

DON SAHONG HYDROPOWER PROJECT, LAO PDR

SOCIAL IMPACT ASSESSMENT

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ABBREVIATIONS AND ACRONYMS

AECOM	An international infrastructure engineering and consulting firm, author of the Final Feasibility Study and Engineering Status Report
APW	Australian Power and Water an author of the 2007 Draft EIA
ASEAN	Association of South East Asian Nations
CESVI	Cooperazione e Sviluppo (World Aid from Italy)
CIA	Cumulative Impact Assessment
CMPE	Centre of Malariology, Parasitological and Entomology
DAFEO	District Agriculture and Forestry Extension Office
DOE	Department of Electricity
DPRA	Development Project Responsible Agency
DSHPP	Don Sahong Hydropower Project
ED	Essential Drugs
EDL	Electricité du Laos
EIA	Environmental Impact Assessment
EMO	Environmental Management Office
EMMP	Environmental Management and Monitoring Plan
ESR	DSHPP Engineering Status Report (supersedes Final Feasibility Study (FFS))
EU	European Union
FCZ	Fishing Control Zone
FFS	Final Feasibility Study
FishMAP	DSHPP Fisheries Monitoring and Action Plan
FS	Feasibility Study
GFL	Great Fault Line
GMS	Greater Mekong Sub region
GOL	Government of Lao People's Democratic Republic
GWh	Gigawatt hours
ha	Hectare
HC	Health Center
IEE	Initial Environmental Examination
IPP	Independent Power Producer
IUCN	International Union for Conservation of Nature
JMP	Joint Monitoring Program for Water Supply and Sanitation by WHO/UNICEF
MA95	Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin made in 1995
MAF	Ministry of Agriculture and Forestry of Lao PDR
MDG	Millennium Development Goals
MEM	Ministry of Energy and Mines of Lao PDR
MFCB	Mega First Corporation Berhad
MIH	Ministry of Industry and Handicrafts of Lao PDR
MOH	Ministry of Health of Lao PDR
MoNRE	Ministry of Natural Resources and Environment of Lao PDR (formerly WREA)
MOU	Memorandum of Understanding
MRC	Mekong River Commission

MW	Megawatt (1 million watts of power)
NAFRI	National Agriculture and Forestry Research Institute of Lao PDR
NBCA	National Biodiversity Conservation Area
NCC	National Consulting Company
NEAP	National Environmental Action Plan
NGPES	National Growth and Poverty Eradication Strategy
NTFPs	Non-Timber Forestry Products
PAP	Project Affected Persons
PEC	PEC Konsult Sdn Bhd
PRC	People's Republic of China
RAP	Resettlement Action Plan
RESDALAO	Renewable Energy for Sustainable Development Association
SIA	Social Impact Assessment
SMMP	Social Management and Monitoring Plan
SOW	Statement of Work
STD	Sexually-transmitted disease
TBA	Traditional Birth Attendant
TOR	Terms of Reference
UNICEF	United Nations Children Fund
VHK	Village Health Kit
VHV	Village Health Volunteer
WHO	World Health Organization
WREA	Water Resources and Environment Administration (now MoNRE)

GLOSSARY OF COMMON LAO WORDS FOR GEOGRAPHICAL LOCATIONS

Don (e)	Island
Hang	tail / downstream tip (of the island)
Hou	River Channel
Hua	head or upstream tip (of the island)



A house with seven residents in Ban Hang Don Sadam (2009)

1 INTRODUCTION

1.1 The Project

This document addresses the social impacts of the DSHPP in response to a request from the Government of Lao PDR (GOL) to update the original Environmental Impact Assessment prepared in 2007 (EIA 2007) (PEC & APW, 2007).

While there is considerable economic interest in the general area with an evolving tourism trade based primarily on sight-seeing visits to Khone Phapheng, a waterfall located east of the site, the Government of the Lao PDR (GOL) is also encouraging development of the DSHPP.

The social impact information in this report was compiled from data gathered during 2006-2007 (original field work for EIA 2007) plus supplementary social data collection in 2009. All investigations were carried out according to the legislation and guidelines of MoNRE and the Ministry of Energy and Mines (MEM) and its Department of Electricity and in consultation with both these agencies.

The current project description for the Don Sahong Hydropower Project (DSHPP, or the Project) are provided in Section 1 of the associated Environmental Impact Assessment (EIA 2013).

1.2 Objectives of the Social Impact Assessment

SIA is an important tool for incorporating social concerns into a project design. It can assure that the project will be environmentally and socially feasible. The general objectives of SIA study cover the following:

- To assess the social issues and impacts on project affected persons (PAPs) requiring targeted project investments and to identify the stakeholders and interactions among them;
- To help in the design of social services that may be provided in order to improve their quality of life, and achieving the project's economic and social goals through relevant technical and programmatic activities;
- To help in the formulation of a social strategy for participatory implementation, to be addressed in the (Social Monitoring and Management Plan) SMMP. It is also involved in assisting communities to determine their development priorities, and as a process for incorporating social dimensions into development projects.

1.3 SIA Process

1.3.1 The SIA Team

The survey team consisted of 10 persons; two from ATM Consulting Co. Ltd., six from the National Agriculture and Forestry Research Institute (NAFRI), two from Khong District Agriculture and Forestry Extension Office (DAFEO). The names of the field data collection team members are listed detailed in Annex E, Appendix A1.¹

The team was introduced to the method of data collection including project background, details of information to be collected and methods of collection before the fieldwork started. The whole group was divided into two teams of five persons and merged into a single team

¹ The Appendices to the EIA 2007 (PEC & APW, 2007) are provided as a separately bound Annex E of EIA 2013. Annex E (the 2007 Appendices) are frequently referred to in this SIA document and also throughout the EIA, EMMP, SMMP, and RAP.

when collecting information in the last village (Ban Hang Khon). In each village, team member were assigned to collect information with different focus groups and households to speed up the work. For the collection of information at the household level, one person was assigned to carry out individual household surveys whereas two persons were assigned to conduct focus group discussions.

In June 2009 NCC has appointed a new team which consisted of specialists and officers to carry out the additional field surveys to obtain more data and acknowledge the changes since 2007 until the present. The NCC team understood that some components of the project have changed, for example the transportation alternative from access by ferry and barge to a new bridge, which will be constructed approximately 1.5 km upstream of Veunkham village between the mainland and Don Sadam Island. Therefore Thakho village, where the ferry/barge landing was previously planned to be located will not be involved in the project area with respect to resettlement.

1.3.2 Data collection at district level

Secondary data collection at the district level aimed at understanding the overall socio-economic development situation in the district including its administration and management procedures, decision making processes and development programs operating in the areas. Document searches for secondary information and interviewing the DAFEO staff were the main methods used.

1.3.3 Data collection at village and focus group level

Six villages were identified in the proposed DSHPP area and were surveyed for socio-economic baseline information (see Figure 1). These include Ban Thakho, Bung Ngam/Veunkham, Ban Hua Sadam, Ban Hang Sadam, Ban Don Sahong (this is an administrative area that represents the three small villages on Sahong island of Hua Sahong, Sahong Kang and Hang Sahong) and Hang Khon. In these villages, information was collected at two levels; i.e. villages and focus groups.

At village level, the village authority including village head and his deputies, heads of village administration units, representatives of village elder organizations and the Lao Women's Union were interviewed. Information collection focused on 11 major issues comprising demographic information, local institutions, health and sanitation situation, livelihood activities, production systems, land use, resources use and management, processing, marketing, income sources and infrastructure. A checklist of topics of interest is given in Annex E, Appendix A2 and was used as an interview guide at the village level.

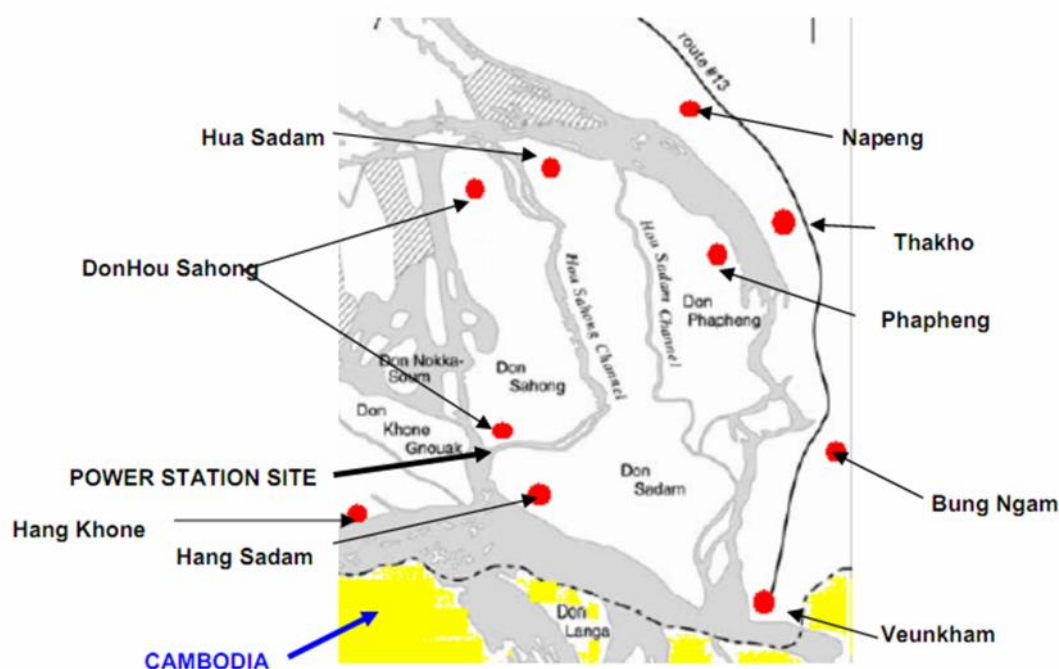


Figure 1 Map showing the locations of villages in the Project Area

Focus group interviews were conducted with different activity groups existing in the individual villages. The interview tried to explore in depth and reach an understanding of important income generating activities in which villagers were involved. Main topics asked for each focus group are given in Annex E, Appendix A3. In total nine (9) groups from five (5) types of activities including groups of village administration, gender, guesthouses, restaurants and boat transportation service were interviewed in six surveyed villages. Table 1 gives details of the groups interviewed in the six villages and lists of people interviewed in each of the groups are given in Annex E, Appendix A4.

Table 1 Existing activity/business groups in the project area

Activity Group	Village name					
	Thakho	Veunkham /Bung Ngam	Hang Sadam	Hua Sadam	Hang Khone	Don Sahong
Village administration	Yes	Yes	Yes	Yes	Yes	Yes
Gender group	Yes	Yes	Yes	Yes	Yes	Yes
Guesthouses	NE	Yes	NE	NE	NE	NE
Restaurants	Yes	Yes	NE	NE	Yes	NE
Boat service	NE	Yes	NE	NE	Yes	NE

Note: NE denotes "Not exist" in local village.

In addition, the groups' perceptions about land use, tenure, local production systems and natural resources management especially the abundance of fish in terms of species and quantity were sought. For each of these issues, both qualitative and quantitative information were recorded, including any detailed information.

At each village, the up-to-date records available in the village were checked wherever feasible and found appropriate. Approximately one full day was spent collecting information in each village. Consolidation of data and information collected was made at the end of each

day. This way missing information and consistency were immediately recognized; re-collected and was checked before leaving the village.

1.3.4 Data collection at household level

At the household level, in-depth interviews were made with individual household heads to get more in depth information on different aspects and understanding about the livelihood of each household. Issues related to household members, composition, education, availability of labor, wealth, land tenure, livelihood activities (agriculture, livestock, fishing, etc.), expenditure patterns of households, income sources and status, their practices in resources use and management and their intra and inter-communications within their own and with other communities were studied. Perceptions about the proposed hydropower project at Hou Sahong were also sought from each interviewed household. The main topics included in the household surveys are given in Annex E, Appendix A5 and list of people interviewed for each household is given in Annex E, Appendix A6. The selection of households was based on a random sampling method with a proposed sampling intensity of about 15-20% of total households in each village. In total, 117 households were sampled in the six villages. Table 2 gives number of households selected at the different villages.

1.3.5 Data analysis

Qualitative and some quantitative field data collections were entered into different sets of Statistical Predictive Analytics Software and Solution Program (SPSS; Version 13) for data processing. Certain amounts of qualitative data were analyzed and summarized directly in the field. At the household level, the arithmetic mean was used to compute the average or per household estimates. For detailed levels of information, estimates at household level were used in combination with those generated from village and group data sets to get the estimates for the project area.

Table 2 Number of households selected for household level interview

Villages	Household category				Total Households selected
	Sufficient		Below sufficient/poor		
	Actual Number	Selected	Actual Number	Selected	
Thakho	100	24	74	7	31
Veunkham/ Bung Ngam	188	16	10	10	26
Hang Sadam	93	12	3	3	15
Hua Sadam	67	9	7	6	15
Hang Khon	42	11	7	4	15
Don Sahong	61	11	10	4	15
Number of Households	551	83	111	34	117
Percentage of Household Category	83	15	17	32	100

Note: Sufficiency criteria used were developed by the Poverty Alleviation Program and are based on permanent house, self-sufficiency in agricultural production and access to school, safe drinking water and health treatment.

2 PROJECT DESCRIPTION

2.1 Description of the DSHPP and Project Features

The DSHPP is a run-of-river project situated entirely within the Hou Sahong, a 5 kilometre long channel between the islands of Don Sadam and Don Sahong (see figure below). The project layout envisaged is a concrete box-like structure comprising the dam and powerhouse to be constructed about 130 meters upstream of the downstream junction of the Hou Sahong with the main channel. The foundations for this structure will be about 15 m below the existing channel bed and will extend from bank to bank across the Hou Sahong channel.

Construction of the dam and powerhouse will cause water to back up in Hou Sahong, creating a small headpond, the level of which will vary with the level of the Mekong upstream. The crest of the barrage is set at RL 76.9m, which exceeds the maximum level of the Mekong at the upstream entrance to the Hou Sahong. Because the topography of the two islands that



form the banks of the Hou Sahong reservoir is below this level, embankments will be built on both sides and roughly parallel with the channel to retain the water.

At present the bed levels in the upper reaches of the Hou Sahong restrict flow into the channel during periods of low flow. To improve flow through the Hou Sahong the river bed will be excavated to an average of 3 m and 1.5 m depth at the upstream and downstream ends of the channel, respectively. A limited area will also be excavated downstream of the powerhouse. Excavated material will be used for concrete aggregate and to construct the retaining embankments. Any excess rock will be disposed of at carefully pre-selected locations on Don Sadam and Don Sahong. Excavation and other channel modifications are also proposed in Hou Xang Pheuak and in Hou Sadam to provide alternative fish migration routes to replace the Hou Sahong, which will be blocked to upstream movement of fish. This will be a vital component of the DSHPP fish migration mitigation program.

More details of the DSHPP are provided in Section 2.1 of the associated EIA 2013.

3 POLICY FRAMEWORK FOR COMPENSATION AND RESETTLEMENT

The overall policy for compensating Project Affected People (PAP) by the DSHPP is elaborated here (Section 3 of the SIA report). Site specific requirements relevant to the DSHPP based on these policies are described in the associated SMMP and RAP reports.

3.1 Relevant Resettlement Laws and Regulations

The management plans (SMMP and RAP) developed for the DSHPP were prepared based on the recent laws and regulations on resettlement of the Lao PDR, including the following:

- Decree No 192/PM on the Compensation and Resettlement of Development Project dated 7 July 2005.
- Regulations for Implementing Decree No.192/PM on Compensation and Resettlement of People Affected by Development Projects which include the Technical Guidelines for Compensation and Resettlement issued in November 2005.

Other relevant laws and regulations related to compensation and resettlement that were also employed include:

- The Constitution of Lao PDR (1991)
- The Land Law, May 1997
- The Electricity Act, 1995
- The Forest Law, 1993

These laws and associated regulations are described in more detail in the associated EIA 2013.

3.2 Project Resettlement Policy

3.2.1 Defining Eligibility

The definition of PAPs and affected households (AHs) proposed for the DSHPP is as per Decree 192, which includes any person, entity or organization affected by a project, who in the context of acquisition of assets and change livelihood option, or change in land use, would have their: (i) standard of living adversely affected; (ii) right, title or interest in all or any part of a house, land (including residential, commercial, agricultural, plantations, forest, and grazing land), water resources, or any other moveable or fixed assets acquired or possessed, in full or in part, permanently or temporarily adversely affected; (iii) business, occupation, place of work or residence areas adversely affected with or without displacement; or (iv) community resources adversely affected.

The above definition is considered to encompass the intent and meaning of the definition of displaced persons which include those people, who through the involuntary taking of land resulting will be impacted by (i) relocation or loss of shelter; (ii) loss of assets or access to assets; or (iii) loss of income sources or means of livelihood, whether or not the affected persons must move to another location; or (b) the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on livelihoods.

The definition of PAPs – be they individuals, households or families or village administrations - proposed to be adopted for the DSHPP therefore complies with Decree 192.

3.2.1.1 Criteria for Eligibility

Under Decree 192, all individuals and entities residing, or making a living, within an area to be acquired for a project - as of the formally recognized cut-off date - would be considered as PAPs for purposes of entitlements to compensation, resettlement and rehabilitation assistance.

People who are not living within the project area, but have land and/or buildings in the project area, are also considered to be PAPs and as such are entitled to compensation, resettlement and rehabilitation assistance.

The PAPs eligible for compensation and assistance under the DSHPP therefore include those PAPs falling into any one of the following three groups:

- Those who have formal legal rights to land (including customary and traditional rights recognized under the laws of the country);
- Those who do not have formal legal rights to land at the time the census begins but have a claim to such land or assets - provided that such claims are recognized under the laws of the country or become recognized through a process identified in the resettlement plan²; and
- Those who have no recognizable legal right or claim to the land they are occupying (non-titled users).

By definition, it is these AHs who are entitled to compensation and rehabilitation. However, acquisition of, or restrictions placed on use of, particular land or assets may affect more than one AH. For example, when the land is owned by one AH but used to gain a livelihood by another different AH (who is usually paying some type of rent to the owner) then there are two eligible AHs for this one asset. Thus, eligibility is based on: (a) ownership; and (b) use.

Land ownership is officially recognized in the Lao PDR by the registration of land and assets for the purposes of tax. In the case where owners have not declared the entire area of land (to reduce their tax burden) discussion and agreement with the Village Head will assist in determining the correct area of land eligible for compensation. In the case where there are no tax registration certificates, customary use and ownership will be recognized, and this is usually well known in each village. However, in the case that there is a dispute as to the owner then it is up to the Village Grievance Committee, in the first instance, to decide or to resolve any issues relating to customary and traditional ownership and use right over a particular land or asset.

The proposed DSHPP has formulated site specific plans (SMMP and RAP) to address those aspects of compensation policy which need to be implementation by the DSHPP. This section provides a basic Entitlement Matrix which will apply to all persons affected by the Project (see Table 3 below).

2

<http://Inweb18.worldbank.org/Institutional/Manuals/OpManual.nsf/58AA50B14B6BC071852565A30061BEB6/46FC304892280AB785256B19008197F8?OpenDocument>

Table 3 Compensation Entitlement Matrix for DSHPP

TYPE OF LOSS	ENTITLED PERSONS	COMPENSATION POLICY	IMPLEMENTATION ISSUES
Dwellings	Registered taxpayer or occupant identified during survey	Full replacement cost so as to enable affected persons to have a dwelling of at least similar size and standard	Stakeholder consensus on replacement value assessment
Residential lands	Registered taxpayer or occupant identified during survey	Replacement land if relocating to other site or compensation in cash at replacement cost for household who can move back on existing site	Stakeholder consensus on suitability of replacement land
Expenses of residential relocation	Registered taxpayer or occupant identified during survey	Lump sum payment sufficient to cover all relocation cost as agreed with the affected persons	Stakeholder consensus on definition
Rice storages	Owner identified during survey	Lump sum payment sufficient to cover all relocation cost as agreed with the affected persons	Assessment of suitability of relocation site
Retail shops	Owner identified during survey	Lump sum payment sufficient to cover all relocation cost as agreed with the affected persons	Review of shops recorded during the survey
Agricultural land	Owner or person with usage rights identified during survey	Compensation in cash at full replacement cost	Consensus among stakeholders on valuation assessment
Crops and trees	Owner or person with customary usage rights	Full replacement cost of anticipated harvest at market value	Consensus among stakeholders on valuation assessment
Fish traps (permanent)	Owner identified during survey	Compensation in cash at full replacement cost	Consensus among stakeholders on valuation assessment
Fish traps (temporary)	Owner identified during survey	Compensation in cash for full net loss of income during temporary period	Consensus among stakeholders on valuation assessment
Common property resources	Community losing the resources	Restoration of affected community buildings and structures to at least previous condition	Consensus among village committee members
Temporary impact during construction	Owner or person with usage rights identified during survey	Care by contractors to avoid damaging properties; Where damage occurs, the contractor will be required to pay compensation; and Damaged property will be restored immediately to its former condition	Consensus among stakeholders and village committee

3.2.2 Gender Mainstreaming Strategy

The Country Gender Strategy (CGS) for Lao PDR is built around Goal 3 of the Millennium Development Goals (MDGs). The CGS seeks to promote: (i) equal capabilities in women, men, girls and boys; (ii) equal access to resources and opportunities; and (iii) equality in

decision making and rights, and is consistent not only with the MDGs but with the Lao PDR Constitution and laws.

The gender mainstreaming strategy adopted for the Don Sahong HPP is based on Lao law and policy and is consistent with the CGS, requiring gender equitable participation and opportunity. Gender issues must be considered in the various stages of the project cycle, Decree 192 specifically addresses gender issues in resettlement in Article 15 where it states that “Collecting gender disaggregated data is the first and most crucial step for ensuring that the needs and concerns of women are addressed in the resettlement plan.”

The strategy adopted for the project aims to give women more control over their resources, time, and money by opening up new socio-economic and decision making opportunities. At the same time the strategy is mindful about reducing women’s workloads in order for them to take advantage of the various opportunities being provided through the resettlement process in general, and the livelihood restoration and development strategy in particular. The Project’s strategy adopts three different approaches in order to achieve this, as shown in Table 4.

Table 4 Approaches to Gender Mainstreaming in Project

Approach	Activities
Gender aware	Recognising social differences between men and women; Recognising that such differences call for strategies and approaches that accommodate the differences without discrimination or prejudice; Accommodating activities and technical assistance in-keeping with traditional gender norms where this is the community preference; Ensuring equal compensation for male and female headed households; Ensuring that female heads of household receive compensation awards, rather than the oldest male in the household
Gender specific	Providing single-gender activities, such as separate as well as mixed meetings and discussion groups; Identifying, with affected women, the issues and impacts that need to be addressed in the ESMU; Identifying, with affected women, the measures and actions that need to be included in the ESMU to address those issues and impacts
Gender transformative	Integrating design elements and activities or measures intended to improve the status of women and contribute to greater gender equity

All three of the above approaches are embedded in the ESMU, with the gender transformative approach being used as much as possible. This will include, for example:

- Training delivery aimed at increasing women’s awareness about, and knowledge of, their rights, and boosting their confidence in order to encourage them to participate in community-level decision making leading to greater empowerment;
- Engaging men as parents in early childhood development programs;
- Involving women in Project-related construction activities;
- Involving women in decision-making regarding the provision of facilities and infrastructure (planning and design) at the new resettlement site;
- In respect of providing new title to land at the resettlement site, if the lost land was originally in the name of the man only, he will be encouraged to share the title of the new land with his wife; and
- Designing livelihood restoration and development programs that include systems to provide sufficient and convenient supplies of fuel wood and fodder, rice mills and

threshing machines, free or low cost provision of push carts so women can trade in local markets, child care provision to allow them to participate in livelihoods training, daily production and community management, and health care services (including family planning).

However, the provision of women's basic needs alone is insufficient to ensure equitable outcomes from resettlement in the long run. Beyond support to adapt to the resettlement site, there needs to be support for strategic changes to discriminatory gender norms. Programs like women's literacy classes, scholarships for young women to attend higher education, training and appointment of women village facilitators, provision of women in leadership training, and policies that specify women's equal access to compensation, their status as co-household head for signatures of land titles and other agreements, and employment opportunities.

- **Data Collection**

The census and inventory of losses (IOL) data has been disaggregated by gender for both head of household and household members. Discussions and interviews with PAPs have also included gender dimensions in respect of socio-economic status and household characteristics. The results of the consultations have been used as supplementary material in interpreting the results from the census and IOL.

The IOL and assets survey was conducted on the principle of equality in land rights. Household and farming assets, in general, belong to both the female and the male heads of household. However, in some cases only one spouse owns the land, or in female headed households, the ownership can be in the name of the oldest male. Assuming that land ownership is in the names of both the male and female head of household could create tensions or legal problems. Therefore, during the IOL the recorders discussed ownership with participants, to determine whether the original owner was male, female, or the land was owned together. In respect of providing new title to land at the resettlement site, if the lost land was originally in the name of the man only, he will be encouraged to share the title of the new land with his wife.

