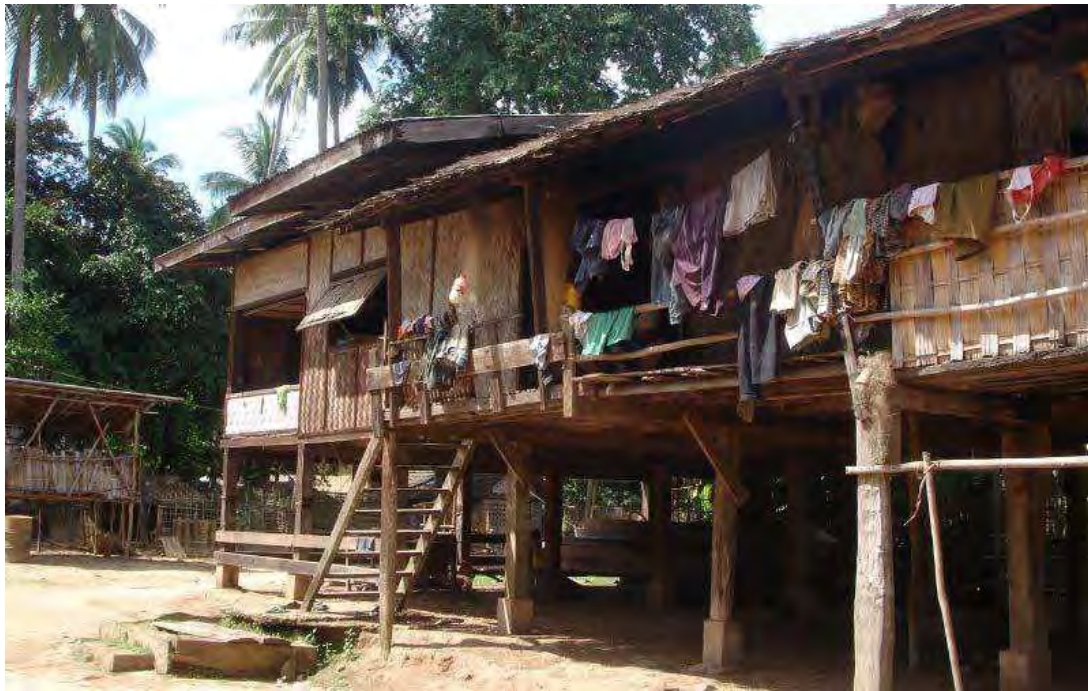


Table 86: Typical House of Lao Loum, Ban Hat Gniun

15.1.3 Social Organization and Cultural Relations

57. Social Organization and Cultural Relations follow the overall structure as described in section 4.4. Different from the villages in 2LR and Zone 3, the Lao Loum communities do not follow a clan system. Nonetheless, families form important internal organization with socioeconomic functions. Qualitative observation shows strong community cohesiveness in Thahuea. As in other parts of Laos, rural-urban networks are formed along migration to urban areas for study or work reasons, but increasingly also via electronic communication technology. With the electrification of the villages in 2014, a further influx of technology can be expected, changing patterns of social organization and cultural relations.

15.1.4 Infrastructure

58. Transportation to Ban Hat Gniun and Ban Thahuea is by road or boat. The main access road is a 15 to 17 km dirt road from Ban Nonsomboun, not passable during the rainy season. During the dry season the road can be travelled either by motorbike, tractor, or 4-wheel drive vehicles. With the construction of the Access Road, this is substantially changing, allowing year-round access to the villages from Nonsomboun. The Nam Ngiep River provides access downstream by boat all year round.
59. Ban Hat Gniun and Ban Thahuea only recently connected to the electrical grid; in January

2014. A small number of households have small river-powered generators that produce electricity for a few lamps or TVs.

60. The villagers get their drinking water from wells and creeks. People of Ban Hat Gniun use water from Nam Ngiep for general use. Recently, some gravity flow pipe water systems were built, but these only covered some sections of the village. People of Ban Thahuea are using stream and underground water sources. But there is no water supply system at the point of individual households.
61. They use the Nam Ngiep and Nam Xao for all other water uses, including bathing, washing clothes, and cleaning utensils. They also use the river for agriculture.

Items	Hat Gniun	Thahuea
1. Infrastructure		
Electricity	*Yes	*Yes
Drinking water source	Underground water	Stream and Underground water
Access road	*Gravel Road	*Gravel Road
River navigation	Nam Ngiep	Nam Ngiep
2. Social Welfare		
Market	No	No
Pre Primary / Nursery	No	No
Primary School	Yes	Yes (to 3rd grade only)
Temple	Yes	Yes
Health Centre	No	No
Cemetery	Yes	Yes
Grocery	Yes	Yes
Water supply	Yes	Yes
Underground water well	Yes	Yes
3. Private and Public Organization		
LWU	Yes	Yes
LY	Yes	Yes

Table 87: Infrastructures of Ban Hat Gniun and Ban Thahuea (Source: April, 2007 Survey. November, 2008 Survey; *Update 2014)

15.1.5 School Attendance

62. Availability of educational facilities has a direct impact on school attendance levels of the villagers. Ban Hat Gniun has a school with 4 teachers that provides all 5 levels of primary education. It also serves students from the two nearby communities of Ban Thahuea for Grades 4 and 5, thus the larger number of students in those grades. The school has only

one building in fair condition, but no housing for teachers or other support facilities.

- 63. School attendance remains a difficult topic as it is often not a high priority for households, particularly when they must struggle to find enough to eat. These families are not likely to have seen the impact of education in improving their daily life. This is especially so for girls who are expected to help in the household chores. Traditionally, girls are supposed to work at home and education is not considered important for that. Education is also more accessible to Lao Loum communities, given that Lao language is the medium of education, especially at higher levels.

Class	Ban Hat Gniun
1	14
2	16
3	9
4	25
5	22
Total	86

Table 88: Numbers of Students of Ban Hat Gniun School (Source: April, 2007 Survey. November, 2008 Survey)

15.1.6 Literacy

- 64. People of Ban Hat Gniun have a higher rate of educational level, the Project’s 2011 proxy for literacy. More than 82% of the populations are formally educated on at least primary school level. 24% received secondary school level education and 9 have a university degree.

Education	No. of People
No Formal Education	51
Primary School	222
Secondary and High School	89
University	9

Table 89: Education profile of PAPs of Ban Hat Gniun (Source: Field Survey 2011)

15.1.7 Health

- 65. There is no health centre in the villages or nearby. A village health volunteer is responsible for a standard health and medicine kit provided for the village and responsible for distributing medicines to treat basic common illnesses. Patients who require more care need to be taken to the health centre at Ban Houykhoun, the district hospital in Bolikhan, or the provincial hospital in Pakxan. The first two are about 20 kilometres away, Pakxan as mentioned also by boat and then by car.
- 66. The Project will establish health and education infrastructure in the resettlement site. The villages of Hat Gniun and Thahuea will have access to these facilities and thus profit from benefit sharing in project development regarding health and education.

15.1.8 Gender Issues

67. As a result of focus group meetings in 2012, the following gender issues are relevant for villagers of Zone 5:
- Not many possibilities for higher employment positions for women
 - Interest in alternative cash income opportunities and technical training
 - Fetching of clean water is a problem
68. The project is expected to have little gender-specific adverse impacts, with the exception of the possibility of inadequate nutrition due to impacts on fisheries. This would be of particular concern for pregnant women, women with infants and children, and those infants and children. The project will ensure that any pregnant or nursing women have adequate health care and are able to receive adequate nutrition, since these are critical to the health of the children. Mitigation measures are integrated into the Gender Action Plan and Public Health Action Plan, both outlined in the SDP. Measures to empower women and ensure they benefit from the Project are also incorporated in the GAP.

15.1.9 Information and Services

69. The villages of Zone 3 have access to national mobile phone networks. With the connection to the national grid, televisions will also transport information to the villages. Otherwise, the service sector is still just weakly established. With the expected influx of people due to the Project, increased services, for example the opening of new restaurants can be expected. While this enhances socioeconomic development, it could also lead to social disturbances; related social mitigation measures are outlined in the SDP.

15.1.10 Agriculture and Horticulture

Land Use(ha)	Ban Hat Gniun	Ban Thahuea
<i>Private properties</i>		
Residential area	13	8
Rice field	10	20
Other cultivation	152	310
Total	175	338
<i>Public properties</i>		
Cemetery land	1.0	N/A
<i>Forest and others</i>	213	79
Total Land	389	417

Table 90: Land Use Patterns of Ban Hat Gniun and Ban Thahuea (Source: Field Survey 2011)

70. People of Ban Hat Gniun and Ban Thahuea make use of the flat valley on the left bank of Nam Ngiep River as their main productive land. Of the total land use, 61 % is agricultural area, 2.6% is residential area, and, the rest, 36%, is forest land. While most of the villagers

did not provide much information on their upland crops lands, from observation, it appears that much of the unstocked forest land is in fact used for upland crops.

71. On the right bank of the Nam Ngiep, where the resettlement area will be located, there are about 20 ha paddy fields used by the villagers of Ban Hat Gniun and Khum Hatsaykham. The land use right is not registered formally, but compensation measures according to the REDP will be implemented.
72. The villagers rely on subsistence agriculture for their living, with rice the main crop mainly for household consumption, with some surplus being sold. All in addition to rice, people in these 2 villages also grow maize, sugar cane, cassava, banana, and pineapple, with some of these also for sale. At their houses, they have stands with flat beds where they grow spices and herbs, at a high enough level to protect the plants from their animals. They also grow vegetables around the homestead and along the riverbank. Riverbank gardens, use and productivity, will be assessed and included in the updated asset register. Villagers surround the vegetable plots with woven bamboo fences to demarcate use boundaries and to keep out animals.

15.1.11 Rice Sufficiency

73. During the 2011 survey, rice sufficiency was not assessed for Zone 5. The Socioeconomic Survey for the Access Road conducted in March 2014 found that all households in Hat Gniun and in Thahuea have enough rice to eat for 12 months round, except one vulnerable household who relies on food support from the village.

15.1.12 Forest Utilization

74. The villagers make use of many of the surrounding natural resources, in particular the community forests and the river. Their houses are built from wood and bamboo from the forests and grasses from the fields. Their food is cooked with firewood gathered from the forests. Many kinds of food, such as mushrooms, bamboo shoots, vegetables, and herbs are gathered from the forests. Villagers plant fruit trees and other economic or commercial trees. Farmers have started recently planting commercial trees, such as teak (*Tectonagrandis*), auri (*Acacia auriculiformis*), eucalyptus (hybrid for pulp), and Agar wood (*Aquilaria* spp.).
75. The fruit trees are mostly for domestic consumption. During visits to local markets and markets in nearby towns, nearly all the local fruits sold in the market were from the forests. Commercially grown fruits tended to be from China or Thailand. One of the few exceptions is pineapple, grown in fairly large numbers by some households for sale.

15.1.13 Hunting

76. Villagers are hunting in the forests around the villages, partly for own consumption, partly for sale, even though until now limited access to markets reduced the possibilities for the latter. The NNP1 EMO together with public authorities will control that no NNP1 workers are hunting in the area and that trade of hunting goods is restricted according to the national and international regulations.

15.1.14 Fisheries

77. The river as well as larger tributaries and smaller streams are also an important source of nutrition, with almost every meal including some fish, either fresh or preserved. Once the resettlement site is established, the usage of fisheries will become a shared resource with the host communities and thus has to be managed. The Program has assigned a budget for a fisheries co-management program.

15.1.15 Livestock

78. All households raise a variety of animals. Chickens, ducks and pigs roam around the houses. Some larger pigs are kept in pens. Other large animals such as water buffaloes, cows and goats are usually left to roam or herded during the day before being brought back to stay near the house at night. The animals are raised both for domestic consumption and for sale. The smaller livestock in particular are an important source of protein, though second to fish.

Livestock	Total Number of Livestock in Hat Gniun	Total Number of Livestock in Thahuea
Cattle	289	302
Buffalo	184	122
Pigs	84	132
Goats	6	21
Chicken	1153	930
Fighting Roosters	32	42
Ducks	446	263

Livestock in Zone 5 (Source: SES Access Road 2014)

15.1.16 Other Sources of Cash Income

79. The main sources of cash income of people in Hat Gniun and Thahuea are the sale of livestock and of agricultural products. Secondary sources of cash income are the sale of surplus fish, of Non-Timber Forest Products (NTFPs), and handicrafts. These goods are either sold to other villagers or taken for sale to the market at Pakxan. Occasionally a trader will come to the villages to buy these products.

15.1.17 Household Expenditure

80. The main expenditures of the villagers in both communities are for petrol, housing, and health care. Other important expenditures are clothing; contributions to social events, such as marriages, funerals, and celebrations of new-born; debt payments; and savings. It should be noted, that expenditure patterns vary between the different villages. Details are presented in Table 37.

15.1.18 Poverty

81. As outlined in the table below, two villagers in Thahuea are absolutely poor. At the same time, they are also in other categories of vulnerability. In this case, livelihood activity

programs alone will not be sufficient to enhance income, but the specific kinds of vulnerability have to be addressed. Suggestions have been elaborated together with the PAPs and the village chief and the Project will elaborate these suggestions described below, into Project activities.

15.1.19 Vulnerability

82. In both villages of Zone 5, there are vulnerable households as outlined in Table 91. A qualitative analysis of each household situation has been conducted by the Vulnerability Officer, so that special attention can be paid to the specific kinds of vulnerability. Recommendations from consultations include either (i) regarding extended assistance, (ii) alternative livelihood options, and (iii) health support as discussed in the section 5.11.

Village	No of vulnerable HH*	Landless	Elderly	Female	Disabled	Absolutely Poor	Other Problems
Thahuea	2	1	1	1	1	2	0
Hat Gniun	5	0	2	1	2	0	0
Total	7	1	3	2	3	2	0

Table 91: Vulnerable person profile of each village in Zone 5 (Source: Vulnerability Report Access Road 2014)

**Remark: Note that HHs might be found with several indicators of vulnerability*

15.1.20 Impact on Income and Livelihood

83. The main livelihood of the host community is subsistence agriculture. With the construction of the access road to the project, allowing easier transport, it is expected that the transition to a more market-oriented economy will occur even faster than it has thus far. Crops will be grown in part for commercial sale. Other activities will expand (such as handicrafts) or be introduced (new livelihood opportunities) that depend on a more market-oriented economy.
84. The people will have to adjust to farming on a more limited area, as on the one hand they cannot use land at the future resettlement site any longer and on the other hand GoL has introduced a policy limiting the extent of shifting cultivation in the wider area. While much will still be produced for domestic consumption, some of the agriculture goods will be produced for markets. To support the family, people will have to rely on both land-based and non-land-based income generating activities.
85. The main livelihoods impacts at present are provision of additional work opportunities for persons from Ban Hat Gniun and Ban Thahuea. Due to its proximity to the Temporary Labour Camp and current road construction, the majority of temporary and monthly labour is drawn from Ban Hat Gniun.

15.2 Entitlement Matrix and Mitigation Measures

15.2.1 Public Consultation and Disclosure

86. Consultations and Information Disclosure for Hat Gniun and Thahuea are outlined in Chapter 7 as well as in section 8.5.5. PAPs have been integrated into the development of the REDP planning, of which the most important are:
- The communities welcome the Project and have no objection against the use of Houaysoup as a resettlement site for PAPs from 2LR and Hatsaykham
 - A BCS assessment took place in Hat Gniun and Thahuea in the first quarter of 2014 with positive result.
 - The Detailed Entitlement Matrix for Hat Gniun and Thahuea has been disclosed in March and April 2014.
 - The overall REDP planning has been disclosed and discussed during these consultations as well as during the national consultation in May 2014, where PAPs from Hat Gniun and Thahuea were present.
 - On-going consultations accompany the resettlement implementation as well as the development of fisheries co-management programs

15.2.2 Entitlements, Assistance and Benefits

87. Land Impacts for PAPs in Hat Gniun are assessed in Chapter 14 in regard to existing users in the resettlement site. These losses will be compensated according to the outlined entitlements. The asset registration 2014 will determine the final list of impacts on agricultural land and how many PAPs of Zone 5 will be significantly impacted.

Kind of Impact and Entitlement	Compensation Policy Zone 5 for impacts other than the Access Road
1.b.1 Partial Loss of Agricultural Land with no need to resettle for legal owners with valid title or customary or usufruct rights	<p>For non-significantly impacted PAPs,</p> <ul style="list-style-type: none"> • Cash compensation for acquired land will be paid at replacement value according to the decision of the PRLRC outlined in section 5.2.7 above. • <i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i> <p>For significantly impacted PAPs,</p> <ul style="list-style-type: none"> • Equivalent area of land with equivalent productive potential at location acceptable to PAP within village boundaries OR • Upgrade of existing agricultural land to a productivity level balancing the loss of area OR • Cash compensation for the lost agricultural land at informed, written request based on the principles in sections 5.2.7 and 5.2.8 described above OR • A package encompassing a selection of the above compensation measures.

Kind of Impact and Entitlement	Compensation Policy Zone 5 for impacts other than the Access Road
	<ul style="list-style-type: none"> • For replacement land, land titles will be provided with all related costs borne by the company in accordance with section 5.2.15 • The replacement agricultural land is to be surveyed for UXO and rendered safe as outlined in 0.16. • Income restoration measures as outlined under clause 4. <p>All impacted PAPs will be additionally entitled to:</p> <ul style="list-style-type: none"> • Land titles will be provided with all related costs in accordance with section 5.2.15 • In the case a fence is impacted, it is compensated in accordance to entitlement regarding fencing (see line 3.b.3 and 3.b.4)
<p>3.b.1 Partial or total loss of outbuildings, which are not part of the main structure/house such as rice field huts</p> <p>For:</p> <p>a) Legal owner with valid title or customary or usufruct rights</p> <p>b) Persons later accepted for inclusion by the Grievance Committee under the Grievance Procedure</p> <p>c) Owner of affected structure without title to the land</p>	<p>Assessment of impact on the structure will be made in coordination with the PAP by a civil engineer and representative(s) of the DCC.</p> <p>All impacted PAPs will be entitled to:</p> <ul style="list-style-type: none"> • Dismantle by themselves the structure to be impacted with the ability to recover salvageable materials within 2 months’ time period; if the PAP does not dismantle the structure within this time frame, the project will be responsible to dismantle it • Cash compensation for impacted structures at rates established by the PRLRC according to sections 5.2.7 and 5.2.8
<p>3.b.3 Movable fence which can be reasonable dismantled and rebuilt without significant loss of construction materials</p>	<p>All impacted PAPs will be entitled to:</p> <ul style="list-style-type: none"> • Cash compensation for labour requirement for dismantling and rebuilding of fences made from durable materials (such as barb wired and concrete posts); based on average labour costs as agreed by the PRLRC; • Salvage of fencing materials • A percentage of the affected fencing materials used is expected not to be salvaged and therefore compensated in cash at replacement value as agreed by the PRLRC <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>6 Loss of standing crops that could not be harvested for owners of affected crops</p>	<p>The project together with the RMU will inform the PAP in advance of the timing of impacts on standing crops (and will complete land-related compensation) with sufficient time given for the PAP to harvest these crops. The timeframe will take into consideration crop growing cycles and harvesting requirements.</p> <p>In the case that the project requires urgent access to and/or</p>

Kind of Impact and Entitlement	Compensation Policy Zone 5 for impacts other than the Access Road
	<p>temporarily or permanent acquisition of land and is not able to provide sufficient advance notification as outlined above, the project will provide cash compensation equivalent to 10 times the market value of damaged or lost crops.</p> <p>In the case that sufficient reasonable advanced warning (taking into consideration crop cycles including land preparation but no less than 2 months)</p> <ul style="list-style-type: none"> • not to engage in crop production is ignored, while the compensation process is completed already • or crops ready for harvest have not been harvested in a reasonable time frame, <p>such compensation will not be provided.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>7.a Loss of fruit or nut trees for owner of affected trees or person with customary usage right or right to harvest (to be validated by village authorities)</p>	<ul style="list-style-type: none"> • For fruit/nut trees bearing fruits, cash compensation will be paid based on the average annual value of the produce, established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC, multiplied by 10. • For fruit/nut trees seedlings, which are not yet bearing fruits, cash compensation will be paid based on inputs such as seedling, land clearance and annual maintenance at rates as established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC. <p>The PAP is allowed to salvage wood resulting from the clearance of land from fruit/nut trees as long as it does not interfere with project activities;</p> <p>At least two months’ notice will be given to PAPs to harvest prior to any site clearance.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>7.b Loss of timber trees for owner of affected trees or person with customary usage right or right to harvest (to be validated by village authorities)</p>	<ul style="list-style-type: none"> • For timber trees cash compensation will be paid based on replacement cost equivalent to current market value based on type, age and diameter at breast height (DBH) of trees, at rates established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC. <p>The PAP is allowed to salvage wood resulting from the clearance of land from timber trees as long as it does not interfere with project activities;</p> <p>At least two months’ notice will be given to PAPs to harvest prior to any site clearance.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>7.c Loss of production trees</p>	<ul style="list-style-type: none"> • For production trees already producing, cash compensation will

Kind of Impact and Entitlement	Compensation Policy Zone 5 for impacts other than the Access Road
<p>for owner of affected trees or person with customary usage right or right to harvest (to be validated by village authorities)</p>	<p>be paid based on the average annual value of the produce at rates established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC based on the age of the tree, multiplied by 10.</p> <ul style="list-style-type: none"> For production trees seedlings, which are not yet producing, cash compensation will be paid based on inputs such as seedling, land clearance and annual maintenance at rates as established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC. <p>The PAP is allowed to salvage wood resulting from the clearance of land from production trees as long as it does not interfere with project activities;</p> <p>At least two months’ notice will be given to PAPs to harvest prior to any site clearance.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>7.d Loss of construction trees for owner of affected trees or person with customary usage right or right to harvest (to be validated by village authorities)</p>	<ul style="list-style-type: none"> For construction trees cash compensation will be paid based on replacement cost equivalent to current market value based on type of trees at rates established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC. <p>The PAP is allowed to salvage wood resulting from the clearance of land from construction trees as long as it does not interfere with project activities;</p> <p>At least two months’ notice will be given to PAPs to harvest prior to any site clearance.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>7.e Loss of perennial plants for owner of affected plants or person with customary usage right or right to harvest (to be validated by village authorities)</p>	<ul style="list-style-type: none"> For perennial plants cash compensation will be paid based on replacement cost equivalent to current market value based on type of plant at rates established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC. <p>The PAP is allowed to salvage the plant materials resulting from the clearance of land from perennial plants as long as it does not interfere with project activities;</p> <p>At least two months’ notice will be given to PAPs to harvest prior to any site clearance.</p> <ul style="list-style-type: none"> <i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i>
<p>10 Unforeseen Impacts</p>	<p>In case of any additional impacts identified during implementation, appropriate entitlement measures would be included. In order to ensure that unexpected impacts get identified swiftly, a comprehensive monitoring program will be established, encompassing</p>

Kind of Impact and Entitlement	Compensation Policy Zone 5 for impacts other than the Access Road
	<ul style="list-style-type: none"> • water quality • fisheries • fish catch monitoring • river bank erosion • river bank gardens • pre-COD natural flood monitoring

Table 92: Compensation and Benefits Entitlements Zone 5

15.2.3 Income Enhancement and Trainings

Kind of Impact and Entitlement	Compensation Policy Zone 5 for impacts other than the Access Road
<p>4.3 Loss of trade / livelihood / occupation for significantly impacted PAPs, who are not business owners or wage employees</p>	<ul style="list-style-type: none"> • Stream-Bed/Bank Gardens shall be compensated in accordance with decisions by PRLRC <p>In case of significant impact on the PAP’s livelihood, they are entitled to:</p> <p>Participation in livelihood restoration programs based on priorities identified by affected households during consultations between individual PAPs, NNP1PC, and DCC; this can include for example trainings for alternative livelihood activities or enhancement of current livelihoods based on the individual preference of the PAP which can include a selection of the following if found to be suitable for the area</p> <ul style="list-style-type: none"> • On-Farm Activities: <ul style="list-style-type: none"> ○ Agricultural livelihood restoration program: intensive agriculture program (fertilizer, seed, agricultural extension program) ○ Where feasible and appropriate, suitable and functioning irrigation system including pumps, gates, gauges, and distribution systems for all the replacement paddy agricultural lands in accordance with standards issued by Ministry of Agriculture and Forestry, Lao PDR within village boundaries. ○ Complete array of plants, tree saplings, cuttings, seeds and other biomaterials as well as tools and equipment if necessary, each year for a period of not less than three (3) years, in amounts sufficient to carry out all agricultural plans and optimize the productive capacity of all agricultural lands including paddy, terraces, garden plots forage plots, and forests. ○ Participation in aquaculture Program ○ If necessary, provision of tools and equipment in sufficient number and quality (including replacement tools and equipment where such items are worn out or damaged) for successful agriculture, fishery and other work of all types

Kind of Impact and Entitlement	Compensation Policy Zone 5 for impacts other than the Access Road
	<p>which are proposed under Concession Agreement, Annex C, Appendix 7</p> <ul style="list-style-type: none"> • Off-Farm Activities: <ul style="list-style-type: none"> ○ Package for employment or starting a business ○ A range of feasible production and income generating options which will ensure household targets are met ○ Priority for employment in project-related jobs ○ Participation in Occupational Skill Development Programs which shall be designed to match the PAP’s aspirations and potentials. • For students committing to work either in a public function (teachers, medical staff, etc.) in the village or in the designated resettlement site or with NNP1PC eligibility to compete for a scholarship program established and funded by the Company up to a defined quota; scholarships will be allocated via a competitive selection process with gender quotas

Table 93: Livelihood Activities Entitlements Zone 5

15.2.4 Community Resources & Infrastructure

Kind of Impact and Entitlement	Compensation Policy Zone 5 for impacts other than the Access Road
<p>5 Loss of access to common resources and facilities including loss of access to rural common property resources and urban civic amenities, including community grazing areas, fishery and other riparian resources, NTFPs, community cemeteries for communities/Households</p>	<p>If restoration of accessibility to common resources and facilities is not possible, then for loss of common resources and facilities (community forests / NTFP and firewood gathering areas, grazing areas, fish ponds, fishing areas) replacement will be provided in kind equivalent to the value of the lost assets. This includes:</p> <ul style="list-style-type: none"> • Usage of all public facilities provided in the resettlement site such as school up to high school, library, public health centre, market, and bus station • Support of the electrification program • Access to fishery resources downstream of the re-regulation dam • Assistance to develop a sustainable zoning and land use plan for use of common resources including a Fisheries co-management program for fisheries on the reservoir
<p>8.b Loss of public infrastructure and cultural properties for Communities / Households who do not have to resettle</p>	<ul style="list-style-type: none"> • A bus stop in Ban Hat Gniun and Ban Thahuea • Repair of existing primary school buildings in Ban Hat Gniun and Ban Thahuea • Repair and upgrade of existing water supply systems in accordance to hydrological, geological, and geographic conditions <p>All specifications and designs for this public infrastructure will be prepared in consultation with the village, and will follow the standards of similar buildings. All shall be</p>

Kind of Impact and Entitlement	Compensation Policy Zone 5 for impacts other than the Access Road
	<ul style="list-style-type: none"> a. covered with durable roofing material b. have a concrete structure c. be connected to electricity for school buildings d. have access to the water supply system for school buildings e. have toilets connected to a septic tank for school buildings f. UXO clearance for all community infrastructure land as outlined in section 5.2.16. g. Fencing of school buildings h. Community land titles will be facilitated by the Company as outlined in section 5.2.15

Table 94: Community Resources and Infrastructure Entitlements Zone 5

15.2.5 Special Measures for Vulnerable Households

88. A dedicated program for the most vulnerable people will be prepared by the Company in consultation with those people, and included in the updated REDP to assure these most vulnerable people do not suffer adversely from the project. Results of the Confirmation Survey will be analysed such that a meaningful program for the vulnerable groups including the women, disabled, poor, and the elderly will be implemented. The Project will thereby focus on the enhancement of livelihood activities. For specific kinds of vulnerability, different solutions will be found based on further consultation with the PAPs. As outlined above, initial suggestions have been discussed with PAPs in Thahuea and the Project will proceed with the elaboration of respective feasible measures.

15.2.6 Project-related employment opportunities

89. Along the Access Road, most PAPs from Hat Gniun are already working in the Project’s construction work, also some from Thahuea. In general, Thahuea is more reserved towards linking livelihoods to the construction activities. The Project establishes a monitoring system to analyse employment statistics of PAPs in regard to the commencement of the constructions at the dam site in the second half of 2014. The Project’s SMO is hiring a labour management officer, supporting the employment of PAPs through linking Company, contractors and subcontractors with PAPs looking for employment as well as in linking employment-related livelihood activities with the Project’s construction work.

15.3 Budget and Financing Plan

90. Budget for the host communities includes infrastructure development, replacement land, and livelihood activities as presented in the following tables. The budget for the cash compensation of current assets in Houaysoup is included in Chapter 14. This includes budget for both land acquisition and compensation for land loss in Houaysoup and on riverbank gardens. Additionally, the Project will invest in qualified staff in appropriate numbers to support these different activities, included in the overall budget in Chapter 19.

Plan components	Assumptions made in the preparation of the budget	Pre-COD	Post-COD
Infrastructure and Replacement Assets		525,600	30,000
Infrastructure development		321,000	-
The budget covers: <ul style="list-style-type: none"> • Irrigation • Land survey and acquisition • Water use and supply • Electric distribution 	A provision of 105,000\$ covers the development of the irrigation and 51,000\$ are for land acquisition. Total is 174,000\$ Provision of water supply for domestic use in 2 villages for 108,000\$ Partial support for electric connection to EDL network (29,000\$)		
Community Building		87,000	-
Budget covers Schools and Village offices and rice facilities to be further defined with communities and others	Schools renovation and playground for 25,500\$ and 2 village offices (One per village) for 28,500\$ There is a Lump sum of 35,700\$ for rice facilities and equipment for farmers’ groups initiatives (rice seed production, mechanized services for planting/drying, etc.)		
Agriculture Land development		98,000	-
Budget covers paddy field development with soil improvement and fenced grazing land soil	20 to 25 ha of rice fields at 1,500\$/ha plus its soil development (28,000\$) and a lump sum of 40,000\$ for fenced grazing land		
Participatory Land Use Planning (PLUP)	A lump sum of 30,000\$		30,000
Budget covers s			
Land Titling		19,600	-
	70 HHs with 2 land titles at 140\$ each		

Table 95: Sub-Budget Infrastructure and Replacement Assets Zone 5

Plan components	Assumptions made in the preparation of the budget	Total Pre-COD	Total Post-COD	Estimated Quota Z5	Z5 Pre-COD	Z5 Post-COD
Livelihood Development						
Resettlement preparation						-
Budget covers study tours, training, focus groups, etc. for preparing PAPs to new livelihoods	Lump sum	50,000		3.4%	1,700	-
Agricultural extension & on-farm trials					0	-
Budget covers trials, demonstration, study tours, farmers' schools	Lump sum	100,000		3.4%	3,400	-
Support to PAPs initiatives for establishment of providers of agricultural inputs & services					0	-
This budget covers equipment and facilities for farmers' groups initiatives regarding seedlings/ seeds and fingerlings/young animals production, mechanized services for planting/drying, etc.	Lump sum of 137,600\$	137,600		3.4%	4,678	-
Income restoration: the budget is indicative as the allocation will be dictated by the wishes coming from the communities For Rice it involves particularly the provision of seeds, agricultural tools, and soil improvement and training in the different zones For Cash crops & fruit trees it includes particularly the provision of seeds/seedlings/saplings, bio-fertilizers, lime or bio-pesticides and training For Livestock it includes the provision of animals (breeders), pens, vaccination, pasture development and training. For Aquaculture it includes the provision of fingerlings, ponds/cages and feeds as well as training and fisheries co-management.	198,000\$ is booked for the Rice component, 61,000\$ is booked for Cash crops & fruit trees, 386,000\$ is booked for Livestock and 178,000\$ is booked for Aquaculture.	760,000	63,000	3.4%	25,840	2,142

Table 96: Sub-Budget Livelihood Restoration Program Zone 5

91. Above numbers are based on the overall livelihood program, divided among the beneficiaries, which include in different quantities PAPs from Zone 2UR, Zone 2LR, Zone 3, and Zone 5 based on number of households in the 2011 survey.

15.4 Institutional Arrangements for Land Acquisition and Compensation

92. The overall institutional structure for the REDP is outlined in Chapter 9. Staff is based in the Vientiane Office as well as in the Bolikhamxay field offices: currently in Pakxan and the Demonstration Farm in Houaysoup, latter on also at the owner's camp close to Hat Gniun:
- At the beginning, the people from Hat Gniun and Thahuea will work on a day-to-day base with the teams currently involved in the Access Road Compensation and later on to be transferred to the 2LR/Z3 resettlement section (see section 12.5). They are already familiar with most of the PAPs of Zone 5 due to compensation of Access Road impacts. In addition
 - livelihood team and
 - community consultation team will play a key role in implementing Zone 5's livelihood activities.
93. Of special importance for Hat Gniun is the resettlement preparation team, which also includes officers for workers-community relations to mitigate social impacts from construction and camp followers.

15.5 Schedule of LAC Activities and Resettlement

94. As already outlined in Chapter 11, the key dates for Hat Gniun and Thahuea are:
- Asset Registration in Houaysoup and Baselines for villages of 2LR have started in May 2014 and continue throughout the rainy season
 - Livelihood activities will start in the second half of 2014 to ensure that cash compensation can be invested for livelihood investments at the resettlement site
95. Further details on the timeline can be found in the Gantt-Chart in section 11.8

15.6 Monitoring and Reporting

96. The overall monitoring and reporting structure of the Project is outlined in Chapter 10. A monitoring team is currently being formed and until then, the community consultations and development team is the first one to monitor the Project's implementation of resettlement and land acquisition. In March/April 2014, the Project conducted a Socioeconomic Survey for the communities along the Access Road, which provide information on the socioeconomic situation of Hat Gniun and Thahuea. A more detailed resettlement baseline survey will be implemented in mid-2014. From this baseline, the development of the different indicators outlined in Chapter 10 and in its updated version adapted by the monitoring team will be assessed.
97. External institutions conducted assessments of the Project's impact and activities in Hat Gniun and Thahuea as part of their overall Project assessment:
- ADB's Due Diligence Mission in October 2013
 - IAP Mission in November 2013

- ADB’s Social Audit Mission in March 2014
 - IAP Mission in May 2014
 - ADB’s Due Diligence Mission in May 2014
98. Further external monitoring missions will take place regularly as outlined in Chapter 10. Reporting will also follow the structure outlined there.

CHAPTER 16 - Transmission Line

16.1 Transmission Line Land Acquisition and Compensation Plan

99. Two transmission lines connect the Project dam site to electricity grids, a 230 kV line and a 115 kV line. The Project will also support EdL in the upgrade of a 22kV transmission line currently connecting the villages along the Access Road to the national grid, for use as an electricity supply for the construction site as well as the resettlement site.
100. The 230 kV transmission line will be routed from the powerhouse of the main dam to Nabong Substation; 130 km in length. Nabong Substation is located near Vientiane Capital and connects to electricity grids in Thailand through an existing 500kV line. Plans of upgrading the substation are currently under discussion with the current owner (Nam Ngum 2) and GoL. These plans will go ahead with or without the NNP1 project. The 230kV transmission line will be implemented by the Project which will provide the necessary finance, undertake construction, and negotiate the alignment and necessary Right of Way (ROW), potentially up to 40m according to the Concession Agreement.
101. The original alignment design of the 230kV line, on which socioeconomic data below is based, will be considerably changed throughout the next year. This is due to an overlap of planned corridors by NNP1 and a second, independent, project in the area, NNP2, which has started implementation already. Nonetheless, preliminary data are provided in this chapter and the social impact assessment will be updated accordingly after final alignment has been determined. Compensation and mitigation measures will be outlined in a separate LACP-TL and approved by MoNRE, ADB and lenders, before any involuntary resettlement impacts takes place and well before any construction works requiring land or right of way will commence. Thus, this chapter is indicative of potential impacts regarding the construction of the 230kV line.
102. This LACP-TL will also include an assessment of impacts of the 22kV line, in case minor land acquisition for more electricity poles to support the existing line would be necessary. Currently, technical feasibility studies are under way, after which a preliminary assessment can be made. The 22kV line is divided in 4 sections: in section 1 from Pakxan to Nonsomboun, the current line has to be upgraded and a strengthening of string support structures is necessary; in sections 2 and 3 from Nonsomboun to Hatsaykham, the existing EdL transmission line can be upgraded without adaptations of the support structures; and from Hatsaykham to the construction site, a new line is planned within the already compensated right of way of the Access Roads.
103. The 115 kV transmission line will be financed separately by EdL and routed from the powerhouse of the re-regulation dam to Pakxan Substation, 40 km in length, to provide electricity for the Lao grid. This, second, transmission line will be implemented by Electricity de Lao (EDL), which will undertake the necessary land acquisition and construction. Nonetheless, preliminary data for this 115kV line will be provided here as the EDL line is

considered an associated facility under ADB's SPS⁸⁰.

104. The transmission lines run together for a distance before splitting into separate directions, and ending at the different sub-stations. The 230 kV line from the powerhouse at the main dam and the 115 kV line from the power house at the re-regulation dam run parallel to the southeast, crossing the Nam Ngiep River before curving to the south at 11.1 km from the power house (see Figure 71). After 11.1 km from the power house, the lines begin gradually to separate. They curve southward, crossing the Nam Ngiep once more. At Ban Nam Pa, 24.8 km, the lines separate into different routes. The topography of the route from the dam to Ban Nam Pa is slightly hilly, since the lines follow the foot of the mountain range. At Ban Nam Pa and for the rest of both routes, the topography is generally flat or slightly undulating over lowlands. The 230 kV transmission line curves generally west and southwest to the Nabong Substation; while the 115 kV transmission line runs generally southeast and south to the Pakxan sub-station. From there, as mentioned, electricity reaching the Nabong Substation will be exported to Thailand, while electricity directed to Pakxan Substation is for local use.

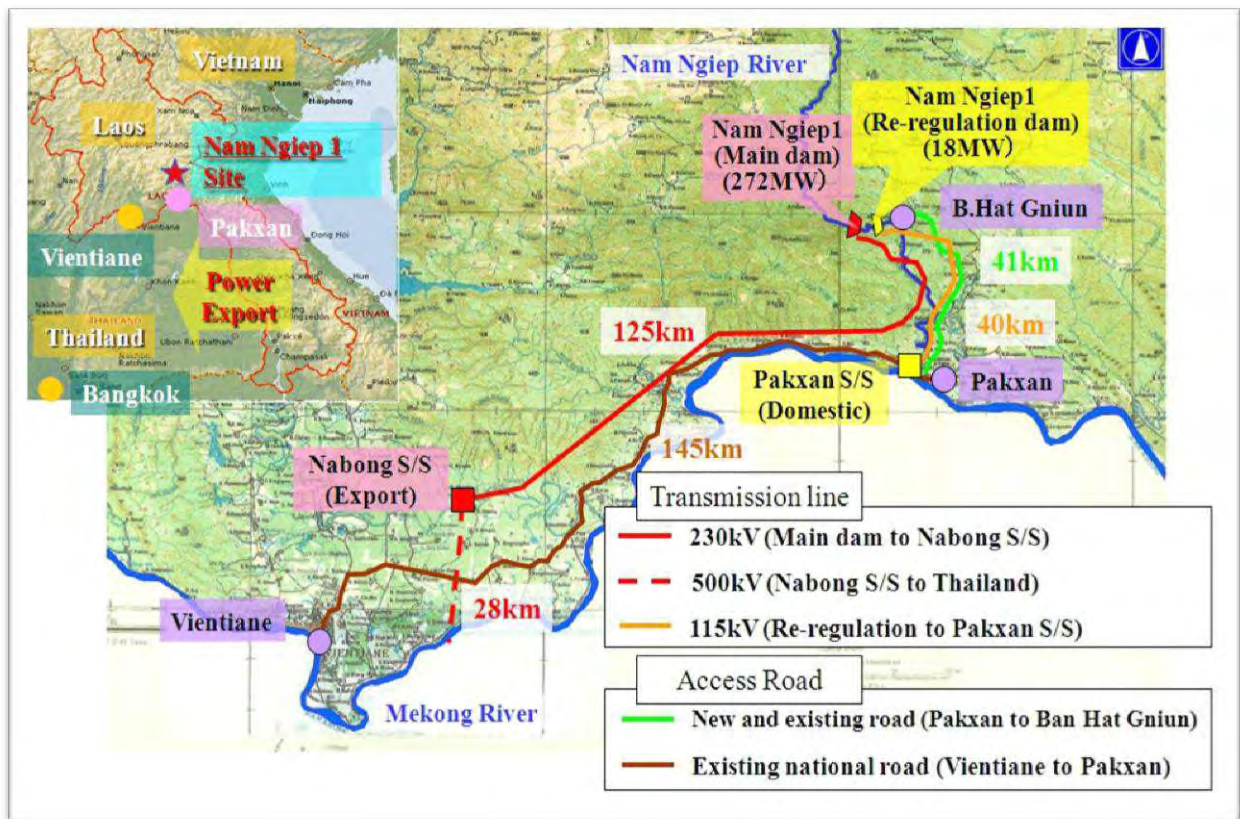


Figure 71: Transmission Lines connecting NNP1 dam site

⁸⁰Safeguard Policy Statement, ADB, Appendix 1, para 6(ii)

16.2 Socioeconomic Profile

16.2.1 Demography

105. The transmission lines are routed through four districts in two provinces (Bolikhambxay Province and Vientiane Capital). The following table presents villages and number of households facing potentially impacts from the transmission lines. The transmission lines are likely to traverse portions of 24 villages in four districts of the two provinces, with 183 out of 4,851 households possibly affected by the transmission lines.

Province	District	Affected Villages	Total of households	Total of population	No. of affected households	
Bolikhambxay	Bolikhambxay (3 Villages)	1. Hat Gniun	67	371	3	14 households
		2. Houykhoun	358	2,180	4	
		3. Nampa	84	584	7	
	Pakxan (5 Villages)	1. Thong Noi	165	839	22	76 households
		2. Thong Yai	86	437	15	
		3. Sanaxay	274	1,156	4	
		4. Anusonxay	390	1,120	33	
		5. Pak Ngiep	137	659	2	
	Thaphabath (10 Villages)	1. Xaysavang	87	123	3	73 households
		2. Vuenthat	356	523	14	
		3. Partway Tai	126	278	7	
		4. Pakthouay Neu	174	391	7	
		5. Nongkuen	256	342	8	
6. Sisomxay		275	371	10		
7. Thabok		364	946	5		
8. Palai		221	315	5		
9. Somsaath		121	321	7		
10. Na		179	462	7		
Vientiane Capital	Pak Ngum (6 Villages)	1. Vuenkabao	125	749	1	20 households
		2. Xienglea Na	115	639	8	
		3. Xienglea Tha	237	1,416	4	
		4. Nosh	111	498	4	
		5. Thakokhai	178	378	1	
		6. Nabong	365	456	2	
Total		24	4,851	15,554	183	

Table 97: Affected Villages, Households and Population Distribution (Source: Field Survey 2007)

16.2.2 Infrastructure

106. Compared with other areas of the Project, especially compared with those close or upstream of the dam site, the communities facing impacts from the transmission lines have better

infrastructure and services. They lie close to one of the major roads of the country, national road 13 south. The city of Pakxan, a significant market and portal to Thailand, is close to many of the communities. Feeder roads to the villages are being improved by GoL and are in or will soon be in good condition. The following table presents the basic infrastructure or services available in their communities or in nearby communities. It is not anticipated that any of the transmission lines will result in impacts on existing infrastructure.

Type of Facility or Infrastructure	Bolikhan 3 Villages	Pakxan 5 Villages	Thaphabat 10 Villages	Pak Ngum 6 Villages
Primary School	3	5	3	6
Lower Secondary School	1	2	4	3
Upper Secondary School	1	1	2	2
Dispensary or Village Clinic	0	1	3	2
Rice Mill	3	4	9	6
Electricity	2	5	9	6
All Weather Road	2	5	9	6
Village Market	2	3	9	6
Public Transport or Bus from Village to Districts/Provinces	2	5	9	6
Factory Nearby	0	3	2	3
Guesthouse	0	2	3	2
Restaurant	1	2	4	3
Garage	1	3	7	6
Communication Network	2	5	9	6
Toilet	3	5	9	6
2-Wheel or Small Tractor	2	5	9	6

Table 98: Existing Infrastructure and Facilities within the Villages affected by the Transmission Lines

Note: This information is based on a survey focused on the area immediately in and around the villages along the proposed transmission line.

16.2.3 Education and Health

107. Villagers along the Transmission Line have good access to education and health resources as outlined above. Furthermore, with a stronger economic integration and lower costs for market access, these villages are expected to have better indicators on education and health as in the more remote areas of the Project Impact Zone. The 2014 Baseline Survey will assess updated information based on sampling in the 24 villages, which will be integrated into the LACP Transmission Line as well as in the updated REDP.

16.2.4 Livelihoods

108. The 24 villages along the Access Road share common features of Lao Loum communities: a strong focus on paddy rice fields in the lower areas, livestock as a further corner of agriculture, increasing cash crop cultivation and furthermore increased access to

employment in urban areas.

109. The land use and vegetative features along the ROW corridors are presented in Table 99.

No.	Land Use and Forest type	Area (ha)	Percentage (%)
1.	Evergreen Forest	11.44	1.00
2.	Mixed deciduous Forest	266.85	23.32
3.	Dry Dipterocarp Forest	438.06	38.29
4.	Unstocked Forest	313.10	27.36
5.	Paddy Field	86.18	7.53
6.	Upland rice field	6.02	0.53
7.	Plantation	5.91	0.52
8.	Housing/Construction Area	6.08	0.53
9.	Water Body	6.89	0.60
10.	Road	1.77	0.15
11.	Other	1.87	0.16
Total		1144.17	100.00

Table 99: Land Use and Vegetative Cover along the 230 kV and 115 kV Lines

110. The areas where people might be permanently or temporarily affected are those used for swidden agriculture (including those classed as unstocked forest), as well as the paddy fields, roads, built-up areas, tree plantations, and other land uses. The most important of these are the privately held lands: the built-up areas, paddy fields, and tree plantations, accounting for about 10 per cent of the total area under the right-of-way of the transmission lines. The survey found that 19 households own these lands. Each will lose only a small portion of their land. Nearly all the affected land in the right-of-way can continue to be used for general cultivation with impacts of temporary loss of land use while construction and stringing occur. Crop cultivation under transmission lines is permissible and already current practice. However, trees may not be planted nor structures made along the alignment or ROW. The only permanent impact of land loss will come from the need for footing for the transmission line towers. Each of the towers for the 230 kV line will require 324 square meters (18 x 18 meters), while each of the towers for the 115 kV line will require 225 square meters (15 x 15 meters). The acquisition of lands for these towers will not cause any significant impact to any household. The livelihoods of the people affected by the transmission lines will not be altered or disturbed to a significant degree. However, there may be some temporary livelihoods impacts due to access restrictions during stringing of lines during the dry season. Compensation will be provided for all temporary impacts due to construction work as well as for land acquisition for permanent impacts in line with commitments outlined in the Entitlement Matrix.

16.2.5 Further Sources of Income

111. The IEE field survey and interviews with local inhabitants showed that villagers in the project area had many different sources of income (Table 100). Main sources are agriculture and livestock, followed by small businesses and services, and sales from handicrafts and

small-scale industries. The relative importance of income from small business operations and handicraft sales is likely because most of the villages within the project area lie along one of the main national highways, National Road No. 13 South. Other sources of income that are often important in rural communities in the Lao PDR, such as NTFPs, were relatively minor in the study area. Most households also had more than one source of income, as reflected by the occupations and livelihood systems of local villagers.

Income Sources	District			
	<i>Bolikhan (14 Villages)</i>	<i>Pakxan (76 Villages)</i>	<i>Thaphabat (66 Villages)</i>	<i>Pak Ngum (20 Villages)</i>
	<i>No. of HH</i>	<i>No. of HH</i>	<i>No. of HH</i>	<i>No. of HH</i>
Agricultural Production and Livestock	13	52	61	17
Non-timber Forest Products (NTFPs) and Fishing	4	2	5	3
Small Businesses and Services	5	27	16	9
Handicrafts and Small Scale industry	3	2	4	5
Daily Labour	4	43	24	7
Others	3	11	8	2

Table 100: Main Sources of Income of Villagers within the Project Area

Note: Only affected villagers were interviewed. HH: Indicates total number of household within affected villages and districts.

16.2.6 Expenditures

112. An updated baseline survey will be implemented along the Transmission Line, assessing expenditures of the PAPs in these communities. Information will be provided in the LACP -TL as well as in the updated REDP.

16.2.7 Poverty

113. The updated baseline survey will also assess poverty among the PAPs in affected communities. Information will be provided in the LACP Transmission Line as well as in the updated REDP.

16.2.8 Vulnerability

114. An analysis of each potentially vulnerable household will be conducted by the SMO's Vulnerability Officer, so that special attention can be paid to the specific kinds of vulnerability regarding necessary assistance.

16.3 LAR Impacts of the Transmission Lines

16.3.1 Loss of Structures

115. No loss of housing or other fixed assets are envisaged along the 230kV line, and no resettlement is required, if alignment will be done carefully. In the original ROW assessment, 2 houses and a small farm structure would be impacted. Re-alignment is currently being assessed to avoid housing impacts. Further details will be available after the final alignment. This applies also to the potential impact of the 22kV line in section 1 from Pakxan to Nonsomboun.

16.3.2 Loss of Land

116. The only land that will need to be permanently acquired for the transmission lines is the space required to erect the footprints of the 372 steel transmission towers. Some temporary disruption will also arise when construction and slinging occur. Construction will require the combined area of 11 hectares. From the study, nearly all of this area is forestland, with a little agricultural land, water body and residential area (but no houses impacted). The required compensation for these permanent losses is presented in the table below. The 22kV line follows the right of way of the roads, which from Nonsomboun to the dam site has been compensated by the Project. Impacts in section one from Pakxan to Nonsomboun will be assessed after the finalization of the technical feasibility study.

Type of Land	Approximate area (ha)
Forest Land	7.468
Unstocked Forest	2.772
Paddy Land	0.579
Other Agricultural Land	0.077
Built-up Area	0.068
TOTAL	10.96

Table 101: Permanent Loss of Land and Other Resource Uses

16.3.3 Loss of Crops and Trees

117. The construction of the transmission lines will also lead to the permanent loss of some fruit trees and other commercial trees, to maintain sufficient clearance below and along the transmission lines. The number of these privately owned trees found in the right-of-way of the proposed transmission lines is presented in the table below. However, there will be no restriction on crop cultivation below the lines after construction is completed.

Supplies	Unit	Quantity units		
		Big	Middle	Small
Fruit Trees	Tree	0	45	0
Agarwood (<i>Mai Ketsana</i>)	Tree	0	72	0
Teak (<i>Mai Sak</i>)	Tree	0	237	0

Table 102: Loss of Fruit and Other Commercial Trees

16.3.4 Impact on Income and Livelihoods

118. Most impacts of the transmission lines will be during construction and stringing. Detailed design still requires finalisation, together with selection of sites for placement of the towers, the creation of temporary access roads for construction purposes, and then the construction of towers and stringing of lines. The expected impacts will be permanent loss of land under the feet of the base of the towers, restrictions of land use in the ROW regarding height of trees, some loss of productive trees, temporary loss of land productivity during construction, and other temporary construction impacts such as in the influx of labour, increased load on transportation routes, and waste from construction and labours. As noted above, there will be no restriction on crop cultivation below the lines after construction is completed. All impacts are considered minor and will be controlled readily with sufficient planning and good management. For the outlined adverse impacts, compensation will be provided according to the details outlined in section 16.4.
119. The transmission lines do not post any significant adverse impact to the economic structure or the resources of the communities, though main impacts will be temporary and limited permanent loss of access to land. In contrast, other developments related to the project, in particular road construction, as well as some labour employment, occupational skill training and other related activities, will support further development in the communities.
120. During normal operations of the dam, periodic inspection and maintenance of the transmission lines will be conducted. These will be to maintain the condition of the towers and to clear vegetation in the right-of-way. Any impacts from these inspections and maintenance activities will be minor, and if required, will be compensated.

Social Aspect	Positive/Negative	Degree of Impact
1. Population and communities <ul style="list-style-type: none"> Clearance for the rights-of-way, obstructing accessing to nearby forests, land, and communities or leading to people relocating or resettling. Temporary population increase from labour influx risking an increase of crimes, local social impacts, and additional demands on local facilities and infrastructures. Maintenance requires occasional passage through communities 	<p>Negative</p> <p>Negative</p> <p>Negative</p>	<p>Moderate</p> <p>Moderate</p> <p>Minor</p>
2. Infrastructure facilities/Industries <ul style="list-style-type: none"> Improvement of existing infrastructure. 	<p>Positive</p>	<p>Major</p>
3. Water Use and Water supply <ul style="list-style-type: none"> Changes in either quality or quantity of water caused by project activities such as cutting or clearing. 	<p>Negative</p>	<p>Minor</p>
4. Transportation <ul style="list-style-type: none"> Vertical clearances between conductors and the ground, navigable and un-navigable waterways, road crossings, buildings, antennae, telecommunications lines and other types of utilities. 	<p>Negative</p>	<p>Minor</p>

Social Aspect	Positive/Negative	Degree of Impact
<ul style="list-style-type: none"> Traffic disruption along the roads where erection crews unload materials from heavy trucks 	Negative	Minor
5. Energy sources/Power supply <ul style="list-style-type: none"> Use of electricity and fuel in areas surrounding construction sites. 	Negative	Minor
6. Public Health/Public Safety/Occupational Health <ul style="list-style-type: none"> Risks of inadequate sanitation facilities in worker camps, and from diseases and accidents. Vegetative control along the rights-of-way. 	Negative Negative	Minor Minor
7. Economics conditions <ul style="list-style-type: none"> Loss of land for the transmission towers and the changes in land use on lands proximate to the lines within the designated ROW, where trees and other tall plants will not be permitted. Short-term economic benefits to local businesses from the increase in clientele caused by the influx of temporary workers 	Negative Positive	Minor Minor

Table 103: Impacts of NNP 1 on Livelihood along Transmission Lines

16.3.5 Gender Issues

121. The project is expected to have few, if any, gender-specific adverse impacts specific to the construction of the transmission line. General Gender-policies of the company will be implemented in accordance with the plans outlined below, i.e. amongst others ensuring women’s participation in consultations and community activities, requesting the signature of husband and wife on official documents and the transfer of cash compensation onto bank accounts in both, husband’s and wife’s names.

16.3.6 Loss of Community Resources

122. The transmission lines will have no impact on any of the infrastructure of the communities. In fact, Project implementation will accelerate development of infrastructure within the area, especially roads and communication networks, and will improve access for provision of services and provide improved living conditions for the villagers. This development will meet both the needs of the villagers and fit with GoL development plans for these communities.
123. One significant historic site and tourist attraction, Wat Prabat Phonsan is located next to National Road No.13 South near the alignment of the 230 kV transmission line. In Ban Prabat, Thaphabat District. A model of the footprint of the Lord Buddha, a giant reclining Buddha, and an ancient drum are the most important relics and artefacts at the temple.
124. The transmission line was designed to avoid any impact to this temple, by placing the line 2.5 kilometres away from the national road and temple with the visual impact having been taken into consideration.
125. One cultural site lies along the path of and will be affected by the 115 kV transmission line: a

cemetery of the village of Ban Thong Yai about 9 kilometres from Ban Nam Pa. The affected area of the cemetery currently falls in the ROW for a total of 0.562 ha. If possible, the alignment of the transmission line will be altered slightly to avoid the cemetery. If that is not possible, certainly none of the towers for the transmission line will be placed on or near it.

126. Further details will be assessed after the final design of the route of the Transmission Line and the consequent baseline, including the confirmation, surveys.

16.4 Entitlement Matrix and Mitigation Measures

127. Draft Detailed Entitlements outlined below have not yet been endorsed by the PRLRC. They are based on those of the Access Road and will further be discussed with the RMU and PRLRC once design of the Transmission Line has been finalized and the Project has prepared the LACP Transmission Line. The PRLRC has already agreed and endorsed the DEM Access Road.

16.4.1 Public Consultation and Disclosure

128. Public Consultations have been held during the development of the IEE. Specific consultations on land acquisition and compensation will start before the asset registration mid of 2014.

16.4.2 Entitlements, Assistance and Benefits

129. It is proposed to the PRLRC that PAPs will be eligible to the following entitlements and benefits:

Kind of Impact and Entitlement	Entitlements, Assistance and Benefits
<p>1.b.1 Partial Loss of Agricultural Land with no need to resettle for legal owners with valid title or customary or usufruct rights</p>	<p>For non-significantly impacted PAPs, Cash compensation for acquired land will be paid at replacement value according to the decision of the PRLRC. <i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p> <p>For significantly impacted PAPs,</p> <ul style="list-style-type: none"> • Equivalent area of land with equivalent productive potential at location acceptable to the PAP will be provided in cooperation with RMU, DCC, and Village Development Coordination Committee (VDC). Such compensation for land shall be without charge for taxes, registration, and/or land transfer. <ul style="list-style-type: none"> ○ The replacement agricultural land is to be surveyed for UXO and rendered safe. • Alternatively, cash compensation for acquired land at full replacement value <i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i> • In addition, participation in livelihood restoration programs based on priorities identified by affected households during consultations between individual PAPs, NNPIPC, and District Coordination Committee (DCC); this can include for example

Kind of Impact and Entitlement	Entitlements, Assistance and Benefits
	<p>trainings for alternative livelihood activities or enhancement of current livelihoods based on the individual preference of the PAP. The Company is responsible for providing such livelihood restoration only so long as the PAP remains in the project area.</p> <p>All impacted PAPs will be additionally entitled to:</p> <ul style="list-style-type: none"> • Assistance for the issuance or renewal or amendment of land titles and/or upgrade of land use certificate to land titles for the impacted land plot; an extended time for this procedures (if not due to project fault) does not lead to incompliance with the policy to compensate before construction starts; <i>The Land title is to be renewed in the names of both husband and wife, or in the case of a second, third, or subsequent wife, where a husband has more than one wife, that wife has the option of obtaining the title in both her name and that of one of her children, rather than in her and her husband's names.</i> • In the case a fence is impacted, it is compensated in accordance to entitlement regarding fencing (see line 3.b.3 and 3.b.4)
<p>1.b.2 Partial Loss of Agricultural Land with no need to resettle for tenant, leaseholder, and sharecropper</p>	<p>All impacted PAPs will be entitled to:</p> <p>Cash compensation for lost production will be paid at market value according to the decision of the PRLRC of gross harvest on the lost land for one year production or for the remaining period of tenancy/lease, whichever is greater. In the absence of formal written tenancy agreements, tenancy is assumed to be for one year.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p> <p>For significantly impacted PAPs in addition to cash compensation mentioned above:</p> <p>Participation in livelihood restoration programs based on priorities identified by affected households during consultations between individual PAPs, NNPIPC, and DCC; this can include for example trainings for alternative livelihood activities or enhancement of current livelihoods based on the individual preference of the PAP. The Company is responsible for providing such livelihood restoration only so long as the PAP remains in the project area.</p>
<p>2.b.1 Loss of residential, commercial, industrial or institutional land with sufficient remaining land for PAPs to reasonably continue their activities as determined by the PRLRC for</p> <p>a) Legal owner with valid title or customary or usufruct rights</p> <p>b) Persons later accepted for inclusion by the Grievance Committee under the Grievance</p>	<p>All impacted PAPs will be entitled to:</p> <ul style="list-style-type: none"> • Cash compensation for acquired land will be paid at replacement value according to the decision of the PRLRC; <i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i> • Assistance for the issuance or renewal or amendment of land titles and/or upgrade of land use certificate to land titles for the impacted land plot; an extended time for this procedures (if not due to project fault) does not lead to incompliance with the policy to compensate before construction starts; <i>The Land title is to be renewed in the names of both husband and wife, or in the case of a second, third, or subsequent wife, where a husband has more than one wife, that wife has the option of obtaining the title in both her name and that of one of her children, rather than in her and her husband's names.</i> • In the case a fence is impacted, it is compensated in accordance to entitlement regarding fencing (see line 3.b.3 and 3.b.4)

Kind of Impact and Entitlement	Entitlements, Assistance and Benefits
Procedure	
<p>2.b.2 Loss of residential, commercial, industrial or institutional land with not sufficient remaining land for PAPs to reasonably continue their activities as determined by the PRLRC for</p> <p>a) Legal owner with valid title or customary or usufruct rights</p> <p>b) Persons later accepted for inclusion by the Grievance Committee under the Grievance Procedure</p>	<p>All impacted PAPs will be entitled to:</p> <ul style="list-style-type: none"> • Cash compensation for the entire plot of land including both the acquired and the remaining unviable part of land, will be paid at replacement value according to the decision of the PRLRC, which includes the costs of land titling of a new residential plot; <i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i> • In the case a fence is impacted, it is compensated in accordance to entitlement regarding fencing (see line 3.b.3 and 3.b.4)
<p>2.b.3 Loss of residential, commercial, industrial or institutional land Loss of residential, commercial, industrial or institutional land for PAPs who are tenants/leaseholders</p>	<ul style="list-style-type: none"> • Tenants will receive a disturbance allowance as a cash-lump-sum as established by the PRLRC per person registered • <i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i>
<p>3.b.1 Partial permanent loss of structures (Residential, commercial, industrial or institutional) and the remaining structure remains viable for continued use; or for partial or total loss of outbuildings, which are not part of the main structure/house</p> <p>For:</p> <p>a) Legal owner with valid title or customary or usufruct rights</p> <p>b) Persons later accepted for inclusion by the Grievance Committee under the Grievance Procedure</p> <p>c) Owner of affected structure without title to the land</p>	<p>Assessment of impact on the structure will be made in coordination with the PAP by a civil engineer and representative(s) of the DCC.</p> <p>All impacted PAPs will be entitled to:</p> <ul style="list-style-type: none"> • Dismantle by themselves the structure to be impacted with the ability to recover salvageable materials within 2 months’ time period; if the PAP does not dismantle the structure within this time frame, the project will be responsible to dismantle it • Cash compensation for affected part of the structure at replacement value according to the decision of the PRLRC of material used as well as respective labour costs including the cost of dismantling. • Allowance to cover repair cost of the remaining structure (covering labour, materials, and other related costs). <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p> <p>If formally requested by the PAP, the project will provide technical advice by a qualified engineer on how to effectively dismantle and repair the structure impacted. If such technical advice has not been requested, the project does not bear any responsibility for damages occurred.</p> <p>In case commercial structures such as shops are impacted and lead to a loss of income, compensation measures for the lost income will be implemented according to entitlement lines no. 4.1, 4.2, and 4.3</p>
<p>3.b.2 Partial permanent loss of structures (Residential, commercial,</p>	<p>PAPs who choose to leave the damaged structure will be entitled to:</p> <ul style="list-style-type: none"> • Transition allowance equivalent to three months’ rent; in case there

Kind of Impact and Entitlement	Entitlements, Assistance and Benefits
<p>industrial or institutional) and the remaining structure remains viable for continued use; or for partial or total loss of outbuildings, which are not part of the main structure/house For: Tenant/Leaseholder</p>	<p>is no formal contract available, outlining the current payment of rent per month, the PRLRC will assess a reasonable rental rate</p> <ul style="list-style-type: none"> • Assistance to find new place to rent • Materials transport allowance to new location <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>3.b.3 Movable fence which can be reasonable dismantled and rebuilt without significant loss of construction materials (barbed wire, wooden, or bamboo fences including both wooden and concrete fence posts)</p>	<p>All impacted PAPs will be entitled to:</p> <ul style="list-style-type: none"> • Cash compensation for labour requirement of dismantling the fence and rebuilding; based on average labour costs as agreed by the PRLRC; • Salvage of fencing materials • A percentage of the affected fencing materials used is expected not to be salvaged and therefore compensated in cash at replacement value as agreed by the PRLRC <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>3.b.4 Immovable fence which cannot be reasonable dismantled and rebuilt without significant loss of construction materials (concrete, brick, or cement block fences)</p>	<p>Assessment of impact on the structure will be made in coordination with the PAP by a civil engineer and representative(s) of the DCC.</p> <p>All impacted PAPs will be entitled to:</p> <ul style="list-style-type: none"> • Cash compensation for replacement fencing based on replacement values as agreed by the PRLRC <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>6 Loss of standing crops that could not be harvested for owners of affected crops</p>	<p>The project together with the RMU will inform the PAP in advance of impact on standing crops (and will complete land-related compensation) with sufficient time given for the PAP to harvest these crops. The timeframe will take into consideration crop growing cycles and harvesting requirements.</p> <p>In the case that the project requires urgent access to and/or temporarily or permanent acquisition of land and is not able to provide sufficient advance notification as outlined above, the project will provide cash compensation equivalent to 10 times the market value of damaged or lost crops.</p> <p>In the case that sufficient reasonable advanced warning (taking into consideration crop cycles including land preparation but no less than 2 months)</p> <ul style="list-style-type: none"> • not to engage in crop production is ignored, while the compensation process is completed already • or crops ready for harvest have not been harvested in a reasonable time frame, <p>such compensation will not be provided.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>

Kind of Impact and Entitlement	Entitlements, Assistance and Benefits
<p>7.1 Loss of fruit or nut trees for owner of affected trees or person with customary usage right or right to harvest (to be validated by village authorities)</p>	<ul style="list-style-type: none"> For fruit/nut trees bearing fruits, cash compensation will be paid based on the average annual value of the produce, established by the decision of the PRLRC, multiplied by 10. For fruit/nut trees seedlings, which are not yet bearing fruits, cash compensation will be paid based on inputs such as seedling, land clearance and annual maintenance at rates as established by the decision of the PRLRC. <p>The PAP is allowed to salvage wood resulting from the clearance of land from fruit/nut trees as long as it does not interfere with project activities; At least two months’ notice will be given to PAPs to harvest prior to any site clearance.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>7.2 Loss of timber trees for owner of affected trees or person with customary usage right or right to harvest (to be validated by village authorities)</p>	<ul style="list-style-type: none"> For timber trees cash compensation will be paid based on replacement cost equivalent to current market value based on type, age and diameter at breast height (DBH) of trees, at rates established by the decision of the PRLRC. <p>The PAP is allowed to salvage wood resulting from the clearance of land from timber trees as long as it does not interfere with project activities; At least two months’ notice will be given to PAPs to harvest prior to any site clearance.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>7.3 Loss of production trees for owner of affected trees or person with customary usage right or right to harvest (to be validated by village authorities)</p>	<ul style="list-style-type: none"> For production trees already producing, cash compensation will be paid based on the average annual value of the produce at rates established by the decision of the PRLRC based on the age of the tree, multiplied by 10. For production trees seedlings, which are not yet producing, cash compensation will be paid based on inputs such as seedling, land clearance and annual maintenance at rates as established by the decision of the PRLRC. <p>The PAP is allowed to salvage wood resulting from the clearance of land from production trees as long as it does not interfere with project activities; At least two months’ notice will be given to PAPs to harvest prior to any site clearance.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>7.4 Loss of construction trees for owner of affected trees or person with customary usage right or right to harvest (to be validated by village authorities)</p>	<ul style="list-style-type: none"> For construction trees cash compensation will be paid based on replacement cost equivalent to current market value based on type of trees at rates established by the decision of the PRLRC. <p>The PAP is allowed to salvage wood resulting from the clearance of land from construction trees as long as it does not interfere with project activities; At least two months’ notice will be given to PAPs to harvest prior to any site clearance.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>

Kind of Impact and Entitlement	Entitlements, Assistance and Benefits
9.a Temporary Losses of affected structures or other fixed assets for affected PAPs	<ul style="list-style-type: none"> • Compensation in cash, on the basis of replacement cost of material and labour without deduction for depreciation or salvageable materials for the damages during the period of temporary possession at rates as established by the PRLRC <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
9.b Temporary Losses with severely affected structures and affected PAPs made to shift temporarily from their present location	<ul style="list-style-type: none"> • Entitlement will be in terms of rent allowance to cover the cost of alternate accommodation on the same standard for the period of temporary displacement. <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
9.c Temporary Losses of crops and trees for affected PAPs	<ul style="list-style-type: none"> • Compensation at market value and for loss of net income from subsequent crops that cannot be planted for the duration of temporary possession; • cut trees have to be compensated fully according to lines no. 7.1, 7.2, 7.3, and 7.4 <p>Temporary payment refers to crops planted on the temporary affected land the year before (and not what crop might have been planted the year after)</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
9.d Temporary Losses/acquisition for affected PAPs	<ul style="list-style-type: none"> • No compensation for land if returned to the original user, but a monthly rent as per market value as established by the PRLRC will be paid to PAPs. • PAPs will be compensated immediately and damaged assets will be restored to at least its former or better condition as acknowledged in writing by the land owner and confirmed by the RMU <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
10 Unforeseen Impacts	<p>In case of any additional impacts identified during implementation, appropriate entitlement measures would be included.</p>

Table 104: Compensation and Benefits Entitlements Transmission Line

130. In case impacts on structures cannot be avoided, they will be compensated in accordance to the overall entitlements outlined in the overall Entitlement Matrix of the Concession Agreement, Annex C (see Annex B).