- **Gender Awareness Training**

Gender sensitive approaches require people with appropriate training, awareness of, and capacity to, mainstream gender issues into daily activities can be limited. Gender training and awareness raising will be conducted for the implementing agency, district and provincial committees established to assist the resettlement process for the Project, and various contractors engaged to implement the Social and Environmental Management Unit (ESMU) and social action plan (SAP).

Providing this training and awareness raising early at the commencement of project implementation will ensure that implementers are better able to identify and address the different needs of women and men in the resettlement and livelihood restoration and development process.

- **Monitoring**

Monitoring systems and methods will be designed to ensure that gender specific concerns are being addressed, and gender-specific indicators will be integrated into monitoring programs.

Each resettlement activity or group of tasks will be set a Gender Balance Target (GBT) to ensure the involvement and participation of women. GBTs will be particularly important for

access to training, job opportunities, and selection of PAPs to represent village or AH concerns on various committees.

3.3 The Project's Resettlement Policy

The DSHPP resettlement policy is based on the policies formulated for other hydropower projects in Lao PDR that have been accepted by the Government. Consistent with Decree 192, the objectives of the DSHPP's resettlement policy are (i) to avoid involuntary resettlement wherever feasible; (ii) to minimize resettlement where population displacement is unavoidable by choosing alternative viable project options; and (iii) where involuntary resettlement is unavoidable, to ensure that those affected receive assistance under the project, so that they will be at least as well off as they would have been in the absence of the project.

3.3.1 Basic Principles

This policy outlines the basic principles and measures for compensation and mitigation of resettlement impacts resulting from the DSHPP, as set out below:

- PAPs will be systematically informed and consulted on compensation and/or resettlement options, including relocation options/sites, and socio-economic rehabilitation measures, the acquisition of lands, assets and possible impacts on their livelihoods. They will be informed of their rights and options and be invited to participate actively in the identification of mitigation and rehabilitation measures;
- The PAPs are to be identified and recorded as early as possible in order to establish their eligibility through a population record or census that serves as an eligibility cut-off date, preferably at the subproject identification stage, to prevent a subsequent influx of encroachers or others who wish to take advantage of such benefits;
- Eligible PAPs are entitled to compensation and livelihood rehabilitation measures sufficient to assist them to improve or at least maintain their pre-subproject living standards, income earning capacity and production levels;
- In the consultation process, representatives of local governments, village leaders (including spiritual or traditional leaders), civil society organizations such as non-government organizations (NGOs). The customs and traditions, as well as the religious practices of all PAPs, will be respected and protected;
- The institutions of PAPs, and, where relevant of their hosts, are to be protected and supported. PAPs are to be assisted to integrate economically and socially into host communities so that adverse impacts on the host communities are minimized and social harmony is promoted;
- Lack of formal legal rights to assets lost will not deprive any AP from receiving compensation and entitlements. In application of the resettlement policy, distinctions should not be made between PAPs "with" and "without" formal legal title;
- Particular attention must be paid to the needs of the poorest PAPs, and socially and economically vulnerable groups. This may include those without legal title to the land or other assets, households headed by females, the elderly or disabled, and other vulnerable groups, such as people living in extreme hardship, and ethnic groups that may be a minority in specific locations. Appropriate assistance must be provided to help them improve their socio-economic status;
- Where PAPs are particularly vulnerable groups, resettlement planning decisions will be preceded by a social preparation phase to enhance the participation of these PAPs in negotiation, planning, and implementation;

- Compensation rates for physical assets, i.e. houses, buildings and other structures, and non-physical assets such as lost income from productive assets or jobs, will be calculated at replacement cost and included in the ESMU, these costs will be updated and adjusted as required at the time of compensation;
- APs who stand to lose only part of their physical assets will not be left with a proportion inadequate to sustain their current standard of living. Such a minimum size will be identified and agreed upon during the resettlement planning process; and
- For those resettlement impacts that will be non-significant (i.e. will not undermine the livelihoods of PAPs), cash compensation at replacement costs will be offered. For severely affected people (i.e. those PAPs experiencing significant impacts) sustainable livelihood restoration measures will be identified in conjunction with PAPs;
- An independent grievance redress mechanism, linked with existing formal and informal systems and cognisant of cultural requirements, will be established to solve resettlement related disputes and complaints from PAPs; and
- All land acquisition, compensation, resettlement and rehabilitation activities need to be satisfactorily completed and the project area cleared of all obstructions before the commencement of civil works.

3.3.2 Compensation Principles

- All PAPs who will experience impacts and losses under the DSHPP will be entitled to adequate and prompt compensation for, or replacement of, assets lost;
- Proof of residency, or traditional use, from the village administration is required to establish entitlement to compensation;
- Compensation, based on the principle of replacement cost, will be provided for land, structures (including community buildings), crops and trees, and any other assets and activities that will be affected;
- Following the completion of the detailed measurement survey (DMS) and updating of the ESMU, based on detailed design and demarcation of the impact zone on the ground, the Project will provide residential/homestead, garden and/or agricultural-forestry production land for any household relocating as a result of the reservoir or access roads. For any household not wishing to receive any such land or housing the DSHPP will pay cash compensation at replacement cost based on the local market value prevailing at the time;
- Productive trees i.e. fruit and timber trees shall be compensated according to the agreement between the concerned parties and/or locally prevailing market prices and include the opportunity losses of future harvest forgone; and
- Non-productive trees i.e. ornamental trees and shrubs shall be compensated according to agreement between the concerned parties and/or locally prevailing market prices.

3.3.3 Relocation Principles

- The relocating households will, as a matter of their preference, be relocated within Khong District, as close to their existing villages as possible. Those few households, or families as the case may be, wishing to relocate elsewhere will have that option and will be paid adequate compensation;

- Villages will be resettled as villages and according to their traditional groupings;
- The site will be fully prepared and developed prior to relocation of AHs. The new villages will be provided with appropriate community infrastructure, services and utilities as specified in the ESMU;
- The PAPs and village administrations are meaningfully consulted on, and participate in, the planning and design of their new settlement and production areas;
- Special measures will be identified and included in the resettlement program for those vulnerable PAPs to assist them to take care of their needs and foster self-reliance;
- The construction of infrastructure and provision of services and utilities in the new resettlements site will be in accordance with designs approved by the resettlement committee in the best interests of the PAPs and host community population in and around the resettlement site;
- The Project will provide houses at the resettlement site ranging from 40 m² for households of one to four people up to 160 m² for households of 16 or more people. Each house will be constructed of permanent materials to a layout preferred by the AHs (reflecting religious and cultural beliefs). Allowances for transportation (of families, household effects, livestock etc.) will be provided by the Project to each relocating household, or family as the case may be;
- Households, or families as the case may be, resettling outside the resettlement site (to other localities) will receive full compensation from the Project in one single payment for all land and assets/property affected by the Project, and will be provided a transportation allowance to their destination. Any self-resettlement proposals must be reviewed for feasibility and approved by the resettlement committee before agreement to cash payment;
- Households, or families as the case may be, in the DSHPP Direct Impact Zone, will be entitled to resettlement assistance as well as compensation. The resettlement transition period (from relocation to self-sufficiency) will be minimized through social, economic and environmental support provided during this period;
- Food security will be provided to relocating households, or families as the case may be;
- Insofar as changes in household economic activities are proposed, the replacement opportunities will recognize the ability and interest of the PAPs and as derived through consultation with them; new activities will be introduced on a sound economic basis, with risks identified and understood;
- The allocation of plots of land for production will recognize the need for a diversity of crops, households will be allocated productive land in the amount of 1.5 ha/household (agricultural and garden land) in addition they will receive an allocation of orchard land, NTFP garden and community forest (as set out in the livelihood restoration and development program);
- The socio-cultural composition of the affected villages will be recognized in the resettlement plans and their implementation. Special measures will be planned for vulnerable groups; and
- Any host community materially affected by the resettlement program will be compensated according to the degree of the impact.

3.4 Entitlement to Compensation and Assistance under Project

3.4.1 Entitlement

The project entitlements presented below will address the various types of losses, as expected for the DSHPP and as identified and presented in detail of this chapter. As set out, absence of legal or formal title to land is not a bar to compensation. Both male and female PAPs will be equally consulted and their rights recognized. Negotiations and compensation payments and livelihood restoration will be with both male and female head of each household.

As a priority, compensation for land will be based on the principle of “land -for-land” of equal size and/or productive capacity, as satisfactory to PAPs. However, at the request of PAPs, compensation for loss of land can also be paid in cash equivalent to the current market value of lost land. If the head of household is married, land title for new land will be issued in the names of both the husband and wife. PAPs will not be charged for taxes, registration, land transfer costs, or any other transaction costs. The various entitlements for losses anticipated under DSHPP are set out in the above matrix

3.4.2 Special Assistance and Allowance

In addition to compensation, at replacement cost, for lost and affected assets, relocating and vulnerable PAPs will be entitled to additional measures to assist in restoring, rehabilitating, and if possible, improving, their standard of living and well-being. As set out in Articles 7 and 8 of Decree 192, such additional assistance may come in a number of forms as described below.

3.4.1.1 Relocation Assistance and Transition Support

APs displaced and/or affected due to the loss of income and livelihood shall be provided the following assistance until their income levels and living conditions can be stabilized: (a) transport allowance or assistance in kind to transfer to the resettlement site or their choice of relocation; (b) food allowance, in cash or in kind, to compensate for income lost, during the transition period; (c) 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.

3.4.1.2 Economic Rehabilitation

In addition to compensation, and measures as set out above, PAPs will be entitled to assistance to ensure economic rehabilitation/restoration and livelihood development support. Such measures include: (a) all PAPs severely affected by the project due to loss of 10% 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 enabling them to attain at a minimum pre-project livelihood levels; (b) 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 not available, options built around opportunities for employment or self-employment; (c) for displaced persons whose businesses are affected due to the project, in addition to compensation for lost land, structures, and income, assistance shall be given to finding replacement sites for business as appropriate; and (d) rehabilitation measures will 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 national poverty line.

3.5 Other Institutional Arrangements: Interagency Co-ordination

Liaison with Water Resources and Environment Administration (now MoNRE) and MEM-DoE has been maintained during the course of preparation of the 2007 SIA and its update. The national and provincial bodies were involved in the initial Stakeholders' Meeting in Pakse. These parties were consulted in relation to the second Stakeholders Meeting in the DSHPP area and their equivalent organizations at the Champasak Province and the District level were invited to the meeting.

Notes on venues, attendance, organizations represented and topics discussed were kept for these two meetings and are included in Annex E (Appendices K and L).

4 BASELINE INFORMATION

4.1 The Previous Studies

This section summarizes and updates the results of the studies completed for EIA 2007, including:

- Undertaking a household socio-economic survey and analysis of the main communities affected by the Project – see Annex E, Appendix A,
- Preparing a detailed Resettlement Action Plan (RAP) for the moving of 11 families from Ban Hang Sahong and Ban Hang Sadam,
- Preparing a preliminary Social Management and Monitoring Plan (SMMPP) for the DSHPP,
- Completion of a Public Health Survey for the main communities in the DSHPP area – see Annex E, Appendix D,
- Undertaking investigations and reporting on the Unexploded Ordinance (UXO), and tourism in the surrounding areas of DSHPP – see Annex E, Appendices E and F.

4.2 Regional Setting

The DSHPP is situated in Khong District, one of the ten districts in Champasak Province and is located in the extreme south bordering Cambodia. Administratively, Khong District is divided into eleven clusters of villages of which five are situated on the eastern bank of Mekong River and six among the islands in the Mekong River. The general makeup of Khong District is:

- Total land area covering about 149,600 ha of which 103,250 ha is forest area and 33,370 ha is agricultural land
- 134 villages with some 13,147 households and a total population of the district is 72,922 persons of which 37,947 (52%) are female
- Ethnic diversity is dominated by people of Lao Loum (98.3%) with a small proportion of Brou (Mon Khmer) (1.7%)
- Main livelihoods are a combination of cultivation of rainfed paddy, which is sustenance for families; and fishing, which is for sustenance and cash income with cattle rising and small businesses also important on the mainland.

With numerous islands, Khong District is difficult to administer especially during the wet season as many of them rely on boats as their only means of access because of the high levels of the Mekong. The DSHPP area is included.

Highway 13 South is the prime access route in the region, providing access to the DSHPP and increasing in importance with increasing traffic volumes. Major developments within this part of Khong District include extraction of forest resources and tourism. The latter is essentially based on the attractions of the islands focused on accommodation facilities on Don Det and Don Khone and the attractions of Khone Phapheng waterfall.

4.3 Island Communities

The DSHPP is on Hou Sahong, the channel that separates Don Sadam and Don Sahong. The other two main channels on either side are Hou Sadam and Hou Xang Pheuak. All three are major channels of the Mekong River and are passable by fish throughout the year with Hou Xang Pheuak having many barriers to upstream fish passage and Hou Sadam being much narrower than Hou Sahong.

The islands of Don Sadam and Don Sahong are essentially subsistence communities based on agriculture and fishing with limited local trading opportunities other than for minor agricultural products such as fruit crops and small livestock. Only small shops with limited stock made up of essentials (e.g., soap products and petrol) and refreshments exist in these

island communities. All major items are brought on trips by boat to mainland Mekong River communities.

The general land areas under control of the village administrations are indicated in Table 5 but as noted this is complicated by the lack of registered Town Plans with the Khong District authorities. The administrative areas of Ban Hang Khon, Ban Hang Sadam and Ban Veunkham border Cambodia. The Project site on the Hou Sahong will directly affect the three village administrative areas on the islands (see Table below).

Table 5 Administrative land areas of the Project affected communities

No.	Village	Total - ha	Remarks
1	Ban Hang Sadam	369.1	No registered plan with District
2	Ban Hua Sadam	133.0	No registered plan with District
3	Ban Don Sahong ^A	125.6	No registered plan with District
Affected Communities		627.7	
4	Bung Ngam/ Veunkham	8,171.8	This is a merged village representing Veunkham and Bung Ngam
5	Hang Khon	643.1	Has registered Town Plan
Total		9,442.6	

A - Ban Don Sahong is comprised of three separated hamlets namely Hua Sahong (Head Sahong), Sahong Kang (middle Sahong) and Hang Sahong (Tail Sahong). The last is subject to resettlement. Source: Annual Report of Khong District, 2009.

4.4 Socio-economic Analysis of Project Area

4.4.1 Introduction and Methodology

In the 2007 SIA work, a socio-economic baseline survey was conducted in the general project area.³ The survey team consisted of 10 persons; eight from the contractors and two from Khong District Agriculture and Forestry Extension Office (DAFEO) This survey included a household survey of six villages in and around the DSHPP including:

- Three villages on the islands of Don Sadam and Don Sahong
- One village on an adjacent island: Ban Hang Khone Tai
- Two villages on the mainland at Ban Thakho and Veunkham/ Bung Nam.

The household (HH) surveys included 60 interviews from the island communities and 57 from the mainland communities, for a total of 117 out of 551 households or 21% sampling rate. Analysis of the HH Survey was executed using the SPSS system. The overall socio-economic survey included group discussions with village administrations, gender groups and guesthouse, restaurant and boat service operators as previously outlined in Table 1 and selection of interviewees in Table 2. The details of the socio-economic survey including results of the household survey are included in Annex E, Appendix A.

That sample was considered representative of the DSHPP project area and the overall results were accepted. In the process of revising the EIA 2007, an additional 10 households in the hamlet of Ban Hang Sahong were interviewed and the results of that household survey are contained in the Resettlement Action Plan Report. Further interviews were held in 2009 to evaluate gender issues and impacts on vulnerable people. The full descriptions of that process (methods results etc.) are attached as Annex 1 of this SIA.

³ ATM Consulting Co. Ltd. assisted by a team from National Agriculture and Forestry Research Institute (NAFRI)

4.4.2 Population Characteristics

A complete analysis of the 2007 Household Survey is included in Annex E, Appendix A and only the main factors are summarized in this section, with the emphasis on the island residents.

The history of the island communities is mixed with some coming during the colonial period (1890s to Don Sahong) to assist with transmission of goods and people and others from outlying areas such as Khong Island migrating for new opportunities such as availability of land and for fishing (1930s and 1940s) to Don Sadam. The population of the island communities is 1,398 persons with a male:female ratio of 1:1.05 and makes up a little over 36% of the project area's population. The average family size is approximately 5.8 persons. The majority of the island residents are Lao Loum at 98.7% with a small number of Mon Khmer persons at 1.3%, as shown in Table 6.

4.4.3 Sufficiency and Disadvantaged Groups

Some 8% of the island households directly affected is indicated to be "below sufficiency levels" but this increases to almost 22% for mainland residents, reflecting their lack of agricultural lands or recent migrant status in Thakho (Table 7). Also of concern is the 9% level of female headed households on the island, which would warrant particular attention when trying to implement a social action plan to help these communities. There is a relatively high incidence of orphans in the mainland communities which reflects their functions with the recent presence of transient populations. Particular attention would be given to these groups during further planning for DSHPP.

Table 6 Village Populations and Ethnicity

No.	Village	Population Numbers				Ethnic Composition	
		Total	Male	Female	Families	Lao Loum (%)	Mon Khmer (%)
1	Hang Sadam	527	284	243	96	100	0
2	Hua Sadam	426	220	206	74	99.6	0.4
3	Don Sahong ^A	445	213	232	71	95.9	4.18
Subtotal (Islands)		1398	717	681	241	98.7	1.3
5	Hang Khon	282	135	147	49	100	0
4	Veunkham	998	481	517	198	100	0
Subtotals (Others)		1280	616	664	247	100	0
Total		2678	1333	1345	488		

A-Ban Don Sahong is comprised of three (3) main communities: Hua (head) Sahong (44 households), Sahong Kang (middle) (17 households) and Hang (tail) Sahong (10 households) for a total of 71 households.

Table 7 Living Standards and Disadvantaged Groups of Project Area

No.	Village	Total HHs	Sufficiency		Number of Disadvantaged		
			Below	Enough	Female Headed HH	Orphans	Physical or Mental Handicap
1	Hang Sadam	96	3	93	5	1	4
2	Hua Sadam	74	7	67	10	3	1
3	Don Sahong	71	20	51	6	10	3
Island Subtotals		241	30	211	21	14	8
4	Thakho	174	74	100	5	10	4
5	Veunkham	198	10	188	16	14	8
6	Hang Khon	49	7	42	6	0	1
Other Subtotals		421	91	330	27	24	13
Total		662	121	541	48	38	21

Note: Sufficiency criteria used were developed by the Poverty Alleviation Program and are based on permanent house, self-sufficiency in agricultural production and access to school, safe drinking water and health treatment.

4.4.4 Electricity, Transportation and Communications

Electricity network poles have been erected to extend supply to Veunkham, although conductors were not strung (in 2009). Two villages, Thakho and Veunkham are accessible through sealed roads connected to the paved Highway 13 South. Hua Sadam, Hang Sadam, Don Sahong and Hang Khone are situated on the islands and can only be accessed by boat. Both motorized and paddle boats are important transportation means in the area. Some 160 motorcycles and 320 bicycles are also available with only small numbers in the island communities. Two telephone networks; Lao GSM and ETL exist in the project area but only about 4% of the population have mobile phones. These have facilitated people in accessing information for businesses and for communicating with village people, although the number of mobiles owned by the island residents is still small. It is obvious that motorcycles, bicycles and mobiles dominate the mainland and boats the island communities.

Table 8 Retail Facilities, Transportation and Communications in Project Area

Descriptions	Numbers
Retail shops	40
Restaurants	25
Small drum-based petrol outlets	14
Drug stores	3
Tailor shops	2
Mechanical repair and battery charging shops	3
Hand tractors	41
Cars and Trucks (light vehicles)	5
Motorcycles	160
Bicycles	320
Boats (paddle)	202
Boats (motorized)	149
Mobile phones	182

4.4.5 Cottage Industries

The most active cottage industries in the area, from which significant income was made by involved households, are fish processing, rice milling, furniture and battery charging. All are small scale household based business operated by individual households. Table 9 shows that about 27% of households have engaged in fish processing business.

Table 9 Cottage industry in the Project Area

No.	Types	No. HH involved	Percent
1	Fish processing	180	27
2	Rice milling	24	3.6
3	Furniture	2	0.3
5	Noodle making	5	0.7

4.4.6 Access to Education Facilities

The educational background of majority of the interviewed families was very low with about 57% having primary school level, 20% having lower secondary level, and 8% having upper secondary or vocational level schooling. The illiteracy rate was high at 8.5%. Those with upper secondary level were about 7% and less than 1% completed vocational or technical college training.

Every village in the project area has a primary school. There were 482 students in all the primary schools with 19 teachers (Table 10). Children in the project area, after their primary school, continued their lower secondary education at three (3) locations; either at Hua Sadam the only lower secondary school in the project villages, or at the schools at Nakasang or Khinak, depending on distance and family relatives in these places.

However, less than 10% of the primary school students progress to secondary level. Most leave school after completing primary studies to engage in fishing and farming activities. When this survey was made there were 28 students at lower secondary level and 16 at upper secondary level from all six villages.

Education above lower secondary level is not available in the Project area and village children must go to Nakasang or Khinak. Students seeking tertiary education must move to Pakse (Champasak) or Vientiane. However, few families can afford to give their children this opportunity.

Table 10 Access to education

School	Teachers	Students	Remark
Primary (class 1-5)	19	482	Study at the villages
Lower secondary (class 6-8)	-	28	Study at Hua Sadam, Nakasang and Khinak
Upper secondary (class 9-11)	-	13	Study at Nakasang and Khinak
University study	-	3	Pakse and Vientiane municipality
Total:		526	

4.4.7 Access to Water, Sanitation and Health Services

Across the project area, there are only 25 deep wells and all are located in mainland villages. The majority of the population, especially in island villages is still dependent on Mekong water as a source of water for drinking and other domestic uses. None of these island villages has a deep or shallow well. The number of sanitary toilets is limited and only 21% of households have access to a toilet, of which 18% are pour/ flush toilet types and the remaining 79% do not have any type of toilet. The potential for the Project to assist in

improving the standard of water supply and sanitation are emphasized in the SMMP and RAP.

In the project area, there is only one primary healthcare center at Ban Khone Yai. The health related services available included 15 midwives, 6 health workers, 8 traditional healers, 4 drug revolving funds and 3 pharmacies. Most villages had traditional healers and midwives of varying capabilities. People with serious illness attend either Khong District Hospital located about 19 km (from nearest village) or 45 km (from furthest village) or Khinak healthcare Clinic or Pakse Provincial Hospital). Village health workers are trained in primary health care service, are provided with drug revolving funds and are supported by government funds or NGOs' projects. Campaigns are run to vaccinate children for malaria, tuberculosis and diarrhea prevention, and visits from the District Health Office follow up on health care activities and pre-season of disease outbreaks.

Detailed comments on the health aspects including the incidence of diseases are contained in Section 4.5 and differ somewhat from the data collected from household survey. They do show that:

- Malaria was the most common disease reported with more than 19% of people infected. But this has improved with provision of mosquito nets
- The incidence of diphtheria (5%) and diarrhea (4%) are also common
- No cases of HIV/AIDS are reported.

The SMMP for the DSHPP includes recommendations for supporting key health activities.

4.4.8 Occupations

Some 80% of persons classify themselves as farmers because land ownership and rice are the keys to their well-being, but fishing and other agriculture are both seen as important sources of cash income. Small numbers of the local population (11%) indicate trading and casual labour as their main source of income.

4.4.9 Food Consumption

Rice and vegetables are the two main food items consumed daily and fish is almost the exclusive protein source with consumption rates of 19 to 21 times a week. Egg and fruit intake was low, at 3 to 6 times per week and a few households consume milk.

4.4.10 Trade

There are three main markets where local villagers in the project area buy necessary goods and rice and also sell their products. Mainland villagers mainly go to Veunkham market by motorcycle and bus to sell their products, while those on the islands either go to Khinak, Nakasang or Veunkham depending on their proximity. Access to market for these villages was solely by boat (Table 11). Occasionally they also go to Pakse. Trading of fish products and livestock were the most active trades in the project area. Traders from Pakse come to buy these products at these markets and then transport them to Pakse. The main products sold by local villagers include fresh fish, dried fish, processed fish and livestock. Livestock were also slaughtered and shared among people in the village itself. This traditional type of trade was quite common in the project villages.

The other main business in the area was retailing. Goods like fuel, clothes and cooking ingredients were bought from other places, chiefly from Pakse and then sold in the area and occasionally in Cambodia, with fuel being the most important traded commodity to Cambodia for transport and lighting purposes. Although prohibited, certain quantities of fish were reported to be bought from Cambodia due to cheaper prices. This is then sold to traders coming from Pakse. Despite the very close proximity of the Cambodian border, village trade with Cambodia was generally not active.

Table 11 Access to market in surveyed area

No.	Destination	Travel time	Mode of travel
-----	-------------	-------------	----------------

1	Veunkham market	10-30 min.	Motorcycle and boat
2	Khong market	1.30-4.00hr 15 -30 min.	Boat Bus
3	Pakse market	2.00h-2.30h	Bus
4	Nakasang market	30 min.	Boat

4.4.11 Services

The project site is well known for its tourist attraction sites which include Khone Phapheng and the freshwater dolphin (Irrawaddy dolphin) Fish Conservation Zones. There are not many types of service to tourists provided by people in the project area. At Khone Phapheng, most services were run by outsiders - of more than 15 restaurants, only two were owned by locals, both from nearby Thakho. A few people occasionally sold Non Timber Forest Products (NTFP) and traditional medicines in the area.