16.4.3 Income Restoration and Rehabilitation

131. Income Restoration will be ensured by proper compensation in cash and kind as outlined above and via livelihood activities. A core element is thereby family financial training, during which

- several options of livelihood development will be discussed,
- saving systems described, and
- the need to re-invest compensation values for a sustainable livelihood consulted with the PAPs.

132. In specific PAPs along the Transmission Line are entitled to:

Kind of Impact and Entitlement	Entitlements, Assistance and Benefits
<p>4.1 Loss of trade / livelihood / occupation or business incomes for business owners</p>	<p>All impacted PAPs will be entitled to:</p> <ul style="list-style-type: none"> • Cash Compensation for Loss of Business Income equivalent to three months of potential net profit in case of permanent closure based on an assessment endorsed by the PRLRC. • In case of temporary closure, cash compensation will be potential net profit equivalent to closure period based on an assessment endorsed by the PRLRC. <p>In case of significant impact on the PAP’s livelihood, additional:</p> <ul style="list-style-type: none"> • participation in livelihood restoration programs based on priorities identified by affected households during consultations between individual PAPs, NNP1PC, and DCC; this can include for example trainings for alternative livelihood activities or enhancement of current livelihoods based on the individual preference of the PAP.
<p>4.2 Loss of trade / livelihood / occupation or business incomes for wage employees</p>	<p>All impacted PAPs will be entitled to:</p> <ul style="list-style-type: none"> • In case of permanent closure cash compensation for loss of wages equivalent to three months of wages as indicated in the employment contract; in the case such an employment contract is not available, the wage will be based on an assessment of a wage for a comparable employment endorsed by the PRLRC. • In case of temporary closure, cash compensation for loss of wages equivalent to the closure period of wages as indicated in the employment contract; in the case such an employment contract is missing, the wage will be based on an assessment of a wage for a comparable employment endorsed by the PRLRC. <p>In case of significant impact on the PAP’s livelihood, additional:</p> <ul style="list-style-type: none"> • participation in livelihood restoration programs based on priorities identified by affected households during consultations between individual PAPs, NNP1PC, and DCC; this can include for example trainings for alternative livelihood activities or enhancement of current livelihoods based on the individual preference of the PAP which can include: <ul style="list-style-type: none"> ○ support of employment in reconstructed enterprise or package for re-employment or starting a business ○ participation in Occupational Skill Development Programs which shall be designed to match the PAP’s aspirations and potentials
<p>4.3 Loss of trade / livelihood / occupation for significantly impacted PAPs, who are not business owners or wage employees</p>	<p>In case of significant impact on the PAP’s livelihood, they are entitled to:</p> <ul style="list-style-type: none"> • participation in livelihood restoration programs based on priorities identified by affected households during consultations between individual PAPs, NNP1PC, and DCC; this can include for example trainings for alternative livelihood activities or enhancement of current livelihoods based on the individual preference of the PAP which can include a selection of the following: <ul style="list-style-type: none"> ○ Package for employment or starting a business ○ Agricultural livelihood restoration program ○ A range of feasible production and income generating options which will ensure household targets are met ○ If necessary, provision of tools and equipment in sufficient

Kind of Impact and Entitlement	Entitlements, Assistance and Benefits
	<p>number and quality (including replacement tools and equipment where such items are worn out or damaged) for successful agriculture, fishery and other work of all types which are proposed under this Annex</p> <ul style="list-style-type: none"> ○ Complete array of plants, tree saplings, cuttings, seeds and other biomaterials as well as tools and equipment if necessary, each year for a period of not less than three (3) years, in amounts sufficient to carry out all agricultural plans and optimize the productive capacity of all agricultural lands including paddy, terraces, garden plots forage plots, and forests. ○ Participation in aquaculture Program ○ Priority for employment in project-related jobs ○ Participation in Occupational Skill Development Programs which shall be designed to match the PAP’s aspirations and potentials.

Table 105: Livelihood Activities Entitlements Transmission Line

16.4.4 Community Resources

Kind of Impact and Entitlement	Entitlements, Assistance and Benefits
<p>5 Loss of access to common resources and facilities including loss of access to rural common property resources and urban civic amenities, including community grazing areas, fishery and other riparian resources, NTFPs, community cemeteries for communities/Households</p>	<p>If restoration of accessibility to common resources and facilities is not possible, then</p> <ul style="list-style-type: none"> • For significant loss of common resources and facilities (community forests / NTFP and firewood gathering areas, grazing areas, fish ponds, fishing areas) replacement will be provided based on the principle of same or better quantity and quality • For non-significant loss of common resources and facilities, compensation will be provided in kind via the establishment or improvement of community facilities equivalent to the value of the lost assets

Table 106: Community Resources Entitlements

16.4.5 Special Measures for Vulnerable Households

133. A dedicated program for the most vulnerable people will be prepared by the Company in consultation with those people, and included in the LACP Transmission Line to assure these most vulnerable people do not suffer adversely from the project. Results of the Confirmation Survey will be analysed such that a meaningful program for the vulnerable persons including women-headed households, disabled, poor, and the elderly will be implemented. For specific kinds of vulnerability, different solutions will be found based on the consultation with the PAPs. Impacts along the Transmission Line will be limited and so is any impact on potential vulnerable households.

16.4.6 Project-related employment opportunities

134. The Project’s SMO is hiring a labour management officer, supporting the employment of

PAPs through linking Company, contractors and subcontractors with PAPs looking for employment as well as in linking employment-related livelihood activities with the Project's construction work. As PAPs along the transmission line are most familiar with the terrain, it is expected that the contractors and subcontractors are appreciating a local workforce.

16.5 Budget and Financing Plan

135. For budgeting purposes the Project estimated cost of LAR for the Transmission Line based on the land impacts outlined above. The estimated resettlement costs are 134,000USD, which includes the base LAR costs including land costs, cash crops and tree, and temporary impacts. Details of an updated calculation will be outlined in the LACP-TL. This number does not include the Project's implementation costs, which are paid from the overall staffing budget of the SMO.

16.6 Institutional Arrangements for Land Acquisition and Compensation

136. In addition to the overall Project structure outlined in Chapter 9, the Project will use the same institutionalized structure as for the Access Road compensation, outlined in section 12.5.

16.7 Schedule of LAC Activities

137. Before the compensation process, a LACP-TL will be disclosed in the second half of 2014. The LAC activities are planned to start with the asset registration and lagged compensation process in the last quarter of 2014. The compensation process follows thereby the steps outlined in section 12.6 on Access Road compensation, with the time frames adapted to the start of work. The compensation process is scheduled to be completed within the calendar year 2014, after which an Audit mission will take place.

16.8 Monitoring and Reporting

138. The overall monitoring and reporting structure of the Project is outlined in Chapter 10. A monitoring team will be formed before work at the Transmission Line including LAC will start. The Project will conduct a Socioeconomic Survey for the communities along the Transmission Line in mid-2014. From this baseline, the development of the different indicators outlined in Chapter 10 and in its updated version adapted by the monitoring team will be assessed.

Social Impacts from Impoundment and Operations

139. Chapters 17 to 18 address Project impacts caused by impoundment and operations, and present the action plans to avoid, minimise or mitigate such impacts.
140. Chapter 17 presents the resettlement action plan for the Upper Reservoir Area, or Zone 2UR, while Chapter 18 covers the Lower Reservoir Area, Zone 2LR. Each subplan presents the impacts, Detailed Entitlement Matrices, resettlement and livelihood mitigation measures, specific measures to address impacts on ethnic groups and vulnerable households, and the budgets to manage the various activities. Each will be updated as a stand-alone document on a rolling basis. Zone-specific implementation schedules are included in Chapter 11.

CHAPTER 17 - Zone 2UR: Resettlement Action Plan for the Upper Reservoir Area

141. Zone 2UR encompasses all affected communities and their assets at the upper end of the reservoir. As outlined above, these communities are Ban Piengta, Ban Hatsamkhone, and Ban Pou; all three villages lie on the left bank of the Nam Ngiep River, along the National Road 1D in Thathom District, Xaysomboun Province. Arriving to Ban Pou on Road 1D, one passes Ban Long several kilometres before, while continuing on the road after Ban Piengta towards the capital of Xieng Khouang Province, one reaches the bigger town of Ban Thaviengxay after little more than a kilometre. The communities will be affected by the inundation of the reservoir, which will flood land up to 320MSL. The reservoir reaches its upper limit shortly after Ban Piengta and before Ban Thaviengxay. The impact differentiates from village to village as well as within each village. According to the Survey 2011, a total of 15 families will lose their houses (10 in Ban Pou, 5 in Ban Hatsamkhone), and they will have to relocate, but they will do so within the same village. A total of 176 households in all three villages will lose productive lands lying below 320 MSL (including the 15 households losing houses). These are mostly paddy fields and riverside garden plots. Additionally, land of two households in Ban Phou Hom/Nakhang, opposite the river of Ban Piengta will be impacted. They have been included into the consultation process with Ban Piengta and for 2UR a total number of 178 impacted households is the current baseline. Details can be found on the following pages.

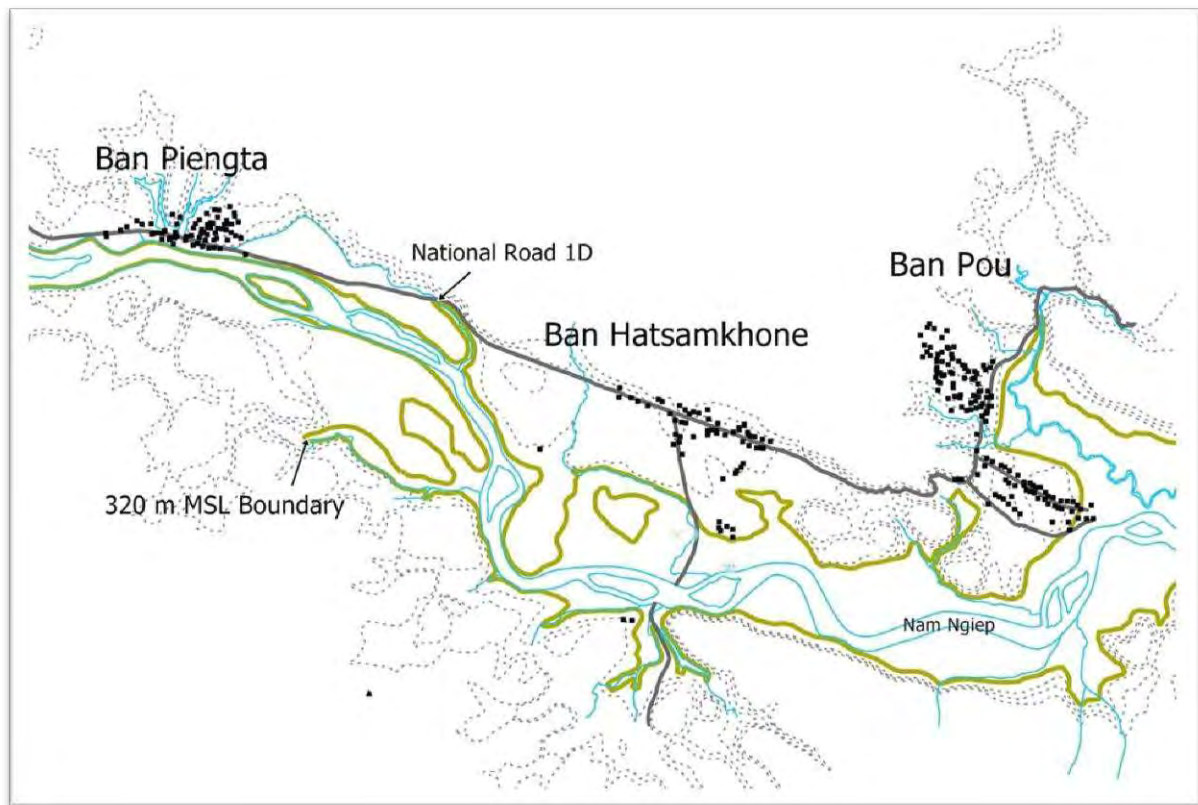


Figure 72: Map of villages of Zone 2UR

17.1 Socioeconomic Profile

17.1.1 Demography and Population Changes

142. A comprehensive household survey in all three villages of this sub-zone was conducted in July, 2011. According to this survey, 2,036 people live in 328 households, an average of 6.2 persons per household, slightly above the national average. Of the 328 households, about half will be directly affected by loss of productive lands due to inundation of the NNP1 reservoir at 320m MSL. In Ban Hatsamkhone most of the residents will be directly affected. In Ban Pou and Ban Piengta less than half of the residents will be directly affected, with further indirect impacts. Lao Loum is the dominant ethnic group in this sub-zone; however, there are also significant populations of Khmu and Hmong, particularly in Ban Pou, where the majority of residents are Hmong. The cut-off date for eligibility to claim entitlements has been set by the PRLRC on April 11 2014 which will be communicated to all affected villages before mid of June 2014. An updated asset registration survey will be done for impacted assets after the cut-off-date and the numbers and budget allocation revised accordingly.

Village	Total		Directly Affected		Ethnicity
	HHs	Population	HHs	Population	
<i>Ban Pou</i>	172	1,129	82	520	Hmong, Lao Loum, Khmu
<i>Ban Hatsamkhone</i>	74	453	60	376	Lao Loum
<i>Ban Piengta</i>	82	454	34+2*	182+7	Lao Loum, Hmong, Khmu
Total	328	2,036	176+2	1,085	

Table 107: Total Population and Household Number in Zone 2UR (Source: Field survey 2011)

* Lands of 2 households from Ban Phou Hom are impacted in the Reservoir area, joining Ban Piengta for project activities

143. Data from the field survey of 2011 shows a local demography similar to national data as well as to broader data of developing countries. This means a large young generation, with over 50% in the age group “20 years or younger”. Considering the time frame of the project, these young people will experience considerable positive and negative changes during their time of learning and growing up parallel to the proceeding of the NNP1 project. Thus, special attention will be given to them regarding education and training possibilities.

Age Cohort	Village						Total	
	<i>Pou</i>		<i>Piengta</i>		<i>Hatsamkhone</i>		No.	%
	No.	%	No.	%	No.	%		
<= 10	282	30.65	83	19.67	90	19.7	455	25.29
11-20	252	27.39	126	29.86	146	31.95	524	29.13
21- 30	139	15.11	78	18.48	76	16.63	293	16.29
31-40	104	11.30	50	11.85	53	11.60	207	11.51
41-50	72	7.83	29	6.87	41	8.97	142	7.89
51-60	45	4.89	23	5.45	28	6.13	96	5.34
61-70	12	1.30	22	5.21	13	2.84	47	2.61
71-80	3	0.33	8	1.90	4	0.88	15	0.83
81-90	10	1.09	2	0.47	6	1.31	18	1.00
91-100	1	0.11	1	0.24		0.00	2	0.11
Total	920	100	422	100	457	100	1799	100

Table 108: Age Distribution in the 3 villages of Zone 2UR (Source: Field Survey 2011. Note: This information is based on HH interview and thus some people are missing)

144. Further data regarding differentiation between male and female distributions from this survey show variation throughout the different age cohorts, however, due to the small amount of numbers, no statistically relevant conclusion can be drawn. Matched with the information acquired during village consultations, no specific male/female demographic development takes place in these villages, different from closer Lao border towns, where labour migration can be gender-specific depending on the industry sectors offering jobs.
145. Population in the upper reservoir area is closely connected to the history of the three villages

in 2UR. Ban Pou and Ban Piengta have been established after the revolutionary war in 1975. Meanwhile, Ban Hatsamkhone was founded in 1994 by people resettled under government supervision from Huaphan province in between the other two communities. Similar movements of communities can be traced in the surrounding villages as well. Thus, for example, Ban Naxhang has been moved from its remote location close to 2LR to Ban Phoun Hom opposite of Ban Thaviengxay and Ban Piengta. These relocations are part of GoL's policy to consolidate smaller communities into bigger clusters in order to provide better social and physical infrastructure. Two villagers from Ban Phoun Hom still have land in their former village, which will be impacted by the inundation, thus they have been included in consultations with Ban Piengta. Comparing recent data from the 2007/8 and 2011 surveys show, that population numbers are stable in Piengta and slightly increasing in Hatsamkhone. Meanwhile, Ban Pou is expanding; consultations with the PAPs indicate, that over the last decade, the village experienced a population influx of relatives of village members; a factor to be taken into account by the livelihood programs of the Project.

17.1.2 Ethnicity

146. The ethnic profile of the 3 villages in Zone 2UR is presented in Table 109. People from three ethnic groups live in 2UR. Only one community, Ban Hatsamkhone, is exclusively populated by one ethnic group, Lao Loum; while Ban Piengta, even though the majority is Lao Loum, has a minority of Hmong and Khmu residents. Ban Pou is predominantly Hmong, with about a third Lao Loum residents and a few Khmu. Impacts, however, differ in Ban Pou: as Lao Loum are located at the lower areas of the village, they are much stronger impacted than the Hmong, living higher up in the hills of the village. There are no open conflicts between the different ethnic groups within these communities. The uniformity of Ban Hatsamkhone is related to its special history, being a government induced resettlement from Huaphan Province.

Village	No. of Households	Population	Ethnic	Population	%
<i>Ban Pou</i>	172	1,129	Hmong	774	68.6
			Lao	329	29.1
			Khmu	26	2.3
<i>Ban Piengta</i>	82	454	Lao	436	96.0
			Hmong	8	1.8
			Khmu	10	2.2
<i>Ban Hatsamkhone</i>	74	453	Lao		100

Table 109: Ethnicities of the Affected People of Zone 2UR (Source: Field Survey 2011)

17.1.3 Social Organization and Cultural Relations

147. The analysis of 4.4 on social organisation and cultural relations applies also in 2UR: administrative organization, mass organizations, and a strong focus on families. Two

additional components are influential in the area: the Hmong households in Ban Pou are related via the clan system to PAPs from 2LR and Zone 3; they are furthermore related to people outside the Project Impact Zone, from where the influx of relatives, mentioned above, results. Ban Hatsamkhone, having resettled to the area amongst others due to political reasons, has a strong internal cohesion and is currently less inclined to cooperation with the Hmong people of Ban Pou.

17.1.4 Infrastructure

148. All the villages in Zone 2UR share conditions that are typical for remote rural areas of Lao PDR. Infrastructure and public services are limited, but being improved over the last years.
149. **Water supply:** Ban Pou has a water system which has been facilitated by Action Contre La Faim (ACF) in 2007. Two water streams from springs, one 200m, one 1.8km away, lead to two water tanks a 21.6km³ each. One tank dispenses water to six water tab stands in the upper, Hmong, community; the other tank to six water tab stands in the lower, Lao Loum, community; plus to one water tab stand at the school area. This is on average one tab stand for 13 households and thus far below the UNICEF standard of 1:6, as outlined in the CA, Annex C. From April to June water arrives strongly reduced from the springs. In Ban Hatsamkhone, a pipe system provides water from a nearby stream, which leads in rainy season to dirty water, even though there is always enough quantity. Furthermore, this water is not drinkable without purification measures, i.e. cooking. Ban Piengta uses the same system as Ban Hatsamkhone with the same advantages and disadvantages.
150. **Transportation:** The main transportation access is the asphalt paved, all-weather National Road 1D which links the villages with Phonesavanh, the provincial capital of Xieng Khouang, in the northwest and the district capital Thathom in the southeast, from where roads continue to Bolikhamxay Province and Khammouan Province respectively. From Thaviengxay a paved road leads to Xaysomboun district. Lanes within the villages are earth surface, just partly flattened, and become muddy during rains. Currently, people use boats to cross the Nam Ngiep during rainy season while it is possible to cross by foot or Tek-Tek through the water in dry season.
151. **Electricity:** Grids have been installed and connect most houses in all three villages. Electricity is generally available for 24 hours a day, even though blackouts occur sometimes.
152. **Privately owned basic services:** Small grocery shops, rice mills, and petrol shops are available inside the three villages. Further services can be found in the close-by Thaviengxay village and along D1 road.
153. **Public infrastructure:** Primary schools are available in all three villages, while in Ban Pou additionally a secondary school has opened in September 2013. There is only one temple in this zone, in Ban Pou, while each village has its cemetery. Each village furthermore has a village office and Ban Piengta has a Health Centre. Further details can be found below.

Infrastructure	Ban Pou	Ban Hatsamkhone	Ban Piengta
<i>Electricity</i>	Available in most households		
<i>Drinking water source</i>	Piped water from springs	Piped water from open streams	Piped water from open streams
<i>Transportation and type of road / Problem</i>	Asphalt-paved D1 road; earth paths inside the villages / difficult to use in wet season		
<i>Navigation waterway</i>	Nam Ngiep		
<i>Small grocery shops</i>	6 shops	5 shops	2 shops
<i>Rice Mill</i>	Y	Y	Y
<i>Nursery School</i>	N/A	N/A	N/A
<i>Primary School</i>	1	1	1
<i>Secondary School</i>	1	N/A	N/A
<i>Temple</i>	1	N/A	N/A
<i>Health Centre</i>	N/A	N/A	1
<i>Pharmacy</i>	N/A	N/A	N/A
<i>Cemetery</i>	1	1	1
<i>Petrol</i>	Several villagers sell gasoline in bottles; several petrol stations in the area are located along D1 road		

Table 110: Infrastructure of Villages in Zone 2UR (Source: Field Survey 2011; update 2013)

17.1.5 School attendance

154. As described above, there are primary schools in every village and a secondary school opened recently in Ban Pou. This school will integrate students from Ban Long, the next village on the road to Thathom town. Before, children had to travel to Ban Thaviengxay for continuing their formal education in secondary school. More details on the success of this secondary school onto school attendance rates will be investigated via the legal Baseline Survey 2014. In general, during consultations villagers from all three villages report education as one of their main concerns and good schooling possibilities for the younger generation as a major aspiration. There is a lack of teachers and teaching materials to provide adequate educational services, as well as household income to send children to school. Furthermore, some people have expressed concern that even the public school system needs private financial input to pay for extra tutoring. The Project will link to this motivation and the issues raised in its education program outlined in the SDP.

17.1.6 Literacy rates

155. There exists a gap on formal education, the literacy proxy of the 2011 survey, between different generations, particularly at secondary school and higher. Older generations have little formal education due to remoteness and war. Most younger children attend primary

school, even though there is dropout before concluding secondary education.

156. Table 111 presents the number of residents of the three villages who have completed the various education levels. Most of the women and many men in the project area are not fully literate, since partial completion or even completion of primary school does not imply full literacy.

-Village Name	Total Population in interviewed HH	# of interviewed HH (297 HH)	Formal education Level (number of persons)									
			Not concluded formal education		Primary School		Lower Secondary School		Upper Secondary School		College or University	
			PP	%	PP	%	PP	%	PP	%	PP	%
<i>Ban Pou</i>	905	145	342	37.8	376	41.5	129	14.3	55	6.1	3	0.3
<i>Ban Piengta</i>	412	79	87	21.1	199	48.3	91	22.1	33	8.0	2	0.5
<i>Ban Hatsam khone</i>	446	73	56	12.6	230	51.6	116	26.0	43	9.6	1	0.2

Table 111: Levels of Formal Education in Zone 2UR (Source: Field Survey 2011)

17.1.7 Health

157. Health care in the villages relies on two bases: on the one hand villagers consult traditional healers and use local knowledge on treatment and medicine; this extends to spiritual analysis and procedures. On the other hand they are integrated into the formal health care system, which, however, is still weakly established. There is a health centre in Ban Piengta and dispensaries provide services in Ban Thaviengxay and the district capital Thathom. The nearest hospital is located in Phonesavanh, the capital of Xieng Khouang Province; a distance of 77km. All places are accessible all-year round by an all-weather-road (Road D1).
158. Access to water, as seen above, varies between the villages. While Ban Pou can make use of two springs with good quality and struggles with limited quantity in dry season, Ban Hatsamkhone and Ban Piengta use open-stream-water, which is available all-year-round, but has to be boiled before usage and above all in rainy season is dirty. Poor water quality has given rise to typically water-related diseases such as stomach and parasitic infections.
159. Immunization against infectious childhood diseases has not yet been carried out in a large scale. Not all of the households have a regular latrine. However, the villagers do use mosquito nets during sleeping. Even so, malaria and dengue remain one of the major health problems in the area, as are fevers, enteric infections, and diseases such as diarrhoea and dysentery. Acute respiratory infections are also a serious problem in these communities.
160. Table 112 presents the extent of infectious diseases common to Lao PDR in the three villages in 2UR as reported at the time of the 2011 field research.

Village Name	Number of people									
	<i>Malaria</i>	<i>ARI</i>	<i>Diarrhoea</i>	<i>Fever</i>	<i>Stomach ache</i>	<i>Lung</i>	<i>Skin disease</i>	<i>Eyes disease</i>	<i>Dengue fever</i>	<i>Parasites</i>
Ban Pou	1	0	7	4	-	3	-	-	1	-
Ban Piengta	-	7	-	0	3	1	-	-	-	-
Ban Hatsamkhone	1	5	-	5	3	-	-	-	1	-

Table 112: Infectious diseases in 2UR (Source: Field Survey 2011)

161. Furthermore, some diseases like Polio are also endemic, resulting in some disabilities among several households, for whom the project will give special attention under the principle of mitigation of vulnerability.
162. Additionally, social custom among some ethnic groups regarding types of food consumption for pregnant women and following childbirth, may contribute to poor maternal health and higher levels of anaemia.

17.1.8 Gender Issues and Status of Women

163. Gender issues and status of women follow general patterns of rural communities in Laos as described in section 4.9. Specifically, as a result of the survey in 2011, the following gender issues are relevant in the zone 2UR:
- Premature births
 - High demand of physical labour including seasonal farming

17.1.9 Information and Services

164. While at the early stage of the Project, the villages in 2UR were still remote and access to more urban areas and its services was difficult, this has changed strongly over the last years. With inter-provincial tarmac sealed road access, electricity, and communication networks available in all three villages, the three villages are, more than any other village described in the REDP, integrated into the national socioeconomic structures. Television connection is available and modern communication technology, including smart phones, is an essential factor in the provision of information and services in 2UR. Health facilities are present in Piengta, but also in nearby Ban Thaviengxay. Inter-provincial bus connections are available and school buses bring students to the bigger villages. This strong increase in access to facilities and services has been a key factor in the PAPs' decision to invest in livelihood change rather than into resettlement to a little populated, i.e. more remote, area.

17.1.10 Agriculture and Horticulture Land Use

165. Land use in 2UR is classified into three main categories: privately held land, community land, and state land. Privately held land is mostly composed of housing plots and permanent agricultural holdings: paddy lands, upland rice fields, and garden or tree plots. A first household survey in 2011 counted 890.79 ha of agricultural land in the three

communities by asking each household about their land use. According to this survey, just a fraction of privately held land is in use for residential plots (34 ha) and fishponds and other miscellaneous use (10ha). Thus, current private holdings account for only slightly more than 6 % of the total land use area in these villages. After the cut-off-date, as in the other project areas, a detailed participatory land use mapping will be undertaken and logged via a Geographic Information System, which allows for a more precise information base which will serve as the basis for compensation and implementation of the livelihood restoration plans. Care will need to be taken to ensure that all cultivated and land use areas are accounted for, even if not declared by the land user for taxation purposes, and that affected people understand that land not declared may not be subsequently eligible for compensation.