People living in the project area are very dependent on boat transport (5.5-13.0 HP engines). These are used for all personal transportation and also for seasonal tourist operations (e.g. dolphin watching). This is only a source of income to local boat operators in Veunkham and Hang Khon. It is not a service provided in the other communities in the project area or in villages such as Nakasang and Khone Tai further north. Attention should be paid to this fact and local hiring policies adopted for the island villages and Thakho during construction activities.

Active and organized boat services were found with two being formed in the villages of Bung Ngam (also known as Veunkham) and Hang Khone in 2002 and 2006, respectively (Table 12). Both the groups were engaged in two types of services including village to village transportation and transportation service for tourists to the dolphin area. The groups are operated in a way so that its members rotate turns among themselves to provide service either for dolphin watch or for village to village transport. Each member has to pay fee on trip basis (about 10% of the fare for any single trip) to the group. This fee was used to cover administration and operational costs of the group and as development funds for the village.

Table 12 Boat Service groups

Village Name	Year of establishment	No. of boat/member	Horse power of motors used
Bung Ngam	2002	24	8; 11 and 13
Hang Khon	2006	20	5.5 and 13

The high tourist season for dolphin watching tourism is from November to April. For village to village transportation, two types of fares were applied i.e. per head and trip basis depending on the number of passengers (Table 13). The number of tourists buying the service in both villages has been decreasing due to fewer tourists visiting Done Det.

Table 13 Boat Fares Charged

Village Name	Fare to Irrawaddy Dolphin site	Fare between Bung Ngam and Hang Khon		Tourist trend compared to 2005
	Per trip	Per trip (LAK)	Per head (LAK)	
Bung Ngam	90,000	60,000 – 80,000	10,000	Decreased 10%
Hang Khon	50,000	60,000 – 80,000	10,000	Decreased 80%

There were only two Lao food restaurants; one with 80 seats and the other with 300 seats in the area. High season was between November and June. Restaurant business at Bung Ngam was reported to be on the rise compared to 2005.

Other services like machinery repair were also found, but not very active. Although some local residents own vehicles, land transportation services (i.e., minibus rentals) were run by people from outside the area, mainly Pakse.

4.4.12 Household Income and Expenditure Patterns

The income patterns of individual households were quite varied and small except for incomes from fishing and trading as shown in Table 14.

Table 14 Sources of Income from Household Survey

No.	Source of income	Rank §	Total Income for All Households
1	Sale of fish	1	USD 68,900
2	Sale of livestock	2	USD 21,500
3	Sale of agricultural products	3	USD 7,500
4	Casual labor	4	USD 5,900
5	Cash remittances	5	USD 5,100
6	Business and service	6	USD 88,900*
7	Sale of forest products	7	USD 11,400* Veunkham Only

Notes: § 1 = very important to 7 = less important, and
* Mainland only and applies to businesses

Household income came from both on-farm and off-farm activities and are important sources of people's income. Table 14 shows that the most important sources for project area residents are from fish followed by livestock and agriculture production. The amount of cash income from particular sources varies greatly among households and across the type of products they sell (Table 15).

Although the greatest number of households (74%) were engaged in paddy cultivation, only limited numbers (14%) have surplus production of rice to sell. Whereas for fishing, 77% participate and 65% sell fish, to earn an average of 5,900,000 Kip (USD 600) per household per year. The other big earner was trading with 26% participating and earning for an average of 7,590,000 Kip (USD 755). The other components of individual household cash earnings were quite small but were important to those benefiting, to pay for daily expenses. These data highlight the importance of fishing as the primary source of cash income for 65% of the project area households.

Table 15 Sources of Annual Household Cash Income from Project Area

Type of income	% of HH involved in activity	% of HH getting cash income	Total cash income for surveyed households (Kip)	Ave. cash income per HH getting cash income (Kip)
Agriculture				
Rice	74	14	56,087,000	479,376
Vegetable	3	1	3,000,000	25,641
Fruit	63	27	13,790,000	117,863
Other	19	1	2,500,000	21,367
Total		-	75,377,000	644,247
Livestock				
Buffalo	46	11	70,900,000	605,982
Cattle	22	15	84,700,000	723,931
Pigs	55	33	41,420,000	354,017
Goats	1	1	200,000	1,709
Poultry	70	38	18,720,000	160,000
Total		-	215,940,000	1,845,639
Other sources				
Fish and fish products	77	65	688,325,000	5,883,120
Timber	5	5	114,300,000	976,923
Firewood and charcoal	1	1	2,000,000	17,094
Wild animals	1	1	300,000	2,564
Services	8	8	54,440,000	465,299
Wages earned	9	9	58,720,000	501,880
Trading	26	26	887,940,000	7,589,230
Handicraft	2	2	250,000	2,136
Remittances	7	7	51,200,000	437,606
Other income	16	16	112,590,000	970,603
Total		-	1,970,065,000	16,846,455

The expenditure patterns were more difficult to determine but in general indicate where money is spent and what the project area households see as far as priorities for their spending of cash income (Table 16). The calculated average annual expenditure per household was 8,800,000 Kip or USD 1,000. Analysis indicates these expenses to be (1) medicine, (2) rice for subsistence, and (3) transportation. These expenditure items account for some 35% of expenditure and are all essential to local household survival, especially those on the islands. Another 40% of household income is expended on items such as (4) clothes, (5) house construction, (6) education, (7) meat, (8) fish, and (9) energy. These expenses are also essential and is noted that fish ranks 8th on the list, again highlighting its ready availability and importance. It is also interesting to note the relatively low ranking of education (6th), partially due to the low amount of discretionary income, limited local opportunities and high expense of having children away from home. In summary, the general low levels of income and expenditure reflect the general economic status of the DSHPP

areas population, which is above the poverty line but heavily dependent on the area's natural resources, particularly fish.

Table 16 Household Expenditure Patterns in Project Area

Expenditure Items	% of Households Included	Average annual expenditure per Household (Kip)	Total (Kip)
Rice	64	1,011,991	118,403,000
Maize	9	5,051	591,000
Vegetable	51	289,504	33,872,000
Fish	50	591,205	69,171,000
Meat	85	638,333	74,685,000
Oil/spices	85	380,025	44,463,000
Firewood/charcoal	32	147,880	17,302,000
Electricity	25	79,726	9,328,000
Kerosene	55	422,111	49,387,000
Medicine	91	1,323,162	154,810,000
Education	67	658,598	77,056,000
Clothes	94	772,957	90,436,000
Tools for production	46	215,487	25,212,000
Household items	52	147,726	17,284,000
Construction of house	25	723,589	84,660,000
Transport	60	902,478	105,590,000
Communication	37	415,247	48,584,000
Others	10	207,413	24,060,000
Total	-	8,799,391	1,044,303,591

4.4.13 Energy Use Patterns

Firewood and charcoal are the main sources of energy used for cooking. Firewood is easily collected from adjacent degraded forest and there are no specific sites nominated for this purpose. Other sources of firewood include drift wood from the Mekong River during the flood season. Generally, collection is for home consumption not for sale and a permit is required if wood is collected for sale or commercial charcoal making. Charcoal is used in the wet season on the islands and many residents make their own charcoal. Charcoal is made commercially as a by-product of logging operations, past or present, and is available for purchase only on the mainland. It is sold onsite at about Kip 10,000 per 50 kg bag and 32% of households were reported to spend more than Kip 150,000 per year on buying charcoal or firewood for cooking.

For lighting purpose, three energy sources electricity, kerosene, and battery were identified. No one reported using solar energy. Only Thakho has been electrified to date. Kerosene has been traditionally used for lighting but is gradually being replaced by small gas generators, but this is limited on the islands. About 55% of households reported spending an average of about Kip 420,000 per year on kerosene for lighting.

Table 17 Energy sources

No.	Name	Electricity	Generator set	Kerosene lamp	Solar energy	Battery
1	Bung Ngam	No	Yes	Yes	No	Yes
2	Hua Sadam	No	Yes	Yes	No	No
3	Hang Sadam	No	Yes	Yes	No	No
4	Hang Khon	No	Yes	Yes	No	No
5	Don Sahong	No	Yes	Yes	No	No

"Yes" denotes: found in village

4.4.14 Local Village Administration

This aspect is considered most important as it is these organizations the DSHPP would have to liaise with on a day-to-day basis. The administrative make-up of the village authority units include:

- A village head and his/her two deputies; with the village head elected every two years and a new team formed;
- Administration is organized into several functions such as healthcare, education, finance and land tax, culture, forestry, statistics, quasi-police, and quasi-military with a villager as leader;
- Two important village organizations are the Lao Women's Union and the Lao Youth Organization, with roles in assisting in village development activities;
- Village elders' organization whose role is to assist in village administration, in conflict resolution and building awareness for local development programs; and
- Under certain circumstances, specific fishery group or resource development committees can be organized to perform tasks for political, security, socio-cultural and economic development purposes.

The whole village authority is set up under the leadership of the village party committee, which provides overall guidance and in principle, should officially report directly to the District Governor. However, in practice, special District teams are formed to oversee local matters in terms of specific village clusters or zones to which each village reports. This administrative set-up is constantly changing and project site managers and supervisors would commence by contacting these bodies prior to initiating any work and establishing a firm relationship with village authorities.

4.4.15 Gender Roles and Patterns in Local Villages

The findings of the previous study were confirmed in 2009. No women are found to be in any designated village authority leadership positions. However, at the individual household level there are shared responsibilities and involvement for all household and economic activities. There are clear connections between types of activity and gender as shown in Table 18. Men are engaged more in activities needing more physical strength associated with agricultural land preparation such as plowing (88%), canal maintenance (83%), rice threshing (68%) and transportation (67%). Women tend to dominate all the other 16 tasks included in the HH Survey such as:

- Rice sowing, weeding, harvesting and hulling (62 to 95%)
- Cooking, looking after children and sewing clothes (94 to 99%)
- Fetching water and maintaining water supply systems (76% and 91%)
- Fire wood and fodder collection (78%)
- Livestock raising (77%)
- Selling home products or trading, shopping (80 to 84%).

Gender roles in fishing activities have been identified and listed in the survey of Gender roles included in this report as Section 9.4. Fishing tasks requiring heavier labour are usually undertaken by men, whereas women take the major role in fish processing. Both are active in catching fish although women participate more during the dry season and in catching smaller species.

Table 18 Gender Share in Household Activities in Project Area

No.	Activities	Share in labor (%)	
		Male	Female
1	Plowing/digging	88.4	11.6
2	Manuring/Fertilizing	47.5	52.5
3	Land preparation	76.4	23.6
4	Plantation/Sowing	25	75
5	Weeding/Hoeing	15	85
6	Canal maintenance	83.4	16.6
7	Harvesting	38.4	61.6
8	Transportation/Storing	66.6	33.4
9	Threshing grain	68.4	31.6
10	Fuel wood/fodder collection	22.5	77.5
11	Rice hulling	5	95
12	Livestock raising	23.4	76.6
13	Agricultural labor	47.5	52.5
14	Cooking	0.8	99.2
15	Fetching water	24.2	75.8
16	Maintaining water supply system	8.4	91.6
17	Looking after children	5.8	94.2
18	Weaving or sewing clothes	3.4	96.6
19	Shopping	15.8	84.2
20	Selling/Trading	19.2	80.8

Of particular interest is the dominant role women assume in decision-making affecting all household activities as exemplified by Table 19. This does not include the sale of assets such as land and houses and probably fishing activities. This fact should be acknowledged in the planning of development activities for the social action plan and by project authorities operating in the area.

4.4.16 Village Rights to Natural Forests and their Management

Customary user rights are legally recognized by the GOL and village authorities have the duty to enact local rules that are specific to local traditions, customary rights of use and regulate land use within the village boundary. The rights of traditional management systems apply to village forests and a land-use plan would include a local forest management plan. This includes certain rules and sanctions established by local villagers for certain uses like collection of firewood and charcoal making as stated previously. Villagers freely enjoy traditional rights for collecting NTFPs, firewood, and other materials for household use from the existing forests.

This is an important issue for the DSHPP. Villages in the project area do recognise traditional ownership of land and or traditional rights to access forest and fisheries resources

within accepted boundaries. Even though the village boundaries of Hang Sadam, Hua Sadam and Hua Sahong have not been officially mapped, they are known and accepted by the locals. DSHPP may impact on the three village forests and will certainly impact on traditional rights to trap fish in the Hou Sahong and adjacent channels.

Table 19 Gender Share of Decision making in Households of Project Area

No.	Activities	Share in decision making (%)	
		Male	Female
1	Choices of crops	35.8	64.2
2	Purchase/ sale of livestock	43.3	56.7
3	Purchase/Sale of house/land	58.3	41.7
4	Purchase/sale of ornaments	27.5	72.5
5	Purchase/sale of crops	27.5	72.5
6	Purchase/sale of fruits	10.8	89.2
7	Purchase/sale of livestock products	45	55
8	Purchase/sale of forest product	30	70
9	Marriage	50	50
10	Family planning	38.3	61.7
11	Education of children	43.3	56.7

4.4.17 Land Use and Tenure

The total land covered by those households interviewed for the project is around 9,870 ha. Of which about 5,000 ha was forested areas; about 680 ha was agriculture; 3,770 ha was grazing land and 430 ha was residential areas (Table 20). Only three villages: Thakho, Veunkham and Hang Khon have completed land use planning at village level since this program was implemented in 1997-98. This requires boundaries of villages and of major land use types such as forest, agriculture and residential areas to be delineated on village maps. No legal allocation of land to families has been done in any of these three villages. Tenure over land has been obtained through two different ways, including inheritance and purchase. There are no legal titles to land in villages in the project area but residents who use any piece of land have to pay land tax on an annual basis to the village authority and District government. This is based on measurements of agricultural plots where people declare their tenure.

The results of HH Surveys in the villages show that the majority had agricultural land but the areas varied greatly (Table 21). This result is skewed by the very limited availability of grazing land to all island communities compared to the mainland (Veunkham / Beung Ngam). The amount of paddy land per household was least at Hua Sadam and Hang Khon,⁴ whereas the household average for the other two villages on the islands was comparable to the area of paddy per HH on the mainland (Table 20).

⁴ This may be insufficient for a household, based on the current yield of 1.6 tonne of paddy per hectare. NB survey of vulnerable people reported

Table 20 Land Use in Project Area

Village	Area (ha)						Area (ha) per HH	
	Forest	Lowland paddy	Garden	Grazing land	Settlement	Total	Paddy	Grazing land
Bung Ngam /Veunkham	4,300	234.4	4.3	3,500	133.1	8,172	1.2	17.7
Hang Khon	354	11.5	5.3	265	7.3	643	0.2	3.6
Don Sahong	28.7	72.3	1	0.7	22.9	126	1.5	0.01
Hang Sadam	300	61.6	2.5	-	5	369	0.6	0.0
Hua Sadam	5.5	77.5	10	-	40	133	1.1	0.0

Note: Based on interviews with the village leaders

Table 21 Average agricultural land holding per household in project area

No.	Village	Average agricultural land holding per	Rice prodn (tonne) ^A	Rice prodn (kg/indiv) ^B
1	Bung Ngam	4.09	375	376
2	Hang Khon	1.14	18	65
3	Don Sahong	0.14	116	272
4	Hang Sadam	0.35	99	187
5	Hua Sadam	0.15	124	279

A – Based on yield of 1.6tonne/ha (see Section below **Rice Production System**)

B – Sufficiency level was estimated at 350 kg/person/yr see below

The land use, ownership and rights of local residents will be of concern to DSHP, particularly as formal village land use plans have not been completed for the three villages on Don Sadam and Don Sahong. This aspect would require considerable negotiation at both the village and District levels to consolidate information and clarify which households have the rights to those parcels of land required for the project.

4.4.18 Local Livelihoods

4.4.18.1 Rice Production System

As noted earlier 74% of local residents are rice paddy farmers and neither irrigated cultivation nor upland cultivation are reported. Rainfed paddy cultivation involves all members of the family at this subsistence level. Hand tractors are being increasingly used in paddy cultivation but the total units is small, with rented tractor use, and tractors also being used for pumping water and transportation of produce and travelling between villages. Glutinous rice of both improved and traditional rice varieties are used and investment in rice production is high among household being about a million kip per hectare to yields. Constraints include poor (infertile) soils, poor soil improvement and low quality seed, periodic drought and flooding and lack of adequate supportive extension services which combine to produce low yields of 1.6 tons per hectare.

4.4.18.2 Rice Sufficiency

Rice production in the project area was estimated to be in shortage based on annual per capita consumption of 350 kg / person / year (Manivong 2004). This is equivalent to a total rice requirement of 1,342 tons per year, while the production is estimated at only 1,076 tons. The 'missing' 266 tonne was supplied by purchases at trading centers in Khong District. At household the level, only 14% of total households were found to have surplus rice production for sale. Some 50% were just sufficient in rice and about 14% have to buy rice due to insufficiency. Within the project area, no island village was self-sufficient in rice (range was 187-279 kg/person/yr). The situation was worst in the village of Hang Khon, just outside the direct area of impact, where rice production level was only 65 kg/person/yr (Table 21).



Photograph of fallow rice field near Ban Hua Sadam, January 2007

4.4.18.3 Livestock Raising

Small livestock raising for pigs and poultry forms a part of the cash income flow for some families in the project area as seen from Table 22. It was among the top household cash earning activities. Major livestock raised include buffalo, cattle, pig, and poultry. Goat has recently been introduced into the area but only a few households are involved. Buffalo are kept mainly for plowing and as a reserve for sale when emergencies occur, and chickens are mainly for domestic consumption. As the data in Table 22 includes the mainland village it over emphasises the value of grazing animals to the to the directly impacted villages island communities (where grazing lands are very limited).

Table 22 Extent of Livestock Raising in the Project Area

No.	Type of Animal	Numbers	Percent of Households	Number of Animals per HH
1	Buffalo	847	46	13
2	Cattle	791	22	30
3	Goat	83	1	83
4	Pig	637	55	10
5	Chicken	7,698	70	94
6	Duck	505	38	12
7	Total:	10,561	-	-

4.4.18.4 Fishing and Fish Processing

Capture fishery is an integral part of the daily activities of most local households for their own food and for cash income. It ranks first among economic activities in which most people were

involved. Villagers do not travel far for fishing as their fishing grounds are less than 3 km from the village. They mainly take all fish caught, regardless of species or size. The high season for fishing in Mekong is mainly during the rainy season around May to July with the low season from December to March.

Fish and other aquatic animal populations are reported to be dramatically declining compared with the situation 10 years ago. This is discussed further in the Project Fisheries Reports (MFCB 2013) and (Phonekhampheng 2010).

The diversity of aquatic resources was also reported to have changed since the 1980s. Fishing regulations have been developed but are not strictly implemented. These include prohibitions on fishing during spawning periods and on the use of methods such as explosive and electric shock (see also the Project Fisheries Reports listed above). Some fish species such as Pa Seua, Pa Buk and Pa Leum were reported extinct from the project area. Other species including Pa Kheung, Pa Khoon, Pa Pian, Pa Erun and Pa Khae were reported as highly threatened. The main fishing gear used by local people are; "gill nets (*mong*) and wing traps (*Lee*)". Wing traps are used only during certain periods (April to July) while *mong* are used throughout the year.

Most people do fish processing at a small scale, mainly for their own consumption but also for sale at local and outside markets. About 27% of households reported having processed fish for sale. The processing at the household level is restricted to dried fish (including pakatao) and different kinds of fermented fish (padek and pasom, etc.). Women do these processing activities.

4.4.19 Villagers' Perceptions on Effects of DSHPP

At the time of the 2007 Household Survey local residents were not fully informed about the DSHPP and its potential effects on their lives. As shown in Table 23, households were aware of critical issues such as:

- Impacts on reducing fish abundance and fishing opportunities
- Potential loss of household assets due to flooding of Hou Sahong
- General negative social impacts, including problems relating to prostitutes, sexually transmitted diseases, and other social disruptions.

However, there was a general willingness to have the dam constructed.

Table 23 shows the perceptions gathered from interviews at household, group and village. All households expected that they would get access to electricity, which they feel to be important for their livelihoods. With electricity people feel that, apart from lighting and other home use purposes, they would also be able to use it for different production purposes and would bring them better opportunities for employment. This may be true or it may not be. They also foresee that, if the project is approved, it would bring better amenities, more tourists and generally better economic conditions. The household level interviews indicated that many villagers feared the project would not be realized.

At the time of the 2007 interviews, local villagers did not have any idea if their land and other assets would be flooded, since they did not know the extent of flooding. However, they did have different opinions when asked about resettlement. Most of them do not want to move to other places but prefer to move to non-flooded parts within their villages or island.

In all cases, appropriate compensation was requested for house reconstruction and to clear new land suitable for agriculture production. Compensation in kind or in cash was acceptable on the condition that it should be at least equivalent to the loss. Their preferences for livelihood restoration were to have suitable land for agriculture with appropriate extension

support and necessary public facilities at the new resettlement sites for education, healthcare, market, secure water supply and electricity.

Table 23 Villagers' Perceptions on the Impacts of DSHPP

Perceptions	HH Level	Group Level	Village Level
Negative Impacts			
1. Reduced fish abundance	1	1	1
2. Increased flooding	3	2	2
3. Resettlement problems	1	1	1
4. Degradation of environment	3	2	2
5. Fear of social disruption and sexually transmitted diseases due to increased workers in the project areas	3	3	3
6. Fear that the project would not be implemented	1	4	4
Positive Impacts			
1. Access to electricity for lighting and domestic use	1	1	1
2. Access to electricity for agriculture production	2	1	1
3. Job opportunities	3	2	1
4. Better opportunity for socio-economic development	1	1	1
5. Bring more tourists	3	3	3
6. More business opportunity	3	2	2
Sites for Possible New Resettlement			
1. Khinak, Veunkham and Nakasang	3	1	1
2. Along Highway No. 13 South	3	2	2
3. Resettle on non-flooded parts of the same village and island	1	2	2
4. Up to the government decision	2	2	1
Compensation			
House reconstruction	1	1	1
Land suitable for agriculture	1	1	1
Compensation type			
In cash equivalent to value of affected asset plus cost for reconstruction.	1	1	1
Cost of transportation	1	1	1
In kind (government provide new house and land)	2	1	1

Notes: 1 - High
2 - Medium
3 - Low
4 - Very Low

4.5 Public Health

4.5.1 Public Health status in the region

The mortality level of a population is an important indicator of its health and well-being. Summary measures of mortality conditions like life expectancy at birth or infant mortality rate have long been used as measures of socio-economic development, or as indices of the quality of life. Data on these health indicators for Lao PDR are presented in (Table 24). The

Infant Mortality Rate (IMR) in Lao PDR was 58/1000 in 2011, which places Lao PDR 34th highest in the world and highest of all ASEAN countries ⁵. Lao PDR also has the highest maternal mortality rate and second highest mortality rate for children less than five years of age in the region.

Table 24 Indicators of Human Health in the Lao PDR

Mortality Rates	Rate in Lao PDR (2010-12)	Lao PDR Rank in World	Lao PDR Rank in ASEAN	Rate in Champasak (2005)
Infant (<1) ^A	58	34	1	67
Child (<5 yrs) ^B	42	51	2	93
Maternal ^C	470	18	1	235

A-Total Deaths per 1,000 Live Births (Lao PDR in 2012)

B-Probability of Dying under age five per 1,000 Live Births (Lao PDR in 2011)

C-Maternal Mortality Ratio, Adjusted (Per 100,000 Live Births) (Lao PDR in 2010)

4.5.2 Public Health Situation in Champasak Province

Champasak province has a population of 650,240 people (2008) and population density (39 people/km²). The provision of public health services at the regional and local level in 2007 is outlined in Annex E Appendix D. In summary the health networks can be characterized by 1 Provincial Hospital with 250 beds, 9 District Hospitals with 140 beds, 62 Health Clinics (HC)s with 194 beds, 1,137 VHV, 809 TBAs, 222 VDKs.

In addition, there is 1 nursing school, 1 factory of pharmaceutical drugs CBF, 47 private clinics, and 246 private pharmacies. The total number of inpatient beds for all health facilities in the provinces is 584 beds, and total number of health workers is 990 (Report by Champasak Public Health Dept. (PHD) in 2008).

The total out-patient consultations in 2008 were 164,301 for all health facilities. The average hospitalization was 4 days and average of occupancy rate is 54.14% for the whole province.

The infant mortality rate (IMR) of less than 1 year was 67/1,000 live birth in 2005, and Under 5 mortality rate (U5MR) was 93/1,000 live birth in 2005. Maternal Mortality Rate is 235/100,000 population (2005), and fertility rate is 4.2%. Activities dealing with MCH are 10,146 cases for antenatal care, 21.77% deliveries at health facilities, 26.47% deliveries at home assisted by trained TBAs.

The PHD put importance on health education based on radio (288 times), TV (86 times) and more than 3000 times of campaign activity on health education in rural area.