166. In Ban Pou, rice production accounts for a big portion of agricultural land on the left hand side of Nam Ngiep along the tributary Nam Pou, divided between paddy fields and upland rice fields. Further agricultural land is situated along the road to Thathom as well as in the valley starting from the northern tip of the village. While Lao Loum have more paddy fields and the Hmong community more upland rice fields, there is no clear-cut differentiation to be made based on ethnicity, as some Hmong own paddy fields, and vice versa Lao Loum upland rice fields. On the remaining agricultural land, villagers plant corn, pineapple, bananas, and cassava as cash crops as well as garden vegetables for private consumption. Cassava is mainly contract farmed on behalf of outside traders. Higher up, villagers of Ban Pou have planted rubber. Total agricultural land encompasses according to the 2011 survey around 400ha.
167. Ban Hatsamkhone follows a similar agricultural pattern. Productive land extends on both sides of the Nam Ngiep, with extensive land holdings on the right hand side of the river. There, several streams from the surrounding mountains allow broad agricultural activities. Villagers grow and harvest paddy field rice and upland rice on half of their land, with the latter percentagewise slightly less than Ban Pou according to the 2011 survey in this Lao Loum community. On the second half of agricultural land in Ban Hatsamkhone cash crops and garden land can be observed, including corn, pineapple, bananas, cassava, and privately consumed vegetables.
168. In Piengta, paddy fields make up around a third of agricultural land which extends on both sides of the Nam Ngiep all the way to the village boundaries of Ban Hatsamkhone in the west and Ban Thaviengxay in the east, and account together with upland rice for nearly half of agricultural land. Consequently, the bigger areas of land are used for cash crops like corn, pineapple, and banana as well as garden land. In 2013 no cassava contract farming took place in Ban Piengta, as the traders stopped in Ban Hatsamkhone. However, if results are positive in the other two villages, villagers in Ban Piengta intend to try to facilitate cassava contract farming as well.
169. Large livestock raising, i.e. cattle, takes place on community lands. Each household owns on average 4-5 cows. 5-10 households form a livestock group, which manages a plot of fenced (barbed wire) community grazing land. The rest of community land is mainly used for public infrastructure: schools, cemeteries, and in Ban Pou the temple.

170. Forest land accounts for the remaining, main part of total land in these three villages by far. There is a considerable amount of state owned protected forest, covering half of the forest land, with the other half divided between community managed production forests and community managed reserved forest. Unstocked forest, quite prevalent in many other parts of the project area, accounts for only a small portion of the total land area. Forests do not just provide timber and fire wood, but as well NTFPs for the communities as an important part of their household income.

Type of land use (ha)	Piengta	Hatsamkhone	Pou	Total
1. Private Land				
1.1 Residential area	5.51	9.88	18.94	34.33
1.2 Paddy field	68.19	78.44	130.1	276.73
1.3 Upland rice field	24.074	37.29	93.78	155.14
1.4 Other cultivated land	125.95	126.05	172.58	424.58
1.5 Other private land use	4	3	7	14
Total	227.73	254.66	422.4	904.78
1.6 Fish Ponds (unit)	0	3	7	10
2. Public Land				
2.1 School Land	1	1.5	1.5	4
2.2 Temple Land	0	0	0.5	0.5
2.3 Village Office Land	0	0	0	0
2.4 Health Centre Land	0.5	0.42	0.71	1.63
2.5 Cemetery land	2	3	2	7
2.6 Grazing area	41.9	2.5	6.15	50.55
2.7 Pond/water body	0	0	0	0
2.8 Other public land use	23.7	26.3	35.4	85.4
Total	69.1	33.72	46.26	149.08
3 Forest and others				
3.1 Community-managed production forest	245	857	2,050	3,152.00
3.2 Community-managed reserved forest	253	637	694	1,584
3.3 Other Forest				
Protection forest	5423	540	657.5	6,620.50
Unstocked forest	363	365	882	1610
Buffer zone	41.9	2.5	6.15	50.55
Total	6,325.90	2,401.50	4,289.65	13,017.10
Total Land Use				14,070.91

Table 113: Land Use Pattern of Zone 2UR (Source Agricultural Land: Field Survey 2011; Source Public and Forest Land: Draft RAP 2008)

17.1.11 Rice Sufficiency

Villages	No. of HHs interviewed	Full sufficiency	Insufficient for 2 to 4 months	Insufficient for 5 to 6 months	Insufficient for 7 to 8 months
<i>Piengta</i>	79	84.8%	3.8%	2.5%	2.5%
<i>Hatsamkhone</i>	73	90.4%	6.8%	1.4%	1.4%
<i>Pou</i>	145	71.7%	13.8%	6.2%	4.14%

Table 114: Rice Sufficiency Production Rates of HHs on a Yearly Basis (Source: Field Survey 2011)

171. Most of the villages harvest enough rice for year-round consumption (see Table 114). There are several coping strategies applied by villagers to overcome shortages, if occurring: one is to mix rice with corn as filler; a second is to sell livestock (in Ban Pou they indicated during consultations in 2013 that one sold cow equals to 3 tonnes of rice); and a third are local rice banks, as presented by villagers in Ban Hatsamkhone. The community-organized rice bank provides rice in June-July and requests repayment the following January with 30% interests. This is still cheaper for the borrower than to pay 50% interest to commercial rice traders.
172. Rice yields in the upper section of the reservoir area range from 2.7 to 2.9 tons per hectare per year for lowland rice fields and 0.99-1.4 ton per hectare per year as shown in the following.

Village Name	Paddy Rice	Upland Rice
<i>Ban Piengta</i>	2.90 ton/ha/year	1.20 ton/ha/year
<i>Ban Hatsamkhone</i>	2.86 ton/ha/year	0.99 ton/ha/year
<i>Ban Pou</i>	2.70 ton/ha/year	1.40 ton/ha/year
<i>Average</i>	<i>2.82 ton/ha/year</i>	<i>1.2 ton/ha/year</i>

Table 115: Comparison Yield of Rice Production in 2UR (Source: Field Survey 2011)

17.1.12 Livestock

173. As like in all other zones, livestock is an important income and savings source. All households raise a variety of animals, including large and small livestock. For large livestock with fenced grazing areas farther away, villagers have formed livestock groups, organizing the supervision of livestock in these remote grazing areas. As this livelihood activity is reported from PAPs as a favoured livelihood activity, the Project will assess further details in the 2014 Baseline survey and link its livelihood program, including the evaluation of expansion of pasture possibilities in the area.

17.1.13 Forest Utilization

174. While Non-Timber Forest Products have been an important livelihood activity in 2UR, PAPs report that in recent years NTFP collection became more and more difficult as due to overconsumption in the nearby forests. Thus, for NTFP collection, PAPs have to enter farther and farther into the forests, decreasing the profit and importance of this livelihood activity.

17.1.14 Hunting

175. Villagers are hunting in the forests around the villages, partly for own consumption, partly for sale in the local markets. With increased traffic along the D1 road, it is expected that more hunting products will be offered for sale along the road. The NNP1 EMO together with public authorities will enhance control measures in the Watershed Management Area.

17.1.15 Fisheries

176. Local, small-scale fishing as in all other Lao villages close to streams takes place on a regular basis, adding valuable nutrition components to daily food consumption. Furthermore, fishermen from 2UR travel the Nam Ngiep all the way downstream close to 2LR to catch big river fish, which in 2013 could be sold for 60,000 LAK per kg in Ban Thaviengxay. Given the size of some fish, this can accumulate to a considerable amount of money for one fishing excursion. Accordingly it is possible for fishermen to do some kind of contract fishing by getting a cash advance from the buyer to pay for fuel to go for a 2-3 days-fishing-trip.

17.1.16 Other Sources of Cash Income

177. Next to agriculture, forests, and fisheries, two other important income sources can be found in 2UR: fisheries, services, and manufacturing and wage labour.
178. With increased cash income, for example due to the mentioned contract farming, service shops allow some families in the three villages to open small grocery shops, motorbike repair shops, etc. While they still just account for a small proportion of overall household income according to the 2011 survey, this number is likely to increase over the next years, especially given the proximity of the villages to the main national road.
179. Secondly, small-scale manufacturing and wage labour play an increasing role in household incomes. Silk weaving production takes place in the area, and there is support from the district government to increase the revenue from the related value chain by establishing mulberry farms. Furthermore, carpenters produce furniture on a small-scale base. Wage-labour results on the one hand from positions in the public service sector, i.e. teachers, nurses, government officials, but as well from private businesses as in saw mills. Furthermore, younger people send remittances from working in factories in Phonesavanh and Vientiane to their families at 2UR.

17.1.17 Imputed Income

180. Data on cash income and livelihood activities show, that imputed incomes in 2UR are of importance, however, less than in other villages of the Project area. A detailed assessment of imputed income will be conducted by the legal baseline study 2014 and presented in the updated REDP.

17.1.18 Cash Income

181. The socioeconomic activities outlined above lead to the forms of cash income outlined

below. Already in 2011, income from wages was the most important single source of cash income. This is expected to have further increased over the last years, with details to be assessed by the 2014 survey. Interestingly, cash income from livestock and vegetable production is at least as important as rice production. Here, livelihood programs can link to.

Activities	Ban Piengta		Ban Hatsamkhone		Ban Pou	
	Amount (kip/year)	%	Amount kip/year)	%	Amount (kip/year)	%
<i>Rice production</i>	1,251,364	4.5	2,553,698	12.21	1,322,497	10.8
<i>Livestock</i>	2,344,557	8.42	3,259,315	15.58	1,008,876	8.24
<i>Plantation Trees</i>	56,557	0.2	153,164	1.1	98,076	0.3
<i>Vegetable</i>	5,086,076	18.27	2,289,639	10.95	638,820	5.21
<i>Fishery</i>	689,873	2.48	762,000	3.64	67,938	0.55
<i>Hunting</i>	32000	0.11	1220000	5.83	5500	0.04
<i>NTFP</i>	383544	1.38	113562	0.54	73917	0.6
<i>Wages</i>	17,455,000	62.72	9,933,000	47.49	8,200,000	66.94
<i>Small Business</i>	532,000	1.91	632,000	3.02	835,000	6.82
Total	27,830,971	100	20,916,378	100	12,250,624	100

Table 116: Yearly Average Household Cash Income in 2UR (Source: Source: Field Survey 2011)

182. Electricity is changing the pattern of energy use and life style. People use electric lighting instead of kerosene lamps. Some people use electric rice cookers and other electric kitchen or cooking appliances. Refrigerators are used instead of traditional forms of food preservation, such as smoking foods above the kitchen hearth. TVs and karaoke machines make people stay up longer, electric lights allow children to study longer and people to be more productive by working on household industries or other tasks into the night. People will need to spend less time on gathering firewood, as electricity or natural gas is more available for cooking. Properly constructed water pumps and water supply systems reduce the time and effort needed to carry water and provide more hygienic and potable domestic water supply, resulting in reduced labour to carry water as well as reduced incidence of water-related diseases.
183. The introduction of the all-weather road and electricity provides easier access to markets, allowing market-oriented agriculture. Crop production is slowly becoming more intensive, as people begin to use more fertilizer, insecticide, and pesticide. Livestock husbandry is becoming confined in more restricted areas, particularly in villages experiencing rapid population growth with a corresponding decline of grazing areas. Better roads and better transportation encourage people to travel more, which again lead to more exchanges of products, and interaction between people of different communities.
184. All these developments offer opportunities for new service and small business occupations: restaurant businesses (food stall, noodle shop), hairdressers, weavers, transportation business (bus/truck operation), trading (NTFPs, agricultural products, handicraft), grocery

stores, tour guide and other tourism-related activities, motorbike repairs, electrical appliance repairs, and further services.

17.1.19 Total Income

185. An assessment of livelihood activities (including employment and cash crop farming) and cash income information suggests that the total income will be substantially higher due to rice production for own consumption, but not as essential as in other Project zones. A total figure will be presented in the updated REDP after conducting the 2014 Baseline Survey.

17.1.20 Household Expenditure

186. Household expenditures in the communities of Zone 2UR can be divided into 2 broad categories: on-farm expenses, needed to produce crops and other agricultural goods, and off-farm expenses. On-farm expenses for crops are the purchase of inputs, in particular seeds, fertilizer, and equipment, including gasoline. For livestock, it encompasses purchase of new animals and care of existing livestock; and for fisheries it mostly entails purchase or repair of boat equipment as well as gasoline.

KIP/YEAR	Ban Piengta	Ban Hatsamkhone	Ban Pou
Crop	445,500	459,000	371,000
Livestock	153,000	109,900	150,500
Fishery	88,000	90,000	52,000
Off-farm	178,200	190,850	216,450
<i>Total</i>	<i>864,700</i>	<i>849,750</i>	<i>789,950</i>

Table 117: Yearly Household Expenditures in 2UR (Source: 2nd Study on Social Impact Assessment (SIA) of the NNP1: A Census Survey and Asset Assessment of Upper Reservoir Area, 2008)

187. With influx of consumer goods like televisions, mobile phones and motorcycles, off-farm expenses will increase as much as with investments in health and education.

17.1.21 Poverty

188. The Project used in 2UR rice insufficiency as a proxy for poverty. Considering the numbers above, around 15% of people in 2UR are potentially vulnerable regarding food insecurity. The Project will make a qualitative analysis of all of these households to understand, how rice insecurity is linked to food insecurity; this should reduce the numbers, as some people have alternatives to rice consumption via purchases. Furthermore, the 2014 baseline survey will include more differentiated indicators, including imputed income data, to assess poverty in the three villages.

17.1.22 Vulnerable Households

189. In each village there are vulnerable households as outlined in Table 118. While they overlap with poor households, special attention has to be paid to the specific kinds of vulnerability,

either regarding food assistance, alternative livelihood options, and/or health support. As in the other villages, the Project will focus on livelihood enhancement rather than alimentionation. This, however, depends on the possibility of livelihood developments of the respective households, including the availability of labour. A detailed assessment of every potential vulnerable household and possibilities of reducing vulnerability will be implemented by the Project’s vulnerability officer.

<i>Categories / Villages</i>	<i>Pou</i>	<i>Hatsamkhone</i>	<i>Piengta</i>	<i>Total</i>
1. Head of household is woman	6	0	4	10
2. Head of household is over 60	0	4	5	9
3. Head of household is under 16	0	0	0	0
4. Head of household is disabled	6	2	0	8
5. Household with disabled person		2	3	5
6. Head of house hold is mentally disabled	0	0	0	0
7. Household with mentally disabled person	0	2	1	3
8. Household with only one member	0	0	1	1
9. Households living below the poverty line ⁸¹	38	17	19	74
10. Landless households with no alternative sustainable income	0	0	0	0

Table 118: Vulnerable person profile of each village in 2UR (Source: Field Visit 2013)

17.2 Scope of Land Acquisition and Resettlement

190. Following the demarcation of the 320 MSL, potentially affected assets were surveyed along with the preliminary census survey and socio-economic study of the affected people in 2011. A description of each affected property was recorded with the acknowledgement of the owner as well as the chief or representative of the village. As outlined above, a detailed impact asset registration survey with a GIS system in place will be carried out in the second half of 2014, allowing verifying and updating of these data. Repeating from above, 178 households will lose agricultural land in the upper reservoir area, of which 15 lose additionally residential areas including houses and associated facilities. All 178 households are assessed to be significantly impacted.

⁸¹ Remark: poor households calculated based on rice insufficiency assessed in 2011 plus a 50% margin of households with rice sufficiency; legal baseline will result from the 2014 socioeconomic survey, reflecting the current numbers.

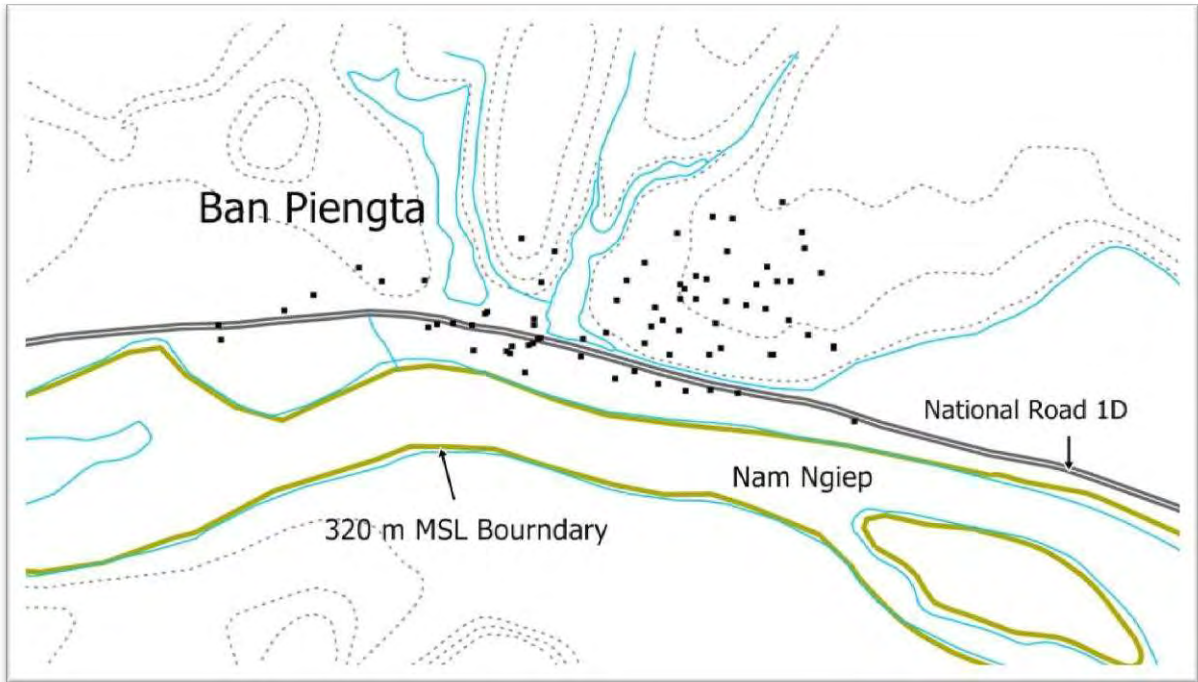


Figure 73: Map of Affected Area of Ban Piengta

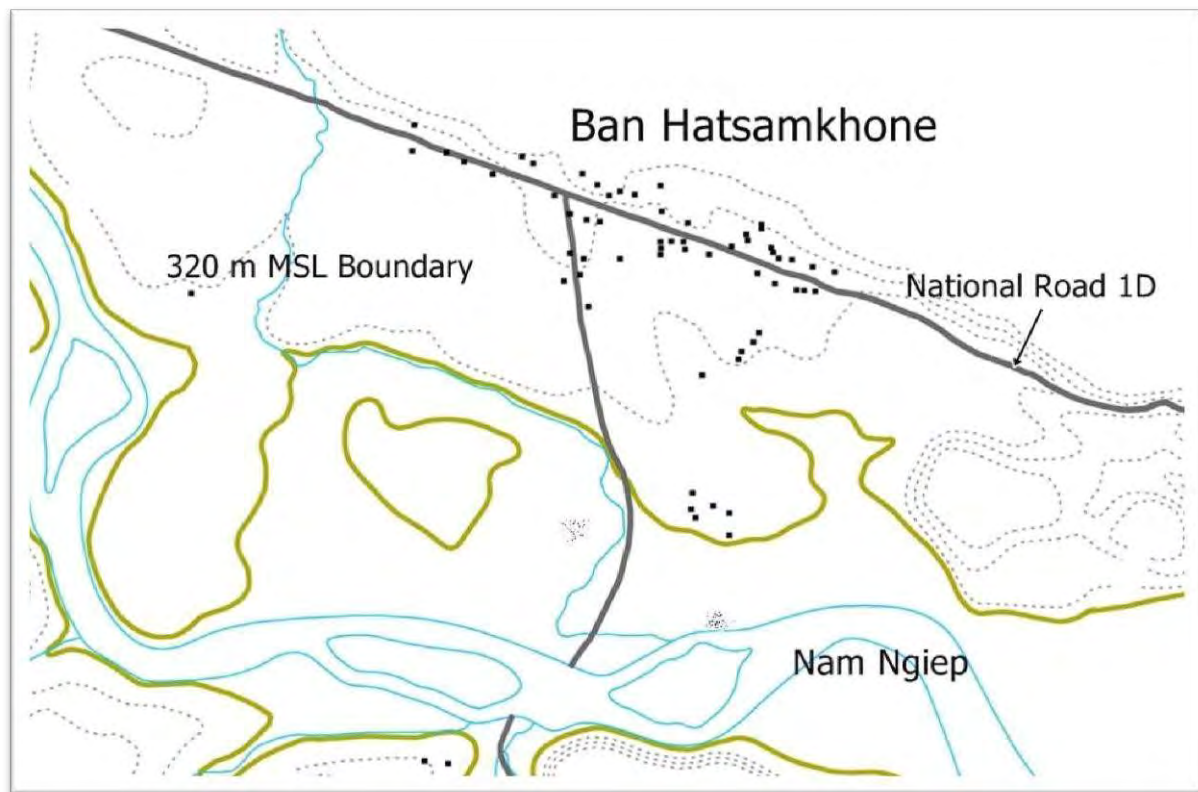


Figure 74: Map of Affected Area of Ban Hatsamkhone

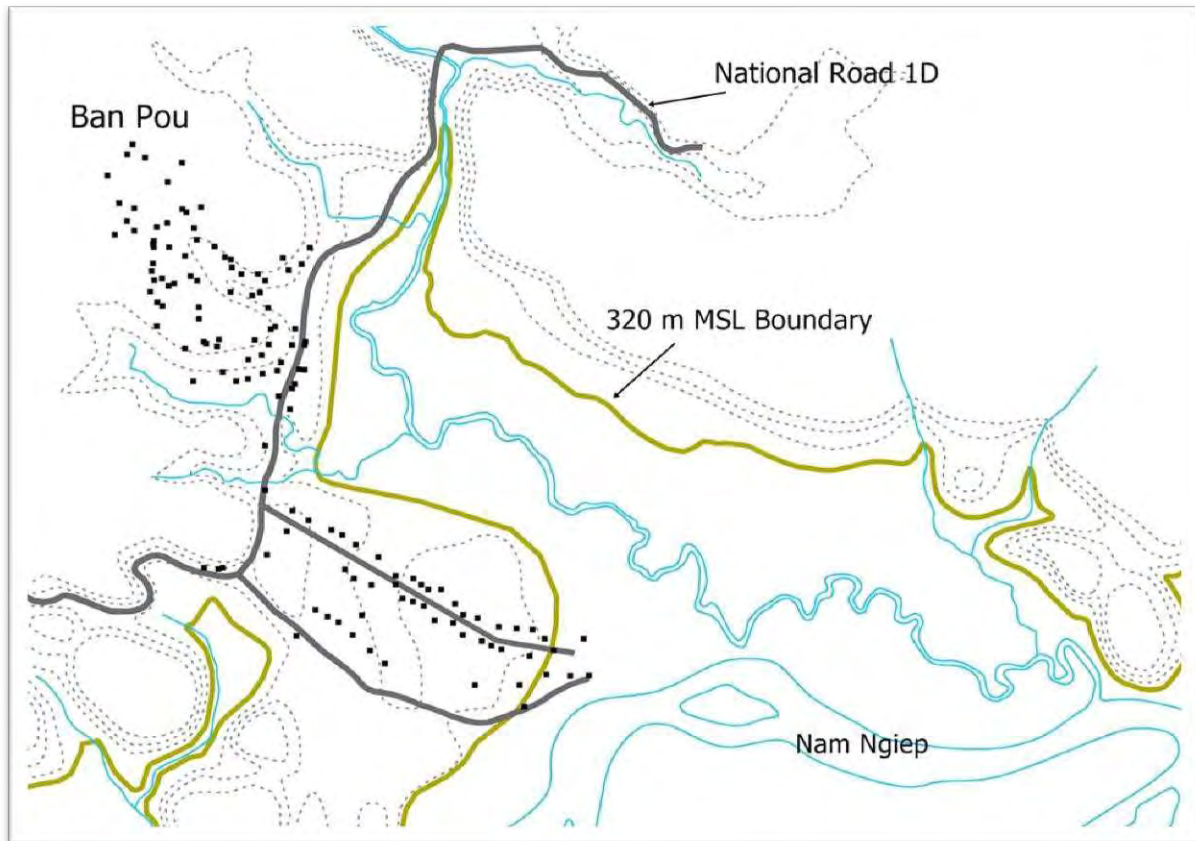


Figure 75: Map of Affected Area of Ban Pou

17.2.1 Loss of Structures

191. The inundation of the NNP1 reservoir at 320m MSL will affect housing and various auxiliary structures located in 10 household plots in Ban Pou and 5 household plots in Ban Hatsamkhone. Fences and farm shacks belong to these and several other households of the 178 households losing agricultural land. Water will reach about 30 - 40 cm above the ground over all or a substantial portion of these residences when the reservoir is at full capacity. Even though this will not occur throughout the year, the continuous flooding of those lands for even a few months will require that these houses and related structures be relocated elsewhere in the same communities. All other households in the three communities will not resettle.

Village	Affected properties (unit)							
	House	Kitchen	Toilet	Granary	Farm Shack	Fence (in m)	Wells	Pens
Ban Piengta	0	0	0	0	19	416	1	0
Ban Hatsamkhone	5	0	4	5	45	3,603	-	5
Ban Pou	10	6	8	8	19	6,971	-	7
Total	15	6	12	13	83	10,990	1	12

Table 119: Loss of Structures in Zone 2UR to be inundated by 320m MSL Reservoir (Source: Field Survey 2011)

192. In 2UR the project will have to compensate all affected structures as fully impacted. This is in regard to the specific kind of impact: even if the edge of the reservoir impacts just part of the structure, with the rest slightly located above full supply level, for safety reasons a partial use of structures cannot be allowed.

17.2.2 Loss of Lands

193. All three of the villages will lose considerable productive land. Approximately 350 ha will be inundated in Ban Pou, Ban Piengta, and Ban Hatsamkhone, affecting half of the households; according to the preliminary 2011 survey: 82 households in Ban Pou, 60 households in Ban Hatsamkhone, and 34+2 households in Ban Piengta are significantly impacted. Although most of the lands will not be flooded year round, they are likely to be inundated during rainy season, which is also the main rice growing season.

Village	Affected lands(ha)							
	Paddy Field	Upland Field	Garden	Residential Land	Fish Pond(Unit)	Village Grazing Land	Impacted households	Households with Paddy fields below 320
Ban Piengta	26.30	-	22.65	0	0	-	34+2*	32+2
Ban Hatsamkhone	55.76	-	73.10	0.7867	3	-	60	60
Ban Pou	74.69	2.70	54.10	1.08	7	30	82	51
Total	156.75	2.70	149.85	1.87	10	30	176+2*	143+2

Table 120: Loss of Lands in Zone 2UR to be inundated by 320m MSL Reservoir (Source: Field Survey 2011)

* Lands of 2 households from Ban Phou Hom are impacted in the Reservoir area, joining Ban Piengta for project activities

194. The most critical losses in 2UR will be of paddy fields; of the people who lose land, more than three quarters lose paddy fields. Further losses are land for cash crops, vegetable garden plots, and some minor upland rice fields along the Nam Ngiep as well as around the

Nam Pou, a tributary to Nam Ngiep which gets impacted by the flooding from the reservoir as well, and the streams opposite Ban Hatsamkhone over the Nam Ngiep. Due to the specifics of impact (inundation), once a flat plot of land (paddy fields and residential land, most of cash crop land) is impacted, it is fully impacted. Thus, similar to the non-existence of partial impact on structure, there exists no partial impact on these flat land plots.

195. Most upland rice and plantation land remains unaffected, as do paddy fields above the inundation level, including elevated side valleys, sometimes additionally protected by natural barriers.

17.2.3 Loss of Crops and Trees

196. Affected lands include a number of privately owned trees of Agar Wood and fruit trees that have been planted by the villagers. They will be eligible for compensation, with the PAPs able to keep the salvaged wood. The Project will support a regeneration of these alternative forms of income.
197. In addition to any compensation for the loss of these lands and other resources in cash and/or in kind, the project will initiate changes to resource utilization patterns that can provide people with stable and sustainable livelihoods).

Village	Trees (Unit)			
	<i>Fruit Trees</i>	<i>Agar Wood</i>	<i>Teak</i>	<i>Bamboo Stands</i>
<i>Ban Piengta</i>	4	-	-	-
<i>Ban Hatsamkhone</i>	151	-	-	18
<i>Ban Pou</i>	645	355	-	30
Total	800	355	-	48

Table 121: Loss of Trees in Zone 2UR (Source: Field Survey 2011)

17.2.4 Impact on Income and Livelihood

198. Impacts on Income and Livelihood will result mainly from the loss of land and property outlined in the paragraphs above. The impact on privately held land and according impact on households is thereby significant and thus in every village an income and livelihood restoration program will be implemented. Accordingly economic production activities will change, adding to the overall impact already experienced by these communities from the construction of the road 1D and electrification, independently of the Project.

17.2.1 Gender Issues

199. The project is expected to have few adverse gender-specific impacts, with the exception of the possibility of inadequate nutrition due to impacts on fisheries and the necessity to adapt to new livelihood activities. This would be of particular concern for pregnant women, women with infants and children, and those infants and children. The project must make sure that any pregnant or nursing women have adequate health care and are able to receive adequate nutrition, since these are critical to the health of the children. Mitigation measures are integrated into the Gender Action Plan, outlined in the SDP. Measures to

empower women and ensure they benefit from the Project are also incorporated in the GAP.

17.2.2 Community Resources

200. No major impact on community forests and grazing areas is expected in 2UR. The biggest impact on shared community resources will be riverbank gardens which will be lost to the reservoir and the PAPs' use of fisheries. After an expected early increase in windfall fishing on the reservoir, reservoir management will allow subsequent sustainable fisheries.
201. In 2UR the project will have no impact on public infrastructure, as all schools, village halls, and the health centre are above Full Supply Level. Neither is there expected any impact on cultural assets, as the temple in Ban Pou and cemeteries in the villages are all located above 320MSL as well. At one point, the reservoir will be close to Road 1D, but no impact is expected, as the road is elevated several meters above Full Supply Level.
202. There will be, however, a loss of easy access to the right bank when the reservoir reaches full supply level during the rainy season, including to agricultural land. This access has to be restored by the Project via bridges as discussed with PAPs before inundation of the reservoir.

17.3 Entitlement Matrix and Mitigation Measures

17.3.1 Public Consultation and Disclosure

203. Data on Consultations and Information Disclosure for 2UR is outlined in section 8.5.2. PAPs have been integrated into the development of the REDP planning, of which the most important decision after consulting the risk of resettlement versus relocation within village boundaries and livelihood adaptations, was that they prefer to stay in the current village and engage in livelihood development activities together with the Project. Several alternatives were explored at the beginning as potential resettlement sites to provide replacement housing and paddy rice fields, including the Thongnapha area.
204. Following several rounds of consultation meetings, the affected households expressed their strong desire⁸² to relocate within their own community (or move to their husband's village in the case of 1 household) and explore a range of activities to develop replacement rice fields, use the draw down zone (DDZ) during the dry season with the support of irrigation systems, improve current agricultural practices and explore alternative livelihood activities. Following the expressed interest of PAPs to relocate within their own communities and seek development of land situated above 320 MSL into paddy fields, a detailed study needs to be undertaken as to where to best undertake such land developments and what specific alternative livelihoods PAPs would like to pursue in the second half of 2014, extending into 2015.
205. Further milestones in community consultations have been:

⁸² Consultation meeting conducted in 13-15 August 2013

- An assessment of their support of the Projects policy took place in September 2013 (with the decision above taken) and in the first quarter of 2014; both times with positive result.
- The Detailed Entitlement Matrix for 2UR has been disclosed in March and April 2014.
- The overall REDP planning has been disclosed and discussed during these consultations as well as during the national consultation in May 2014, where PAPs from 2 UR were present.
- On-going consultations are the key for successful livelihood adaptations in 2UR and will become a constant element in the communities once the Project has its field office with a deputy manager and several officers in 2UR in the second half of 2014.