Achievements in vaccination in 2008 are: DPT-Hep 3 < 1 year = 73.40%; Polio 3<1 year = 74.25%; Measles of 9-11 months = 62.55%; BGC <1 year = 88.33% ; TT2 for women of 15-45 years = 18.97%; TT2 of pregnancy = 50.88%; Vit A (6-11 months) = 13.58%; Vit A (1-5 years) = 96.35%.

The health statistics for Champasak for 2004-2005 presented in Table 25 reflect the leading causes of hospitalization in the province. Although the parasite infection is very high in Champasak and particularly in Khong district, this was not recorded as a leading cause of hospitalization, because self-treatment is very common for most Helminth infections in children in remote villages.

⁵ <http://www.globalhealthfacts.org/data/topic/map.aspx?ind=91>

Table 25 Top ten diseases reported in Champasak Province in 2004-2005

Rank	Disease	Prov. Hosp	Dist. Hosp	HCs	Private Clinics	Total
1	Influenza	1,408	6,434	4,890	2,311	15,043
2	Sore throat	1,783	2,182	744	4,172	8,881
3	Gastrointestinal tract	2,021	302	2,119	3,834	8,276
4	Respiratory infection	886	2,246	1,844	1,558	6,534
5	Malaria	580	3,462	1,457	863	6,362
6	Neuropathy	1,579	827	175	1,938	4,519
7	Dengue Fever	307	491	0	2,397	3,195
8	Diarrhea	504	198	1,383	931	3,016
9	Accidents	1,203	472	29	0	1,704
10	Circulatory system	1,201	140	0	135	1,476
	Total	11,472	16,754	12,641	18,139	59,006

Table 26 Top ten causes of illness in Champasak Province in 2007

Rank		Prov. Hosp	Dist. Hosp	HCs	Total
1	Gastrointestinal tract	1,580	410	5	1,995
2	Accidents	1,354	268	3	1,625
3	Malaria	1,081	808	27	1,616
4	Diarrhea	604	441	25	1,070
5	Respiratory infection	628	477	9	1,114
6	Throat infections	640	114	1	755
7	Dengue fever	920	337	0	1,275
8	Neuropathy	226	35	4	2,616
9	Hypertension	178	14	0	192
10	Infectious diseases	304	320	28	652
	Total	7,545	3,224	102	13,210

It is noted that accidents are now increasing in Champasak province as well as in Khong district (280 cases for road accidents according to report of DHO of Khong for OPD in 2008, with 60 IPD hospitalized due to road accidents)

4.5.3 Malaria and Dengue Fever

4.5.3.1 Malaria Incidence in Champasak Province

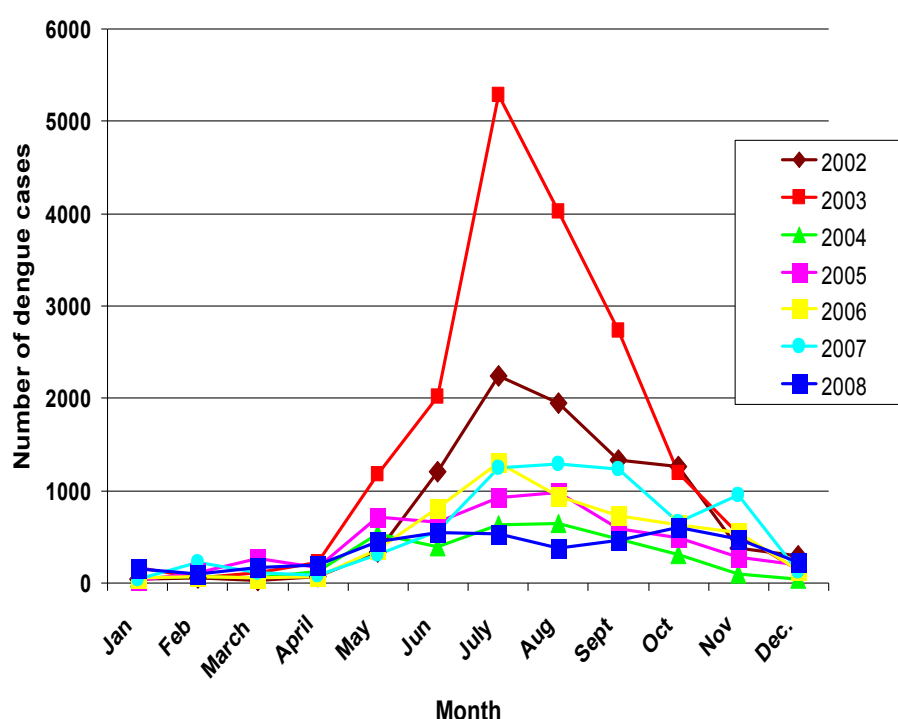
Champasak province has been an area where malaria was endemic, due the landscape and climate of the province. The type of malaria infection was mostly *Plasmodium falciparum*, which can cause cerebral malaria and is the main cause of death among children and pregnant women (Table 27). In 2008, almost all (97%) of people living in malaria endemic areas were using mosquito nets impregnated by chemical substance. This treatment has reduced the frequency of malarial infection in the area in recent years and in 2005 only 15 deaths were reported (see Table 27).

4.5.3.2 Dengue Status in Champasak Province

The number of Dengue Fever cases recoded in 2008 was 1,319 cases of which 10.6% were dengue hemorrhagic fever with 10 deaths. Dengue fever prevails throughout the year, mainly in the urban areas such as Pakse. The status of dengue in Lao PDR is shown on Figure 2.

Table 27 Occurrence of malaria in Champasak province

Frequency/year	2000	2001	2002	2003	2004	2005	Khong Dist. (2008)
Blood samples tested	26,717	26,588	38,217	40,523	65,891	34,398	539
Positive tests	4,341	3,666	3,305	2,596	2,467	1,002	311
+ve for <i>P. falciparum</i>	4,338	3,663	3,302	2,592	2,463	995	267
+ve for <i>P. vivax</i>	2	3	3	4	3	2	44
ospital cases	2,510	2,771	2,151	1,560	1,567	558	189
Deaths	68	70	67	55	22	15	-

Figure 2 Trends in occurrence of dengue fever in Lao PDR

4.5.3.3 Malaria and Dengue Fever in Khong District

Malaria Incidence in Khong District

For the out-patient consultations, according to report of District Health Office (DHO) of Khong district in 2008 for DH and HCs, 230 cases were suspected to have malaria. Of these, 42 cases (18.26%) were under 5 years old. Of 539 cases where blood was examined 49.53% are Plasmodium Falciparum and 8.23% of *P. falciparum*.

For in-patient consultations, according to reports of DHO of Khong district in 2008 for DH and HCs, 189 cases were admitted to hospital and HCs, 48.67% are *P. falciparum*, 5.43% are P.F.

Dengue Fever Situation in Khong District

For out-patient consultations from the same source in 2008 there were 74 cases of dengue fever and 12 cases were in children under 5 years old. For in-patient consultations, in Khong district 20 cases were admitted to hospital 3 of which were children.

4.5.4 STI & HIV/AIDS

Overall, Lao PDR has a low prevalence of HIV/AIDS with an estimated 0.2% HIV sero-prevalence in the adult population (WHO/UNAIDS/CHAS 2007). The first HIV positive case was reported in 1990 and the first case of AIDS in 1992. By June 2008, the official cumulative number of people identified with HIV was 2,858. Around 900 people living with HIV (PLHIV) received ARV treatment. 57% of reported PLHIV were male and 43% are female. Based on cumulative HIV case reports, more than 77% of those infected are between the age of 20 and 39 years. Of those whose mode of transmission was known, main mode was through unprotected heterosexual sex (85%) (CHAS, 2008).

Globally, the official reported numbers are often significantly lower than epidemiological estimates. One of the main factors for that is that access to voluntary counseling and testing services still requires scaling up. The estimated number of PLHIV ranges from 3,300 to 13,000 with a current national estimate of 8,000 people (WHO, UNAIDS/CHAS, 2007).

Like in other Asian countries, the HIV epidemic in Lao PDR is driven by client–Sex Worker (SW) transmission, men who have sex with men (MSM), and increasing behaviors which make people vulnerable to HIV transmission such as increased number of sexual partners, low condom use. The HIV sero-prevalence among population 15-45 years (2007) was 0.2%, among female sex workers (2008) was 0.4%, among MSM was 5.6%. The estimated number of women > 15 years living with HIV (2007) was 1,500 people, number of children living with HIV (2007) was 65 people.

4.5.4.1 STI & HIV/AIDS in Champasak Province & Khong District

According to Annual Health Report of Champasak Province in 2008, there were 66 cases of HIV infected persons, with cumulative reports stating that there are 299 cases of HIV. The number of deaths due to AIDS in 2008 was 7 people while cumulatively 84 people died due to AIDS.

There were 1,044 STI cases in 2008, while cumulative cases are 6,145 people. In 2008, an education campaign against HIV/AIDS transmission was undertaken 140 times for the whole province but reduced to 7% compared to previous year due to shortage of budget.

According to report of DHO of Khong district in 2008, there is no information about HIV/AIDS and STI. Consultation with director of DHO indicated that there were no cases.

4.5.5 Intestinal Parasitic Infections

4.5.5.1 Status of Helminthic Infection in Champasak Province

There is a high frequency of helminthic infection in Champasak Province due to a dietary preference (amongst many Lao people) for consuming uncooked river fish. Other important intestinal parasitic diseases are liver fluke, round worm, whip worm, and hook worm. The prevalence of Helminthic infection varied from 40% to 79% depending on the year and quantity of samples. The true prevalence of helminthic parasite disease in the general population maybe higher as infections often go unreported and patients self-treat, buying antihelminthic drugs directly from private pharmacies (see EIA 2013, Annex E Appendix D for references to supporting studies by Phetsouvanh et al.).

Commonly occurring helminth infections in the area were due to *Opisthorchis viverrini* (O.v), *Ascaris lumbricoides* (Asc.l), *Trichuris trichiura* (Tr.tr.), *Taenia* (Taen) and Hookworm (H.w). Infections by O.v, H.w, and Asc.l were most prevalent (Table 28). The high prevalence of *Opisthorchis* is due to the dietary preference for people in the south, (particularly Khong district), for raw river fish prepared as dishes called “Laap” and “Koy”.

Table 28 Helminth infection rates in Champasak Province

Test	2001	2002	2003	2004	2005	2007
Stool examined	2,346	8,579	2,816	2,950	5,071	20,200
+ve Helminth	356	6,747	1,034	1,868	2,033	
<i>S. mekongi</i>		559	186	56	290	
<i>Opisthorchis</i> (O. v)		4,100	480	1,150	1,001	7,497
<i>Ascaris</i> (Asc.l)		1,090	131	151	474	
<i>Trichuris</i> (Tr.tr)		233	13	28	256	
Hookworm		2,383	176	424	909	
<i>Taenia</i>		128	34	43	0	
Praziquantel doses	190,000	8,500	10,500	100,300	6,444	

4.5.6 Schistosomiasis

Untreated schistosomiasis infection can result in severe disease and even death. The cost of chronic schistosomiasis using the age-specific DALY (disability-adjusted life-year) weight is estimated as 0.005 to 0.006 (i.e. cost of disease = value of a life x 0.005) (King, Dickman et al. 2005)⁶. Human schistosomiasis caused by the parasite, *Schistosoma mekongi*, is endemic in the Lower Mekong Basin in the Lao PDR, Thailand and Cambodia (Cuesta, Kaw et al. 1992).

Humans are the primary host but the parasite also requires an intermediate host, the aquatic snail *Neotricula aperta*, to complete its life cycle. The parasite transfers from the snail to the human during exposure to water (home to the intermediate snail host). The cercariae (larvae) of *S. mekongi* release from the body of the snail into the water and then chemotax (swim) to the human host. The cercariae then burrow through the skin and enter the blood stream.

The aquatic snail, *Neotricula aperta*, also essential to the parasite life cycle, is reported to have dispersed from highland streams in central Laos, down into the Mekong Valley and thence into the Mun River valley in Thailand (Attwood and Johnston 2001). Many factors can limit the population of the host snail, but the availability of micro-algae (preferred food of the snail) is probably one of the more significant (P. Temcharoen, *pers. comm.* 2005). The snail is usually found in rocky habitats, where it grazes on microalgae that grow attached to rock surfaces. Such locations are common in the project area.

The growth of attached microalgae is regulated by the flow regime of the Mekong River. Algal biomass and diversity are highest at low water level (when light penetration is highest) (Attwood 1996). Schistosomiasis transmission rates also peak at this time (late dry season from April to June) (Ohmae, Muth et al. 2004). The linkage between the cycles of river flow, algal abundance and disease transmission is unlikely to be coincidental.

Reduced frequency of disease in Thailand's Mun valley has been attributed to a successful disease control program using mass treatment of the drug praziquantel (Keittivuti et al. 1984) and since then, similar programs have also been successfully implemented in Lao PDR and Cambodia.

4.5.6.1 Schistosomiasis in the Local Area

Stool sample surveys in Lao PDR (6 provinces, 16 districts, and 107 villages with 20,200 samples) reported about 60% of patients were infected by O. v and 3.3% with

⁶ The DALY (disability-adjusted life-year) weight assigned by the Global Burden of Disease Program uses a weight factor of zero (disability) to represent perfect health. Disability increases the weight factor rises to one, the equivalent of death. The calculation of a disability cost requires assignment of a dollar value to a life.

Schistosomiasis (these infections due were almost exclusively in the Khong district) (Table 29).

Mass immunization to control *S. mekongi* in the Khong Island area commenced in 1988 (by oral dose of praziquantel⁷). These control programs occurred over two periods:

- The initial program (1989 – 1999), during which a stool survey of 34 villages of Khong Island examined 2,519 children (under 15 years) and found 42% were positive for *S. mekongi*.
- The second program (1999 – 2006), which showed the prevalence of *S. mekongi* in village surveys varied from 15% to 94%.
- A stool survey in May 2004 in eight (8) villages on Khong island, reported 28% of the 548 people examined were infected with *S. mekongi*⁸.

Although this treatment has satisfactorily controlled the rate of infection, transmission still occurs in limited areas, where prevalence of infection can exceed 15 % of the population.

A study in 2002 estimated at least 60,000 people (around the Si Phan Don area) were still at risk of infection (Urbani, Sinoun et al. 2002). The same study warned that “the challenge in schistosomiasis control in endemic areas along the Mekong river is to adapt control strategies to the low endemic situation” and that “the impoverished nature of the region makes the possibility of sanitation unfeasible, and external support is still needed to sustain activities in the near future and to enable the substantial reduction of risk behaviors.

Table 29 Occurrence of intestinal parasites and *Schistosoma mekongi* in Lao PDR

Province	Villages	Samples	O.v	%	<i>S. mekongi</i>	%
Attapeu	10	1,508	562	35		
Champasak	33	8,117	4,893	60	266	99
Savannakhet	15	2,849	1,128	40		
Bolikhambay	14	3,507	707	20		
L. Phrabang	20	4,408	240	5		
Oudomxay	15	2,811	3	0.10		
Total	107	20,200				

Based on CDME survey results –*S. mekongi* infections were almost all from Khong district (264 of 266).

4.5.6.2 Status of *S. mekongi* and other Fluke infections in the Project Area

Health professionals from DHO Khong District, PHD Champasak Province and CMPE Vientiane undertook a health survey in 2007 for the Project, to specifically measure the frequency of *S. mekongi* infection in the villages in the project area. The survey was based on examination stool samples by microscope.

The three villages in the survey all had a similar history of occupation, religion, education availability, housing standards, agricultural pursuits and fishing activities. Similarly their history of public health including 3 recent rounds of Mass Drug Administration (MDA), programs of Insecticide Treated Nets (ITN) and the presence of local Village Health Volunteers (VHV). The socioeconomic parameters of these villages are outlined in detail in Annex E, Appendix A, Section 1.1.2.

⁷ MOH and Institute of Malariology, Parasitology and Entomology with WHO (November 1988).

⁸ carried out by “Aid for Study on Schistosomiasis in China and Asian Countries” (ASSCA)

The survey showed more than 50% of the villagers were infected by different helminthic parasites. The most prevalent infection (23% of cases) was by *Opisthorchis viverrini* and 5.4% of the respondents were infected by *S. mekongi*. These results show that there was no significant difference between the three communities in terms of the prevalence of helminth infections and the rate of liver fluke infection is high and would pose a risk to both locals and temporary workers without intervention.

4.5.7 Variation in access

4.5.8 to safe water and sanitation in the region

In Champasak province, according to the Champasak Provincial Health Department (PHD) report of the province in 2008, the 89% of the population that can access improved drinking water sources and 43% can access improved sanitation facilities.

4.5.8.1 Khong District

The director of DHO of Khong district reported in interview in 2008, that 90% of the district population can access safe improved drinking water sources and 43% can access improved sanitation facilities.

4.5.8.2 Project Area

In contrast to the regional information, the environmental and sanitary conditions of the villages were generally poor, although personal hygiene and house structures were sufficient. No island communities have access to clean and safe water supplies. They use the Mekong River as their main (untreated) water source. The frequency of latrine use in all villages was low, with only 20% of families having some facility. This can be rectified by an intensive supply and fit program.

4.5.9 Nutritional Status

4.5.9.1 Nutritional status in Champasak province.

According to MICS III survey in 2006, under nutrition among children < 5 years was 37% for the whole country, while in the four southern provinces that include Champasak province, under nutrition was 50% and the prevalence of stunted children < 5 years was 19.3%.

According to report of Provincial Health Department of Champasak, it was noted that the number of malnutrition recorded at different health facilities in 2007 there were 422 cases (77.48% are middle level of malnutrition), in 2008 there were 373 cases (96.24% are middle level of malnutrition). The rate of malnutrition at middle level compared to total number of children in consultation was 3.1% in 2007 and 2.57% in 2008¹¹.

4.5.9.2 Nutritional Status in Khong district.

According to report of Khong District Health Office in 2008, there were only 7 cases of malnutrition, of which 5 were children under 5 years old. There were 15 cases of anemia and all were older than 5 years olds. This means cases of malnutrition do persist in this area. If fewer cases are notified in different health facilities, it is due to limited capacity to diagnose the cases.

4.5.10 Conclusions on Public Health Status

14. Annual Report of PHD of Champasak Province, 2008

The health risks facing people living in the Lao PDR are higher than for those living elsewhere in the region, based on current assessment of public health indicators like child mortality rates. People living on the islands in the Project area also face additional health problems due to their isolation from health services on the mainland and because of specific local diseases like schistosomiasis, which is due to contact with river water.

4.6 Unexploded Ordnance (UXO) in Project Area

Some parts of Lao PDR were very heavily bombed by the USA military during the Indochina War. A general description of the distribution of these bombs and the potential UXO risks is provided in Annex E, Appendix F.

The project commissioned a review of the likelihood UXO contamination in the Khong District. The report (dated 19/2/2007) considered the Khong District to be **low to non-contaminated** and recommended that earthworks in the project area **could be undertaken** without any requirements for specialized surface or subsurface UXO clearance.

5 LIVELIHOOD RESTORATION AND DEVELOPMENT STRATEGY

5.1 Principles Guiding Livelihood Restoration

Based on the models successfully implemented under other hydropower projects, the requirements of Decree 192, and best practice, the guiding principles for the livelihood restoration program to be used in the DSHPP are:

- New livelihoods systems for affected persons (AH) should be as similar to the original livelihood systems of AHs as possible. Affected communities should have direct responsibility for planning, implementing, monitoring and managing as many of the tasks associated with their relocation, resettlement and/or livelihood restoration, as feasible;
- Livelihood restoration and resettlement should be seen as a development opportunity for the PAPs; where possible resettlement activities should be integrated with existing and future local and regional development initiatives;
- Young adult members of the directly affected Households will be provided with skills training in off-farm activities, and provided with assistance to find long-term employment contracts;
- At the district level, there should be one implementing unit responsible for all aspects of livelihood restoration and resettlement; this unit should be part of the overall project design for DSHPP. The main role of the unit will be to provide access to funding and other resources needed to implement the activities identified and initiated by the affected villages and households;
- A complementary role of the livelihood restoration and resettlement unit will be to provide or facilitate access to necessary agricultural extension services including agricultural marketing information, training in agriculture diversification and marketing, livelihood based skills (such as Lao language literacy and numeracy) especially to teenagers, and other forms of skills development that will increase employment opportunities; and
- The DSHPP should not be required to pay for local development activities, infrastructure construction, or maintenance costs not clearly associated with, and clearly addressing, identified project-related resettlement, livelihood and income restoration needs.

From the perspective of a major development opportunity for Khong District, the DSHPP livelihood restoration and resettlement process will provide selective support over a significantly longer timeframe than ordinary Government projects. The DSHPP livelihood restoration activities will continue over a period of about six years, following a period of land preparation and training program development, allowing significantly longer time to implement initiatives that would benefit from extended and steady implementation.

The livelihood development strategy makes active use of three main drivers: (i) active community participation; (ii) adequate trained personnel; and, (iii) identification of new livelihood opportunities to increase the potential for achieving restoration and increasing income and welfare. This strategy minimizes the possibility of inadvertently impoverishing communities that have lost livelihoods, been resettled, or otherwise affected by the Project.

Implementation of the DSHPP requires the resettling of some people into a newly established community. In addition there will be other households affected by livelihood change, who require some assistance and support due to the level of losses. The clearing and preparation of land, development of sustainable agriculture and livestock ventures,

preparation of fish ponds, and the possible development of agro-forestry and forestry income earning opportunities will be a major undertaking.

Under Decree 192, rehabilitation is required as a means of assistance provided to seriously affected people due to the loss of productive assets, incomes, employment or sources of living, that require to be compensated in order to improve, or at least achieve full restoration of living standards to pre-project level. Article 8 of Decree 192 further sets out the requirements for economic rehabilitation, which include:

- All PAPs severely affected by the project due to loss of 10% 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 enabling them to attain at a minimum pre-project livelihood levels;
- 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 not available, options built around opportunities for employment or self-employment;
- For displaced persons whose businesses are affected due to the project, in addition to compensation for lost land, structures, and income, assistance shall be given to finding replacement sites for business as appropriate; and
- These 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 national poverty line.
-

In order to develop a livelihood restoration program appropriate for relocating or re-establishing households, an understanding of the existing livelihood systems, and hardship coping strategies, of the AHs is required.

5.2 Understanding Livelihood Systems

Livelihoods are the activities, means, entitlements and assets by which people make a living, and they should be understood as systems, considering all of the components, as well as the relationship between, and priorities of, those components.

The most basic livelihood systems are those that do little more than provide the four essential needs of food, shelter, clothing, and medicine. Livelihood systems are essentially needs based and comprise production and enterprise activities integrated in such a way as to respond to the food security and cash income requirements of households. The systems include a set of mechanisms for coping with food shortages, or to assist a household to recover from stresses or shocks.

5.2.1 Livelihood Systems in the Project Area

The current livelihood systems of the villages in the Project Area involve essentially (a) agriculture including (i) swidden (where unstocked forest areas are cleared from time to time for rice and minor vegetable crops); (ii) rice and vegetable cultivation; (iii) cash crop production; and, (iv) livestock and poultry raising; (b) fishing; and, (d) some cash generating activities.

Most of the outputs of the livelihood systems are subsistence in that they produce food and fuel for household consumption only, but some activities are income generators, for example, fishing, rice surplus which can be sold, sale of livestock (often viewed as “money in the bank”), sale of NTFPs and handicrafts.

A typical household in the Project Area is currently engaged in a varied mixture of livelihood activities, as indicated in Table 30.

Table 30 Livelihood Systems of Households in the Project Area

Livelihood sector	Activities and products
Agriculture	<ul style="list-style-type: none"> • Paddy rice growing - in the wet season in rain-fed or irrigated fields; • Swidden/upland rice cultivation in a shifting agriculture-based rotation (the fallow fields are also a source of NTFPs); • Vegetable gardening; this will either be around the house, or as recession planting on in fixed beds near river banks where the soil quality is annually replenished or, if there is a water supply nearby, in paddy fields during the dry season; • Fruit trees; either around the house or in orchards; and • Cash crops such as coffee and cardamom
Livestock raising	<ul style="list-style-type: none"> • Large animals such as buffalo, cattle, pigs, goats; • Poultry, primarily chickens and ducks
Fisheries	<ul style="list-style-type: none"> • Seasonal fishing for migratory fish species; • Opportunistic fishing and trapping; • Collection of other aquatic animals — shellfish, shrimp, snails, frogs; and • Collection of aquatic plants — lotus, other green plants
Cash generating	<ul style="list-style-type: none"> • Sale of fish and fish products • Providing daily/casual labour (perhaps at rice planting and harvest times, construction work); • Small shops (grocery items, food); • Paid employment (e.g. with the government); • Handcraft production (weaving, tailoring, basketry, roofing materials); • Village enterprises (e.g. mushroom growing)

Source: DSHPP Consultations and Inventory of Losses (2009)

The most important issue of rehabilitation and livelihood restoration is recovery of the income loss of resettlers and other AHs and ensuring that affected vulnerable groups such as landless families are given priority for income generation. Fishing is the main source income of all affected households in the DSHPP area. For example at Hang Sahong, four households have no agricultural land. The average household income reported in the SIA is considered very high compared to average rural household in Laos (due mainly to the distortion resulting from the income of one trader, this should be addressed appropriately), indicated to be below USD 400.

It is assumed that all AH can fish other Mekong River channels, for equivalent earnings as the migratory fish will still pass through the area. However, traditional rights to trap locations mean the best local areas available are likely to be already occupied by others and the DSHPP may have to make provision to lease these on behalf of those AH who traditionally fished the Hou Sahong.

(Note that Supplementary income for 3 years would be available for employment with DSHPP (1 household 1 job of 30,000 Kip/day for 300 days/year) at about USD 950. Other potential income-generating livelihood programs include vegetable garden and mixed orchards, dry season rice supported by DSHPP. This is preliminary only and should be revised in the detailed design phase of DSHPP.

Gender Roles in Livelihood Systems

Both women and men share rice and livestock production responsibilities, but divisions of labour are clear. For rice cultivation; men prepare paddy bunds, plough and harrow while women clean seeds, bind and mill (often by pounding) rice. Sewing and harvesting is shared. For livestock and fish culture; men feed the fish and large livestock while women are responsible for poultry and pigs.

Women and girls play an essential role in livelihood systems. In addition to household work (cooking, looking after children and elderly, collection of firewood and water), they are involved in annual swidden cycles, home gardening, NTFP collection, raising poultry and pigs, and handicraft making (making baskets, spinning, weaving and dying of cloth, and sewing.)

The livelihood study conducted in project area has revealed that there is considerable inequity in terms of daily activities and time spent on those activities, women and girls have more tasks and work longer hours than men and boys. The main findings of that study in relation to gender roles are summarised as follows:

- From a young age girls are given more responsibility than boys – they get up an hour before boys to help their mothers pound rice and prepare breakfast;
- Girls aged between 8 and 14 years old have different daily tasks compared with what the boys are required to perform; and
- Women in the 15 – 49 year age group get up two hours before men and have more daily tasks to perform compared with men.

5.3 Livelihood System Analysis

This section outlines the importance of each livelihood component and the likely effect of the DSHPP on those components. It then proposes appropriate methods to restore livelihoods or develop alternatives. The strategy proposed is in combination with the suite of measures and actions included in the entitlement matrix in the SIA (Table 3).

5.3.1 Agriculture in Livelihood Systems

5.3.1.1 The Importance of Rice

Rice is now the staple in many Lao peoples' diet. The importance of rice in Lao households is great. Often a household will refer to food shortages which are actually rice shortages. Rice is cultivated through either rain-fed or irrigated paddy fields agriculture. Paddy rice in project is primarily a wet season crop, but if there is irrigation it is also possible to grow a dry season crop. However the soils in many areas of south-eastern Lao PDR are really not fertile enough to produce two good crops annually, so the dry season rice needs substantial fertiliser inputs (outside the financial capacity of most farmers).

Most of the households in the Project Area villages are involved in rice cultivation, as the area of rain-fed rice is large and therefore paddy production is adequate for the needs.

For many, rice is utilized until supplies are nearly depleted, and they start to mix rice with corn or cassava to extend supplies. Once the rice is depleted, households substitute rice with corn.

5.3.1.2 Impacts of Resettlement on Rice Production

Other hydropower projects in Lao PDR have shown that when households move, they lose paddy and/or upland rice cropping lands that they have prepared and farmed for some years, causing significant disruption to food security. Those families who have produced surplus rice for sale will lose income, in addition to loss of their staple food. Although there is possible irrigated land in the project area, the relocating AHs will lose some rain-fed paddy.

The AHs cultivate a larger area of paddy. Average yields in the project area in the order of 2-3.5 ton/year

5.3.1.3 Cash Crops, Gardens and Fruit Trees

The AHs grow a variety of vegetables, primarily for household consumption, but also important cash crops such as mango threes, papaya and others for their consumption. Some households have also created small garden plots. The main crops include corn and cassava, but also include a number of minor crops such as beans, peanuts, cabbages, chillies, and various greens.

Fruit trees in the villages are either grown in orchards or individually. Typically, these include banana, papaya, coconut, pineapple, and mango. Orchards produce fruit for sale, as well as for home consumption.

5.3.1.4 Effects of Resettlement on Crops, Gardens and Fruit Trees

When the AHs are resettled or their farmland or traditional forest areas are acquired, they lose their access to cash crop land, gardens and orchards. For most this will cause a significant impact as these products do provide some of the household's cash income. Some trees can be transplanted but others will be lost during site clearance and inundation. Bananas and papayas re-grow and produce quickly, but other species can take five or more years to mature. Vegetable seeds and seedlings can be transported to the new settlement sites, unlike most fruit trees.

5.3.2 Fishery Resources in Livelihood Systems

Rivers, streams and other water bodies are important sources of fish. Fish and aquatic species are considered to be a common resource, and households in the Project Area rely on fisheries as a key element of their livelihood systems.

Impacts on Fishery Resources

The importance of fishing for the AHs has already been discussed; this is also covered in great detail in the EIA and SIA. Community management of water bodies and the natural and introduced fish have been shown elsewhere in southern Lao PDR to be popular and effective. In southern Lao PDR, stocking of small water bodies has been actively promoted by Government to increase fisheries benefits. The water bodies in the Project area are already collectively managed by local communities to spread the benefits around the village as a whole.

These 'community fisheries' provide income from sale of fish and also produce other benefits, such as fish for poorer households at times of household emergency, and increasing village managerial capacity and awareness of the importance of aquatic resource management. In the DSHPP area community fisheries are the principal way for villages to generate communal income to improve livelihoods and pursue village development priorities.

Community management structures will be enhanced if they exist already, or be established if not, so that benefits are equitably shared, with deliberate attention to be given to the integration of vulnerable groups.

Rural aquaculture is already practiced successfully in the Project Area, it is low-tech, low-input in nature and any number of models can be drawn upon for development of aquaculture and fishponds at the resettlement site. The potential for aquaculture development will be very carefully considered as it will be limited by 1) the availability of suitable land and the capital costs higher and the risks much greater and thus the incentive much lower than the traditional practice of harvesting wild fishery.

5.3.3 Livestock in Livelihood Systems

Livestock are an important aspect of livelihood systems, especially for the poor; credit is often obtained to purchase livestock, and the animals represent a crucial source of financial capital for the rural poor. The role of livestock extends significantly beyond their economic value, most notably, livestock play a prominent role in social and cultural relationships as loans and gifts and often play a central role in cultural traditions such as weddings and funerals,

Despite this, livestock rearing is considered risky by the poor. Production risks from harsh weather, predators, and lack of proper veterinary care, are higher among low-income producers. Loss of livestock holdings can have a long-term impact on a family, far beyond the value of the individual animals, because herds generally take a long time to build up. Catastrophic losses from disease epidemics, natural disasters such as drought or having livestock stolen can therefore have a devastating effect on households. Even intentional loss, such as contribution to ritual feasts, can be hard on the poor.

Livestock holdings are diverse and include buffalo, cattle, goats, pigs and poultry. For many, livestock ownership is the only form of savings available, and for the AHs, represents the most important asset they own. Livestock ownership provides a reserve in emergencies, and decreases vulnerability to economic or other shocks. Domesticated animals yield direct benefits in the form of food, hides, and supporting productivity by providing manure and draught power.

Total and average livestock holdings per household are shown below. Large livestock are often used more for ceremonial purposes so their contribution to the livelihood system tends to be restricted. Given the limited market access of these villages due to lack of road access, there is clearly potential to increase livestock holdings and incomes provided by closer proximity to the market and improved access following completion of the road upgrading.

5.3.1.5 Impact of Resettlement on Livestock

The relocation will not affect the raising of livestock as all livestock can be transported to the new site and sufficient pens, corrals and grazing areas will be provided. The benefits from livestock can be extended to those who do not currently own livestock, focusing on the poorest households in the community. Non-owners are sometimes able to obtain milk, dung for fertiliser, or help with ploughing of fields. These may be given free of charge from livestock owners, or at greatly reduced prices.

5.3.4 The Role of Trading and Employment

Baseline data indicates that the main sources of income for the AHs are fishery and agriculture. Only a very small number of AHs noted they received their main income from trade or small business.

5.3.1.6 Impacts on Trade and Employment

Small business owners will be guaranteed that their shop/workshop or business premises will be rebuilt at the new village location. Handicraft workers will have their equipment (e.g. looms for weaving) transported to the new site. All such equipment will be recorded through the final asset registration (during the DMS). The people who seek work off the island will enjoy the improved access to the mainland from the DSHPP infrastructure developments.

5.3.5 Land Allocation and Right of Access

The AH communities will be subsistence and poor families. In this context it is very important that rights to productive land can be handed down from one generation to the next to secure tenure and provide longer-term asset security. Temporary, and later permanent, land

allocation titles (to both the male and female head of household) will provide protection should land scarcity become a problem. Implementation of the Government's policy to reduce the land area per family requires the development of new and sustainable agricultural systems. There have been several development projects that require the resettlement of traditional inhabitants and analyses of their sources of livelihood have been undertaken as part of the resettlement planning.

5.4 Livelihood Restoration and Development Measures

When a village has to relocate, it is inevitable that agricultural systems are disrupted. A lesson from Nam Theun 2 and other projects is that if possible AHs should not lose a harvest, so the timing of resettlement is critical. The proposed replacement lands are equally fertile (or more so) and is suitable for irrigated paddy.

The DSHPP will ensure that rice growing areas are cleared, prepared and provided with irrigation and it is a requirement of the RAP that the resettlement site is fully prepared and developed prior to AHs relocating there. Improved rice varieties will be tested and introduced if successful, so that yields can be enhanced.

The resettlement site also has land suitable for gardens and orchards, as well as secure water supplies. Terraces will be created for irrigated wet season rice production and will be suitable for dry season vegetable cropping using the irrigation supply. The DSHPP will provide saplings to recreate orchards and compensate for the number of years of lost tree production. The Project will support the introduction and expansion of integrated cropping. For example, slower growing but longer term producing fruit trees can be under-planted with quicker growing, vegetables. Existing cash cropping of coffee and cardamom as well as diversification into new crops will be supported. The whole system, from land preparation, seed availability, planting regimes, crop husbandry through to harvest, storage, processing and marketing will be financially and technically supported by the DSHPP. Some good examples of successful mixed agriculture exist in the Champasak province and will provide useful models for farmers new to the approach and for farmer-to-farmer 'extension'.

5.4.1 Proposed Livelihood Model

The proposed livelihood restoration and development strategy uses a model that aims to improve the livelihoods of all AH through a range of opportunities. A number of activities and enterprises have been identified and these are listed in Table 31. The suggested activities are based on: (i) evaluation of the natural resources and environment in the affected area; (ii) taking into account the socio-economic and cultural background and experience of the AHs; and (iii) ongoing consultations with AHs and Government agencies.

The AHs will be able to choose from, and combine, a number of activities in ways that suit the nature of labour in their household and the types of livelihood systems that they are best equipped to pursue. Additional support will be available through social development initiatives to provide non-production based livelihood restoration and offer skills training and capacity building. The components of the livelihood model include:

- Agriculture – wet and dry season cropping with irrigation provided from nearby rivers and streams and installation irrigation systems;
- Livestock raising – on a mixture of feed-crops and forages grown on irrigated areas and in gardens, as well as free-range grazing;
- NTFP/Orchard and forestry development – including management and harvest of NTFPs in small gardens as well as domesticated NTFPs, based on a mixture of fast growing industrial species and lower growing but valuable native species of trees and NTFPs;

- Fisheries – community based aquaculture will be investigated including access to the headpond (as a potential aquaculture resource); access to alternative fish traps and fishing areas in the area; training to add value to existing fish products and to develop new markets based on better access to those markets
- Non-farm employment including with the DSHPP – waged or self-employment in a range of activities as identified by the AHs interested in pursuing this option.
- Agriculture: Crops and Gardens

Consideration of local land availability has led to the development of a model of sustainable stabilized livelihood, based largely on the AH's current livelihood systems quantified during the SIA plus imputed income derived largely from maintaining existing fishery income. The model was based on the livelihood restoration measures and assumes minimal fertilizer inputs i.e. the carrying capacity of grazing land is one large animal equivalent per ha.

The total area of land required by livelihood model for a household of about 6-8 persons is average and forest land (including crops orchard area, NTFPs and community forest). Those reports noted that reduction in the land area per household or an increase in income can be obtained from the farming system model through introduction of fertilizer, providing there is reasonable market access. The most efficient way to introduce fertilizer into the farming system is to introduce phosphate and apply it to fast growing forage and legumes at the end of the wet season when there is almost immediate uptake by plants. This improves the quality of feed for livestock. Through composting of the livestock manure, the fertilizer it is then cycled back to the rice paddy.

Table 31 Livelihood Program Agricultural Support Activity Components

Item	Activity Components
Irrigation system	Survey and design Construction Supply of pumps Payment for local labour (canal digging, leveling and bunding)
Orchard development	Land clearing, survey and staking Fencing Contour bunding and trenching Tree holing Provision of seedlings and seeds for cover crops Assistance with transplanting Phosphate fertilizer
Rain-fed banded terrace	Land clearing and topographic survey Negotiation for layout with AHs Staking ditches and bund alignment Bunding Land leveling
Garden development	Clearing and fencing Transplanting Weeding Plant materials

The introduction of irrigation and fertilizers to produce a dry season crop of rice can increase the income from rice production by more than three times. If applied directly to arable soil and paddy there is a tendency, especially on acid or lateritic soils for the phosphorous to be locked up in insoluble iron phosphatic compounds and/or be lost in drainage water leading to potential adverse effects on local downstream fisheries. Moreover there is a progressive decline in soil structure due to reducing organic matter content. This approach maximises the uptake in organic forms, which in compost becomes available again to the plant. The

use on forage can also promote the growth legumes and which fix nitrogen and avoid the need for importing nitrogen fertilizers. Transport-wise the most economic form of phosphate is triple-super phosphate. Some soils may require the addition of other trace nutrients such as sulphur and boron and phosphate can also be added to the mineral licks for the cattle.

With addition of lime from time to time, and the use of leguminous trees and forage/cropping fodder crops to add nitrogen to the soils, the livelihood model above is considered to be sustainable. Each household continues to cultivate rice but only in paddy, which makes for a sedentary stabilized lifestyle. Each household will be provided with an area of land for cultivation, equal or larger than they have at present. This will include an irrigation system to cover 1 ha of land plus a rain-fed terraced plot for rice or other crops. Local agricultural specialists will be engaged to advise the farmers on optimal fertilizer application, crop rotation and rice/crop variety to maximize yields. Land will be cleared and prepared, as above, so it will be suitable for growing crops including rice, corn, legumes (beans, peanuts and soy-bean), vegetables and fruit (water melon, pumpkin and cantaloupe). Training on how to manage irrigation water and systems maintenance and repair will also be provided to ensure efficiency and sustainability.

5.4.1.1 Agriculture: Livestock

The AHs want to retain their livestock when they move to the resettlement site, and they will be assisted by the Project to maintain and improve their livestock quality and productivity. In addition the Project will provide basic training and veterinary support services in animal vaccination, and disease diagnosis, prevention and control.

Depending on the soil characteristics of new agricultural lands to be created by the project (yet to be investigated) it could be beneficial to undertake deep ripping along the contour. Leguminous fodder trees could then be planted into the rip-line, these trees can grow quickly tap minerals deep in the soil profile and provide stock feed within two years.

To maintain the productivity of paddy and avoid shifting cultivation requires a continual importation of nutrients to the paddy from the surrounding pasture or rangelands. This flow of nutrients is derived from the manure collected in night stalls, from about five large animals, which when suitably composted and applied to the paddy has been found to be sufficient to maintain paddy productivity. The average livestock ownership in the area is only 2-3 large animals, therefore some households will need to supplement with other fertilizer.

5.4.1 Summary of Expected Income from Livelihood Model

This livelihood model essentially builds on current skills already present in the village communities and through extension, the formation of common interest groups with inputs by extension workers to undertake planting trails, combined with observation of the activities of neighbours who already have such skills, the current skill base could be extended throughout the community.

The total cash and imputed income is in the order of US\$2000 with over 8 year this income being derived from cropping and livestock. Rice production represents about a quarter of and NTFP account for a third of the imputed income. The production will also serve to assure basic food security.

5.4.2 Improving the Contribution of Fishery Resources

The DSHPP will support the construction of community fishponds and supply fish fingerlings as well as equipment and supplies to enable AHs to manipulate spawning and nursing. Areas in relative proximity to residential plots will be allocated for the construction of ponds.

For fishponds close to irrigation systems or existing streams with enough water, the Project will support pumping water for fishponds so they can be used throughout the year.

The DSHPP will provide technical assistance and advice; the ponds themselves will be constructed by the villages. The ponds will be located based on the layout of villages and through negotiation and discussion with the AHs.

For farmer with paddy fields the rice-fish system will be encouraged with simple enhancements to increase the natural productivity of fish in paddy fields. The reservoir may also provide a fishery resource and boats have been included in the costs of the compensation to provide access to the reservoir fishery resource as well as providing access across the reservoir to forest areas.

5.4.3 Non-Farm Opportunities

The Project will facilitate non-farm employment opportunities by: (i) maximising use of local labour in the construction of the reservoir and access roads (and shorter-term work during the resettlement process); and (ii) providing skills training (including Lao literacy and numeracy) for members of AHs wishing to pursue other livelihood activities.

5.4.4 Construction Stage Employment

Construction of the Project will start in 2011. The Project will require in the order of 330 – 594 workers on a daily basis. Assuming that 75% of the activities can be completed by unskilled and therefore local labour this will generate significant employment. The project owner will give priority to affected people to work with the project

5.4.5 Longer-term Opportunities

The Project will work together with the relocating AHs to identify people willing to participate in non-farm activities as well as types of work that are suitable to be pursued based on their capacity, experience and willingness to be involved in training offered through the social development component of the livelihood restoration and development strategy.

Development of handicraft design, production and marketing will be supported as a means to engage women in off-farm activities that require little additional time.

5.5 Social Development Component of Strategy

Relocation has a significant impact on communities, both for those who will relocate and the host villages. Livelihood restoration support and infrastructure development are important aspects of the re-establishing process, communities have other needs as well. Relocation can be destructive of carefully developed longstanding social networks and the local economy. The severity of the disruption can, to some degree, be mitigated by early intervention, and participation of the village in the process of planning and decision-making.

This component of the strategy includes initiatives necessary to prevent social dislocation, ensure harmony within, and among communities, and generally provide the necessary social support in terms of capacity building required for resettled communities to re-establish and achieve restoration, if not improvement, in living standards. To ensure that relocating AHs are able to effectively undertake their chosen pattern of livelihood restoration and development, training, extension and technical support will be provided.

5.5.1 Community Organizations

The strong local institutions are central to a successful resettlement process. Overall village leadership will continue to be the responsibility of village administration. In addition, Village Development Committees (VDC) will be formed in order to manage relocation, transition, and long-term social and economic development of the village. The VDC will include representatives of various village interest groups, such as water user groups, farmers and fishers, parents groups, credit/savings groups, and handicraft and weaving groups. The Project will aim to have women participate in the VDC by them taking up at least one-third of the committee positions.

In order to enable resettled communities to not only cope with change, but to adapt and take advantage of their new situation, members of the VDC (and other organizations such as LFNC and LWU) will be trained in aspects of community planning and development through delivery of participatory development training. The training will enable villages to utilize the technical inputs provided by the Project (through the developer's ESMU and other specialists i.e. consultants or NGOs engaged to assist with implementation of the RAP).

Topics may include: community infrastructure planning, prioritization, and proposal writing for obtaining funds for development from district or provincial level; village and household economics; communication; goal-setting; community-group management; and, establishing cooperatives and user groups (for community based forestry and fishing and irrigation management and water user groups).

5.5.2 Vulnerable Households

All project affected people are at risk of increased vulnerability due to impacts of, and changes brought about by resettlement. However, some AHs in each community are more likely to be less capable of adapting to change and taking advantage of benefits provided by the Project.

The Project recognizes that some households will face greater difficulty than others in preparing for, and coping with, resettlement. Vulnerability can be triggered by any number of factors; constraints on, or lack of, productive labour; overwhelming reliance on irregular and/or seasonal incomes; heavy home-care burdens due to disability or illness; loss of one household head; drug abuse; and, poverty.

Decree 192 provides clear guidance as to the minimum definition of vulnerable households. The Decree defines vulnerability as "...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; and (iv) elderly households with no means of support."

Villagers participating in the consultation process during the data collection were asked to identify which households they felt were most vulnerable. They identified HH:

- who lack members who can do agricultural labour;
- suffering food shortages for many months of the year;
- who lack land and/or necessary tools; and
- with disabled family members.

Special assistance to vulnerable AHs is provided for and will be further determined by the ESMU in consultation with village leaders, LWU and LFNC.

During the study a range of actions were identified including: additional support in form of both cash and rice during the transition period; providing them a full land allotment and livelihood restoration package adapted to their special needs; preferential access to water and electricity connections; additional housing materials and labour; assistance in salvaging materials; and priority access to credit or grant funds to help them improve their standard of living and productivity in the short-term. In almost every village, participants stressed that the village itself could provide additional labour inputs where necessary through traditional communal labour arrangements.

5.5.3 Training Associated with Livelihood Restoration and Development

The livelihood restoration and development strategy includes provision of training and extension to affected communities. Training will be targeted to those involved in specific livelihood activities. Access to training will be provided at a number of levels including individual, household, groups of youth and/or adults, and groups of women. Training methodologies will be optimized for adult learners with low-literacy. Women trainers will be recruited to ensure local gender norms do not hinder learning. In addition, training programs will specifically encourage the participation of young people as their generation will be wholly dependent on the newly created livelihood systems and land allocations for their economic futures.

The Project will provide technical support to DAFO as required, and will contribute to DAFO budget to ensure adequate staff is available for provision of extension services (agriculture and veterinary) as technical assistance to AHs and village level agriculture officers is critical to success of the livelihood restoration and development strategy.¹² The developer's ESMU will have overall responsibility of preparing the training plan covering and integrating the various components required and preparing terms of reference (TOR) for training delivery providers.

A training program will be fully developed catering to the needs and preferences of the AHs identified through a Training Needs Assessment (TNA), conducted and could include:

- Integrated agriculture and farm management including livestock improvement, veterinary training, understanding the livelihood restoration model (agricultural technical assistance);
- Community based fishery and forestry management;
- Specific technical training depending on the results of the TNA and exactly what agricultural and forestry practices are adopted by the AHs. As it will be important that the Government staff can deliver credible advice, their skills, knowledge and understanding will need to be developed in advance.

5.5.4 Integrated Agriculture Training and Assistance

Training is to be delivered by specialists engaged through the ESMU and supported by the district staff (extension services). A training program will be determined following the TNA and in consultation with AHs and village agriculture officers but is likely to cover such topics as:

- Integrated agronomy techniques - paddy, fruit, vegetables, cash crops, forage crops;

¹² Further to consultations with provincial and district governments, as well as DAFO, this could include the secondment of staff or hiring of specialist staff on contract, to ensure that adequate support is available over the re-establishment period to the resettling community.

- Irrigation use and management – including operation and maintenance, and possibly establishment of water user groups;
- Orchard development – identifying suitable and adaptive species, propagation techniques (grafting, layering, etc.), husbandry, post-harvest processing, and marketing;
- Vegetable production - species, mixtures, propagation techniques (seed collection and storage), husbandry (weeding, watering, mulching), post-harvest processing, and marketing;
- Cash crops - propagation techniques (seed collection and storage, vegetative propagation, etc.), husbandry (weeding, watering, mulching), post-harvest processing, marketing, and making contractual links with commercial companies;
- Fodder production - forage crop species, inter-planting, propagation, husbandry, harvest and post-harvest treatment, feeding regimes for different animals;
- Integrated pest management (IPM) - in order to get the best yields, especially from rice, with the least use of expensive chemical inputs, the preparation and application of organic fertilisers and principles of IPM will be demonstrated and promoted. IPM has been introduced in Lao PDR in cooperation with the Food and Agriculture Organisation, and expertise from that programme will be drawn upon.

5.5.5 Livestock – health and husbandry

Most AHs have experience with livestock raising (large and small), but have little knowledge of veterinary techniques beyond the most rudimentary. Further, there is currently inadequate veterinary coverage in the district; DAFEO has only one member of staff responsible for livestock, fisheries and veterinary work. In-service training-of trainers (TOT) will be provided for DAFO staff, with the intention of the staff then passing this on to village level agriculture officers and AHs. Training will cover grass-roots level training of village agriculture officers and AHs; improving feed-stock; disease diagnosis and prevention and early intervention. This training will be provided to both the affected people and Government extension staff.

With support from DAFEO, DSHPP will establish a Village Veterinary Volunteer (VVV) system whereby four farmers interested in livestock raising (two for large livestock and two for small, livestock) and with suitable experience villagers from each affected village will be trained in basic skills, particularly disease diagnosis, prevention and control, and vaccination. This will include early diagnosis of avian and swine flu symptoms. The farmers will receive a small stipend/payment for participating in the training and providing services, on an as required basis, for up to 10 days per month.