17.3.2 Entitlements, Assistance and Benefits

206. PAPs in 2UR are entitled to the following compensation, assistance and benefits:

Kind of Impact and Entitlement	Compensation Policy Zone 2UR
<p>1.b.1 Partial Loss of Agricultural Land with no need to resettle for legal owners with valid title or customary or usufruct rights</p>	<p>For non-significantly impacted PAPs as defined in section 5.2.2, Cash compensation for acquired land will be paid at replacement value according to the decision of the PRLRC. <i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p> <p>For significantly impacted PAPs as defined in section 5.2.2,</p> <ul style="list-style-type: none"> • Equivalent area of land with equivalent productive potential at location acceptable to the PAP will be provided in cooperation with RMU, DCC, and Village Development Coordination Committee (VDC). Where land can be purchased within the same village or within a distance acceptable to the PAP, this will be purchased by NNP1 on a willing-buyer-willing-seller basis and/or acquired on the basis of allocating available land parcels that are not owned or used by another person, with the assistance of village authorities • The replacement agricultural land is to be surveyed for UXO and rendered safe in accordance with section 5.2.16. • Land titles will be provided in accordance with section 5.2.15 • For PAPs meeting the criteria for self-resettlement (section 5.2.10) and requesting in writing to self-resettle, cash compensation for the lost agricultural land will be paid based on the principles in sections 5.2.7 and 5.2.8 <i>described above.</i> • Alternatively, at informed request by PAPs cash compensation for acquired land at full replacement value; payment will be made to bank <i>accounts of PAPs as described in section 5.2.8 above.</i> • For those choosing to relocate within village boundaries or to

Kind of Impact and Entitlement	Compensation Policy Zone 2UR
	<p>self-resettle within the project area of influence as defined in section 5.2.17, income restoration measures as outlined under clause 4</p>
<p>2.a.1 Loss of residential, commercial, industrial or institutional land without sufficient remaining land and PAPs will be required to resettle, to include</p> <p>a) Legal owner with valid title or customary or usufruct rights</p> <p>b) Persons later accepted for inclusion by the Grievance Committee under the Grievance Procedure</p>	<p>PAPs will be entitled to the following:</p> <ul style="list-style-type: none"> • An equivalent area of land to replace the area of land lost, and in any case not less than 800m², for residential land and equivalent land for commercial, industrial or institutional land of equal locational value, similar characteristics, and access to facilities in an acceptable location within the area. • The replacement land is to be surveyed for UXO and rendered safe. • Land titles will be provided in accordance with section 5.2.15 • The identification of all residential replacement land and land plots shall be based on consent or broad community support of the physically displaced ethnic households and with the support of the local authorities and the Company. • The residential land plot shall be demarcated and fenced at the cost of the Company, both in terms of labour and material. • The residential land plot shall be adequately levelled and shall provide comparable access to employment, production and economic opportunities, to medical and social services, and to education services. • 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 resettlement. • Replacement with commercially suitable land which is both of at least equal value and of at least equal size. • Location of replacement commercial land must be: (i) suitable for continuation of viable commercial activities, and (ii) acceptable to the Resettlers. • If suitable replacement of the commercial land cannot be found, or if Resettlers’ prior commercial activities cannot be continued, or if the Resettlers don’t wish to continue such activities, then the company shall pay cash compensation as outlined in section 5.2.17 and 5.2.8.
<p>2.b.1 Loss of residential, commercial, industrial or institutional land with sufficient remaining land for</p>	<p>All impacted PAPs will be entitled to:</p> <ul style="list-style-type: none"> • Cash compensation for acquired land to be paid at replacement value calculated according to prescribed methodology in

Kind of Impact and Entitlement	Compensation Policy Zone 2UR
<p>PAPs to reasonably continue their activities as determined by the PRLRC for</p> <p>a) Legal owner with valid title or customary or usufruct rights</p> <p>b) Persons later accepted for inclusion by the Grievance Committee under the Grievance Procedure</p>	<p>section 5.2.7 and endorsed by the PRLRC; <i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p> <ul style="list-style-type: none"> • Updated land titles to be provided in accordance with section 5.2.15 • In the case a fence is impacted, it is compensated in accordance with entitlement regarding fencing (see line 3.b.3 and 3.b.4) • For residential land above Full Supply Level but inside the safety zone, the Project will backfill to elevate the land above the safety zone if reasonably possible and requested by the owner.
<p>3.a.1 Total permanent loss of structures, with insufficient land in community to reorganize, such as where all structures and lands are inundated.</p> <p>Or</p> <p>Total permanent loss of structures, or where after partial permanent loss the remaining structure is rendered unviable for continued use, but there remains sufficient land for reorganization.</p> <p>Including secondary structures such as boundary walls, wells, animal sheds, granaries, etc. which are not part of the main structure/house.</p> <p>a) Legal owner with valid title or customary or usufruct rights covered by the census and their natural growth (including children of registered households who may have formed new families after the cut-off date, but excluding the relatives of a spouse who previously resided outside the area).</p> <p>b) Persons later accepted for inclusion by the</p>	<p>Where there is a the split of households, splitting criteria as outlined above, apply.</p> <p>PAPs will be entitled to the following:</p> <ul style="list-style-type: none"> • Replacement structures of equivalent standard (small/medium/large depending on size of affected structure) at a location within village boundaries acceptable to PAPs. • Project Affected Persons shall be entitled to the compensation of 1 newly-built house per household. In case that any household comprises of 9 or more members, such household shall be entitled to either (a) another additional 1 newly-built house per family unit or (b) additional space and facilities within the same house adequate for the needs of the residentially joint household depending on family structure. The decision between the two options shall be made by each household with 9 or more members. • Each replacement house for each resulting household (includes multiple replacement houses in cases of extended families) shall comprise the area as follows: <ul style="list-style-type: none"> a) 50m² for up to 5 people (small size) b) 75m² for 6 to 8 people (medium size) c) 100m² for more than 9 people (large size), <p>together with</p> <ul style="list-style-type: none"> a) Independent Toilet/bathroom with a septic tank b) kitchen, c) functioning electric wiring and d) lighting throughout connected to electricity supply e) water supply (1 water-meter with tap per household). • The Company shall bear the cost of installing one electricity meter in each house, with a minimum of one low energy

Kind of Impact and Entitlement	Compensation Policy Zone 2UR
<p>Compensation Working Group or the Grievance Committee under the Grievance Procedure</p>	<p>consumption bulb and one electric socket in each room, with the adequate breakers.</p> <ul style="list-style-type: none"> • 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. • All replacement houses shall be constructed of new materials of good quality, supplied by Company at its cost. The house will use durable structure and walls, durable roofing material (such as corrugated metal sheets, for example). • Several standard designs (of different sizes) shall be prepared in consultation with the Resettlers and selected by the affected households and approved by PRLRC. The selection of construction materials shall be part of the consultation. The number of toilets will be adjusted to the size of the household. 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. • House design to be finalized in consultation with and in consideration of the preferences of structure owners and to be approved by PRLRC; • Siting of housing to ensure proximity of families to each other and to maintain pre-resettlement social relationships as desired will be discussed and agreed with PAPs during design of residential area in the resettlement site as far as possible. • Existing outbuildings and ancillary structures (sheds, coops, rice storage barns, etc.) shall be compensated by cash; if requested, they can be replaced by equivalent asset. • Each existing house and outbuilding shall be dismantled with care intending to preserve the value of materials contained therein to the extent possible. • Where the resulting materials are in good condition and have continuing value as decided by the Resettler, they shall be transported to the site of the Resettlers new house at the project's expense and given to Resettler. Each Resettler shall have the right to be present at the dismantling of the existing house and outbuildings to assist in determining which materials are to be retained and which are to be disposed. • All costs of labour required for both replacement house and outbuildings construction and existing houses and outbuildings dismantlement will be born by the company • All costs of transporting new and recovered materials to new

Kind of Impact and Entitlement	Compensation Policy Zone 2UR
	<p>sites and the cost of removal for disposal of materials without further use.</p> <ul style="list-style-type: none"> • For the construction of the new houses as well as the dismantling of old houses, local workforce shall be engaged (incl. semi-skilled or non-skilled), which might include people (men or women) from the village. People involved in the construction and dismantling of houses will receive the level of remuneration offered locally for a job of similar nature, qualification and responsibility. The employment of workforce in the construction shall be in full compliance with the Lao Labour law and the core labour standards as required under ADB’s Social Protection Strategy 2001. • 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; • For PAPs eligible for self-resettlement along the criteria outlined in section 5.2.10, compensation will be made at full replacement cost at current market value without depreciation or deductions for salvaged material. • Residential areas will be connected by roads, which will also provide access to public facilities and agricultural plots. 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 prepared by the project and approved by the PRLRC. <p>For those choosing to relocate within village boundaries or self-resettle , transition allowance for a period of three months encompassing items a, b, c, and d listed below:</p> <ol style="list-style-type: none"> a) Essential food items other than rice, such as cooking oil, salt, high protein items such as dried meat, eggs and other items as advised by a Nutritional expert and provided in kind (except for self-resettlers, for which a one-off lump-sum allowance in cash equivalent to the value of entitlement will be provided together with items (b), (c), and (d); adding to their overall package) and b) Electricity for 3 months paid as a monthly allowance of

Kind of Impact and Entitlement	Compensation Policy Zone 2UR
	<p>50,000 LAK per Month and</p> <p>c) Water fee for 3 months paid as a monthly allowance of 20,000 LAK per Month and</p> <p>d) Solid Waste collection fee, paid as a monthly allowance of 10,000 LAK per Month.</p> <p><i>All cash compensation will be made as outlined in section 5.2.17 and 5.2.8.</i></p>
<p>3.b.3 Movable fence which can be reasonable dismantled and rebuilt without significant loss of construction materials</p>	<p>All impacted PAPs will be entitled to:</p> <ul style="list-style-type: none"> • Cash compensation for labour requirement for dismantling and rebuilding of fences made from durable materials (such as barb wired and concrete posts); based on average labour costs as agreed by the PRLRC; • Salvage of fencing materials • A percentage of the affected fencing materials used is expected not to be salvaged and therefore compensated in cash at replacement value as agreed by the PRLRC <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>6 Loss of standing crops that could not be harvested for owners of affected crops</p>	<p>The project together with the RMU will inform the PAP in advance the timing of impacts on standing crops (and will complete land-related compensation) with sufficient time given for the PAP to harvest these crops. The timeframe will take into consideration crop growing cycles and harvesting requirements.</p> <p>In the case that the project requires urgent access to and/or temporarily or permanent acquisition of land and is not able to provide sufficient advance notification as outlined above, the project will provide cash compensation equivalent to 10 times the market value of damaged or lost crops.</p> <p>In the case that sufficient reasonable advanced warning (taking into consideration crop cycles including land preparation but no less than 2 months)</p> <ul style="list-style-type: none"> • not to engage in crop production is ignored, while the compensation process is completed already • or crops ready for harvest have not been harvested in a reasonable time frame, <p>such compensation will not be provided.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>7.a Loss of fruit or nut trees for owner of affected trees or person with customary usage</p>	<ul style="list-style-type: none"> • For fruit/nut trees bearing fruits, cash compensation will be paid based on the average annual value of the produce, established by the decision of the PRLRC, multiplied by 10.

Kind of Impact and Entitlement	Compensation Policy Zone 2UR
right or right to harvest (to be validated by village authorities)	<ul style="list-style-type: none"> • For fruit/nut trees seedlings, which are not yet bearing fruits, cash compensation will be paid based on inputs such as seedling, land clearance and annual maintenance at rates as established by the decision of the PRLRC. • The PAP is allowed to salvage wood resulting from the clearance of land from fruit/nut trees as long as it does not interfere with project activities; • At least two months’ notice will be given to PAPs to harvest prior to any site clearance. <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
7.b Loss of timber trees for owner of affected trees or person with customary usage right or right to harvest (to be validated by village authorities)	<ul style="list-style-type: none"> • For timber trees cash compensation will be paid based on replacement cost equivalent to current market value based on type, age and diameter at breast height (DBH) of trees, at rates established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC. • The PAP is allowed to salvage wood resulting from the clearance of land from timber trees as long as it does not interfere with project activities; • At least two months’ notice will be given to PAPs to harvest prior to any site clearance. <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
7.c Loss of production trees (e.g. Kapok) for owner of affected trees or person with customary usage right or right to harvest (to be validated by village authorities)	<ul style="list-style-type: none"> • For production trees already producing, cash compensation will be paid based on the average annual value of the produce at rates established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC based on the age of the tree, multiplied by 10. • For production trees seedlings, which are not yet producing, cash compensation will be paid based on inputs such as seedling, land clearance and annual maintenance at rates as established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC. • The PAP is allowed to salvage wood resulting from the clearance of land from production trees as long as it does not interfere with project activities; • At least two months’ notice will be given to PAPs to harvest prior to any site clearance. <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
7.d Loss of construction trees	<ul style="list-style-type: none"> • For construction trees cash compensation will be paid based on

Kind of Impact and Entitlement	Compensation Policy Zone 2UR
for owner of affected trees or person with customary usage right or right to harvest (to be validated by village authorities)	<p>replacement cost equivalent to current market value based on type of trees at rates established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC.</p> <ul style="list-style-type: none"> • The PAP is allowed to salvage wood resulting from the clearance of land from construction trees as long as it does not interfere with project activities; • At least two months’ notice will be given to PAPs to harvest prior to any site clearance. <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
7.e Loss of perennial plants for owner of affected plants or person with customary usage right or right to harvest (to be validated by village authorities)	<ul style="list-style-type: none"> • For perennial plants cash compensation will be paid based on replacement cost equivalent to current market value based on type of plant at rates established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC. • The PAP is allowed to salvage the plant materials resulting from the clearance of land from perennial plants as long as it does not interfere with project activities; • At least two months’ notice will be given to PAPs to harvest prior to any site clearance. <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
7.f Loss of fishponds	<ul style="list-style-type: none"> • For fishponds, replacement fish pond of equal size and/or productivity and amenity plus assistance to stock and feed fish or lump sum cash payment equivalent to three years of productivity as agreed with PAP; Participation in aquaculture program;
9.a Temporary Losses of affected structures or other fixed assets for affected PAPs	<ul style="list-style-type: none"> • Compensation in cash, on the basis of replacement cost of material and labour without deduction for depreciation or salvageable materials for the damages during the period of temporary possession at rates as established through the process described in section 5.2.7 and endorsed by the PRLRC <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
9.b Temporary Losses with severely affected structures and affected PAPs made to shift temporarily from their present location	<ul style="list-style-type: none"> • Entitlement will be in terms of rent allowance to cover the cost of alternate accommodation on the same standard for the period of temporary displacement. <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
9.c Temporary Losses of crops and trees for affected PAPs	<ul style="list-style-type: none"> • Compensation at market value and for loss of net income from subsequent crops that cannot be planted for the duration of temporary possession; • cut trees have to be compensated fully according to lines

Kind of Impact and Entitlement	Compensation Policy Zone 2UR
	<p>no. 7.1, 7.2, 7.3, and 7.4</p> <p>Temporary payment refers to crops planted on the temporary affected land the year before (and not what crop might have been planted the year after)</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>9.d Temporary Losses/acquisition of land for affected PAPs</p>	<ul style="list-style-type: none"> • No compensation for land if returned to the original user, but a monthly rent as per market value as established through the process described in section 5.2.7 and endorsed by the PRLRC will be paid to PAPs. • PAPs will be compensated immediately and damaged assets will be restored to at least its former or better condition as acknowledged in writing by the land owner and confirmed by the RMU <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>10 Unforeseen Impacts</p>	<p>In case of any additional impacts identified during implementation, appropriate entitlement measures would be included. In order to ensure that unexpected impacts get identified swiftly, a comprehensive monitoring program will be established, encompassing</p> <ul style="list-style-type: none"> • water quality • fisheries • fish catch monitoring • river bank erosion • pre-COD natural flood monitoring

Table 122: Compensation and Benefit Entitlements Zone 2UR

207. To address the specific concerns of reservoir impacts at full supply level, the Project responded with the following process:

<p>Level of Impact</p>	<p>The project estimates an impact up to the highest level of operation of the reservoir on 320MSL. The project will apply entitlements to all land assets impacted by this level; residential land inside a safety zone, comprising all land on 320MSL to 321MSL, will be eligible for protective measures. For all other types of land, the Project will temporary rent land inside the safety zone for the year during which the reservoir will fill as a precautionary measure and to allow further assessments.</p>
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17.3.3 Income Restoration and Rehabilitation

Kind of Impact and Entitlement	Compensation Policy Zone 2UR
<p>4.1 Loss of trade / livelihood / occupation or business incomes for business owners</p>	<p>All impacted PAPs will be entitled to Income Substitution as follows:</p> <ul style="list-style-type: none"> • Cash Compensation for Loss of Business Income equivalent to three months of potential net profit in case of permanent closure based on an assessment endorsed by the PRLRC. • Cash Compensation for Loss of Business Income equivalent to potential net profit of closure period up to three months in case of temporary closure based on an assessment endorsed by the PRLRC. <p>For relocation, a temporary closure period of 2 weeks is assumed, unless proven to be longer.</p> <ul style="list-style-type: none"> • Participation in livelihood restoration programs based on priorities identified by affected households during consultations between individual PAPs, NNP1PC, and DCC; this can include for example trainings for alternative livelihood activities or enhancement of current livelihoods based on the individual preference of the PAP.
<p>4.2 Loss of trade / livelihood / occupation or business incomes for wage employees</p>	<p>All impacted PAPs will be entitled to Income Substitution as follows:</p> <ul style="list-style-type: none"> • In case of permanent closure cash compensation for loss of wages equivalent to three months of wages as indicated in the employment contract; in the case such an employment contract is not available, the wage will be based on an assessment of a wage for a comparable employment endorsed by the PRLRC. • In case of temporary closure, cash compensation for loss of wages equivalent to the closure period of wages as indicated in the employment contract; in the case such an employment contract is missing, the wage will be based on an assessment of a wage for a comparable employment endorsed by the PRLRC. <p>For relocation, a temporary closure period of 2 weeks is assumed, unless proven to be longer.</p> <ul style="list-style-type: none"> • Participation in livelihood restoration programs based on priorities identified by affected households during consultations between individual PAPs, NNP1PC, and DCC; this can include for example trainings for alternative livelihood activities or enhancement of current livelihoods based on the individual preference of the PAP which can include: <ul style="list-style-type: none"> ○ support of employment in reconstructed enterprise or package for re-employment or starting a business ○ participation in Occupational Skill Development Programs

Kind of Impact and Entitlement	Compensation Policy Zone 2UR
4.3 Loss of trade / livelihood / occupation for PAPs	<p>which shall be designed to match the PAP’s aspirations and potentials</p> <ul style="list-style-type: none"> • Stream-Bed/Bank Gardens shall be compensated in accordance with decisions by PRLRC <p>In case of significant impact (section 5.2.2) on the PAP’s livelihood, significantly impacted PAPs staying within the Project’s Area of Influence (Claus 0.19) will be entitled to:</p> <p>Participation in livelihood restoration programs based on priorities identified by affected households during consultations between individual PAPs, NNP1PC, and DCC; this can include for example trainings for alternative livelihood activities or enhancement of current livelihoods based on the individual preference of the PAP which can include a selection of the following if found to be suitable for the area.</p> <ul style="list-style-type: none"> • On-Farm Activities: <ul style="list-style-type: none"> ○ Agricultural livelihood restoration program: intensive agriculture program (fertilizer, seed, agricultural extension program) ○ Where feasible and appropriate, suitable and functioning irrigation system including pumps, gates, gauges, and distribution systems for replacement paddy agricultural lands in accordance with standards issued by Ministry of Agriculture and Forestry, Lao PDR within village boundaries ○ Complete array of plants, tree saplings, cuttings, seeds and other biomaterials as well as tools and equipment if necessary, each year for a period of not less than three (3) years, in amounts sufficient to carry out all agricultural plans and optimize the productive capacity of all agricultural lands including paddy, terraces, garden plots forage plots, and forests. ○ Participation in aquaculture Program ○ If necessary, provision of tools and equipment in sufficient number and quality (including replacement tools and equipment where such items are worn out or damaged) for successful agriculture, fishery and other work of all types which are proposed under Concession Agreement, Annex C, Appendix 7 • Off-Farm Activities: <ul style="list-style-type: none"> ○ Package for employment or starting a business ○ A range of feasible production and income generating options which will ensure household targets are met ○ Priority for employment in project-related jobs ○ Participation in Occupational Skill Development Programs

Kind of Impact and Entitlement	Compensation Policy Zone 2UR
	<p>which shall be designed to match the PAP’s aspirations and potentials.</p> <ul style="list-style-type: none"> • For students committing to work either in a public function (teachers, medical staff, etc.) in the 3 villages of 2UR or with NNP1PC, eligibility to compete for a scholarship program established and funded by the Company up to a defined quota; scholarships will be allocated via a competitive selection process with gender quotas

Table 123: Livelihood Activities Entitlements Zone 2UR

208. *Remark:* Replacement land development including possible development for small scale irrigation, access roads and other public infrastructure development will be planned based on close consultation with the affected communities, through Participatory Land Use Planning (PLUP), as promoted by the GoL and described in the PLUP Manual issued by the GoL.

17.3.4 Community Resources & Infrastructure

Kind of Impact and Entitlement	Compensation Policy Zone 2UR
<p>5 Loss of access to common resources and facilities including loss of access to rural common property resources and urban civic amenities, including community grazing areas, fishery and other riparian resources, NTFPs, community cemeteries for communities/Households</p>	<ul style="list-style-type: none"> • Bridge-Crossing from the left bank to the right bank side of the Nam Ngiep River at a suitable location based on geological conditions and reservoir width, at the same time minimizing the average distance all PAPs have to travel to cross to the other side; if conditions allow, two bridges of a standard sufficient to allow the crossing by hand tractor similar to the one built in Thaviengxay will be built, one in Ban Hatsamkhone and one in Ban Piengta • An agricultural access road will be built along the edge of the reservoir on the right bank from Hatsamkhone to the agricultural area of Ban Pou • Access to fishery resources in the upper section of the reservoir • Assistance to develop a sustainable use plan for use of common resources including a Fisheries co-management program for fisheries on the reservoir • For non-significant loss of common resources and facilities, compensation will be provided in kind via the establishment or improvement of community facilities equivalent to the value of the lost assets; for details see item 8

Kind of Impact and Entitlement	Compensation Policy Zone 2UR
8.b Loss of public infrastructure and cultural properties for Communities / Households who do not have to resettle (affected communities)	<ul style="list-style-type: none"> • Upgrading of existing, internal village access roads with appropriate drainage facilities • In case of establishment of new agricultural land, agricultural tracks leading to the newly established land areas providing reasonable access to the different kinds of livelihood activities and resources but not necessarily to each single plot • Repair and upgrade of existing water supply systems in accordance to hydrological, geological, and geographic conditions • Repair of existing school buildings in Ban Pou, Ban Hatsamkhone and Ban Piengta • Repair of existing public health facility and initial provision of needed medical equipment for daily use in accordance with GoL standards for health centres at Ban Piengta, and then operated on a self-sustaining basis • Repair of existing village meeting hall in Ban Hatsamkhone and Ban Piengta; and construction of a village meeting hall in Ban Pou, designed to allow the presence of 2 persons per household • 3 bus stops, one for Ban Pou, one for Ban Hatsamkhone, one Ban Piengta; the bus stops will have a roof and be located at suitable locations along the main road or inside the village depending on the preferences of the PAPs and road safety concerns • Market stalls for Ban Pou, Ban Hatsamkhone, Ban Piengta will have a roof and will be located at suitable locations along the main road or inside the village depending on the preferences of the PAPs, public land availability, and road safety concerns <p>All specifications and designs for this public infrastructure will be prepared in consultation with the village, and will follow the standards of similar buildings. All shall be</p> <ol style="list-style-type: none"> a. covered with durable roofing material b. have a concrete structure c. be connected to electricity (except bus stop and market stalls) d. have access to the water supply system (except bus stop and market stalls) e. have toilets connected to a septic tank (except bus stop and market stalls) f. UXO clearance to a depth of 1 metre for all community infrastructure land as outlined in section 5.2.16. g. Fencing of all community buildings (except bus stop and market stalls) h. Community and state land titles will be facilitated by the Company as outlined in section 5.2.15

Table 124: Community Resources and Infrastructure Entitlements Zone 2UR

17.3.4.1 Details Public Infrastructure

209. Public infrastructure in the affected areas of Zone 2UR is improvable. Most of the schools in the area provide only the first 2 or 3 years of primary education, but even if buildings have been improved, support in providing education material can facilitate a better educational system. There are some piped-water systems in the villages from nearby sources, but as outlined above just in Ban Pou with drinkable water. The alleyways within villages are simple, dirt paths. During the rainy season, most of the alleyways are filled with mud holes and are barely useable. Even though these conditions are not in any way due to the project, their improvement helps with the livelihood restoration plan and to enhance the general living conditions of the people. The villagers also requested the provision of these basic infrastructures during public consultations.

No	Infrastructure	Piengta	Hatsaykham	Pou	Total
1	Suspension Bridge	1	1	-	2
2	Repair and Upgrade health centre	1			1
3	Repair and Upgrade school	1	1	1	3
4	Bus stop	1	1	1	3
5	Small market shops near the road	1	1	1	3
6	Upgrade of agricultural roads opposite bank of Nam Ngiep*	5 km	5 km	5 km	15 km*
7	Upgrade of internal village roads*	Yes	Yes	Yes	Yes*
8	Upgrade and expansion of gravity fed water supply system	1	1	1	3*
10	Land development for replacement of Rice fields*	Yes	Yes	Yes	Yes*
11	Upgrade of existing and construction of new small scale gravity fed irrigation systems*	Yes	Yes	Yes	Yes*

Table 125: List of Infrastructure to build or upgrade in Zone 2UR

* Total numbers will be determined after the Confirmation survey and detailed participatory land use planning in each community.

210. This provisional infrastructure development scheme will be improved after Financial Closure according to the community and area development plan, incorporating existing infrastructure, GoL and village knowledge, expert knowledge, and consulted interests by all stakeholders living in the area.



Figure 76: Suspension bridge across the Nam Ngiep

17.3.4.2 Details Road improvement

211. An initial field visits and consultations with villagers confirmed that there are several dirt tracks North and South of the residence area of the impacted villages which would be partly or completely and temporarily or permanently inundated due to Project dam construction activities. These tracks are currently accessed by villagers either by foot, motorbike or by hand tractor "*lot thaa/tak tak*". Villagers use these tracks currently to; (i) access the villages rice fields, which is practice in all three villages; (ii) access the cash crop fields such as corn and cassava fields, predominantly relevant in Ban Hatsamkhone and Ban Pou; and (ii) access the forest area to collect certain NTFP's such as bamboo, wood for cooking and house construction materials, predominantly by villagers from Ban Piengta.
212. Initial discussion with the affected communities suggested that there is a need for improved roads to ensure continues and permanent access to the field and forest laying on the South side of the Nam Ngiep River. With improved roads in place the agriculture - and in particular the cash crop production would be stimulated. To mitigate the above mentioned adverse impacts the Project will provide upgrading of a selection of the existing road infrastructure. These roads will be constructed in such a way that they can be accessed all year round and people can access them by foot, motorbike or hand tractor "*lot thaa/tak-tak*".

17.3.4.3 Details Dry season irrigated rice production

213. Rice production is -and will remain at least for some time- the most important strategy for households to sustain their livelihood, the Project considers measures to maintain current levels - and if possible increase rice production. Details on current situations can be found in

Chapter 6.

214. Construction or repair of irrigation channels for land in the upper zones of the drawdown zone (DDZ) of the Nam Ngiep River of all affected villages would enable villagers to practice dry season rice production in certain sections of the DDZ and hence increase rice production to sustain their livelihoods. Simultaneously to the construction of these irrigation canals the Project will support the communities with establishing Water User Groups and Water User Associations who would be responsible for keeping these systems operational. These groups are tasked with collecting fees from users and carrying out maintenance to the irrigation system when necessary to keep the system functional. It might not be possible to include all households in this dry season irrigated rice production scheme, therefore selection criteria for inclusion will be developed by the Project to ensure that the most vulnerable and/or most severely impacted families will be able to participate in this scheme, in case they have the capabilities to participate in such a program. The Project will take further into consideration expertise of households on the usage of irrigation systems and alternatively provide accompanying programs to provide such expertise.
215. On the south side of the Nam Ngiep river (opposite from the communities), small scale local weirs support the wet season rice production. Several of these systems could be upgraded to support areas that can be developed into rice fields. Dry season flow rates will need to be carefully assessed by the Project to see their suitability for a dry season cropping cycle of commercial crops.

17.3.5 Special Measures for Vulnerable Households

216. The Project will have positive impacts on vulnerable households in 2UR in general. The development of public infrastructure, including improvement of internal village roads, the construction of bus stops, and repair of health centre and schools will all lead to better access of vulnerable households and thereby improve their integration into local development. Additionally, as described in section 5.11, adapted individual livelihood development programs for PAPs will be implemented by the Project with coordination by the vulnerability officer. Continuing monitoring of vulnerability will be implemented.

17.3.6 Project-related Employment

217. The Project's SMO is hiring a labour management officer, supporting the employment of PAPs through linking Company, contractors and subcontractors with PAPs looking for employment as well as in linking employment-related livelihood activities with the Project's construction work. In 2UR this will encompass above all employment along the overall implementation of land development for livelihood options. Meanwhile, options at the main construction site are logistically more difficult for PAPs from 2UR, as the construction site is a day-long journey away.

17.4 Budget and Financing Plan

218. The budget for 2UR includes budget for compensation, for replacement houses, for the

development of land and protective measures, for infrastructure construction and improvement, and livelihood activities. Additionally, the Project will invest in qualified staff in appropriate numbers to support these different activities; staffing budget is presented together with the overall SMO Budget in Chapter 19. Overhead costs for surveys are also included there. Health education and training and education programs are described in details in the SDP, as is the cultural awareness program. They overlap strongly with livelihood restoration programs for PAPs addressed in the REDP.

Plan components	Assumptions made in the preparation of the budget	Pre-COD	Post-COD
Construction and Upgrade of Infrastructure / Development of replacement land		2,253,000	
Education facilities			
Budget covers renovation of schools in 3 villages	The renovation covers a nursery, 2 primary schools and a secondary school for 115,000\$	115,000	-
Health facilities			
Renovation of health centre and water supply upgrade	Renovation of health centre for a lump sum of 16,000\$ and upgrade of water supply for 75,000\$	91,000	-
Communications facilities			
Budget covers: 2 suspension bridges, access and internal roads, bus stop	2 suspension bridges at 180,000\$ each with maintenance, about 19 km of access or internal roads at 15,000\$/km and maintenance	766,000	-
Other public facilities			
It covers Village office, playground, market	Renovation of 2 and new 1 village offices (73,000), construction of 1 new market and 2 roadside stalls areas (105,000\$) and 1 playground	183,000	-
Protection facilities			
1m ring bund for protecting the area for potential increase of reservoir level	25 locations at 2,500\$ each	62,500	-
New agricultural lands			
Development of new paddy fields, gardens & fish ponds including UXO survey and soil improvement	Provision of lump sums of 200,000\$ for land development and 175,000\$ for soil improvement. To be recalculated following confirmation survey.		
Other agricultural facilities			
Weir and irrigation according to feasibility Rice facilities	3 units at 70,000\$ each for 210,000\$ with maintenance and 1 lump sum of 63,000\$ for rice facilities	287,000	-
New houses			

Plan components	Assumptions made in the preparation of the budget	Pre-COD	Post-COD
Houses for 15 PAPs	Assuming 18,500\$ per durable house	277,500	-

Table 126: Sub-Budget Infrastructure and Replacement Assets 2UR

Plan components	Assumptions made in the preparation of the budget	Pre-COD	Post-COD
<u>Compensation Budget</u>		<u>±1,750,000</u>	<u>45,000</u>
• Land	320 ha of land including 300 ha of paddy field & garden in equal proportion	1,300,000	-
• Structures including dismantling 15 houses	A sum of 80,000\$ for structures	80,000	-
• Fruit trees & industrial trees	34,000\$ for fruit trees and industrial trees and others	34,000	-
• Community and Cultural Sites and others	A lump sum of 24,000\$ for irrigation and a sum of 20,000\$ for 650 ha of grazing land at 30\$/ha	44,000	-
• Reserve for newcomers	Lump sum of 10%	145,000	-
• Fisheries Co-Management: 7 years program involving also Zone 1	4 years before COD and 3 years after COD at 15,000\$/year	60,000	45,000
• Update of land titling	200 PAP with 3 plots each at 150\$/plot	90,000	-

Table 127: Sub-Budget Compensation 2UR

Plan components	Assumptions made in the preparation of the budget	Total Pre-COD	Total Post-COD	Estimated Quota 2UR	2UR Pre-COD	2UR Post-COD
<u>Livelihood restoration programs</u>					<u>309,590</u>	<u>18,207</u>
Transitional Allowance		201,000		3.4%	6,834	-
The budget covers: <ul style="list-style-type: none"> • 3 month allowance in cash • 3 month allowance in kind • 1 year support for Vulnerable PAPs (cash and food support other than rice) 	400 PAH at 30\$ each for 12,000\$ 3,000 PAP at 46\$ each for 137,250\$ 50 PAH at 120\$ each for 6,000\$ 250PAP at 180\$ each for 47,750\$				-	-
Resettlement preparation						
Budget covers study tours, training, focus groups, etc. for preparing PAPs to new livelihoods	Lump sum	50,000		28.9%	14,450	-
Agricultural extension & on-farm trials						
Budget covers trials, demonstration, study tours, farmers' schools	Lump sum	100,000		28.9%	28,900	-
Support to PAPs initiatives for establishment of providers of agricultural inputs & services						
This budget covers equipment and facilities for farmers' groups initiatives regarding seedlings/ seeds and fingerlings/young animals production, mechanized services for planting/drying, etc.	Lump sum of 137,600\$	137,600		28.9%	39,766	-

Plan components	Assumptions made in the preparation of the budget	Total Pre-COD	Total Post-COD	Estimated Quota 2UR	2UR Pre-COD	2UR Post-COD
<p>Income restoration: the budget is indicative as the allocation will be dictated by the wishes coming from the communities</p> <p>For Rice it involves particularly the provision of seeds, agricultural tools, and soil improvement and training in the different zones</p> <p>For Cash crops & fruit trees it includes particularly the provision of seeds/seedlings/saplings, bio-fertilizers, lime or bio-pesticides and training</p> <p>For Livestock it includes the provision of animals (breeders), pens, vaccination, pasture development and training.</p> <p>For Aquaculture it includes the provision of fingerlings, ponds/cages and feeds as well as training and fisheries co-management.</p>	<p>198,000\$ is booked for the Rice component, 61,000\$ is booked for Cash crops & fruit trees, 386,000\$ is booked for Livestock and 178,000\$ is booked for Aquaculture.</p>	760,000	63,000	28.9%	219,640	18,207

Table 128: Sub-Budget Livelihood Restoration Program 2UR

219. Above numbers are based on the overall livelihood program, divided among the beneficiaries, which include in different quantities PAPs from Zone 2UR, Zone 2LR, Zone 3, and Zone 5 based on number of households in the 2011 survey.

17.5 Institutional Arrangements for Land Acquisition and Compensation

220. The overall institutional structure for the REDP is outlined in Chapter 9. Staff is based in the Vientiane Office as well as in the Xaysomboun field office in Thaviengxay:

- At the beginning, the people from Zone 2UR will work on a day-to-day base with the teams currently involved in the Access Road Compensation for the asset registration (see section 12.5). In addition
- livelihood team and
- community consultation and development team will play a key role in implementing relocation and livelihood development.
- The Resettlement infrastructure section within SMO is additionally supporting the development and upgrade of related infrastructure.

221. The coordination in 2UR will be facilitated by the relocation and livelihood section 2UR, including Deputy Manager.

17.6 Schedule of LAC Activities and Resettlement

222. As already outlined in Chapter 11, the key dates for 2UR are:

- Asset Registration and Baselines for villages of 2UR will start late 2014 and continue during the first half of 2015
- Relocation of 15 villagers in 2UR is more flexible than resettlement of Zone 3 and 2LR; it has to be concluded until early 2018
- Assets not compensated in kind will be compensated in cash with livelihood programs already started for at least half a year to ensure that compensation values can be invested for livelihood investments at the resettlement site

223. Further details on the timeline can be found in the Gantt-Chart in section 11.8. Schedule details regarding livelihood activities, starting in the second half of 2014, will be available after detailed discussions on livelihood preferences throughout 2014 and early 2015.

17.7 Monitoring and Reporting

224. The overall monitoring and reporting structure of the Project is outlined in Chapter 10. A monitoring team is currently being formed and available once major Project activities start in 2UR in the second half of 2014. A detailed relocation baseline survey will be implemented in mid-2014. From this baseline, the development of the different indicators outlined in Chapter 10 and in its updated version adapted by the monitoring team will be assessed.

225. External institutions conducted assessments of the Project's impact and activities in Hat Gniun and Thahuea as part of their overall Project assessment:

- ADB's Due Diligence Mission in October 2013
- IAP Mission in November 2013
- IAP Mission in May 2014

- ADB's Due Diligence Mission in May 2014
226. Further external monitoring missions will take place regularly as outlined in Chapter 10. Reporting will also follow the structure outlined there. Of key importance is the updated LIRP as requested by the CA, included in an updated REDP to be provided early 2015.

CHAPTER 18 - Zone 2LR: Resettlement Action Plan for Lower Reservoir Area

227. There are four affected villages in Zone 2LR: from north to southwest Ban Houaypamom, Ban Sopphuane, Ban, Sopyouak and Ban Namyouak. They are all located in Hom District of Xaysomboun Province about 12 to 25 km upstream from the dam site, which is located in Bolikhan District of Bolikhamxay Province. A history of the development of these villages can be found in the SIA. Of importance is, that villagers resettled after the liberation war from higher ground to the plain in 2LR, where they are located now; and started paddy rice field cultivation as an essential livelihood activity.
228. Through the inundation of the reservoir, all four (4) villages will require resettlement and lose productive land and will require relocation to the selected resettlement sites. To assess the potential impact, a first survey has been conducted in 2011: assessing residential properties and assets; productive lands of the households; as well as common and public properties of the communities were identified. After the cut-off-date, the Confirmation Survey will assess all these assets in detail, approved by PAPs and local authorities.

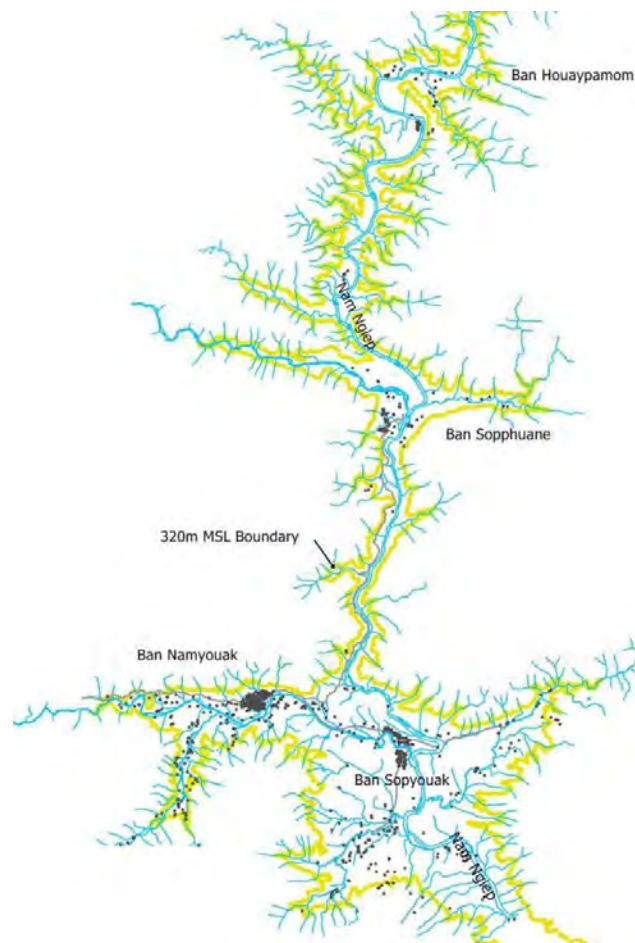


Figure 77: Map of Affected Villages of Zone 2LR

18.1 Socioeconomic Profile

18.1.1 Demography and Population Changes

229. From the survey concluded in 2011, the population of Zone 2LR was identified to be 2,735 people in 384 households.

Village Name	HH	Population		Directly Affected		Ethnicity
		People (Total)	People (Fem.)	HH	Population	
<i>Ban Houaypamom</i>	37	254	122	37	254	Hmong
<i>Ban Sopphuane</i>	58	416	206	58	416	Hmong
<i>Ban Sopyouak</i>	126	916	439	126	916	Hmong, Lao
<i>Ban Namyouak</i>	163	1,149	564	163	1,149	Hmong
Total	384	2,735	1,331	384	2,735	

Table 129 Projected Affected People of Zone 2LR (Source; Census in 2011)

Age	Male	%	Female	%	Total	%	M:F Ratio
<5	31	24.22	31	25.83	62	25.00	1.0
5-10	23	17.97	19	15.83	42	16.94	1.2
10-15	14	10.94	15	12.50	29	11.69	0.9
16-20	20	15.63	8	6.67	28	11.29	2.5
21-25	6	4.69	14	11.67	20	8.06	0.4
26-30	11	8.59	6	5.00	17	6.85	1.8
31-40	7	5.47	10	8.33	17	6.85	0.7
41-50	7	5.47	11	9.17	18	7.26	0.6
51-60	6	4.69	2	1.67	8	3.23	3.0
>61	3	2.34	4	3.33	7	2.82	0.8
Total	128	100	120	100	248	100.00	

Table 130: Age and Sex Structure of Ban Houaypamom (Source: field survey, 2011)

Age	Male	%	Female	%	Total	%	M:F Ratio
<5	37	18.5	46	20.54	83	19.58	0.8
5-9	29	14.5	47	20.98	76	17.92	0.62
10-15	32	16	27	12.05	59	13.92	1.19
16-20	30	15	23	10.27	53	12.5	1.3
21-25	19	9.5	22	9.82	41	9.67	0.86
26-30	10	5	12	5.36	22	5.19	0.83
31-40	14	7	15	6.7	29	6.84	0.93
41-50	16	8	18	8.04	34	8.02	0.89
51-60	7	3.5	6	2.68	13	3.07	1.17
>61	6	3	8	3.57	14	3.3	0.75
Total	200	100	224	100	424	100	

Table 131: Age and Sex Structure of Ban Sopphuane (Source: Field Survey 2011)

Age	Male	%	Female	%	Total	%	M:F Ratio
<5	81	17.49	72	16.82	153	17.17	1.13
5-10	74	15.98	83	19.39	157	17.62	0.89
10-15	75	16.2	54	12.62	129	14.48	1.39
16-20	60	12.96	54	12.62	114	12.79	1.11
21-25	43	9.29	43	10.05	86	9.65	1
26-30	26	5.62	23	5.37	49	5.5	1.13
31-40	46	9.94	36	8.41	82	9.2	1.28
41-50	32	6.91	31	7.24	63	7.07	1.03
51-60	17	3.67	16	3.74	33	3.7	1.06
>61	9	1.94	16	3.74	25	2.81	0.56
Total	463	100	428	100	891	100	

Table 132: Age and Sex Structure of Ban Sopyouak (Source: Field Survey 2011)

Age	Male	%	Female	%	Total	%	M:F Ratio
<5	103	19.07	100	18.52	203	18.8	1
5-10	109	20.19	105	19.44	214	19.81	1
10-15	70	12.96	68	12.59	138	12.78	1
16-20	50	9.26	60	11.11	110	10.19	0.8
21-25	40	7.41	46	8.52	86	7.96	0.9
26-30	45	8.33	37	6.85	82	7.59	1.2
31-40	45	8.33	45	8.33	90	8.33	1
41-50	41	7.59	32	5.93	73	6.76	1.3
51-60	13	2.41	19	3.52	32	2.96	0.7
>61	24	4.44	28	5.19	52	4.81	0.9
Total	540	100	540	100	1080	100	

Table 133: Age and Sex Structure of Ban Namyouak (Source: Field Survey 2011)

230. Noticed points for the resettlement action plan are considered as follows:

- All households in 2LR zone consist of Hmong with a few Lao Loum in Ban Sopyouak.
- Over half the population is under age 15; with a balanced ratio of male and female persons
- Among older children, males are slightly more than females.
- Among adults, males and females are almost same number except the age of 21 to 30 and more than 60

231. As described in section 4.2.4, villages in 2LR show a population growth in all four villages from the 2007/8 to the 2011 survey, with growth rates between 12.9% in the most remote village of Houaypamom and 36.8% in Soppuane; the two bigger villages show an even growth of slightly more than 20%; taken together, the average growth rate in 2LR is 21.9% in 4 years. This number will be taken into account to assess the need for infrastructure in the resettlement site.

18.1.2 Ethnicity

232. Of all the communities within the project area, those in Zone 2LR are unique in that they are entirely Hmong, with no other ethnic groups represented except Ban Sopyouak.
233. Because all the households in all 4 villages need to be resettled, discussions on ethnic matters and related special considerations are required; they are presented in the Ethnic Development Plan in Chapter 7.

Affected Area	Major Social Group			
	Household	Population	Ethnic Group	Proportion(%)
<i>Ban Houaypamom</i>	37	254	Hmong	100
<i>Ban Sopphuane</i>	58	416	Hmong	100
<i>Ban Sopyouak</i>	126	916	Hmong Lao Loum	97.9 2.1
<i>Ban Namyouak</i>	163	1,149	Hmong	100

Table 134: Ethnicity of Affected People of Zone 2LR (Source: Field Survey 2011)

18.1.3 Social Organization and Cultural Relations

234. The analysis of 4.4 on social organisation and cultural relations applies also in 2LR: administrative organization, mass organizations, and a strong focus on families. As discussed there, Hmong households are related via the clan system to PAPs from Z3 and Ban Pou, but also to Hmong representatives on the national level and relatives abroad. Each village has the officially-recognized civil organizations: the Lao Women's Union, Lao Worker's Union, and Lao Youth Union.
235. Participation on mass organizations is outlined in the following table:

Private and Public Organization	Number of members per village			
	<i>Houaypamom</i>	<i>Sopphuane</i>	<i>Sopyouak</i>	<i>Namyouak</i>
Lao Women's Union	45	42	14	33
Lao Youth Union	68	55	30	38
Lao Workers' Union	66	20	8	23

Table 135: Membership in Mass Organizations in Zone 2LR (Source: Field Survey 2008)

18.1.4 Infrastructure

Items	Village			
	<i>Houaypamom</i>	<i>Sopphuane</i>	<i>Sopyouak</i>	<i>Namyouak</i>
1. Infrastructure service				
Electricity	Pico-hydro and Solar Power			
Drinking water source Quantity/Quality	Nam Ngiep Nam Noi	Water Pipe Nam Ngiep Houay Phuane	Water Pipes Nam Ngiep Nam Youak	Water Pipe Nam Ngiep Nam Youak
Water use source Quantity/Quality	Water Pipes Nam Ngiep Nam Noi	Water Pipe Nam Ngiep Houay Phuane	Underground water Water Pipe Nam Ngiep	Water Pipe Nam Ngiep Nam Youak

Items	Village			
	<i>Houaypamom</i>	<i>Sopphuane</i>	<i>Sopyouak</i>	<i>Namyouak</i>
			/ Nam Youak	
Transportation	Road access via a laterite road from Hom District via Phalavaek. Troublesome during wet season Waterway is limited within the vicinity because of islets and rapids			
2. Social Welfare				
Pre Primary	NA			
Primary School	-	1	1	1
Secondary School	-	-	-	1
Temple	NA			
Health Centre	-	-	1	-
Hospital	NA			
Pharmacy	NA			
Cemetery	1	1	1	1
Grocery	2	2	Available - not specified number	Available - not specified number

Table 136: Infrastructure Facilities and Services in Zone 2LR (Source: Field Survey 2008)

236. As in most of rural Lao PDR, the infrastructure of the villages of Zone 2LR is limited.
237. Drinking water comes from simple gravity flow water systems from mountain streams or from wells. Water for other domestic uses is from the Nam Ngiep or its tributaries with associated water quality issues, or from wells. Sufficient water is not available throughout the year.
238. The main road access is a laterite road from Hom District via Ban Phalavaek. It is covered with gravel but is not passable during most of the rainy season. The lanes and paths within the villages are dirt, and these become quite muddy in wet season. Their main waterway for transportation is the Nam Ngiep River, though parts of the river are difficult to travel because of rapids and rock outcrops in the rivers.
239. 3 of the villages have primary schools - only Ban Houaypamom does not have a school building. Ban Namyouak also has a lower secondary school. Ban Sopyouak has a health centre which is fairly easily accessed by the people Ban Namyouak as well. None of the communities have temples or pharmacies. None are served by the national electricity grid, but individual electricity production via pico-hydro or solar power is present; the latter supported by the Project.
240. All have small groceries, like elsewhere in rural Lao PDR, small rooms or add-ons at people's houses where they sell soaps, shampoos and detergents, toothpaste, and a variety of packaged and canned goods. Each community has more than one of these.

18.1.5 School Attendance

241. The primary schools at both Ban Sopyouak and Ban Namyouak are well established and relatively well supplied. Though there is also a lower secondary school at Ban Namyouak,

teaching supplies and materials are insufficient.

242. Ban Houaypamom does not have a school building. Children from there have to go to the school at Ban Sopphuane some 6 km away by boat. The school at Ban Sopphuane is not adequate, with relatively poor construction and insufficient materials and supplies. Accordingly, school attendance rates are low.

18.1.6 Literacy

243. About 30 % of the villagers in the two smaller communities, Houaypamom and Sopphuane, have not completed primary education. In the later communities, a high number of people in these 2 villages have been able to complete their primary education and many people in these communities have continued to secondary education and some even to tertiary education.
244. These communities still have high levels of illiteracy and of functional illiteracy (those who attended school but who can barely read or write). This is an important aspect of social development, since education is often linked to improved health and better opportunities for livelihood development. There is considerable potential for adult education among these villagers, and this will be given priority for the social programs in the resettlement sites, since literacy is often a foundation for further development.

Items	Village							
	<i>Houaypamom</i>		<i>Sopphuane</i>		<i>Sopyouak</i>		<i>Namyouak</i>	
Population (people)	254		416		916		1,149	
Female	122		206		439		564	
Male	132		210		477		585	
Education		%		%		%		%
No Formal Education	39	26.17	102	35.05	48	9.06	245	28.46
Primary School	86	57.72	120	41.24	257	48.49	388	45.06
Secondary and High School	23	15.44	65	22.34	207	39.05	199	23.11
University	1	0.67	4	1.37	18	3.40	29	3.37

Table 137: Formal Education Profile of 2LR (Source: Field Survey 2011)

18.1.7 Health

245. Most of the people in these 4 villages practice animism, so whenever anyone gets sick or has other health problems, they first seek treatment by traditional animist practices or medicines. There is only one health centre at Ban Sopyouak. Those with more serious health conditions have to travel to the district centre at Ban Lonxan in Hom district, where there is a district hospital, or to a major hospital at Vientiane. This trip takes several hours by car and during rainy season this road gets impassable.

246. The main health problems reported were malaria, diarrhoea, dysentery, and acute respiratory infections. The primary communicable diseases are seasonal and temperature-dependent with the levels of rainfall and humidity. Residents also experience injuries from accidents associated with traditional slash and burn agriculture method, which typically occur every year since all households rely on this kind of crop cultivation.

Village	Number of people								
	<i>Malaria</i>	<i>ARI</i>	<i>Diarrhoea</i>	<i>Cholera</i>	<i>Dysentery</i>	<i>Skin disease</i>	<i>Eye disease</i>	<i>Dengue fever</i>	<i>Parasites</i>
Houaypamom	7	11	9	0	7	1	0	0	-
Sopphuane	9	15	13	0	11	1	0	0	-
Sopyouak	18	24	17	0	23	3	0	0	-
Namyouak	12	18	21	0	20	2	0	0	-

Table 138: Infectious Diseases Found in the Surveyed Villages in Zone 2LR (Source: Field Survey 2008)

18.1.8 Gender Issues and Status of Women

247. As a result of consultation meetings in 2011, the following gender issues are relevant in the zone 2LR:

- Premature births
- High demand of physical labour including seasonal farming
- No schooling opportunity due to poor conditions of schooling (building, materials, etc.)
- No income generating activities
- Lack in gender-equality regarding tenure rights regarding assets

18.1.9 Information and Services

248. Access to Information and Services in 2LR is limited and at the lower end in comparison to the other villages described in the REDP. Phone connection is just possible via long antenna to a single national provider. DVD shops in the villages highlight, that information flow can overcome these barriers. As described in section 4.10, personal communication and out-migration with the related social relations allow information flow and representatives on the national level are closely involved in information exchange, including information regarding the Project.

249. Other services are limited, even though small grocery shops are available and a trader in Sopyouak provides transport to the other areas as well as gasoline for the villagers of 2LR. Many motorcycles can be observed in the villages, allowing small-scale transport to the town of Phalavaek and further.

18.1.10 Agriculture and Horticulture Land Use

250. The land ownership and land use of the four villages in Zone 2LR are presented in Table 139. Privately held lands account for 36.4 % of the total land area of the communities. These privately held lands are almost all agricultural. About 10 % of the privately held lands in all four communities are paddy fields. 11.4 % of the privately held lands are upland rice fields, and 24.8 % of the privately held lands are other cultivated areas.
251. All 4 villages have some common properties. Although Houaypamom does not yet have a school, it does have land set aside for one. All 4 have cemetery lands. All 4 villages also have community grasslands.
252. In all 4 communities, 56 % of the total forest land is community managed production forest, with the largest proportion of such forest in Ban Sopyouak and Namyouak, (nearly 64% in both), community managed reserved forest accounts 20% of the total forest area.

Item	Village				Total
	Sopphuane	Sopyouak	Namyouak	Houaypamom	
1.Private properties					
1.1 Resident area	5.69	14.75	17.83	5.84	44.11
1.2 Paddy fields	38.91	111.59	89.82	24.17	264.49
1.3 Upland rice fields	49.16	89.34	146.17	28.48	313.15
1.4 Other cultivated land	34.63	475.92	137.75	31.41	679.71
1.5 Fish Ponds (ha)	0.09	1.14	1.49	0	2.72
1.6 Other land uses	162.48	492.66	712.88	64.16	1432.18
Total Private Land	290.96	1,185.40	1,105.94	154.06	2736.36

Table 139: Land Use Patterns of Villages in Zone 2LR - private land, in ha. (Source: Field Survey 2011)

Item	Village				Total
	Sopphuane	Sopyouak	Namyouak	Houaypamom	
2.Public Properties					
2.1 School Land	0.8	1.2	1.6	0.5	4.1
2.2 Temple Land	0.0	0.0	0.0	0.0	0
2.3 Village Office Land	0.0	0.0	0.0	0.0	0
2.4 Cemetery Land	1.9	3.6	3.5	1.5	10.5
2.5 Village Health Centre Land	0	0	0	0	0
2.6 Community Grass Land	24.0	125.0	97.0	17.0	263
Total Public Land	26.7	129.8	102.1	19.0	277.6
3. Forest and others					
3.1 Community Managed production forest	483.0	750.0	852.0	425.0	2,510.0
3.2 Community Managed reserved forest	126.0	311.0	336.0	121.0	894.0
3.3 Other forest Protection Forest					

Item	Village				Total
	Sopphuane	Sopyouak	Namyouak	Houaypamom	
Un-stocked forest	104.0	210.0	218.0	81.0	613.0
Buffer zone	39.0	198.0	210.0	30.0	477.0
Total Forest Land	752.0	1,469.0	1,616.0	657.0	4,494.0
Total Land					7,507.96

Table 140: Land Use Patterns of Villages in Zone 2LR – community land, in ha. (Source: Field Survey 2008)

253. Agriculture land use in the proposed project area is currently based primarily upon rain fed rice cultivation, other field crop cultivation, livestock rearing and vegetable gardens. The size of family land holdings varies from about 1 to 3.5 ha, with the majority having less than 0.8 ha except Ban Sopyouak. Holdings in Sopyouak tend to be larger than in the other communities.

Items	Village			
	Houaypamom	Sopphuane	Sopyouak	Namyouak
1. < 0.8ha.	18	21	30	82
2. 0.8-1.6ha.	11	2	35	25
3. 1.7-2.4ha.	5	7	21	9
4. Morethan2.4ha.	2	5	25	2

Table 141: Size of Land Holding of Households in Zone 2LR (Source: Field Survey 2008)

254. Table 142 presents the area of rice cultivation in each community, by each type of rice field: paddy and swidden or upland fields. The ratio of paddy fields to upland rice fields tend to be about 1 to 1 in Ban in Houaypamom, 3 to 4 in Ban Sopphuane, 4 to 3 in Ban Sopyouak and 2 to 3 in Ban Namyouak.

Village Name	Paddy Field Cultivation (ha)	Paddy Field/Overall Cultivation Area (%)	Rice Cultivation (ha)	Swidden Field/ Overall Cultivation Area (%)
1. Houaypamom	24.17	28.8	28.48	33.5
2. Sopphuane	38.91	31.7	49.16	40.1
3. Sopyouak	111.59	16.5	89.34	13.2
4. Namyouak	89.82	24.0	146.17	39.1

Table 142: Area of Rice Cultivation of each Type and Area of Rice Cultivation in Comparison to Other Agricultural Activities (Source: Field Survey 2011)

255. The average yields for rice range from a low of 2.1 ton/ha for upland rice in swidden fields in Ban Sopphuane to a high of 3.8 ton/ha for lowland rice in paddy fields in Ban Houaypamom. Differences in yields among the communities are rather slight.

Village	Paddy Cultivation (ton/ha)	Swidden Cultivation (ton/ha)
Houaypamom	2.6 - 3.8	2.3 - 2.7
Sopphuane	2.4 - 3.7	2.1 - 2.7
Sopyouak	2.9 - 3.6	2.2 - 3.1

Village	Paddy Cultivation (ton/ha)	Swidden Cultivation (ton/ha)
Namyouak	2.8 - 3.5	2.4 - 3.0
Average	2.7 - 3.7	2.2 - 2.9

Table 143: Comparison Yield of Rice Production (Source: Field Survey 2008)

18.1.11 Rice Sufficiency

256. Most households are able to produce enough rice to meet their needs for the year. Between 3 to 14% of the villagers have shortfalls of rice for up to 2 to 4 months of the year, as shown in Table 144 below. Those households will either buy or exchange in kind the additional rice they need.

Village	Number of Households	Sufficient Year Round	Insufficient for 2 to 4 months	Insufficient for 5 to 6 months	Insufficient for 7 to 8 months
Houaypamom	37	86.5%	13.5%	0%	0%
Sopphuane	58	87.9%	8.6%	3.44%	0%
Sopyouak	126	94.4%	3.2%	0%	2.38%
Namyouak	163	92.6%	7.4%	0%	0%

Table 144: Rice Sufficiency Production Rates of Households on a Yearly Basis (Source: Field Survey 2011)

257. Considering the numbers above, most people in 2UR have enough rice to eat year-round, with only about 5-10% having to compensate for 2-4 months; above all in the most remote village, Houaypamom. As with households in 2UR, the Project will make a qualitative analysis of all of these households to understand how rice insecurity is linked to food insecurity. In the resettlement site, food insecurity will not be an issue for the first years due to the planned Rice Supplement Program, but information on food insecurity will outline the households for which livelihood development might be especially difficult.

18.1.12 Other Sources of Income

258. The residents of these communities have traditionally had a mixed economy of cultivating rice and food crops, fishing, raising livestock, hunting for meat and gathering NTFPs - all primarily for household use. Handicrafts and wage labour are relatively minor sources of income in all 3 of these communities. The household survey 2014 will furthermore assess, if remittances are an important source of income, also an indicator of social relations outside the Project area are strong.

18.1.13 Livestock

259. As outlined in section 18.1.18, livestock raising is an important form of income for villagers from 2LR. The 2011 survey assessed around 3000 large livestock in the area. Cattles are not just a major economic factor but also a cultural factor for the Hmong communities. The Project will assess details in its livestock program, including a refinement of the assessed carrying capacity of the resettlement site and potentials to develop further areas if grazing areas are requested during the PLUP. A bull-fighting area in the resettlement site will be provided.

18.1.14 Forest Utilization

260. As outlined in section 18.1.18, NTFP collection is an important form of income. They are carried by the households to Sopyouak and Namyouak, where in the village centre traders collect the NTFPs to bring them to markets outside the area.
261. Recent satellite images show logging in the area, with timber stored outside the villages and logging tracks connecting the access road with the nearby forests.

18.1.15 Hunting

262. Hunting in 2LR is a continuing livelihood activity and the local shops sell ammunition for small guns. While it will be possible for 2LR hunters to return to not inundated forests of 2LR crossing the mountain next to the resettlement site, within the new resettlement site and above all over the river on the side of the host communities, hunting has to be regulated to avoid resource conflicts. As stated before, the Project's Code of Conduct explicitly denies workers from outside the right to hunting in the construction and nearby resettlement area.

18.1.16 Fisheries

263. Residents catch fish mainly for household consumption, with occasional surpluses being sold in local markets alongside the roadside or sold to neighbours. Villagers requested continuing access to the fisheries in the Nam Ngiep and in the reservoir. The Project will implement a fish-catch and fisheries-co-management program to organize sustainable and localized fisheries.

18.1.17 Other Sources of Cash Income

18.1.18 Imputed Income

264. The Project recognized during field trips that imputed income is an important factor for rural households in 2LR and will integrate respective assessments into the legal baseline study 2014. With limited market access it is expected that the imputed income in 2LR still encompasses a large portion of total income.

18.1.19 Cash Income

265. Table 145 presents the average yearly household income of four villages in this zone and shows the importance of livestock raising and NTFP products in generating cash income. Handicrafts and wage labour are relatively minor sources of income in all 3 of these communities.

Village	Houaypamom		Sopphuane		Sopyouak		Namyouak	
	Average Income (LAK/Yr)	%	Average Income (LAK/Yr)	%	Average Income (LAK/Yr)	%	Average Income (LAK/Yr)	%
1. Rice production	340,541	4.1	270,345	7.0	1,254,413	11.8	428,839	5.5

Village	Houaypamom		Sopphuane		Sopyouak		Namyouak	
	No.	%	No.	%	No.	%	No.	%
2. Livestock	924,595	11.0	1,279,310	33.2	3,839,198	36.2	2,798,000	36.1
3. Plantation tree	0	0.0	0	0.0	29,762	0.3	226,810	2.9
4. Fishery	1,572,973	18.8	348,276	9.0	797,619	7.5	398,650	5.1
5. Vegetable	1,439,189	17.2	279,828	7.3	401,603	3.8	1,093,687	14.1
6. Non Timber Forest Products (NTFPs)	3,191,892	38.1	763,793	19.8	2,982,937	28.1	809,399	10.4
7. Wages	259,459	3.1	317,241	8.2	666,667	6.3	204,294	2.6
8. Other	648,649	7.7	596,552	15.5	640,079	6.0	1,802,025	23.2
Total	8,377,298	100	3,855,345	100	10,612,278	100	7,761,704	100

Table 145: Annual Household Cash Income of Affected People of Zone 2LR (Source: Field Survey 2011)

266. The cash income of the villagers of Zone 2LR is lower than those in other areas of the project at or upstream from the dam site, at around 4-10.6 million Kip (500 - 800 USD) /household per year.

18.1.20 Total Income

267. A total number will be presented in the updated REDP after conducting the 2014 Baseline Survey. It is expected that total income exceeds the cash income assessed during the 2011 survey, which corresponds to the household expenditures, outlined in the next section.

18.1.21 Household Expenditure

268. The expenditures of the population were mainly for investment in agricultural materials and tools and for living expenses such as food, clothes, and education for their children. As shown in Table 146, most villagers in Houaypamom spend less than 500,000 kip per year on expenses for production, while the largest number of households in all the other communities spends between 1 and less than 5 million kip per year, with most of the rest of the households spending less than 1 million kip.
269. With the exception of Sopphuane, where a majority of households reported living expenses of less than 500,000 kip, most households spend between 1 and less than 5 million kip per year on various living expenses. Another significant number of households spent between 5 and less than 10 million kip per year on their living expenses.
270. A number of households in Sopyouak and Namyouak reported debts (mostly borrowed from friends, neighbour, or relatives). Mostly in Namyouak, the reasons were due to illness, renovating their houses, and for agricultural or other production investments.