Vaccines and the facilities to store and transport them at cold temperatures will be provided. Revolving funds will be set up to enable vaccines to be re-stocked when necessary. As noted above, the Project will promote forage crops as animal feed and train farmers to grow, process, and use these.

5.5.6 Community Based Fishery and Forestry Management

The Project will provide funds for, and appropriate extension services, to support pond construction, preparation and maintenance. DAFO, and specialists engaged by the Project if required, will provide training on various aspects of community management of forestry and fishery resources. The training will be provided on an annual basis to ensure widest outreach. Following the TNA a program of training delivery will be designed and will cover the following sorts of topics:

- Establishment of user groups, establishment of user fees or charges if appropriate, methods and benefits of community management, and community management of fishery and forestry resources;
- Assess the potential for aquaculture by cage and pond techniques; and
- Forestry including 'domesticated' NTFPs, plantation management (including preparation, planting, maintenance, harvesting), selection and storage of NTFP genetic materials, tree nursery management, sustainable harvests from natural forests, and cultivation of NTFP species.

5.5.7 Food security & balanced diets

This is an intervention underpinning the livelihood model and lays the basis for an understanding of how integrated agriculture and forestry techniques, such as those included in the livelihood model, contribute to enhanced food security. Discussions will cover how to avoid unnecessary risks through single crop dependence, the value of integrated and mixed agriculture, forestry and fishery systems, and how a balanced diet contributes to improved health for the whole family.

5.5.8 Enhancing Health at Village Level

This component of the strategy includes TOT type training to improve the capacity of district health staff, village health clinic staff, volunteers and birth attendants, training delivery in villages, as well as funding for subsidized contraceptives and condoms (the component provides additional village-level health inputs). A health clinic will be constructed in each village at the resettlement site, and these will be equipped with complete village health kits and there will be regular re-stocking of this important local resource. Stipends for two health volunteers in each village will be provided during the transition process to ensure AHs have access to advice and first aid and to support the health clinic staff. After communities have stabilized (after three to four years), and if required by the health clinics, the system will need to be self-funding and villages will be required to fund the health volunteers themselves.

The provision of health (and education) training and awareness raising will be linked with public health activities being provided through rural water supply and sanitation (RWSS) initiatives at the district level and women's leadership training. Experience has shown that combined programs such as women's/reproductive health, RWSS and savings/credit schemes can be more effective and provide greater community satisfaction,

5.5.1.1 Health Education

A program of health education and awareness raising will be provided under the Project. Training will include modules on reproductive and family health; general health and hygiene (linked with water supply and sanitation to be provided at resettlement site); public health, and environmental health.

Reproductive and family health education should target youth, young couples and women through a life-skills approach. The Youth Union has a proven curriculum and experienced trainers and could be contracted to conduct TOT for village health volunteers, facilitators and local mass organization representatives (LWU, LFNC) who will then directly implement training at the village level.

The SAP (included in the SIA) includes a specific program for STIs and HIV awareness and prevention aimed at contractor construction employees and communities. The health initiatives will also be linked with that program. The increased population density of new communities, combined with the introduction of improved water systems and latrines, necessitate education in public health principles, including sanitation and waste-water management. Basic public health trainings help maintain hygienic village surroundings,

reduce mosquito breeding sites, and prevent air-and-water-borne illness, particularly among children.

5.5.9 Support for Education and Training

Government guidelines on resettlement recognize the impact resettlement has on education and the need to plan accordingly. The Technical Guidelines to Decree 192 state that "Shifting to new location may also disrupt education system and school of children, attention needs to be paid to establish new schools or to increase the capacity of existing schools in the vicinity of resettlement sites. Specific measures that are necessary for institutional strengthening and capacity building include the following:

- Upgrading of existing educational institutions for resettled people and adjacent community, including better buildings, supplies and educational material, and ensuring that adequate number of teachers are available and that they are adequately compensated.
- Focus on adult education in order to improve the general standard of education and their ability to read and cope with economic and social change..."

Relocation planning also needs to be sensitive to educational needs of children. While it may be advantageous, from some perspectives, to encourage villagers to move to their new location before it has been fully prepared (for greater opportunities to earn wages for construction etc.), this may unintentionally result in the reduction of school attendance, if AHs move in pursuit of wage opportunities before schools have been built and sufficient teachers assigned. Further, if some households choose to split on a temporary basis, with the male adult resettling first, this is untenable for a longer period and would also have the negative result of denying adult women wage opportunities in the resettlement process. For these reasons a requirement of the relocation process, is that the resettlement site must be fully prepared and developed prior to AHs relocating there. Feasible solutions to this conflict will be developed participatory through consultations with members of communities that will relocate.

5.5.1.2 Enhancing Formal Education

Successful schools are vital for the future of resettled children and youth, and benefit the wider community by bringing together newcomers and adjacent communities as parents with a common stake in the operation of their local schools.

A complete primary school will be constructed at the resettlement site and the RAP includes a measure to upgrade and improve the facilities at the existing secondary school in the project area to ensure that all children have access to these. Plans include sanitary latrines with hand-washing facilities, teacher housing, library, and sports/play areas.

Ensuring sufficient teaching staff is a matter that needs to be included in the project, even though the responsibility for assigning teachers rests with the district government; the Project will work closely together with the district on the issue. The new school will also have accommodation for teachers assigned from elsewhere in the district and the budget includes stipends for teachers (in addition to their wages) to encourage them to stay and to help ensure that education is provided with minimal interruption during the relocation process.

Educational materials will be provided through an annual fund for each school room and to purchase new books for the library in each school. The fund will cover school books, teaching aids (posters, drawing paper etc.) and basic stationary. Schools generally have little budget for these essential inputs and during the transition period, it may be difficult for families to donate needed supplies to the new schools. Better equipped classrooms stimulate children's interest in learning and are important to maintain high attendance levels.

Through enrichment programs the social development component includes provision of sports equipment and a stipend for competitions in order to provide more opportunities for children to establish friendships with new neighbours and relieve anxiety caused by the upheaval of relocation.

Experience in Lao PDR has shown that school food programs (such as providing school lunches) help boost attendance and improve child nutrition. A portion of food supplements provided to the village during the transition process should be distributed to children in school.

5.5.1.3 Environmental Education

The Government policy on sustainable hydropower calls for "comprehensive environmental education and awareness activities" as part of the community consultation process.

Environmental education needs to reach men and women, particularly younger people. The knowledge imparted will complement livelihood restoration and development activities which have been designed to not degrade the surrounding environment (reducing swidden activities, unsustainable timber extraction, over-harvesting of NTFPs, lack of waste management).

Environmental education will complement new livelihoods while raising community awareness of the need to protect natural resources for the future. Training will be conducted through the village facilitator system, with technical assistance from NGOs or other agencies that have conducted similar education programs elsewhere in the Lao PDR. Existing curriculum can be reviewed, adapted to the Khong District and Project Area context and TOT provided to enable village facilitators to share the curriculum with their community.

5.5.1.4 Scholarship Program

The Project will fund a scholarship program for young women and men from relocating AHs to pursue vocational training in teaching, business, health (nursing, birth attendant/midwife training) or similar. Scholarships will cover fees and a living stipend for six people per year (three from each village). Selection of recipients will be through village-led selection with preference for young adults from poor or vulnerable AHs, at least half of the scholarship recipients will be female.

The selection process can be defined during further consultations with AHs and VDCs, but an entry point could be for all people wishing to be considered to put their names forward, with names of potential candidates being drawn from a basket at a public meeting. This will ensure maximum transparency for the process of first-round selection. The second-round selection criteria can be discussed and agreed by AHs and VDC at a meeting and all potential candidates will then go through an interview, before the final selection is made.

5.5.10 Credit and Credit Training

The provision of credit is essential to complement to the livelihood restoration and development strategy as well as being a mechanism to promote strong village organizations and community solidarity. Intensive capacity building (and ongoing mentoring) of revolving credit fund managers and savings groups is required for long-term success.

The objectives of the provision of credit and the encouragement of savings among AHs are to:

- Provide a source of low-cost credit to improve livelihoods through expanded production (livestock, fish farming, cash cropping, handicrafts etc.);

- Provide a source of low-cost credit to improve livelihoods by enabling the growth of micro-enterprise, small trading, etc.;
- Provide a source of low-cost credit to cover household cash expenses, e.g. education;
- Encourage families to build a savings, which is a key component of a sustainable livelihood;
- Prevent impoverishment from the selling-off of productive assets in times of need and prevent proliferation of high-interest debt to extortionate local money lenders; and
- Improve capacity of individuals and households in financial management.

It is envisaged that, under the guidance of the VDC, each village will be assisted to establish a village revolving fund and a savings-led credit group. The revolving funds can be organized around different livelihood activities (livestock raising, community forestry projects, handicrafts etc.) and allow members to obtain low-cost credit to expand production. While credit provided does not require savings to be paid in before eligibility, it will be provisional on the agreement to stay in the group for a specified period and start making contributions after the initial credit has been repaid.

An initial fund sufficient to cover the small business and fishery, livestock and agriculture activities and assistance for a range of other activities will be provided by the Project for the first three years, after which time the Project will provide fund to village community at which point the revolving fund should be on its way to becoming self-sustaining, the fund will grow with regular contributions from members. This approach helps prevent the creation of a culture of dependency among those receiving assistance. It also helps establish a valuable community asset in terms of a sizeable village revolving fund.

The village savings-led credit groups assist families to save. They should be established under the VDC with assistance from LWU. At least a third of fund managers and savings group management committees should be women. Tasks include holding membership meetings, establishing selection criteria for credit applicants, agreeing with member's amount of contributions, contribution term and repayment rules, receiving regular savings contributions, managing individual or household member savings books, and helping ensure timely repayment.

Training in financial management is required by those who will receive compensatory lump sum cash payments who could then participate in micro-credit schemes. The training will include basic record keeping and accounting, household budgeting, loan schemes, and interest calculations.

5.5.11 Mainstreaming Gender

Most components of the SMMP and RAP are designed to benefit women and men, directly and indirectly. By ensuring equitable participation in all training programs, women in affected communities will gain greater access to knowledge and skills. Improved schools will mean a reduction in women's childcare burden. Literacy classes while open to men will likely consist mainly of women. Women, through LWU participation, will be asked to participate in the management of revolving credit funds and savings-led credit groups.

Regardless, of the benefits women will enjoy from equitable participation in all the Project social improvement activities, existing gender bias in local leadership and decision making will likely remain a significant barrier to women's advancement. Requiring at least a quarter of VDC members be women and the creation of a gender-balanced pool of trained village facilitators will be a significant step for improving women's participation in community leadership. In order to ensure lasting gains in women's local representation, the social

development component includes a women's leadership program. Women from affected communities active in community development and/or administration (LWU representative, interest group members, heads of savings and credit groups) will be brought together at a regular women's leadership training. The training will allow them to improve their skills in a supportive environment as well as network and share experiences with women in similar positions from other communities. The low participation of women in community and village level decision making is more than a function of low capacity, reluctance of male leaders to take women and their views seriously are a large part of the problem.

In order to reduce this barrier, gender sensitivity and development training will be provided to village administration and male VDC members.

6 SOCIAL IMPACTS OF THE DSHPP

6.1 Social Impact in Construction Phase on Island Communities

6.1.1 Physical Impact on Island Villages

The villages of Ban Hang Sadam, Ban Hua Sadam and Ban Don Sahong would bear the direct impacts of the DSHPP. The hamlet referred to as Ban Hang Sahong and one outlying household of Ban Hang Sadam would need to be relocated for a total of eleven (11) households. No relocation is anticipated on the mainland. This is discussed in detail in the RAP. All communities are close to some of the construction activities, for example:

- Hang Sadam is within 1.0 km of the main dam site and has agricultural lands directly affected by the construction facilities and by the downstream dredging for the tailrace channel.
- Hua Sadam is within 0.3 km of and directly affected by the main barge landing site, its agricultural lands will be affected by the main road and traditionally used and cultural areas will be affected by the eastern upstream coffer dams and channel excavations
- Hua Sahong is within 0.5 km of and will be directly affected by construction of the barge landing and the western upstream cofferdam and channel excavation.

It is proposed to relocate the Hang Sahong hamlet north of its current location approximately 1km. Works such as forest clearing and channel excavation will affect the northern part of Don Sahong island, and will require an access road from the dam site to the northern extent of the island. This is in addition to the access road-cum-embankment on Don Sadam. While these roads would be assets beneficial to the local communities it is envisaged that separation of village traffic and DSHPP traffic may be necessary on Don Sadam. Also the drainage arrangements for all project access roads needs to be planned to be compatible with local villagers' drainage needs in their agricultural fields. Otherwise these issues will be a source of local complaints.

Other mitigating actions that need to be resolved through consultation with local communities include:

- Water supply sources, both temporary during construction and permanently because many villagers use the Hou Sahong as their water source.
- Noise emissions and their effects on community activities, such as the operation of the Wat at Hua Sadam that fronts Hou Sahong.
- Policies on use of roads by local residents and appropriate warning signals by DSHPP and contractors' vehicles and public warning signs where appropriate along access roads.
- Arrangements and use of DSHPP emergency health facilities and vehicles for local residents.

6.1.1.1 Loss of Access to land and water resources used by island villages

The project will need to acquire 5% of the agricultural land on Don Sadam and 22% on Don Sahong and about 30% of the forest lands on these islands (table below). These acquisitions will be compensated by the Project (see SMMP for details).

Table 32 Land areas affected by pondage and works on the islands

Location & Land Use	Natural Conditions - ha	Affected by DSHEP - ha	Percentage of Area Affected
Don Sadam - Agricultural	139.9	7.1	5.1%
- Forestry/ Other	334.1	95.1	28.5%
- Subtotal	474.0	102.2	21.6%
Don Sahong - Agricultural	104.2	23.3	22.4%
- Forestry / Other	211.3	77.6	36.7%
- Subtotal	315.5	100.9	32.0%
Two Island Land Systems	789.5	203.1	25.7%
Hou Sahong - Small Islands	11.3	11.3	100%
Hou Sahong - Water	76.3	76.3	100%
Total Ecosystem of Islands	876.5	290.7	33.2%

6.1.2 Economic Impact on Island Villagers and Mitigations

On average the households in the island communities get 65% of their cash income from fishing. This cash income is essential because these households generally do not grow sufficient rice for their own consumption, because of island soils are poor and the area for farming and for stock grazing on the islands is very limited (Table 20). Therefore the compulsory acquisition of agricultural land and waterways (fishing grounds) by the Project could potentially cause negative impacts on island communities.

The Project will compensate households for all compulsory acquisitions of land and fishing rights. The compensation policy will preferentially be to replace (like for like); substitute (with similar in kind); and payment in cash as the least desirable mechanism. The process for determining compensation arrangements are outlined in the SMMP.

The employment of local people during the construction of the DSHP is particularly desirable. However, the project will need to sensitively accommodate the low skill levels in the local communities and some seasonal requirements for absence to undertake agricultural labour.

The following actions to maximize the employment opportunities for locals are recommended during the detailed design phase:

- inventory all resident households to identify people with skills that can be relevant to the project development;
- recruit the best fishermen for catch and transfer (and other fisheries related tasks);
- recruit skilled boatmen for logistics and transportation roles with a view towards continuity of employment;
- identify people with suitable skills for training as security guards, and plantation or general labour; and
- identify people with aptitude (skills or education) for employment by contractors and/or training for longer-term employment in the operational phase.

The DSHP can avoid local resentment and build goodwill for the Project by instituting a policy of favouring local employment wherever possible, at all stages of the Project development.

These policy measures combined with thorough and effective implementation of the SMMP will prevent any significant negative social impacts from the Project.

6.1.3 Impacts on Public Health (and Mitigating Actions)

The health risks facing people living in the Lao PDR are higher than for those living elsewhere in the region, based on current assessment of public health indicators like child mortality rates. People living on the islands in the Project area also face additional health problems due to their isolation from health services on the mainland and because of specific local diseases like schistosomiasis, which is due to contact with river water.

A DSHPP sponsored health survey of the island villages in the project area found 5% of the population was suffering from schistosomiasis due to infection by *S. mekongi* and there was a very high frequency of infection by liver flukes, most notably *Opisthorchis viverrini*.

The hydropower project can improve this situation and reduce the risk from these diseases to both locals and temporary workers by implementing mitigation plans outlined in the SMMP.

At the same time, the Project is mindful that hydropower project camps can potentially aggravate local public health situations because of the concentration of external labor forces in temporary camps.

Therefore the DSHPP plans to assist local and regional health agencies to maintain and improve the existing public health standards and will implement its own programs to educate the workforce and local population alike of potential health risks, change dangerous behaviours and to improve the standards of sanitation and potable water quality within the project area.

Mitigating Actions

The potential issues and mitigating actions appropriate for the DSHPP management in relation to public health are quite specific and include:

- Medical surveys of all employees as a condition of engagement and treatment of any infections.
- Control the mosquito vectors of disease like malaria and dengue fever which are already present in the project area by remedial actions such as provision of treated nets to all local communities and to all camps, residual spraying of all worksites and camps and monitoring programs of both disease vectors and disease.
- Control of breeding *Aedes aegypti* (vector for Dengue Fevers by elimination of small standing pools that provide breeding habitat.
- Education and treatment programs for *Schistosoma mekongi* by: (i) drug treatments for local communities and workers; (ii) education in risks of direct contact (e.g. bathing) in the river water; (iii) provision of suitable ablution and sanitary facilities to limit the risk of *S. mekongi* infection back to the intermediate host a small river snail.
- Educate and regularly test and treat workers and local residents for infection by liver fluke (e.g. *Opisthorchis viverrini*). Use public awareness programs to discourage eating local raw fish dishes likely to be contaminated with these parasites.
- Provide an active program promoting community and worker awareness and treatment of Sexually Transmitted Infection (STI) and HIV infections. While the existing rates of these infections are low, transient worker populations may introduce these diseases (The GOL actively encourages such prevention and control programs).

The DSHPP should engage a medical consultant to prepare a detailed medical operations plan for the construction operation. This should be done in co-operation with the provincial and district health authorities. The medical plan for the DSHPP project should be pro-active, consider the exact role of DSHPP and contractor health and emergency response facilities with relation to local communities and should be a priority for investigation. While such a

program is commonly linked with the overall safety program, in this case the known presence of endemic parasitic diseases in the local island communities warrants early attention.

With these mitigating measures in place, including implementation of the SMMP which provides for new health facilities, impacts on public health will not be significant, and positive impacts are likely.

6.1.4 Impacts of Mainland Operations and Mitigating Actions

Refer to Section 5.4.8 of the EIA 2013.

6.2 Social Impact in Operation Phase

6.2.1 Island Communities and Livelihoods

Many of the island communities directly affected by the DSHPP can be expected to benefit through employment in either the project workforce or associated work. This would extend throughout the construction period but then these jobs would gradually disappear. While some may acquire new skills and be able to move to gain further employment, others would then become locally unemployed. Minor numbers could still be employed on the DSHPP but the opportunities for unskilled workers are limited in modern power stations.

The greatest opportunity for longer-term employment and improvement of livelihoods will come from the bridge that the DSHPP will provide to the mainland. This bridge will open the island communities to opportunities to grow higher valued crops and participate in the tourism business. In addition, the development of direct vehicle access to the two islands will result in an increase in the value of lands on the islands. The SMMP provides information on how the DSHPP will assist the islanders in optimizing the economic benefits of the new road access.

The potential for negative impacts to the fisheries and agricultural activities of the island communities during the construction phase of the DSHPP will continue during Project operation. Therefore mitigation actions undertaken during the construction phase will be designed to provide alternative livelihood support over the long term.

One of the main long-term impacts on the livelihoods of the island communities would be through the benefits flowing from improved educational facilities on the islands, as well as easier access to education and health facilities on the mainland. These are discussed further in the Social Management and Monitoring Plan (SMMP).

6.2.2 Public Health

During the operational phase it is not anticipated that any adverse impacts would occur in respect to the communities on the two islands affected by the DSHPP. By that time normal operating procedures of the District and Provincial health authorities would be in place including programs and budgets. The communities would benefit from public health programs devised for the construction phase and from improvement in access to the islands.

However, it is also anticipated that health treatment facilities and emergency response for the operational power station would be reduced and would be based on the safety requirements of the DSHPP employees. The monitoring of public health indicators in the island communities would continue in the operational phase, to assess any long term impacts from the project.

6.3 Impacts during De-commissioning

Refer to Section 5.6 of the associated Environmental Impact Assessment (EIA 2013)

7 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions and Evaluation of SIA and Affected Household and Persons

Only eleven (11) households will need to be relocated to accommodate the Project and a resettlement action plan (RAP) has been prepared to resettle these families and to provide for their future welfare. In addition the implementation of a Social Management and Monitoring Plan (SMMP) is designed to improve infrastructure (water supply, sanitation, education, health facilities and electric power) in directly affected villages. The provision of a bridge and road access to Don Sadam and Don Sahong is likely to speed the extension of electrification to other islands, including Don Det and Don Khon, and enhance their tourist potential, as well as improving the living conditions for the residents.

The social impact of the Project is potentially greatest for the island communities that rely on fishing for their income and have limited agricultural resources. The Project plans to replace lost agricultural land with like for like (new agriculture land development outside the impoundment); to develop simple gravity based irrigation schemes to allow more intensive farming; to encourage diversification of crops; and adding value to existing agricultural and fishery products by taking advantage of the improved transport links that will be developed by the project to sell new products into new markets.

7.2 Recommendations

The social impact assessment determined that the implementation of the Project will be of considerable economic benefit to the Lao PDR and will provide improved infrastructure and stimulation for growth in Champasak Province and the Khong District. The Project can also potentially deliver economic, social and health benefits to the island communities most directly affected if the detailed recommendations to avoid or mitigate the potential negative social impacts and enhancing positive ones are implemented as recommended in the following documents attached to the EIA 2013:

- The Resettlement Action Plan (RAP 2013), as finally determined for relocating communities such as Ban Hang Sahong hamlet and others affected by DSHPP;
- The Social Management and Monitoring Plan (SMMP 2013), as revised in consultation with GOL including Khong District authorities and representatives of villages within the project area.

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APPENDIX 1

**SURVEYS of the STATUS of VULNERABLE PEOPLE and the significance of GENDER ISSUES
in RELATION to POTENTIAL IMPACTS by the PROJECT**

9 APPENDIX 1- SURVEYS OF VULNERABLE PEOPLE AND GENDER ISSUES

9.1 Gender Issues

9.1.1 Background Developments in Lao PDR

Lao PDR, a small country in the heart of the Greater Mekong Sub region (GMS), has a population of just over 6 million, including a diversity of ethnic groups, and is endowed with rich natural resources and biodiversity. However, the country also faces numerous challenges: a predominantly agrarian economy surrounded by rapidly industrializing neighbors; an increasingly young population with limited education and skills; mountainous and sparsely populated areas beyond the reach of basic services and infrastructure; mounting pressure on fragile forest and water resources; and limited national and local government capacity to raise revenues, to implement policies, and to enforce laws and regulations.

9.1.2 Gender Issues in Lao PDR

Lao women play important roles in agriculture, small-scale businesses, manufacturing (especially the garment sector) and provision of basic services (especially education and health). Women in urban areas are also finding opportunities in information technology, tourism, and business services. Lao women are also primarily responsible for maintaining their families' food security and health. Their equal participation in economic, social, and political life is supported by the 1991 Constitution and various national laws and policies. Despite these national commitments, gender disparities persist in a number of areas. These gaps are especially pronounced in rural areas and among some ethnic groups.

9.1.3 Gender and Poverty

Since 2004, the Government of Lao PDR has focused increasingly on the problem of poverty, especially in rural areas where about 80% of the population lives. The concept of poverty as understood in the international development community does not translate easily into Lao or the languages of other ethnic groups in the country¹³ However; a Prime Ministerial Instruction issued in 2001 provides the official definition of poverty in Lao PDR (see box):

Poverty is the lack of ability to fulfill basic needs, such as: not having enough food (less than 2,100 calories per day/capita), lack of adequate clothing, not having permanent housing, not capable of meeting expenses for health care, not capable of meeting educational expenses for one's self and other family members, and lack of access to transport routes.

The Prime Ministerial Instruction also includes poverty indicators at the household, village, and district levels. For example, a household is considered poor if it has income equivalent to less than Kip 85,000 per person per month (at 2001 prices). A village is considered poor based on the percentage of poor households and access to schools, health facilities, safe water supply, and roads or trails. However, since poverty is not measured at the individual level, these official indicators do not permit disaggregation of poverty data on the basis of gender.

9.1.4 Gender-Related Trends

Lao PDR is undergoing rapid change that will further intensify as road networks improve and inter-regional commerce expands. These changes are already having profound effects on economic activities and social norms, including gender norms. There is also growing

¹³ For example, the participatory poverty assessment notes that in the Lao language, "poor" refers to the condition of suffering that arises from the human condition; in the Khmou language, the term means "unfortunate" and is associated mainly with fate. These local meanings contrast sharply with the economic and other physical conditions associated with the word "poor" in English.

awareness that Government policies and economic trends can have different effects on Lao women and men and among groups of women and men depending on their ethnicity, education and skill levels, location (urban or rural), and other factors.