Detail	Houaypamom		Sopphuane		Sopyouak		Namyouak	
	No.	%	No.	%	No.	%	No.	%
Expenses on making a living								
Less than 500,000 Kip	19	51.35	11	23.40	26	23.01	25	20.00
500,000-999,999 Kip	9	24.32	2	4.26	30	26.55	33	26.40

Detail	Houaypamom		Sopphuane		Sopyouak		Namyouak	
	No.	%	No.	%	No.	%	No.	%
1,000,000-4,999,999 Kip	9	24.3	21	44.68	44	38.94	59	47.20
5,000,000-9,999,999 Kip	-	-	9	19.15	4	3.54	8	6.40
More than 10,000,000 Kip	-	-	4	8.51	5	4.42	-	-
Living expenses								
Less than 500,000 Kip	2	5.41	25	53.19	8	7.08	2	1.60
500,000-999,999 Kip	2	5.41	6	12.77	-	-	3	2.40
1,000,000-4,999,999 Kip	18	48.65	13	27.66	67	59.25	64	51.20
5,000,000-9,999,999 Kip	9	24.32	1	2.13	22	19.47	39	31.20
More than 10,000,000 Kip K Kip	6	16.22	2	4.26	16	14.16	17	13.60
Household expense/year								
1,000,000-4,999,999 Kip	21	56.76	30	63.83	63	55.75	50	40.00
5,000,000-9,999,999 Kip	10	27.03	11	23.40	23	20.35	52	41.60
10,000,000-14,999,999 Kip	5	13.51	3	6.38	12	10.62	11	8.80
More than 15,000,000 Kip	6	16.22	2	4.26	16	14.16	17	13.60
Cause of Debt								
Investment	-	-	-	-	4	10.81	2	10.00
House renovation	-	-	-	-	1	2.70	4	20.00
Illness	-	-	-	-	2	5.41	6	30.00
Other reasons / Did not tell	1	100.00	-	-	30	81.08	8	40.00

Table 146: Annual Household Expenditures of Affected People in Zone 2LR (Source: Field Survey 2008)

18.1.22 Poverty

271. The Project used in 2LR rice insufficiency as a proxy for poverty. Considering the numbers above, between 3% and 14% of people in the individual villages in 2LR are potentially vulnerable regarding food insecurity. The Project will make a qualitative analysis of all of these households to understand, how rice insecurity is linked to food insecurity; this should reduce the numbers, as some people have alternatives to rice consumption via purchases. Furthermore, the 2014 baseline survey will include more differentiated indicators, including imputed income data, to assess poverty in the area.

18.1.23 Vulnerability

272. Furthermore, in each village there are vulnerable households as outlined in Table 147. While they overlap with poor households, special attention has to be paid to the specific kinds of vulnerability, either regarding extended transitional assistance, alternative livelihood options, and/or health support. More details are outlined in section 5.11.

Zone	2LR				
	Sopyouak	Namyouak	Sopphuane	Houaypamom	Total
1. Head of household is woman	5	1	1	0	7
2. Head of household is over 60	15	14	3	2	34
3. Head of household is under 16	0	0	0	0	0

Zone	2LR				
4. Head of household is disabled	3	8	3	5	19
5. Household with disable person	14	15	8	2	39
6. Head of house hold is mentally disabled	4	0	1	2	7
7. Household with mentally disabled person	8	1	1	0	10
8. Household with only one member	0	1	0	0	1
9. Household with ethnic different from main group in the community	3	1	0	1	5
10. Households living below the poverty line	11	18	11	7	47
11. Landless households with no alternative sustainable income	0	0	0	0	0

Table 147: Potential Vulnerable Household of Zone 2LR (Source: Field Visit 2013)⁸³

18.2 Scope of Land Acquisition and Resettlement in 2LR

273. Inundation of the reservoir in NNP1 at 320m MSL will cause the loss of all the residential and productive lands in the 4 villages of Zone 2LR. Ban Houaypamom, Ban Sopphuane, Ban Sopyouak and Ban Namyouak will end up about 50-70 meters under water. It will be necessary to resettle the residents of these communities, i.e. a total of 384 households and 2,735 affected people. After several suggestions and consultations over a period of some years, the current potential resettlement site for these four villages is Houaysoup in Bolikhan District, Bolikhamxay Province.

⁸³ Remark: poor households calculated based on rice insufficiency assessed in 2011 plus a 50% margin of households with rice sufficiency; legal baseline will result from the 2014 socioeconomic survey, reflecting the current numbers.

1) Ban Houaypamom

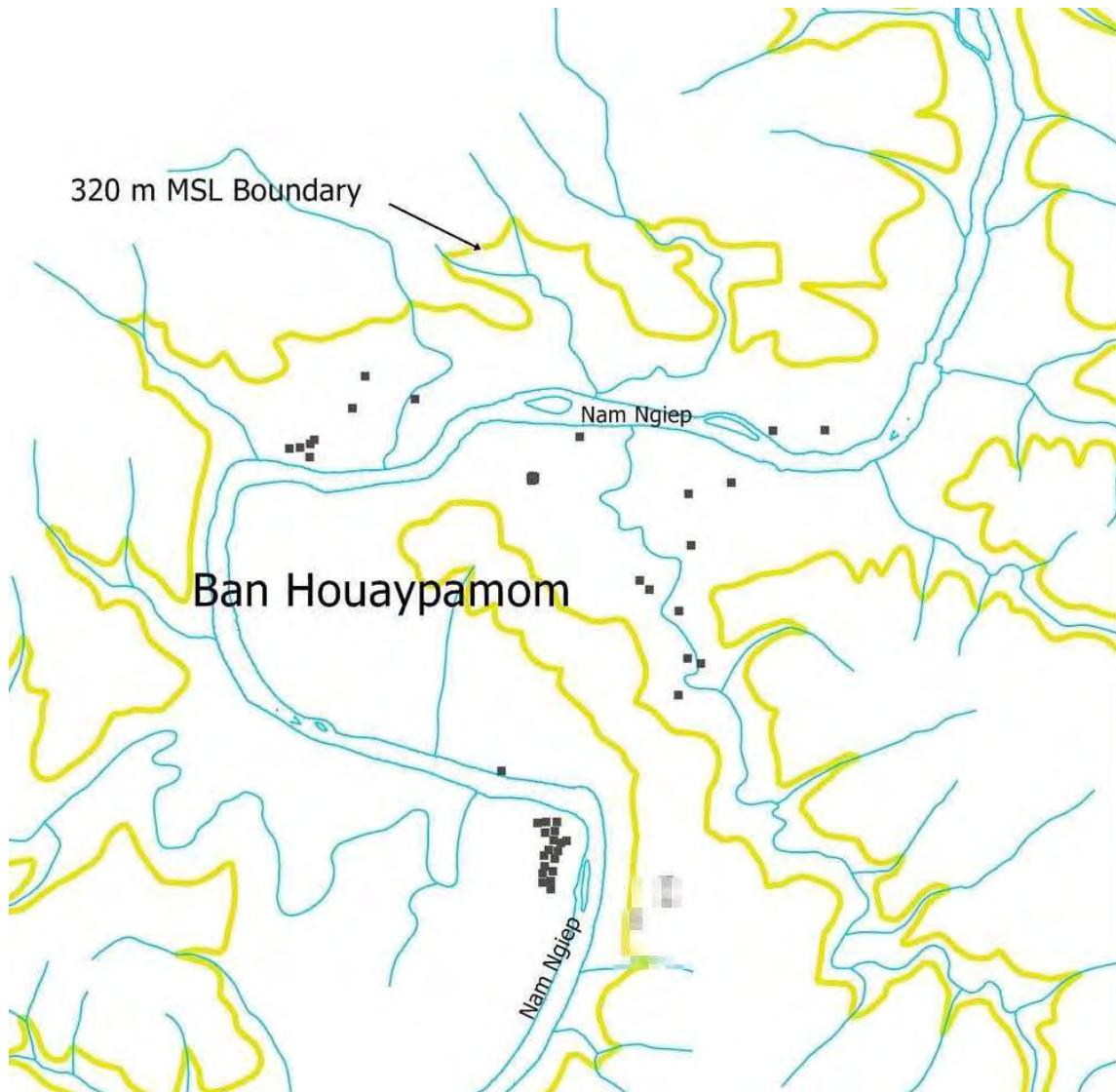


Figure 78:Map of affected area of Ban Houaypamom

2) Ban Sopphuane

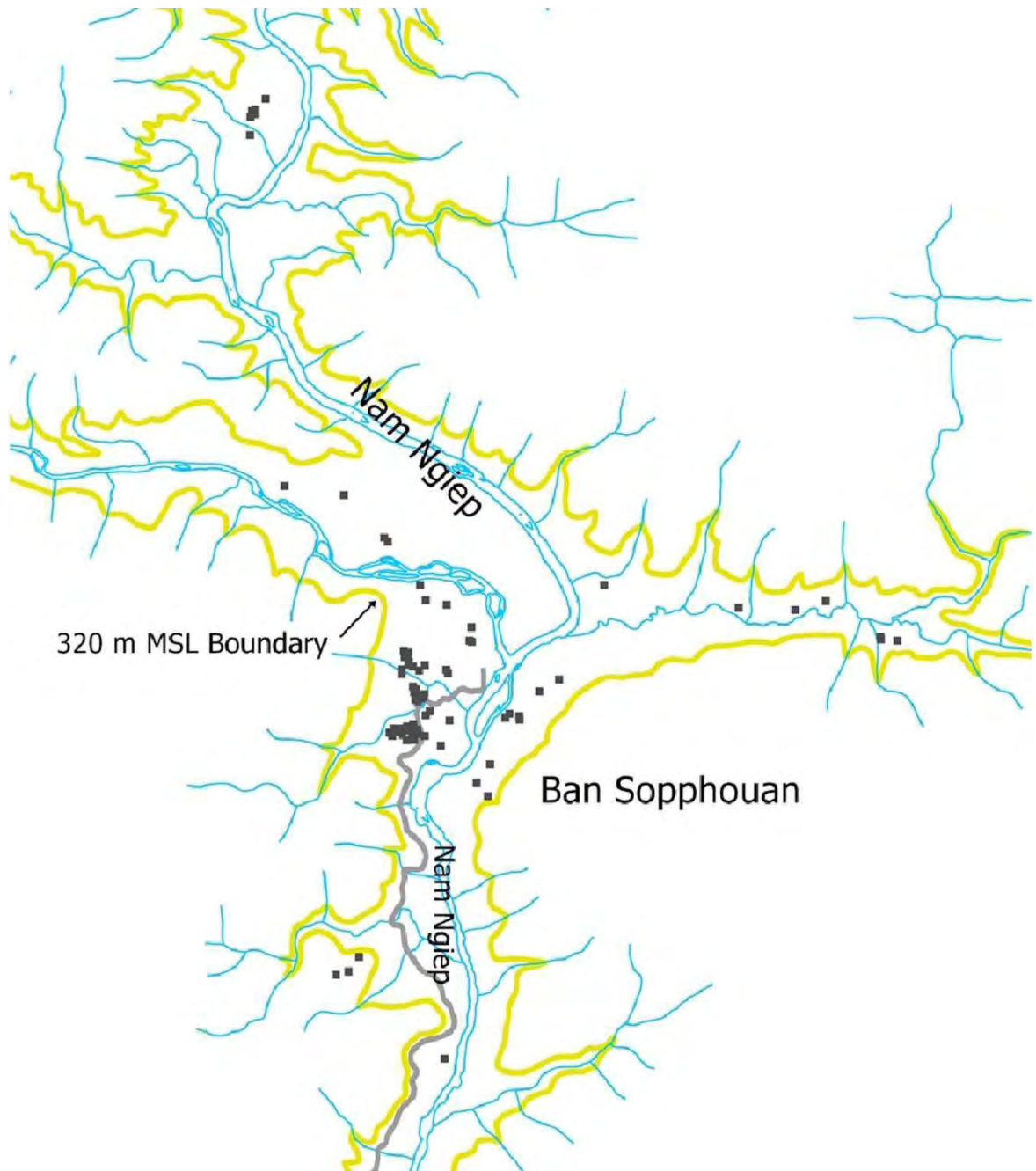


Figure 79: Map of affected area of Ban Sopphuane

3) Ban Sopyouak and Ban Namyouak

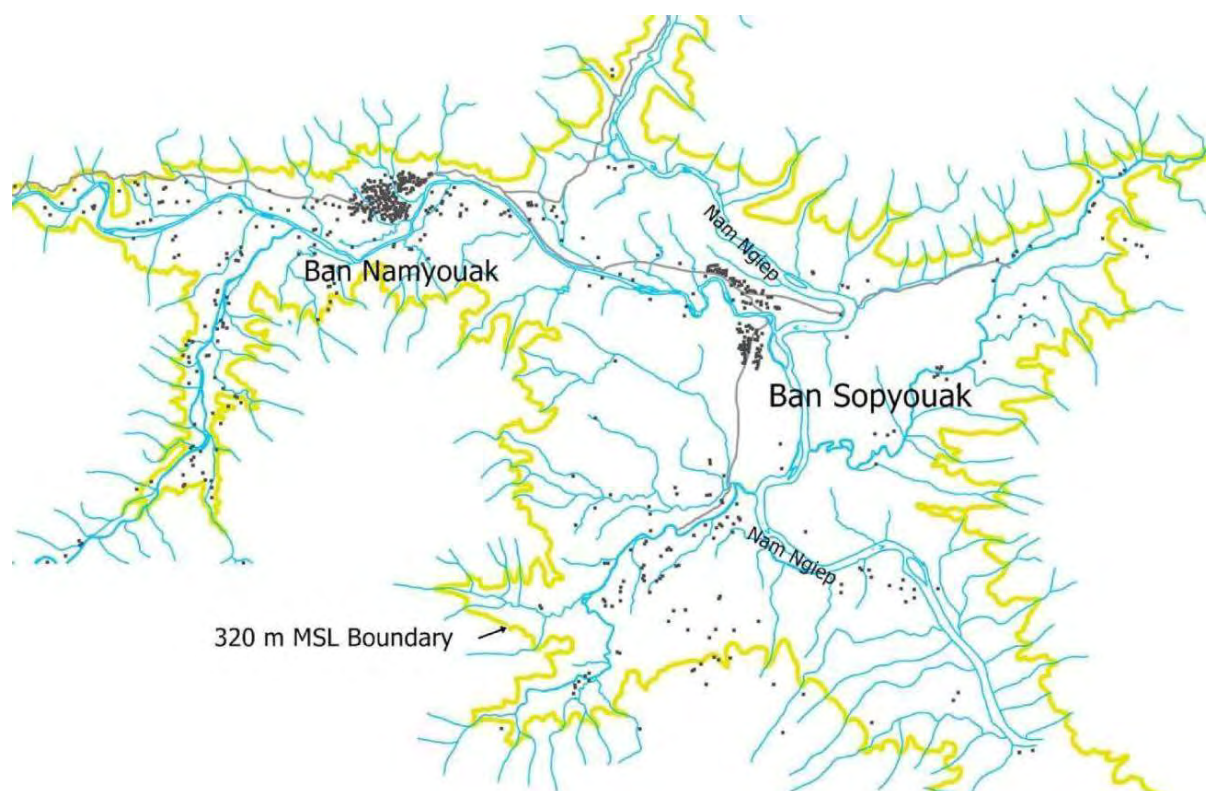


Figure 80: Map of affected area of Ban Sopyouak and Ban Namyouak

18.2.1 Loss of Structures

274. The inundation of the NNP1 reservoir will cause the loss of all household plots in the 4 villages in 2LR. Thus, all of the houses will be lost as will all other structures in 2LR. This includes:

Structures lost	# of structures
1. House	384
2. Granary	149
3. Field hut	-
4. Animal Pens	247
5. Fence	*
6. Water well	-

Table 148: Losses of Structures in 2LR

* These data are currently missing and will be registered during the Confirmation Survey to be conducted after Cut-Off-Date and together with all other assets compensated accordingly.

18.2.2 Loss of Lands

275. All residential and most of the agricultural land in 2LR will be lost due to inundation as the villages are located far below the reservoir’s Full Supply Level. Only rubber plantations have been cultivated above Full Supply Level. If the project can restore access to these

plantations, that land will not be lost, otherwise all land outlined in Table 139 will be affected, encompassing a total of 44.11ha of residential areas, 264.49ha of paddy fields, 313.15ha of upland rice fields and more than 2000ha of other land uses.

- 276. In addition to land listed in Table 139, some households own land in other villages nearby which will not be affected by the Project. The Confirmation Survey will identify the broader scope of land use and ownership household-by-household, as this will influence subsequent compensation choices as well as livelihood restoration assistance required.

18.2.3 Loss of Crops and Trees

- 277. These lands include furthermore a number of trees such as Agar Wood and fruit trees that have been planted by the villagers. They will have to be compensated, with the PAPs able to keep the salvaged wood.

Category	Tree Type / Age	Number of Trees Impacted
Loss of fruit trees or standing crops:	Mango	7,463
	Jackfruit	1,700
	Jujube	195
	Tamarind	1,640
	Longan	61
	Coconut	114
	Lemon	243
	Orange	1,890
	Pomelo	1,131
	Guava	592
	Cainito	396
	Gooseberry	9
	Custard apple	23
	Mangosteen	2
	Lichi	10
	Carabora	3,295
Mangua	1,105	
Other	12,669	
Hard Wood	Age < 3 yrs	3,127
	Age 4 to 6yrs	1,029
	Age 7to10yrs	204
	Age > 10 yrs	249
Eucalyptus	Age < 3 yrs	0
	Age 4 to 10yrs	20
	Age > 11 yrs	0

Table 149: Loss of Trees in Zone 2LR (Source: Field Survey 2011)

18.2.4 Impact on Income and Livelihood

278. Impacts on Income and Livelihood will be essential and new livelihoods have to be developed in the resettlement area with different opportunities and constraints as in the current location. Details are outlined in the livelihood planning in Chapter 6 as well as in the resettlement site preparation in Chapter 14.

18.2.5 Impact on Gender Issues

279. The project is expected to have few gender-specific adverse impacts, with the exception of the possibility of inadequate nutrition during the first years of the project, while the newly resettled villagers are getting used to their new homes and fields. This would be of particular concern for pregnant women, women with infants and children, and those infants and children. The project must make sure that any pregnant or nursing women have adequate health care and are able to receive adequate nutrition, since these are critical to the health of the children. Mitigation measures are integrated into the Gender Action Plan, outlined in the SDP. Measures to empower women and ensure they benefit from the Project are also incorporated in the GAP.

18.2.6 Community Resources

280. Next to private land, community resources will be lost, either due to inundation or due to loss of access, as remaining forests will be afterwards part of the Watershed Management Area. An exception will be the continuing use of currently cultivated plantations above Full Supply Level. Total values include 277.6ha of public land, including 263ha of community pasture, and 4,494 ha of forest land with three fourth of it community managed forests. Details are outlined in Table 140.
281. As with private structures, all public infrastructures in 2LR will be lost. The resettlement site will have to provide replacement for this entire lost infrastructure to the same or higher standards. Appropriate ceremonies will be conducted for the village re-siting as well as for the transfer of spirits of deceased villagers.

Items	Village			
	<i>Houaypamom</i>	<i>Sopphuane</i>	<i>Sopyouak</i>	<i>Namyouak</i>
Primary School	-	1	1	1
Secondary School	-	-	-	1
Health Centre	-	-	1	-
Cemetery	1	1	1	1
Graves	21	39	162	186

Table 150: Loss of Public Infrastructure and Cultural Assets in Zone 2LR (Source: Field Survey 2011)

18.3 Entitlement Matrix and Mitigation Measures

18.3.1 Public Consultation and Disclosure

282. Consultations and Information Disclosure for 2LR are outlined in Chapter 7 as well as in section 8.5.3. PAPs have been integrated into the development of the REDP planning, of which the most important are:

- A BCS assessment took place in 2LR in the first quarter of 2014; while PAPs are satisfied with the size of the resettlement site as well as with the infrastructure planned, they have doubts regarding the possibility to improve soil in a sufficient and sustainable way in Houaysoup; above all richer households with land elsewhere in the district demand the option of self-resettlement; the Project has consequently discussed this option with ADB and GoL and integrated the option of self-resettlement into the Detailed Entitlement Matrix for 2LR; if self-resettlement targets a location within the project area of influence, the Project committed to follow up on people's livelihood after physical relocation; the people opting for self-resettlement have the entitlement to participate in the livelihood programs the Project implements in 2LR before physical relocation. The request of developing a resettlement site at two alternative places suggested by the Project could not be answered positively by the Project due to objection by GoL.
- The Detailed Entitlement Matrix for 2LR has been disclosed in March and April 2014.
- The overall REDP planning has been disclosed and discussed during these consultations as well as during the national consultation in May 2014, where PAPs from 2LR were present.
- On-going consultations accompany the resettlement implementation with targeted physical relocation in early 2017 after Hmong New Year

18.3.2 Entitlements, Assistance and Benefits

283. PAPs in 2LR are entitled to the following compensation, assistance and benefits:

Kind of Impact and Entitlement	Compensation Policy Zone 2LR
<p>1.a.1 Loss of entire agricultural land holding, or in case of partial loss of land, the remaining land is rendered economically unviable or even if some land remains, the loss of land leads to severe impact on household income and living standards for legal owners with valid title or customary or usufruct rights, who therefore have to resettle.</p>	<p>PAPs will be entitled to:</p> <ul style="list-style-type: none"> • A package encompassing <ol style="list-style-type: none"> i. replacement agricultural land in the designated resettlement site in accordance the entitlements outlined below and ii. where impacted land exceeds the land allocation in the designated resettlement site, cash compensation as defined in section 5.2.7 for the areas which cannot be compensated with replacement land. <p>For clarification, the full entitlements outlined below will be allocated to the PAPs, regardless if their land impacted is less than the replacement land provided. Replacement agricultural land (comprised of items (a) to (d) below) will be based on household size⁸⁴:</p> <ol style="list-style-type: none"> a. Paddy rice fields: equivalent area of a minimum of 0.1ha⁶³ of paddy rice field per household member of households resettling to the resettlement site (value multiplied by the number of household members and combined in one land title in the name of both heads of household) with a household minimum of 0.3ha and a household maximum of 1.5 ha AND b. Tree plantation land: a minimum of 0.1ha⁶³ of plantation land per person resettling to the resettlement site (value multiplied by the number of household members and combined in one land title in the name of both heads of household) AND c. Cash crop garden land: a minimum of 0.1ha⁶³ of plantation land per person resettling to the resettlement site (value multiplied by the number of household members and combined in one land title in the name of both heads of household) AND d. Firewood land: a minimum of 0.08ha⁶³ of plantation land per person resettling to the resettlement site (value multiplied by the number of household members and combined in one land title in the name of both heads of household) <ul style="list-style-type: none"> • Land titles will be provided with all related costs borne by the company in accordance with section 5.2.15 • The replacement agricultural land is to be surveyed for UXO and

84 Actual size will depend on the total number of people deciding to move to the resettlement site; current numbers are based on the assumption that all people move to the resettlement site, including a natural growth rate of 5% per year; actual numbers will be maximized by dividing all suitable land among the resettlers at the time of resettlement minus the land kept for second generation allocation as forest land/NTFP area under community usage.

Kind of Impact and Entitlement	Compensation Policy Zone 2LR
	<p>rendered safe as outlined in section 5.2.16.</p> <ul style="list-style-type: none"> • For PAPs meeting the criteria for self-resettlement (section 5.2.10) and requesting in writing to self-resettle, cash compensation for the lost agricultural land will be paid based on the principles in sections 5.2.7 and 5.2.8 <i>described above</i>. • Transition allowance for a period of three months as outlined under clause 3.a • Income substitution and transfer costs during re-establishment as outlined under clause 4 • For those choosing to resettle to the Project’s designated resettlement site or to self-resettle within the project area of influence as defined in section 5.2.17, income restoration measures as outlined under clause 4 • For those choosing to resettle to the Project’s designated resettlement site, an in-kind Rice Supplement Program based on a provided consumption per household of 0.7kg per day per adult and 0.5kg per day per child (under 15 years) according to section 5.2.13; rice supplement will be provided according to the following sequence: <ul style="list-style-type: none"> ○ Months 1-24 of resettlement: 100% of household consumption ○ Months 25-36 of resettlement: 75% of household consumption ○ Months 37-48 of resettlement: 50% of household consumption ○ Months 49-60 of resettlement: 25% of household consumption
<p>2.a.1 Loss of residential, commercial, industrial or institutional land without sufficient remaining land and PAPs will be required to resettle, to include</p> <p>a) Legal owner with valid title or customary or usufruct rights</p> <p>b) Persons later accepted for inclusion by the Grievance Committee under the Grievance Procedure</p>	<p>PAPs will be entitled to the following:</p> <ul style="list-style-type: none"> • An equivalent area of land in any case not less than 800m² for residential land and equivalent land for commercial, industrial or institutional land of equal locational value, similar characteristics, and access to facilities in an acceptable location in the designated resettlement site. • The replacement land and entire village area is to be surveyed for UXO and rendered safe. A certificate shall be issued by the UXO clearing company certifying that the land has been cleared of UXO in accordance with the applicable Law. • Land titles will be provided in accordance with section 5.2.15 • The identification of all residential replacement land and land plots shall be based on consent or broad community support of the physically displaced ethnic households and with the support of the local authorities and the Company. • The residential land plot shall be demarcated and fenced at the cost of the Company, both in terms of labour and material. • The residential land plot shall be adequately levelled and shall provide comparable access to employment, production and economic opportunities, to medical and social services, and to education services. • The Company shall support the establishment of new home gardens, including the promotion of new and improved techniques (organic

Kind of Impact and Entitlement	Compensation Policy Zone 2LR
	<p>farming, for example) and diversification of the crops, during the first four years after resettlement.</p> <ul style="list-style-type: none"> • Replacement with commercially suitable land which is both of at least equal value and of at least equal size. • Location of replacement commercial land must be: (i) suitable for continuation of viable commercial activities, and (ii) acceptable to the Resettlers. • If suitable replacement of the commercial land cannot be found, or if Resettlers' prior commercial activities cannot be continued, or if the Resettlers don't wish to continue such activities, then the company shall pay cash compensation as outlined in section 5.2.17 and 5.2.8
<p>3.a.1 Total permanent loss of structures, with insufficient land in community to reorganize, such as where all structures and lands are inundated. Or Total permanent loss of structures, or where after partial permanent loss the remaining structure is rendered unviable for continued use, but there remains sufficient land for reorganization. Including secondary structures such as boundary walls, wells, animal sheds, granaries, etc. which are not part of the main structure/house. a) Legal owner with valid title or customary or usufruct rights covered by the census and their natural growth</p>	<ul style="list-style-type: none"> • Section 5.2.11 applies where there is a split of households <p>PAPs will be entitled to the following:</p> <ul style="list-style-type: none"> • Replacement structures of equivalent standard (small/medium/large depending on size of affected structure) in the designated resettlement site. • Project Affected Persons shall be entitled to the compensation of 1 newly-built house per household. In case that any household comprises 9 or more members, such household shall be entitled to either (a) another additional 1 newly-built house per family unit or (b) additional space and facilities within the same house adequate for the needs of the residentially joint household depending on family structure. The decision between the two options shall be made by each household with 9 or more members. • Each replacement house for each resulting household (includes multiple replacement houses in cases of extended families) shall comprise the area as follows: <ul style="list-style-type: none"> a. 50m² for up to 5 people (small size) b. 75m² for 6 to 8 people (medium size) c. 100m² for more than people (large size), together with <ul style="list-style-type: none"> a. Independent Toilet/bathroom with a septic tank b. kitchen, c. functioning electric wiring and d. lighting throughout connected to electricity supply e. water supply (1 water-meter with tap per household). 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. • 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. • All replacement houses shall be constructed of new materials of good

Kind of Impact and Entitlement	Compensation Policy Zone 2LR
<p>(including children of registered households who may have formed new families after the cut-off date, but excluding the relatives of a spouse who previously resided outside the area).</p> <p>b) Persons later accepted for inclusion by the Compensation Working Group or the Grievance Committee under the Grievance Procedure</p>	<p>quality, supplied by Company at its cost. The house will use durable structure and walls and durable roofing material (such as corrugated metal sheets).</p> <ul style="list-style-type: none"> • Several standard designs (of different sizes) shall be prepared in consultation with the Resettlers and selected by the affected households and approved by PRLRC. The selection of construction materials shall be part of the consultation. The number of toilets will be adjusted to the size of the household. 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. • House design to be finalized in consultation with and in consideration of the preferences of structure owners and to be approved by PRLRC; • Siting of housing to ensure proximity of families to each other and to maintain pre-resettlement social relationships as desired will be discussed and agreed with PAPs during design of residential area in the resettlement site. • Existing outbuildings and ancillary structures (sheds, coops, rice storage barns, etc.) shall be compensated by cash; if requested, they can be replaced by equivalent asset. • Each existing house and outbuilding shall be dismantled with care intending to preserve the value of materials contained therein to the extent possible. • Where the resulting materials are in good condition and have continuing value as decided by the Resettler, they shall be transported to the site of the Resettler’s new house at the Project's expense and given to Resettler. Each Resettler shall have the right to be present at the dismantling of the existing house and outbuildings to assist in determining which materials are to be retained and which are to be disposed. • All costs of labour required for both replacement house and outbuildings construction and existing houses and outbuildings dismantlement will be borne by the company • All costs of transporting new and recovered materials to new sites and the cost of removal for disposal of materials without further use. <ul style="list-style-type: none"> • For the construction of the new houses as well as the dismantling of old houses, local workforce (men or women) shall be engaged (incl. semi-skilled or non-skilled), which might include people from the village. People involved in the construction and dismantling of houses will receive the level of remuneration offered locally for a job of similar nature, qualification and responsibility. The employment of workforce in the construction shall be in full compliance with the Lao Labour law and the core labour standards as required under ADB’s Social Protection Strategy 2001.

Kind of Impact and Entitlement	Compensation Policy Zone 2LR
	<ul style="list-style-type: none"> • 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; • For PAPs eligible for self-resettlement along the criteria outlined in section 5.2.10, compensation will be made at full replacement cost at current market value without depreciation or deductions for salvaged material. • Residential areas will be connected by roads, which will also provide access to public facilities and agricultural plots. 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 prepared by the project and approved by the PRLRC. • For those choosing to resettle to the designated resettlement site or self-resettle, transition allowance for a period of three months encompassing items a, b, c, and d listed below: <ul style="list-style-type: none"> ○ Essential food items other than rice, such as cooking oil, salt, high protein items such as dried meat, eggs and other items as advised by a Nutritional expert and provided in kind (except for self-resettlers, for which a one-off lump-sum allowance in cash equivalent to the value of entitlement will be provided together with items (b), (c), and (d); adding to their overall package) and ○ Electricity for 3 months paid as a monthly allowance of 50,000 LAK per Month and ○ Water fee for 3 months paid as a monthly allowance of 20,000 LAK per Month and ○ Solid Waste collection fee, paid as a monthly allowance of 10,000 LAK per Month. <p><i>All cash compensation will be made as outlined in section 5.2.17 and 5.2.8.</i></p>
<p>3.b.3 Movable fence which can be reasonable dismantled and rebuilt without significant loss of construction materials</p>	<p>All impacted PAPs will be entitled to:</p> <ul style="list-style-type: none"> • Cash compensation for labour requirement for dismantling and rebuilding of fences made from durable materials (such as barb wired and concrete posts); based on average labour costs as agreed by the PRLRC; • Salvage of fencing materials • A percentage of the affected fencing materials used is expected not to be salvaged and therefore compensated in cash at replacement value as

Kind of Impact and Entitlement	Compensation Policy Zone 2LR
	<p>agreed by the PRLRC</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>6 Loss of standing crops that could not be harvested for owners of affected crops</p>	<p>The project together with the RMU will inform the PAP in advance of the timing of impacts on standing crops (and will complete land-related compensation) with sufficient time given for the PAP to harvest these crops. The timeframe will take into consideration crop growing cycles and harvesting requirements.</p> <p>In the case that the project requires urgent access to and/or temporarily or permanent acquisition of land and is not able to provide sufficient advance notification as outlined above, the project will provide cash compensation equivalent to 10 times the market value of damaged or lost crops.</p> <p>In the case that sufficient reasonable advanced warning (taking into consideration crop cycles including land preparation but no less than 2 months)</p> <ul style="list-style-type: none"> • not to engage in crop production is ignored, while the compensation process is completed already • or crops ready for harvest have not been harvested in a reasonable time frame, <p>such compensation will not be provided.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>7.a Loss of fruit or nut trees for owner of affected trees or person with customary usage right or right to harvest (to be validated by village authorities)</p>	<ul style="list-style-type: none"> • For fruit/ nut trees bearing fruits, cash compensation will be paid based on the average annual value of the produce, established by the decision of the PRLRC, multiplied by 10. • For fruit/ nut trees seedlings, which are not yet bearing fruits, cash compensation will be paid based on inputs such as seedlings, land clearance and annual maintenance at rates as established by the decision of the PRLRC. <p>The PAP is allowed to salvage wood resulting from the clearance of land from fruit/ nut trees as long as it does not interfere with project activities; At least two months’ notice will be given to PAPs to harvest prior to any site clearance.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>7.b Loss of timber trees for owner of affected trees or person with customary usage right or right to harvest (to be validated by village authorities)</p>	<ul style="list-style-type: none"> • For timber trees cash compensation will be paid based on replacement cost equivalent to current market value based on type, age and diameter at breast height (DBH) of trees, at rates established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC. <p>The PAP is allowed to salvage wood resulting from the clearance of land from timber trees as long as it does not interfere with project activities; At least two months’ notice will be given to PAPs to harvest prior to any site clearance.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
<p>7.c Loss of</p>	<ul style="list-style-type: none"> • For production trees already producing, cash compensation will be paid

Kind of Impact and Entitlement	Compensation Policy Zone 2LR
production trees (e.g. Kapok) for owner of affected trees or person with customary usage right or right to harvest (to be validated by village authorities)	<p>based on the average annual value of the produce at rates established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC based on the age of the tree, multiplied by 10.</p> <ul style="list-style-type: none"> For production trees seedlings, which are not yet producing, cash compensation will be paid based on inputs such as seedling, land clearance and annual maintenance at rates as established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC. <p>The PAP is allowed to salvage wood resulting from the clearance of land from production trees as long as it does not interfere with project activities; At least two months’ notice will be given to PAPs to harvest prior to any site clearance.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
7.d Loss of construction trees for owner of affected trees or person with customary usage right or right to harvest (to be validated by village authorities)	<ul style="list-style-type: none"> For construction trees cash compensation will be paid based on replacement cost equivalent to current market value based on type of trees at rates established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC. <p>The PAP is allowed to salvage wood resulting from the clearance of land from construction trees as long as it does not interfere with project activities; At least two months’ notice will be given to PAPs to harvest prior to any site clearance.</p> <p><i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i></p>
7.e Loss of perennial plants for owner of affected plants or person with customary usage right or right to harvest (to be validated by village authorities)	<ul style="list-style-type: none"> For perennial plants cash compensation will be paid based on replacement cost equivalent to current market value based on type of plant at rates established through the process described in section 5.2.7 and endorsed by the decision of the PRLRC. <p>The PAP is allowed to salvage the plant materials resulting from the clearance of land from perennial plants as long as it does not interfere with project activities; At least two months’ notice will be given to PAPs to harvest prior to any site clearance.</p> <ul style="list-style-type: none"> <i>Payment will be made to bank accounts of PAPs as described in section 5.2.8 above.</i>
7.f Loss of fishponds	<ul style="list-style-type: none"> For fishponds, replacement fish pond of equal size and/or productivity and amenity plus assistance to stock and feed fish or lump sum cash payment equivalent to three years of productivity as agreed with PAP; Participation in aquaculture program;
10 Unforeseen Impacts	<p>In case of any additional impacts identified during implementation, appropriate entitlement measures would be included.</p>

Table 151: Compensation and Benefits Entitlements 2LR

18.3.3 Income Restoration and Rehabilitation

284. PAPs of 2LR have the following entitlements regarding Income Restoration and Rehabilitation. More details on the Project’s livelihood programs can be found in Chapter 6.

Kind of Impact and Entitlement	Compensation Policy Zone 2LR
<p>4.1 Loss of trade / livelihood / occupation or business incomes for business owners</p>	<p>All impacted PAPs will be entitled to Income Substitution as follows:</p> <ul style="list-style-type: none"> • Cash Compensation for Loss of Business Income equivalent to three months of potential net profit in case of permanent closure based on an assessment endorsed by the PRLRC. • Cash Compensation for Loss of Business Income equivalent to potential net profit of closure period up to three months in case of temporary closure based on an assessment endorsed by the PRLRC. <p>For resettlement, a temporary closure period of 2 weeks is assumed, unless proven to be longer.</p> <ul style="list-style-type: none"> • Participation in livelihood restoration programs based on priorities identified by affected households during consultations between individual PAPs, NNP1PC, and DCC; this can include for example trainings for alternative livelihood activities or enhancement of current livelihoods based on the individual preference of the PAP.
<p>4.2 Loss of trade / livelihood / occupation or business incomes for wage employees</p>	<p>All impacted PAPs will be entitled to Income Substitution as follows:</p> <ul style="list-style-type: none"> • In case of permanent closure cash compensation for loss of wages equivalent to three months of wages as indicated in the employment contract; in the case such an employment contract is not available, the wage will be based on an assessment of a wage for a comparable employment endorsed by the PRLRC. • In case of temporary closure, cash compensation for loss of wages equivalent to the closure period of wages as indicated in the employment contract; in the case such an employment contract is missing, the wage will be based on an assessment of a wage for a comparable employment endorsed by the PRLRC. <p>For resettlement, a temporary closure period of 2 weeks is assumed, unless proven to be longer.</p> <ul style="list-style-type: none"> • Participation in livelihood restoration programs based on priorities identified by affected households during consultations between individual PAPs, NNP1PC, and DCC; this can include for example trainings for alternative livelihood activities or enhancement of current livelihoods based on the individual preference of the PAP which can include: <ul style="list-style-type: none"> ○ support of employment in reconstructed enterprise or package for re-employment or starting a business ○ participation in Occupational Skill Development Programs which shall be designed to match the PAP’s aspirations and potentials
<p>4.3 Loss of trade /</p>	<ul style="list-style-type: none"> • Stream-Bed/Bank Gardens shall be compensated in accordance with

Kind of Impact and Entitlement	Compensation Policy Zone 2LR
livelihood / occupation for PAPs	<p>decisions by PRLRC</p> <p>In case resettlement cannot be facilitated in a way that a continuous wet-season agricultural production first in 2LR and in the next wet-season in the designated resettlement site is reasonably possible,</p> <ul style="list-style-type: none"> • the project will compensate for the loss of opportunity for net income (income substitution) equivalent to the value of a year of rice consumption based on an income substitution per household of 0.7kg per day per adult and 0.5kg per day per child (under 15 years) according to section 5.2.13 paid in cash in accordance to section 5.2.8. <p>All resettlers moving to the designated resettlement site as well as those self-resettling within the project area of influence as defined in section 5.2.17 will be entitled to:</p> <p>Participation in livelihood restoration programs based on priorities identified by affected households during consultations between individual PAPs, NNP1PC, and DCC; this can include for example trainings for alternative livelihood activities or enhancement of current livelihoods based on the individual preference of the PAP which can include a selection of the following if found to be suitable for the area.</p> <ul style="list-style-type: none"> • On-Farm Activities: <ul style="list-style-type: none"> ○ Agricultural livelihood restoration program: intensive agriculture program (irrigated land allocation in the designated resettlement site, fertilizer, seed, agricultural extension program) ○ Suitable and functioning irrigation system including pumps, gates, gauges, and distribution systems for all the replacement paddy agricultural lands in accordance with standards issued by Ministry of Agriculture and Forestry, Lao PDR in the designated resettlement site. ○ Complete array of plants, tree saplings, cuttings, seeds and other biomaterials as well as tools and equipment if necessary, each year for a period of not less than three (3) years, in amounts sufficient to carry out all agricultural plans and optimize the productive capacity of all agricultural lands including paddy, terraces, garden plots forage plots, and forests. ○ Participation in aquaculture Program ○ If necessary, provision of tools and equipment in sufficient number and quality (including replacement tools and equipment where such items are worn out or damaged) for successful agriculture, fishery and other work of all types which are proposed under Concession Agreement, Annex C, Appendix 7 • Off-Farm Activities: <ul style="list-style-type: none"> ○ Package for employment or starting a business ○ A range of feasible production and income generating options which will ensure household targets are met

Kind of Impact and Entitlement	Compensation Policy Zone 2LR
	<ul style="list-style-type: none"> ○ Priority for employment in project-related jobs ○ Participation in Occupational Skill Development Programs which shall be designed to match the PAP’s aspirations and potentials. ● For students committing to work either in a public function (teachers, medical staff, etc.) in the designated resettlement site or with NNP1PC, eligibility to compete for a scholarship program established and funded by the Company; scholarships will be allocated via a competitive selection process with gender quotas
<p>4.4 Transportation of Livestock and Livestock Development Program</p>	<ul style="list-style-type: none"> ● Small and medium livestock can be transported to the designated resettlement site (at the costs of the company), but animals will be required to be vaccinated prior to resettlement in accordance to GoL regulations on transportation of livestock. The project will facilitate vaccination through a vaccination program implemented by the village veterinary volunteer and bear all costs related to the vaccination program. ● Up to 5 large livestock per household is entitled to be relocated, if properly vaccinated, registered, and in good health. The project will facilitate vaccination through a vaccination program and registration implemented by the village veterinary volunteer and bare all costs related to the vaccination program. The remaining herd size must be sold to the market prior to resettlement. If the designated resettlement site can carry a larger number of livestock based on an assessment of carrying capacity of the land in relation to a Participatory Land Use Plan, this figure may be revised in agreement with the project. ● A livestock development program for the designated resettlement site shall be prepared and implemented at the cost of the project to improve livestock management (including animal health, provision of grazing and forage land) and marketing (access to existing markets and networks in the province). The livestock development program will be included in the updated REDP.

Table 152: Livelihood Activities Entitlements 2LR

18.3.4 Community Resources & Infrastructure

Kind of Impact and Entitlement	Compensation Policy Zone 2LR
<p>5 Loss of access to common resources and facilities including loss of access to rural common property resources and urban civic amenities, including community grazing areas, fishery and other riparian resources, NTFPs, community cemeteries for communities/Households</p>	<ul style="list-style-type: none"> • Land and river use areas will be assigned in the designated resettlement site through a participatory land use planning process for the purposes of identifying and zoning: <ul style="list-style-type: none"> ○ community forests and/or unstocked forests ○ grazing areas, ○ restocked fishing areas, ○ firewood gathering areas ○ and other common resources as identified in consultation with local authorities, PAPs and the project • Access to fishery resources in the middle and lower section of the reservoir as well as downstream of the re-regulation dam • Assistance to develop a sustainable zoning and land use plan for use of common resources including a Fisheries co-management program for fisheries on the reservoir and downstream • All replacement community forests and grazing lands to be surveyed for UXO on a sample base and UXO clearance if identified; a UXO awareness program will be implemented, to enable rapid response should a PAP find a UXO and require safe disposal. • For cemeteries and graves: excavation, movement and reburial in a culturally acceptable manner and to a location agreed upon by the PAPs, and/or ceremonies in impacted villages to enable transfer of the spirits of the deceased, whichever is culturally acceptable to PAPs. • Access to the designated resettlement site via a bridge downstream of the re-regulation dam across the Nam Ngiep river and an all-weather road connecting the resettlement site with the District Center. • Access to existing plantations above full supply level by the provision of a commercially operated ferry system on the reservoir with the Project providing initial inputs such as training, a ferry boat, and initial operation costs for 2 months
<p>8.b Loss of public infrastructure and cultural properties for Communities / Households who have to resettle</p>	<ul style="list-style-type: none"> • For temples, spirit houses and other historical, cultural and religious structures: dismantling, relocation and reconstruction in a culturally acceptable manner and in a location agreed with PAPs • Replacement of temples, shrines and other religious structures shall be of equivalent appearance and configuration, and both not less than the same size and not less than the same value, and in any event acceptable to the community. • Provision for all appropriate rituals and acceptable arrangements for relocation of movable items and their re-establishment at new site. • Provision for appropriate rituals and ceremonies for cemeteries, holy sites, and other immovable cultural landmarks prior to Resettlers' relocation, and establishment of analogous replacement cultural resources wherever possible of at least equivalent size (e.g., new cemetery appropriately sited). • Roads with appropriate drainage facilities, culverts and bridges connecting

Kind of Impact and Entitlement	Compensation Policy Zone 2LR
	<p>all residential plots</p> <ul style="list-style-type: none"> • Agricultural tracks leading to all major areas of the designated resettlement site providing reasonable access to the different kinds of livelihood activities and resources but not necessarily to each single plot • A school from primary school to high school grade • School equipment, including benches, tables, and blackboards, and an initial supply of text books, pens, and similar equipment, as per the requirements set by the Ministry of Education. • A teacher residence house will be constructed. 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. • A library connected to the school, and • A public health centre initially equipped with all required items for daily use in accordance with GoL standards for health centres, and then operated on a self-sustaining basis • One community building for village meetings and administration. It shall be designed to allow the presence of 2 persons per household • A roofed market with durable roofing material and concrete floor, shall be constructed. Its surroundings shall be properly drained. It shall provide a covered area of at least 300 m2. • A Bus station • A Museum explaining the history of the communities and supporting preservation of culture and traditions <p>All replacement facilities will be at original or better condition; and with designs and locations agreed in consultation with the communities and relevant government authorities in accordance with the relevant applicable standard in Lao PDR of similar buildings. All shall be</p> <ol style="list-style-type: none"> a. covered with durable roofing material b. have a concrete structure c. be connected to electricity (except cemeteries and roads) d. have access to the water supply system (except cemeteries and roads) e. have toilets connected to a septic tank (except cemeteries and roads) f. UXO clearance to a depth of 1 metre for all community infrastructure land as outlined in section 5.2.16. g. Fencing of all community buildings (except cemeteries and roads) h. Community and state land titles will be facilitated by the Company as outlined in section 5.2.15

Table 153: Community Resources and Infrastructure Entitlements 2LR

285. Details regarding the development of infrastructure at the resettlement site can be found in Chapter 14.

18.3.5 Special Measures for Vulnerable Households

286. A dedicated program for the most vulnerable people will be prepared by the Company in consultation with those people. Results of the Confirmation Survey will be analysed such that a meaningful program for the vulnerable groups including the women, disabled, poor, and the elderly will be implemented. This program will include but not be limited to special transitional assistance for one year instead of three months. A further key element of the Project's policy is to provide a minimum of paddy rice field land at the resettlement site for every family of 2LR without paddy fields. For families with no sufficient labour to make use of this land, additional support will be provided, for example in assisting to negotiate a rental of this land to other resettlers.

18.3.6 Project-related Employment

287. The Project's SMO is hiring a labour management officer, supporting the employment of PAPs through linking Company, contractors and subcontractors with PAPs looking for employment as well as in linking employment-related livelihood activities with the Project's construction work. Logistic-wise, PAPs in 2LR have difficulties to currently enter in employment with the Project, as the construction site is a day-long journey away. Of key importance is thus employment for some PAPs directly with the Company along livelihood activities measures. Nonetheless, as outlined above, the labour management officer will support PAPs who would like to work directly at the construction site.

18.4 Budget and Financing Plan

288. The budget for the Resettlement of 2LR encompasses several positions in the overall SMO budget. This includes budget for compensation and livelihood activities. Overall budget for resettlement site development in Houaysoup is presented in Chapter 14. Additionally, the Project will invest in qualified staff in appropriate numbers to support these different activities; staffing budget is presented together with the overall SMO Budget in Chapter 19. Overhead costs for surveys are also included there. Health education and training, camp followers, labour management, and education programs are described in details in the SDP, as is the cultural awareness program. They overlap strongly with livelihood restoration programs for PAPs addressed in the REDP.

Plan components	Assumptions made in the preparation of the budget	Pre-COD	Post-COD
Compensation		4,509,000	0
<ul style="list-style-type: none"> • House and Moveable asset dismantle cost • Transportation • Temporary closure of shops 	Assumptions: 384 housing units dismantled at 750\$/unit and transported at 1,800\$/unit (2,800\$/unit for Houaypamom) 45 shops closing 2 weeks and losing 100,000 kips business per day means ±21,000\$	1,037,000	0
Fruit trees	33,500 trees with various unit prices updated in January 2014	896,000	0
Trees and access to remaining trees	172,600 trees with various unit prices updated in January 2014 Access by boat to remaining plantations across the reservoir for a lump sum of 64,000\$	1,315,000	0
Community and Cultural site (ceremonies for graves)	Rounded lump sum from a rough estimate (TBC)	268,000	0
Agricultural land (Paddy field)	Estimates: 265 ha at 3,750\$/ha	993,000	

Table 154: Sub-Budget Compensation 2LR

Plan components	Assumptions made in the preparation of the budget	Total Pre-COD	Total Post-COD	Estimated Quota 2LR	2LR Pre-COD	2LR Post-COD
Livelihood restoration programs		4,022,600	3,360,000		2,020,355	975,906
Food security	Rice supplement program of 1,291,000 (assuming 0.7 kg rice per head per day) before COD + some rice facilities and 1,017,000 of rice supplement program after COD	1,291,000	1,017,000	92.1%	1,189,011	936,657

Plan components	Assumptions made in the preparation of the budget	Total Pre-COD	Total Post-COD	Estimated Quota 2LR	2LR Pre-COD	2LR Post-COD
Transitional Allowance		201,000		88.9%	178,689	-
The budget covers: <ul style="list-style-type: none"> • 3 month allowance in cash • 3 month allowance in kind • 1 year support for Vulnerable PAPs (cash and food support other than rice) 	400 PAH at 30\$ each for 12,000\$ 3,000 PAP at 46\$ each for 137,250\$ 50 PAH at 120\$ each for 6,000\$ 250PAP at 180\$ each for 47,750\$				-	-
Resettlement preparation						-
Budget covers study tours, training, focus groups, etc. for preparing PAPs to new livelihoods	Lump sum	50,000		62.3%	31,150	-
Agricultural extension & on-farm trials					-	-
Budget covers trials, demonstration, study tours, farmers' schools	Lump sum	100,000		62.3%	62,300	-
Support to PAPs initiatives for establishment of providers of agricultural inputs & services					-	-
This budget covers equipment and facilities for farmers' groups initiatives regarding seedlings/ seeds and fingerlings/young animals production, mechanized services for planting/drying, etc.	Lump sum of 137,600\$	137,600		62.3%	85,725	-
Income restoration: the budget is indicative as the allocation will be dictated by the wishes coming from the communities For Rice it involves particularly the provision of seeds, agricultural tools, and soil improvement and training in the different zones For Cash crops & fruit trees it includes particularly the provision of seeds/seedlings/saplings, bio-fertilizers, lime or bio-pesticides and training	198,000\$ is booked for the Rice component, 61,000\$ is booked for Cash crops & fruit trees, 386,000\$ is booked for Livestock and 178,000\$ is booked for Aquaculture.	760,000	63,000	62.3%	473,480	39,249

Plan components	Assumptions made in the preparation of the budget	Total Pre-COD	Total Post-COD	Estimated Quota 2LR	2LR Pre-COD	2LR Post-COD
For Livestock it includes the provision of animals (breeders), pens, vaccination, pasture development and training. For Aquaculture it includes the provision of fingerlings, ponds/cages and feeds as well as training and fisheries co-management.						

Table 155: Sub-Budget Livelihood Restoration Program 2LR

289. Above numbers are based on the overall livelihood program, divided among the beneficiaries, which include in different quantities PAPs from Zone 2UR, Zone 2LR, Zone 3, and Zone 5 based on number of households in the 2011 survey.

18.5 Institutional Arrangements for Land Acquisition and Compensation

290. The overall institutional structure for the REDP is outlined in Chapter 9. Staff is based in the Vientiane Office as well as in the Bolikhamxay and Xaysomboun field offices: currently in Pakxan, the Demonstration Farm in Houaysoup, and in Sopyouak; latter on also at the owner's camp close to Hatsaykham. Currently, new office building is being constructed in Sopyouak:

- At the beginning, the people from Hatsaykham will work on a day-to-day base with the teams currently involved in the Access Road Compensation and later on to be transferred to the 2LR/Z3 resettlement section (see section 12.5), which manages the overall resettlement process of 2LR. In addition
- livelihood team and
- community consultation and development team will play a key role in implementing the resettlement of 2LR PAPs.
- The Resettlement infrastructure section within SMO is essential in the preparation of the resettlement site including its infrastructure as outlined below.

18.6 Schedule of LAC Activities and Resettlement

291. Resettlement activities will include several key components, partly consecutive, partly simultaneously implemented:

- i. Public Consultation and Information Disclosure
- ii. Confirmation of compensation entitlement policy and unit rates
- iii. Property Survey and Compensation
- iv. Resettlement Site Development / Construction of Housing, Infrastructures and Community Services Facilities
- v. Community and Social Re-establishment/ Development
- vi. Monitoring and Supervision

292. As already outlined in Chapter 11, the key dates for 2LR are:

- Asset Registration and Baselines for villages of 2LR will start in the second half of 2014 and continue during the first half of 2015
- Spiritual ceremonies have to start in 2015 and will continue until the end of 2016
- 2LR villages will resettle in dry season 2017;
- Self-resettlement is planned for the same time
- Assets not compensated in kind will be compensated in Cash at the time of resettlement to ensure that it can be invested for livelihood investments at the resettlement site

293. Further details on the timeline can be found in the Gantt-Chart in section 11.8. Schedule details regarding livelihood activities, starting in the second half of 2014, will be available after detailed discussions on livelihood preferences throughout 2014 and early 2015.

18.7 Monitoring and Reporting

294. The overall monitoring and reporting structure of the Project is outlined in Chapter 10. A monitoring team is currently being formed and available once major Project activities start in 2LR in the second half of 2014. A detailed resettlement baseline survey will be implemented in mid-2014. From this baseline, the development of the different indicators outlined in Chapter 10 and in its updated version adapted by the monitoring team will be assessed.
295. External institutions conducted assessments of the Project's impact and activities in Hat Gniun and Thahuea as part of their overall Project assessment:
- ADB's Due Diligence Mission in October 2013
 - IAP Mission in November 2013
 - IAP Mission in May 2014
 - ADB's Due Diligence Mission in May 14
296. Further external monitoring missions will take place regularly as outlined in Chapter 10. Reporting will also follow the structure outlined there. Of key importance is the updated LIRP as requested by the CA, included in an updated REDP to be provided early 2015.

CHAPTER 19 - Consolidated Budget and Schedule of Activities

19.1 Consolidated Budget

297. 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 social budgets of the Project are projected to be USD44M before COD and USD14.4M post-COD during the stabilization phase. An amount of USD 1.9M before COD and USD 1.7M after COD is for the contingencies of both environmental and social components. The environmental budget can be found in the EIA. Overall ESD costs and costs for GoL-Project institutions are also outlined in the EIA.
298. The budget is organized along the projected budget in the Concession Agreement. Accordingly, the budget presented contains also figures related to activities described in the SDP. These SDP budget items are marked in **orange colour**. Budget figures are divided into pre-COD, i.e. before January 2019, and post-COD stabilization phase (5 years after COD). Additional monitoring will continue until 10 years after COD, for which additional costs of USD 2.1M are estimated, not included in the overall budget presented. The budget is insofar indicative as all social mitigation measures are limited by scope.

Overall Budget	Pre-COD in USD	Post-COD Stabilization Phase in USD	Total in USD
Resettlement site development	18,596,600 18,108,000	80,000	18,676,600
Compensation	8,669,388	1,445,000	10,114,388
Livelihood restoration programs	3,534,000 4,022,600	3,360,000	6,894,000
ESD - SMO	13,238,000	9,466,000	22,704,000
Total	44,037,988	14,351,000	58,388,988
ESD Contingencies (SMO + EMO)	1,903,963	1,734,998	3,638,961

Table 156: Overall NNP1 SMO Budget

19.1.1 Resettlement Site Development

299. The resettlement site development budget contains four sites: the Houaysoup resettlement site; land and infrastructure development in 2UR, infrastructure and eventually replacement land development (in case of significant loss from the resettlement site acquisition) in the host communities, and the water supply improvement in Zone 4 (a measure described in the SDP).

Code	Plan components	Assumptions made in the preparation of the budget	Pre-COD	Post-COD
	Resettlement site development		18,108,000	80,000
	<u>Houay Soup</u> Resettlement site for Zone 3 and Zone 2LR	For details see section 14.4.7	15,106,400	50,000
	<u>Zone 5 Hat Gniun & Thahuea</u>	For details see section 15.3	525,600	30,000
	<u>2UR</u>	For details see section 17.4	2,253,000	
	<u>Zone 4</u>		223,000	
	Water use and supply	Provision of water supply for domestic use in 9 DS villages		

Table 157: NNP1 Resettlement Site, Infrastructure Development, and Land Development Sub-Budget

19.1.2 Compensation

300. The compensation budget contains compensation for land acquisition and resettlement in 2UR, 2LR, Zone 3 and 5, Access Road, and Transmission Line. It also contains the costs for the related surveys. For Zone 4, a budget is assigned in case of unforeseen impacts on riverbank gardens and fisheries (contrary to current technical estimates which foresee no impacts).

Code	Plan components	Assumptions made in the preparation of the budget	Pre-COD	Post-COD
	Compensation		8,669,388	1,445,000
	2UR Budget covers compensation for :	For details see section 17.4	±1,750,000	45,000
	2LR Budget covers compensation for :	For details see section 18.4	4,509,000	0
	Zone 3+5	For details see section 13.4 and section 14.4.7	871,388	0
	Zone 4		55,000	75,000
	Riverbank garden compensation	Lump sum	25,000	0
	Fisheries co-management		30,000	75,000
	T/L		±134,000	

Code	Plan components	Assumptions made in the preparation of the budget	Pre-COD	Post-COD
	Surveys required for compensation programs		1,350,000	1,325,000
	<p>This budget includes:</p> <ul style="list-style-type: none"> • Confirmation survey with Survey prior to resettlement and biannual SES • Fish catch Monitoring (FCM) • Riverbank garden (RBG) surveys • Riverbank erosion survey • Flood level survey • Health survey • Satellite imagery 	<p>765,000 for confirmation survey + survey prior to resettlement + 2 biannual surveys.</p> <p>FCM: initial survey in 2014 and regular monitoring (20,000\$/year) before COD [130,000\$]and up to 5 years after COD (25,000\$/year - 125,000\$)</p> <p>RBG surveys: 95,000\$</p> <p>Erosion monitoring: 110,000\$ before COD and 85,000\$ after COD</p> <p>Flood monitoring: 75,000\$ before COD and 45,000\$ after COD</p> <p>Health survey: 70,000\$ before COD and 75,000 after COD</p> <p>Satellite imagery: 105,000\$ before COD and 20,000\$ after COD</p> <p>Note: 715,000 out 1,325,000 are budgeted in addition for monitoring between COD+5 and COD+10</p>	1,350,000	<p>610,000</p> <p>+715,000</p>

Table 158: NNP1 Compensation Sub-Budget

19.1.3 Livelihood Restoration Programs

301. Livelihood restoration programs budgets contain food security provisions, inputs for livelihood activities, and occupational skill development. Health education and training, camp followers, labour management, and education programs are described in details in the SDP, as is the cultural awareness program. They overlap strongly with livelihood restoration programs for PAPs addressed in the REDP. The outlined values will be spread over the different zones; resulting estimated values are presented in the different sub-budgets in the zone-specific chapters.

Code	Plan components	Assumptions made in the preparation of the budget	Pre-COD	Post-COD
	Livelihood restoration programs		4,022,600	3,360,000
	Food security	Rice supplement program of 1,291,000 (assuming 0.7 kg rice per head per day) before COD + some rice facilities and 1,017,000 of rice supplement program after COD	1,291,000	1,017,000
	Transitional Allowance		201,000	
	The budget covers: <ul style="list-style-type: none"> • 3 month allowance in cash • 3 month allowance in kind • 1 year support for Vulnerable PAPs (cash and food support other than rice) 	400 PAH at 30\$ each for 12,000\$ 3,000 PAP at 46\$ each for 137,250\$ 50 PAH at 120\$ each for 6,000\$ 250PAP at 180\$ each for 47,750\$		
	Resettlement preparation			
	Budget covers study tours, training, focus groups, etc. for preparing PAPs to new livelihoods	Lump sum	50,000	
	Agricultural extension & on-farm trials			
	Budget covers trials, demonstration, study tours, farmers' schools	Lump sum	100,000	

Code	Plan components	Assumptions made in the preparation of the budget	Pre-COD	Post-COD
	Support to PAs initiatives for establishment of providers of agricultural inputs & services			
	This budget covers equipment and facilities for farmers' groups initiatives regarding seedlings/ seeds and fingerlings/young animals production, mechanized services for planting/drying, etc.	Lump sum of 137,600\$	137,600	
	Income restoration: the budget is indicative as the allocation will be dictated by the wishes coming from the communities For Rice it involves particularly the provision of seeds, agricultural tools, and soil improvement and training in the different zones For Cash crops & fruit trees it includes particularly the provision of seeds/seedlings/saplings, bio-fertilizers, lime or bio-pesticides and training For Livestock it includes the provision of animals (breeders), pens, vaccination, pasture development and training. For Aquaculture it includes the provision of fingerlings, ponds/cages and feeds as well as training and fisheries co-management.	198,000\$ is booked for the Rice component, 61,000\$ is booked for Cash crops & fruit trees, 386,000\$ is booked for Livestock and 178,000\$ is booked for Aquaculture.	760,000	63,000
	Health Education & training		437,000	513,000
	Health <ul style="list-style-type: none"> • Health education & training for HHs • Training for district staff • Material & equipment for 3 health centres and 1 district reference hospital • Health Fund for vulnerable HHs 	248,000\$ for HH health education and training through more than 200 events; 130,000\$ for district staff training; 165,000\$ for the health centres & hospital; 108,000\$ for 10 Vulnerable HH per month for 9 years	137,000	514,000

Code	Plan components	Assumptions made in the preparation of the budget	Pre-COD	Post-COD
	Camp followers program Includes zoning, facilities, support to local police, training program (including materials and equipment) with camp followers and other items	Lump sum of 250,000\$ (no detailed calculation)	250,000	0
	Labour Management Plan Includes verification, getting Labour Union in and training and other items	Lump sum of 50,000\$ (no detailed calculation)	50,000	0
	Occupational Skill Development		360,000	275,000
	Includes <ul style="list-style-type: none"> • Vocational training • Support to small business development • Microfinance system for Hatsaykham, Hat Gniun and Thahuea 	Assume about 400 training events at 1,200\$ per event for a total of 486,000\$. Assume support to about 100 small business development at 1,000\$ per business. 52,000\$ allocated for the 3 funds assuming about 100\$ per HH		
	Education		520,000	1,480,000
	Includes: <ul style="list-style-type: none"> • Literacy program • Scholarship program 	Assume a literacy program for adults and 370 scholarships for vocational skills, higher diploma and university for a total of 2,000,000\$		
	Cultural Awareness Program & Information		166,000	128,000
	The budget covers: <ul style="list-style-type: none"> • PCR Program • Cultural awareness events • Museum for war hero • Special programs for Vulnerable HH and Youth • Broad stakeholder forums 			

Table 159: Livelihood Restoration Program Sub-Budget

19.1.4 SMO Operation Costs

Code	Plan components	Assumptions made in the preparation of the budget	Pre-COD	Post-COD
	ESD - SMO		13,238,000	9,466,000 (+2,070,000)
	SMO staffing		9,873,000	8,136,000 (+1,511,000 from COD+6 to COD+10)
	SMO operations		1,878,000	1,314,000 (+488,000 from COD+6 to COD+10)
	SMO equipment		1,487,000	16,000 (+71,000 from COD+6 to COD+10)

Table 160: NNP1 SMO Operation Costs Sub-Budget

19.1.5 Reallocation of funds, updates of budgets and disbursement of funds

302. As indicated above, a number of costs have been estimated on the basis of the information available at the time of writing of this REDP. 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 annually an update of the overall environmental and social budget with suggestions on the way to reallocate funds.
303. If some of these updates will be part of the regular updates of the REDP, some other will remain confidential to the GoL and Lenders, 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.
304. For activities that will be implemented by GoL agencies, the Company shall disburse the funds in annual instalments in accordance with an annual work plan and a related budget prepared and submitted by the GoL agency to the Company and in accordance with a mechanism to be advised. Payment shall be made by 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.
305. 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
306. 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.

19.2 Schedule of Activities

307. A detailed description of the activities described in the REDP can be found in Chapter 11.

This version of the REDP has been published in June 2014.

This REDP will be revised whenever major mile stones have been reached and/or new information is available to integrate.

Part VI – Annexes

List of Annexes

Annex A - Supporting PCD Documentation for Broad Community Support

Annex B - Entitlement Matrices

Annex C - Asset Inventory 2011

Annex D - Terms and Definitions

Annex E - Scientific Analysis of Houaysoup

Annex F - Cut-Off-Date

Annex G - IEC Booklet Example

Annex H -Survey Templates 2011

Annex I - Terms of Reference External Monitoring