The paper discusses the gender dimensions of national policies and trends related to poverty reduction, human resource development, livelihoods and employment, infrastructure development, governance, and regional integration (including increasing trade, tourism, and migration). Improved road networks, tourism development, and increasing migration also intensify social risks such as the transmission of sexually transmitted diseases (STDs) including HIV/AIDS and human trafficking which are also discussed. For each of the trend areas, the paper identifies relevant national targets (including national MDG targets) and gender-sensitive approaches outlined in the gender strategies of the Growth and Poverty Eradication Strategy (GPES) and Northern Region Development Strategy (NRDS).

9.2 Objectives of the Assessment

The objectives of the vulnerable people and gender assessment are to:

- Collect primary data on vulnerable people and gender aspects and particularly women in the DSHPP project area;
- Collect secondary data on vulnerable people and gender issues at the National and Champasak levels;
- Identify and assess the potential positive and negative impacts of the project on vulnerability and gender issues; and
- Identify and assess the potential positive and negative impacts of the project on migration and risk of trafficking issues.

9.3 Methodology

9.3.1 Data Collection and Analysis

Many types of data collection techniques were used, including separate household surveys, as follows:

- Primary data -- Interviews, Observations, Field Notes, and Photographs
- Secondary data – including Interim, Yearly reports of Immigration on illegal migration and trafficking at Champasak province and Lao' Women Union at district level, and at National level.
- Questionnaires - these consisted of closed form (choice, checklist, ranking, and rating) and open ended form (see Attachment 1 of this section).
 - Two kinds of questionnaires were used in the project areas in order to collect data and information from Lao Women's Union at village, and Lao Women at household level.
 - Village level - One form for each of 2 villages: Hua Sahong and Hang Sadam.
 - Household level - totally 30 samples were taken to represent women in 3 villages: Don Sahong, Hua Sadam and Hang Sadam.

9.3.1.1 Assessment Technique

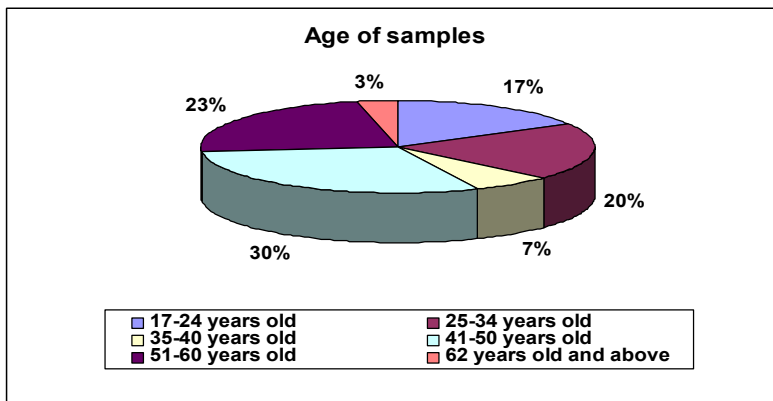
Key methods in the assessment include:

- Content analysis (Based on quantitative and qualitative data);
- Descriptive/Narrative of observations and results

9.4 Results of the Gender Issues Survey

This section presents an overview of the field work done with respect to gender issues in the DSHPP area. The sampling and interviews took place in July 2009 on Don Sahong.

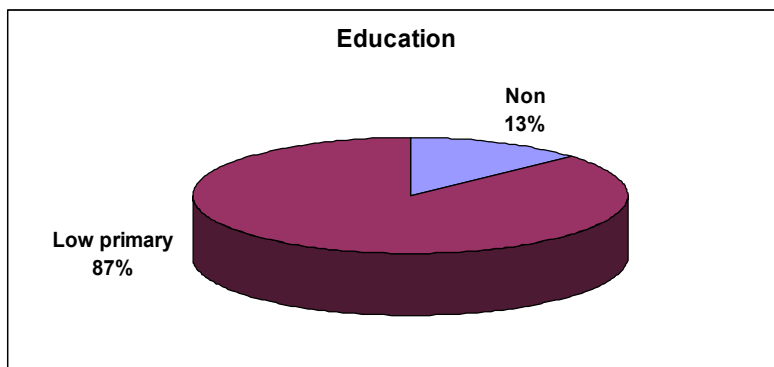
Ethnicity and Religion



All of the persons sampled are Lao, and their religion is Buddhist. Following typical roles in Buddhism, they all are very strong and active participants.

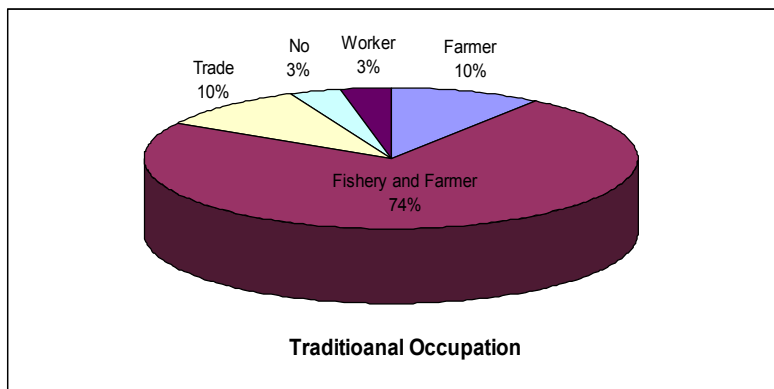
Age

A bit more than half of samples are 41-60 years old. Of the remainder, 2 out of five are 17-34 years old.



Education

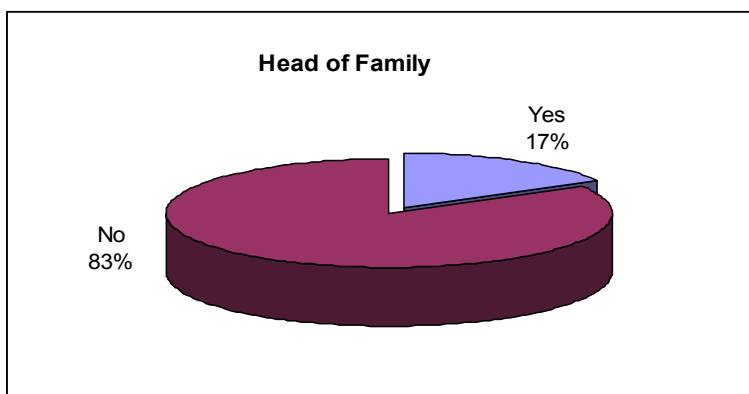
Most of sampled persons have not completed lower primary education yet (87%) and a few of them have no formal education. They are able just write their name and read some easy sentences.



Occupation

The main occupation of most of the sampled people is fishery and farming (74%), followed by farming (10%), trading (10%), and general labor workers. There are only a few who are vulnerable and don't have land.

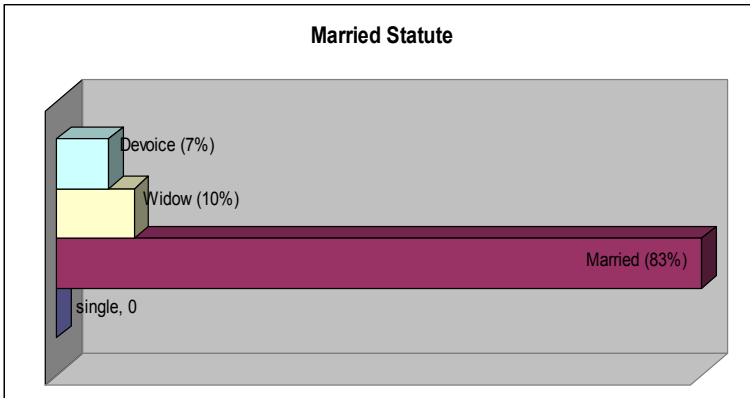
All samples indicated that because fishery is the main way of life of people in all DSHPP village areas, they fish almost 365 days per year, both for household consumption and for selling.



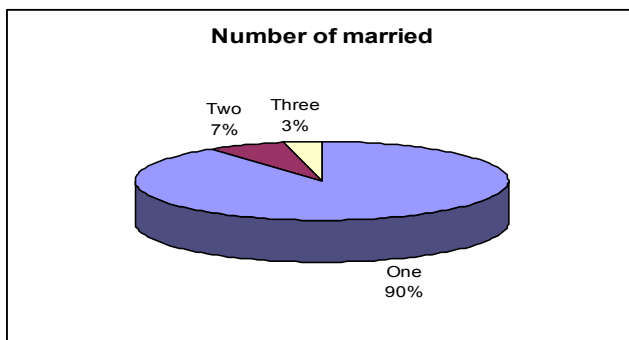
Family Status

Most of the persons sampled are married. Only a few women are widows or divorced. Therefore, 17 % of women are heads of family.

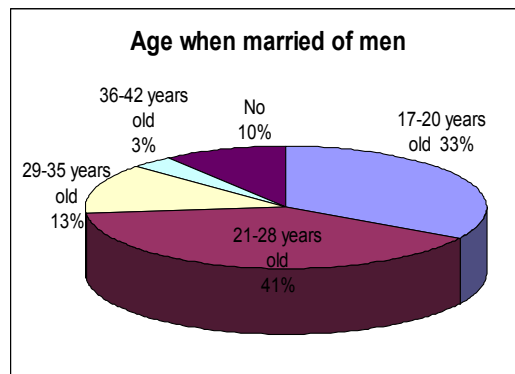
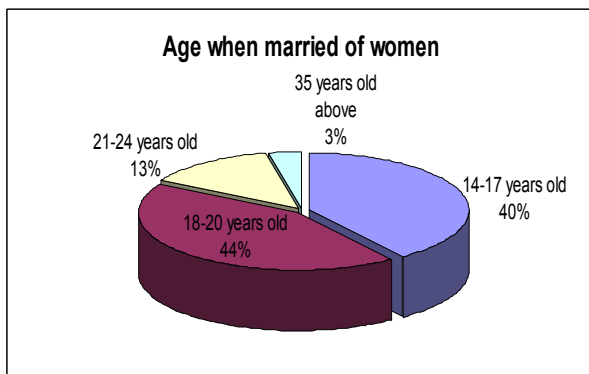
Marriage Situation



About 90% of the sampled persons are the first wife and most of them get married only one time, about 10 % of them get married in the second and third times. Compared to men is much lower such 74% get married only one time, and remaining 26 % of them get married in the second and seven times.

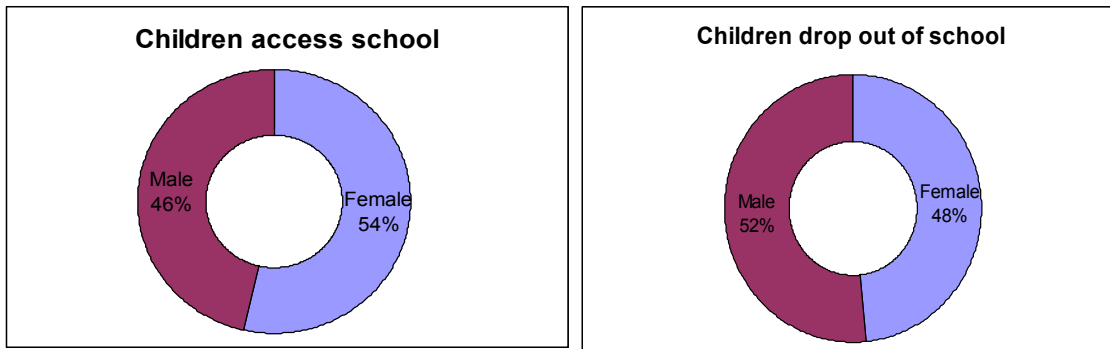


More than 80% of them married very young (around 14-20 years old), and that is much younger than men (74% were around 17-28 years old). They have around 3-6 children and only some of them have 7 children. Therefore, they can afford to send only some of their children to school, and there are more daughters (54%) than sons (46%) who attend school. The number of children who quit school is similar between boys (52%) and girls (48%).



Education

Most of the children go to primary school in the village but if they want to continue to upper primary they have to go to Nakasang School.

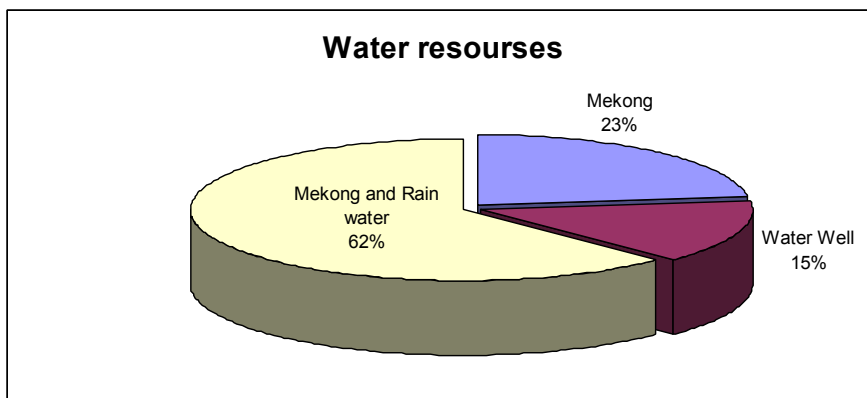


Most of sampled people said they don't have enough money to send their teen age (12-18 years) children to school after they complete lower primary school, because the upper primary school is far and it costs too much for transport and equipment. Therefore, most teenagers quit school to work with family, or go to work in town and in Thailand.

9.4.1 Hygiene and Sanitation

None of the villages investigated have any sanitary system and they generally have poor hygienic conditions.

9.4.1.1 Sources of drinking water



All of villages are using water from the Mekong mainstream and for a few months at rainy season they use rain water. Just only a few families have or use water wells.



Method of Improving Water for Drinking



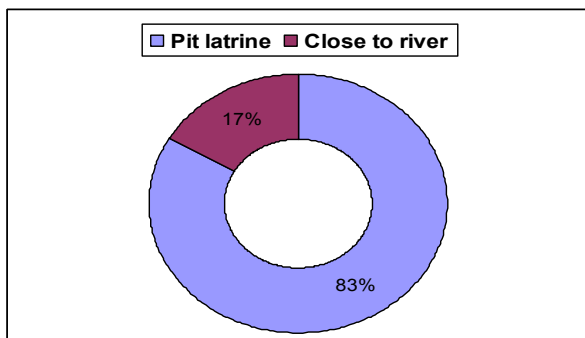
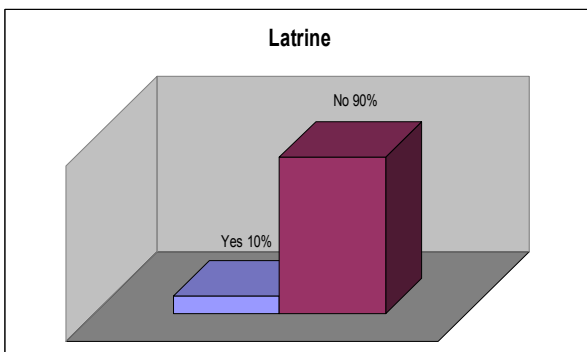
All of the people surveyed drink boiled water. However, they said that every so often they still drink raw water which may cause diarrhea and other related diseases.

9.4.1.2 Solid waste management



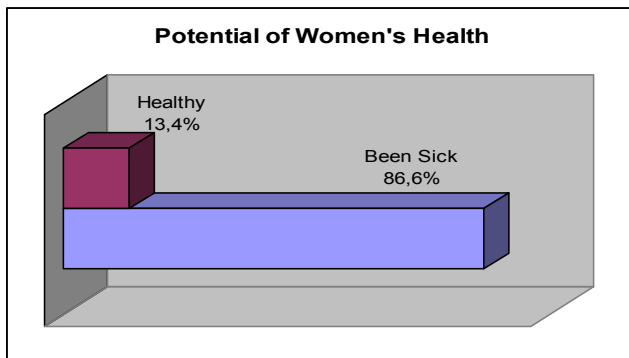
All of the people surveyed burn their daily rubbish around their homeport or around the village spaces and some of them bury it sometimes. Only 1 reported throwing it into the river.

9.4.1.3 Usage of Latrine

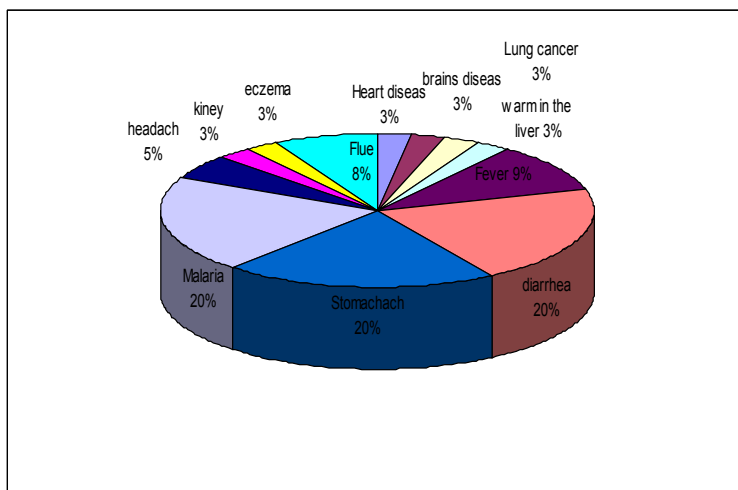


Only about 10% of the people surveyed have toilet with water closet and remaining 90% use pit latrines and areas close to the river.

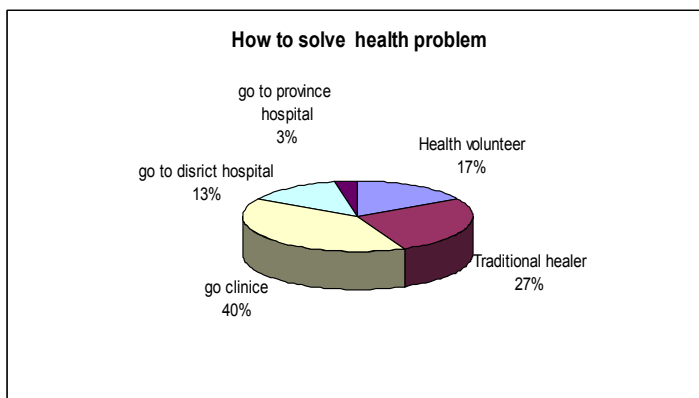
9.4.1.4 Health Care Status of Women



Data gathered from samples women in the project areas showed that only 13.4% do not have serious illness, and 86,6% of them have been sick for a while. They revealed that most prevalent diseases include: Malaria (20%), Stomachache (20%), Diarrhea (20%), Fever (9%), Headache (5%), Kidney (3%), Heart disease (3%), Brain disease (3%), Lung cancer (3%) and warm in the liver (3%)

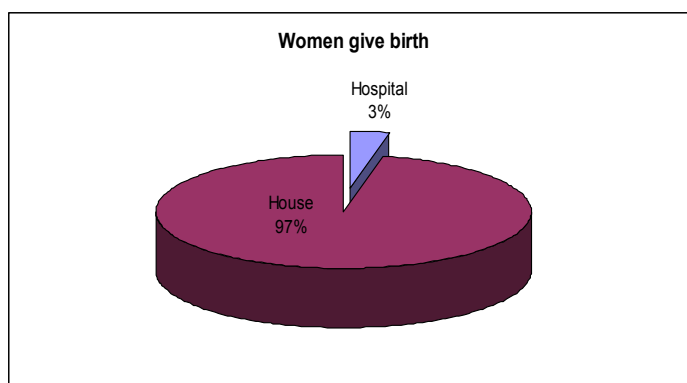


The most prevalent diseases

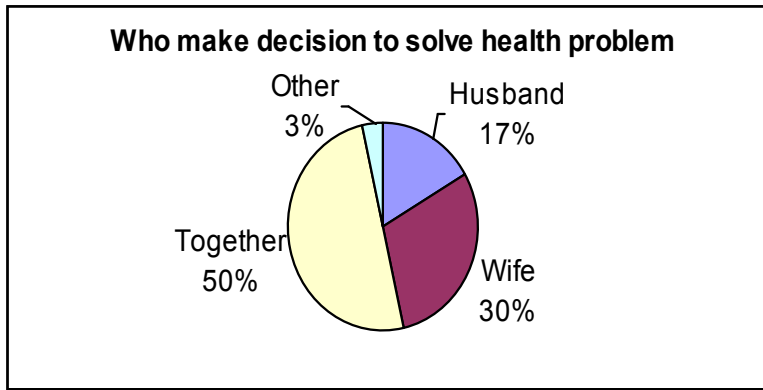


Solving Health Problem

When they have health problems, villagers solve them by going to closest clinic (40%), traditional medicine (27%), village health volunteers (17%), the district hospital (13%), and provincial hospital (3%), but they go to hospital especially when they have serious sickness and only those who have inadequate money to solve their health problems.



From the survey, 97 % of the sampled women delivered their children in their own house, and only 3% in the hospital. They said it is easy to give birth in their house because the birth attendees have lot of experiences and so they do not need to incur expenses and much cost to go to the hospital.

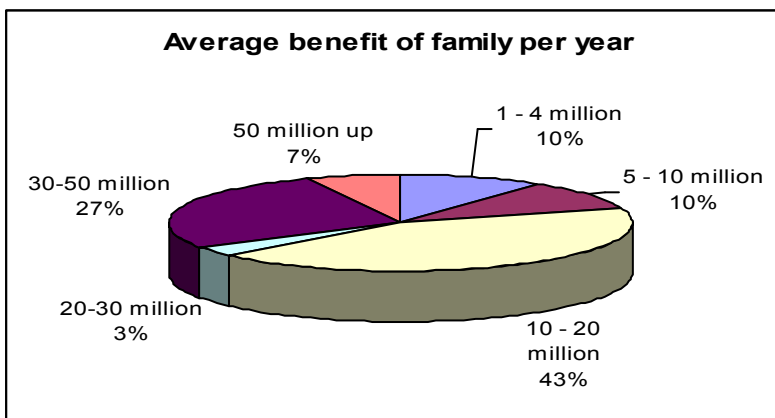


“This 75 year old woman is a birth attendant and healer in Ban Done Sahong”

Who make decisions when there is a health problem?

Most of people survey makes decision to solve health problem together in the family (50%), wife (30%), husband (17 %) and only one is made by father.

9.4.1.5 Economy

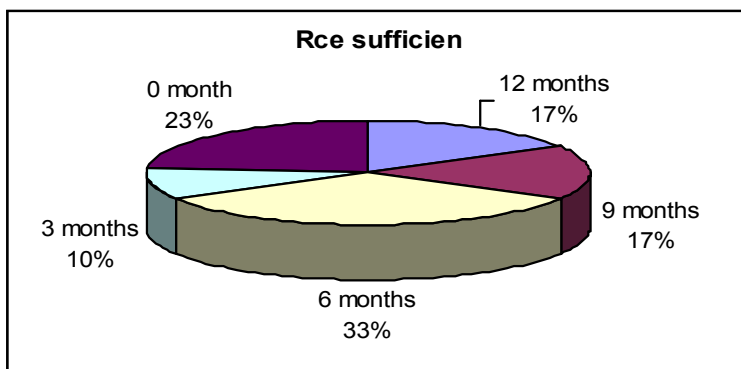


Almost all the sampled people rely on fishery for their daily income, and also do rice farming. Livestock is the household/village “bank.”

The survey indicated the following average incomes: almost half of the samples (43%) have household incomes of 10-20 million Kip/year, 27% of households made 30-50 million kip per year, 1/5 of the sample made

about 1-10 million kip/year, and just few of them can made between 20-30 million kip/year or more than 50 million kip/year.

9.4.1.6 Rice sufficiency



Only 17% of those sampled have enough rice throughout the year, 17% have enough rice for 9 months, 33% have enough rice for 6 months, and 10% have enough rice for only 3 months. Meanwhile, 23% cannot produce any rice for their families and have to buy it for whole year.

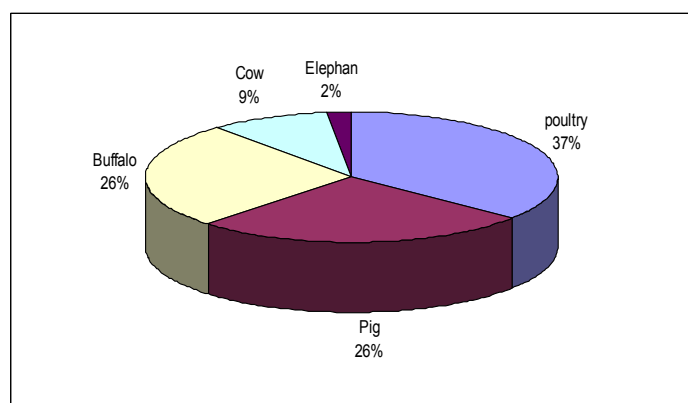
9.4.1.7 Sources of income

The villages sell fresh fish¹⁴ the whole year round, including a large-amount averaged in 4 months of the year. This is their most important income source every year.



Moreover, most of women in the project areas consider that to increase their economic status animal husbandry is the best way to ensure the availability of household cash when they need it urgently. In addition they practice other economic activities such as the following:

- 1. Livestock** - The survey found that 37% of those sampled raise poultry, 26% raise pigs, 26% have buffalos, 9% have cows, and 2% have elephant.



2. Small business

- Fish products – this is the second priority of their occupation for people in the project areas. They sell fresh fishes and fish products such dry fishes and 2 kinds of fermented fish in sauce (Padek and PaJao)¹⁵.



¹⁴ Most of fresh fishes they sell is big fish which brings a good price in the market

¹⁵ Mostly they make Fermented Fish in sauce (Padek and Pajao) from small fishes

“Fish



“drying at Ban Huc Sabong”



“Fermented Fish in sauce (PaJao) at Ban Hang Sadam”

- **Food processing** – Food for daily meals is normally produced within the village.



- **Banana Product** – They are made from local bananas from villages in the project areas. They prepare as fried sweet banana and sell to people in the village, to other villages nearby and to markets in town.

“Banana fried at Ban Hang Sadam”



9.4.1.8 Transportation

From town to district usually people take local bus or truck taxi (Songteo) and to all of the affected villages. Because there are no access roads, the main transportation network is by boat taxis and village/household small boats. Every village has its own pier on the Mekong mainstream.



- **Local transportation** – The other transportation available in the village especially when people have to carry heavy things or travel together, are tractor taxis as they are in some at village/ household.



“Tractor taxi in Ban Hang Sahong”



9.4.1.9 Commerce

Selling old coconuts - All villagers in the project areas have coconut trees and they sell old coconuts to market.



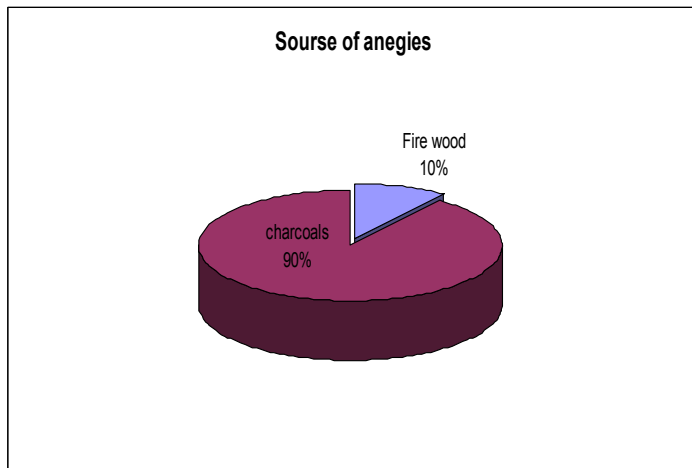
▪ **Selling forest products, frogs, and shells**



- is also can make as additional income for women in the project villages areas especially when they collected much then they salve some to market. The forest products were such: mushrooms, bamboo shoots, Ant' ages, etc.

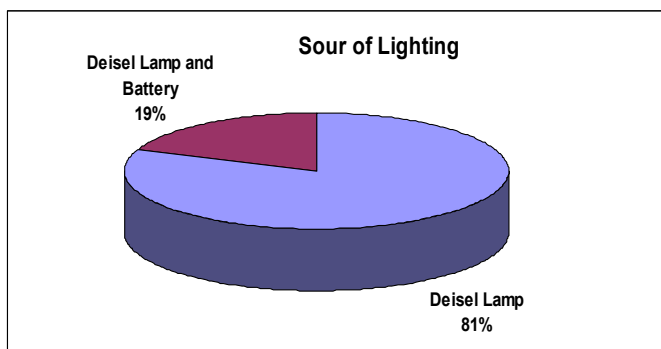
9.4.2 Source of Energy for Cooking

Most of the sample (90%) use charcoal for cooking regularly, only some of them uses firewood for cooking, or when they make food for animal and ceremony as need large amount and long time cook.



9.4.3 Source of Lighting

81% of the people survey said that they normally use diesel lamp as a source of their lighting and 19% of them use both diesel lamp and battery lamp some of the time.



9.4.4 Gender-based Division of Labour

In general, the division of labour between men and women is different from region to region and community to community. However, men usually tend to do the large-scale work and women tend to take care of family, to do small-scale work and tend to work longer hours than men. This concept is reconfirmed by the data collected from the survey as following:

9.4.4.1 Men's work

In the project areas, men are primarily responsible for the following works: Fishing, hunting, construction, and all transport system.

- **Construction work** – provide key work for men, which includes construction and repairing houses, rice storage, pigsty, and fences for garden.



- **Hunting** – only few of people said that they hunt sometimes for food and selling and all is done by men.
- **Transportation** – is mainly task for men to drive boat and tractor in all villages of the project areas, mostly are for family member, and some time as taxi if they have customers.



9.4.4.2 Shared work (men and women)

There are some jobs that were shared by both men and women, for instance, work in the rice farm, fishing activity, raising cows, buffaloes, and elephants, collecting agriculture products for meals, caring for agricultural seedlings and planting, gathering forest products for medicine, supporting children in school, making decisions on children's education and marriage, and participating in village affairs. It was found that both men and women raise livestock, gather forest products for medicine, collect agriculture products for meal and caring for agricultural seedlings and planting (about 40% to 50% of sample).



Both genders share in fishing activity- is mainly work for both men and women as their daily routine but actually they have clear divided responsibility such:

No.	Activities	Share in labor	
		Male	Female
1	Making fish net	Main task	
2	Making fish trappings	Main task	
3	Check fish trap line	Most	Less
4	Check fish trap	Most	Less
5	Check fishhook	Most	Less
6	Drive boat	Most	Less
7	Collecting fish from net	Less	Most
8	Store fish	Less	Most
9	Selling fish	Less	Most
10	Fixing/look after boat	Main task	

Checking fish traps and trap line include collecting and storing fishes



Making fish net, fish trapping and look after the boat



Making fish products”



Gender share in rice farming activity

Rice farming is regular work for both men and women, and they also have clear divided responsibility such:

No.	Activities	Share in labor	
		Male	Female
1	plough the soil	Most	Less
2	Maintain the rice field dikes	Most	Less
3	collect young rice plants	Less	Most
4	Plantation	Less	Most
5	clearing rice paddy	Halved	Halved
6	breeding	Most	Halve
7	Sowing	Halve	Halve
8	Applying pesticide	Most	Less
9	manuring/fertilizing	Most	Less
10	harvesting	Halve	Halve
11	weeding/hoeing	Less	Most
12	canal maintenance	Most	Less
13	transportation/storing	Most	Less
14	threshing grain	Halve	Halve
15	fuel wood/fodder collection	Less	Most

- **Gender share in decision making** - on supporting and making decision for children to go to school, children's marriage, and participating in village affairs, about 30% of both men and women shared the tasks.

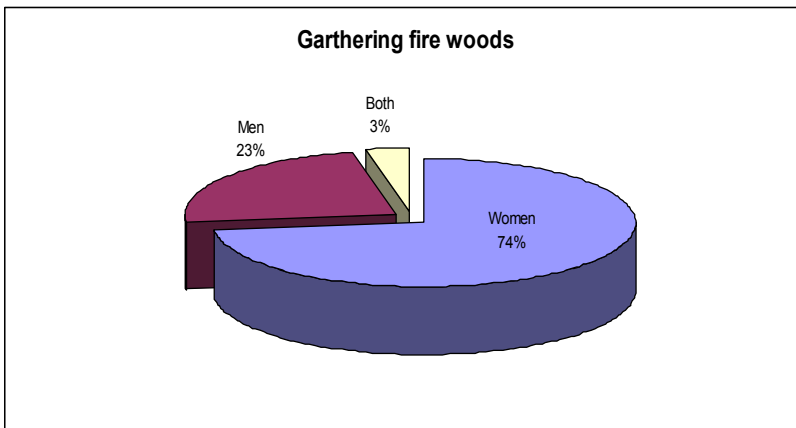


9.4.4.3 Women's work

In the project areas women's work include mainly gathering fire wood, making charcoal, collecting drinking water, destroying rubbish, making dry fishes, gathering and making animal food, raising poultry, raising pigs, gathering forest products for food, plucking grass

in the garden, plucking young rice plants, planting, trading, storing food, buying family utensils, buying kitchen utensils and cooking.

▪ **Gathering fire wood**

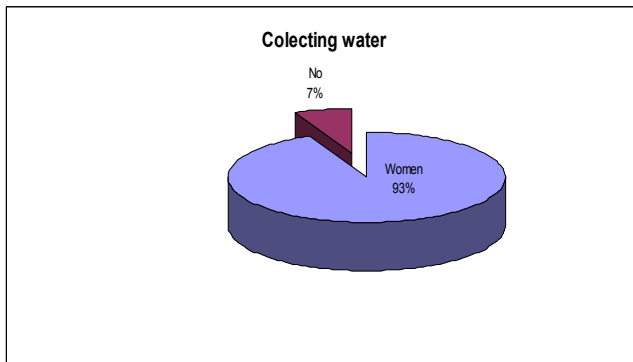


In the project areas collecting fire wood is not only the work of women but also girls include old women some time. They all said through interview such they collect a lot of fire wood at once for making charcoal and usually few time per year, therefore some family men also help.



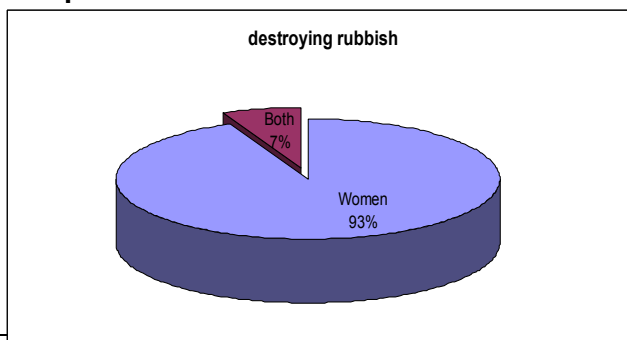
▪ **Collecting drinking water**

Women and girls play the major role in collecting drinking water (93%). All of them take



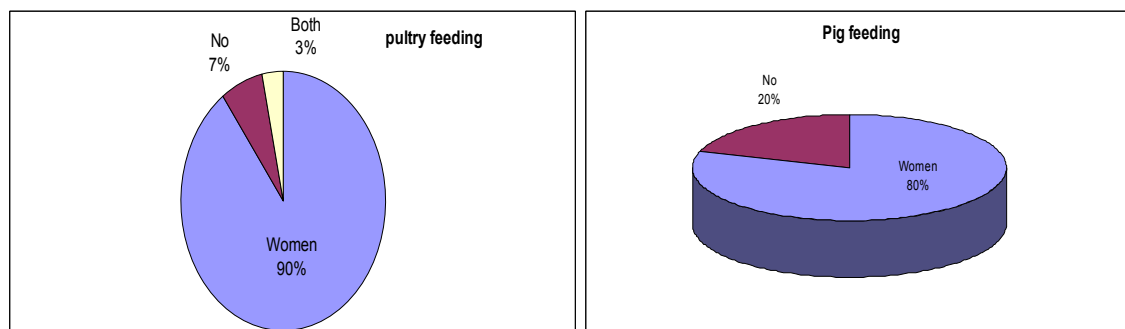
water from Mekong mainstream; and some of them take water from water wells.

▪ **Disposal of rubbish**



As the main task of women to gather, prepare, and feed the animal and that can be seen in most of villages in the project areas.

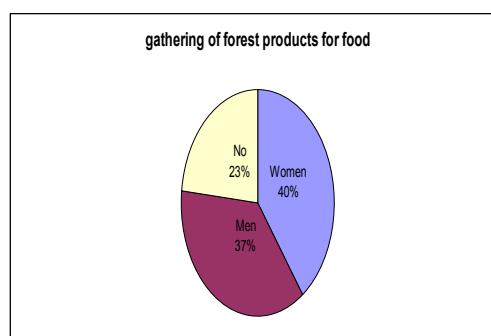
▪ **Poultry/animals feeding**



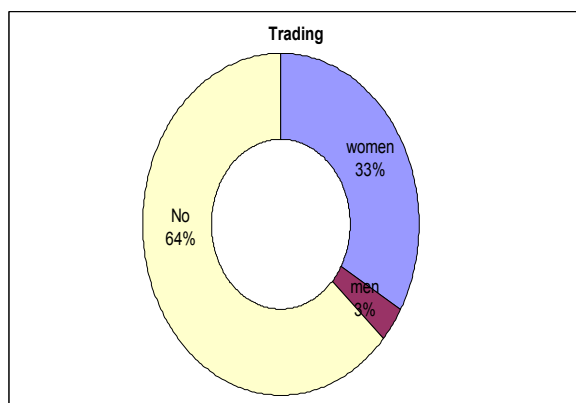
As the main task of women to gather, prepare, and feed the animal and that can be seen in most of villages in the project areas.



▪ **Gathering forest products for food** – is a role of women in seeking food for household members. Women have to go to the nearby forest to collect such mushroom, bamboo shoots, and insects.



▪ **Trading**- is a major task of women in every village, mainly buy-sell fishes, family utensils, kitchen utensils, food and general construction materials and fishery.



- **Buying family utensils** - From survey all of sample said: to buy family utensils is very detailed work and usually only women do this work.

- **Daily routine of women**

Besides the works discussed above women are involved in every stage of food production and, although there is a gender-based division of labor, women do tend to shoulder the larger share. In addition to food production activities, women have the responsibility of preparing and processing the food while fulfilling their fundamental role of nurturing and caring for children and members of the household. Moreover, women tend to work longer hours than men.

- o **Cooking**



- o **Nurturing and caring for children** - It was generally observed that young children are always with all women in family member even when the women are participating in a meeting.

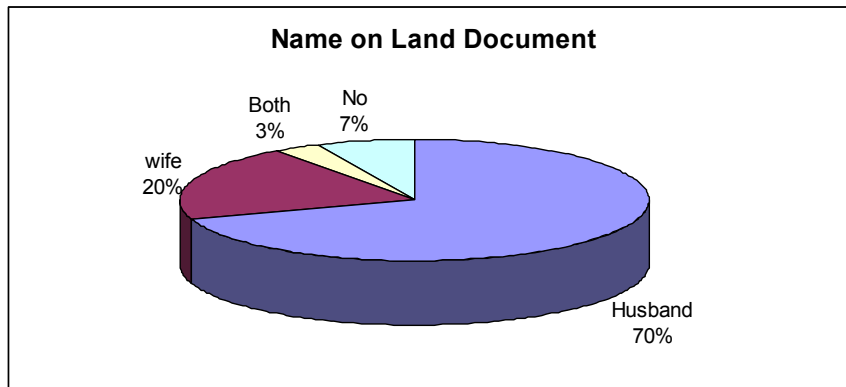


- **Preserving traditional customs, rituals and ceremonies**

This is not only men, but the women also fully participate in preserving traditional customs, rituals, and ceremonies.

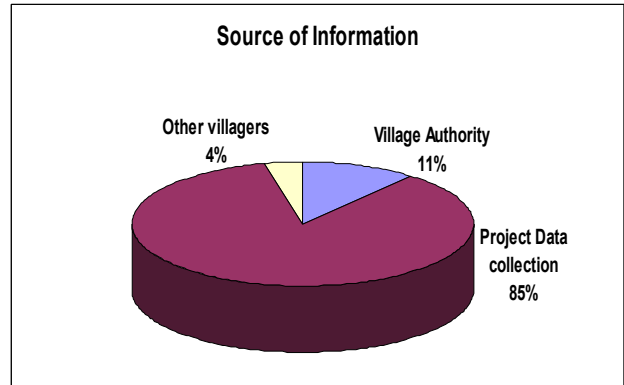
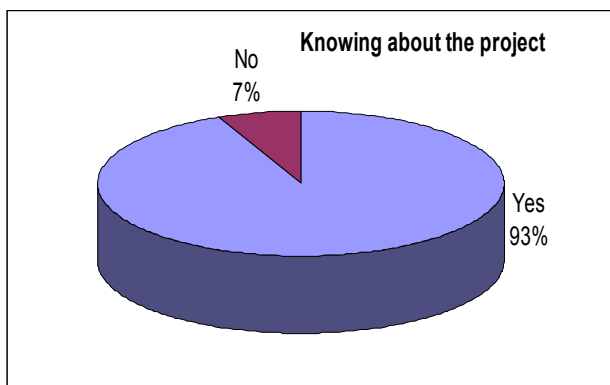
9.4.5 Ownership and Land Documentation

Key issues relate to the rights of women in entitlement to land. It was found that 70% of land documents were issued in the husband's name, 20% were wife name and only 3% were both.



9.4.6 Awareness of the Project

9.4.6.1 Knowledge about the project and Source of the Information



93% of people interviewed knew about the project. They were mainly informed by project data collectors and village authorities.

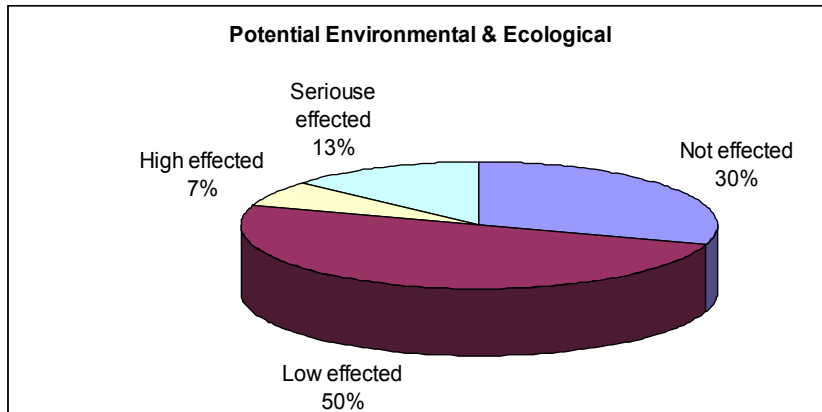
a. Women's Participation

Beside official dialogue with provincial, administrators, and key local authorities, the project participatory method has been employed in gathering information and communication with the potential affected villages and women.

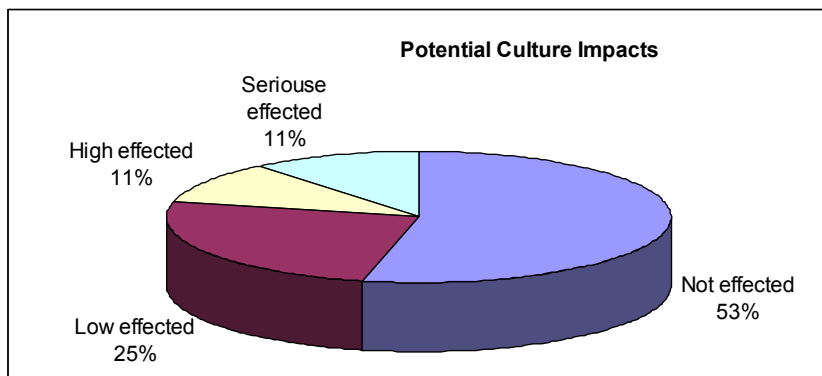


b. Women’s point of view towards the project

With respect to the project impact, women’s views were related to the natural habitats, declining ecological value, and loss of environmental beauty or diminish view scopes.



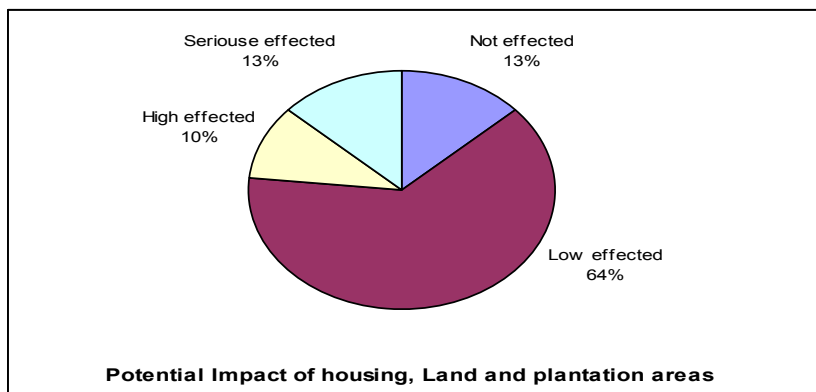
The data indicated that: 50% of the representatives thought that the project will “Low” affect natural habitats, 30% of them said that “Not affected”, 13% said “seriously affected” and 7% thought that they would be “High affected”



On the issue of change in ethnic cultural, custom and villagers’ belief – approximately 53% of them said that there will be no change in ethnic cultural, custom and villagers’ belief. Meanwhile, 25% of them thought that there will be a few such changes, 11% though that will be highly affected and 11% of them considered that their culture will be affected a lot to

young people especially young women in term of social issue.

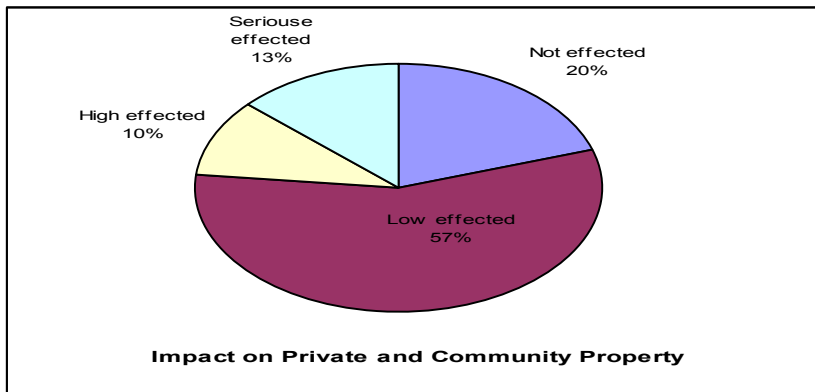
▪ **Loss of housing, land, and plantation areas**



13% of the samples thought that the project will not affect them because all of these samples are not reservoir families, include 64% thought the project affect but will be minor, it just some of them are reservoir families and understood that their land will get flood but

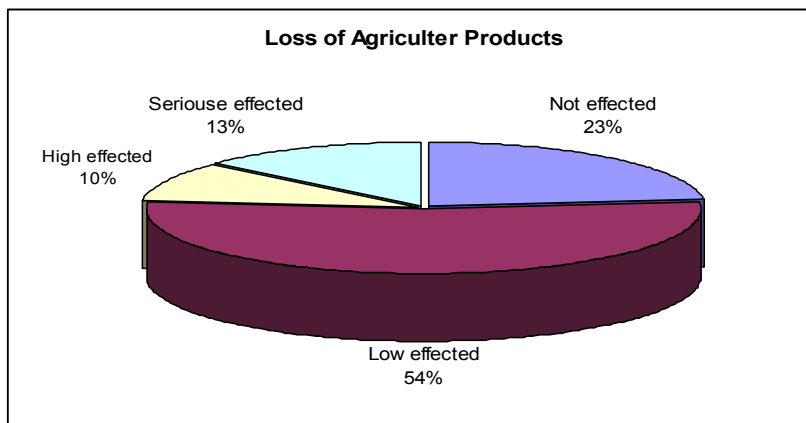
they said: we don’t have plantation then we don’t think it will affect us that much, remaining with most of reservoir families especially who have plantation and big house such 10% of them though the impacts will be significant, and 13% of them indicate that the impacts will be serious.

▪ **Loss of private and community properties**



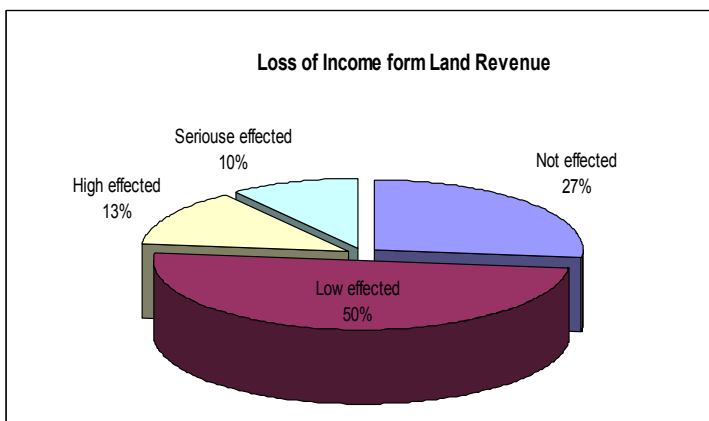
More than a half thought that the project will have little impact on private and community properties. Meanwhile, about 1/4 said that the project would have significant impacts.

▪ **Loss of agricultural product**



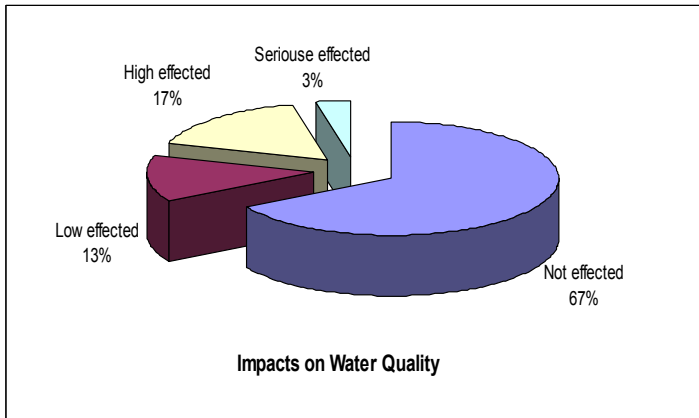
Similar to the above issue, more than a half thought that the project will create little effect on agricultural production. Meanwhile, about 1/4 said that the project would have a significant effect.

▪ **Loss of income from land revenue**



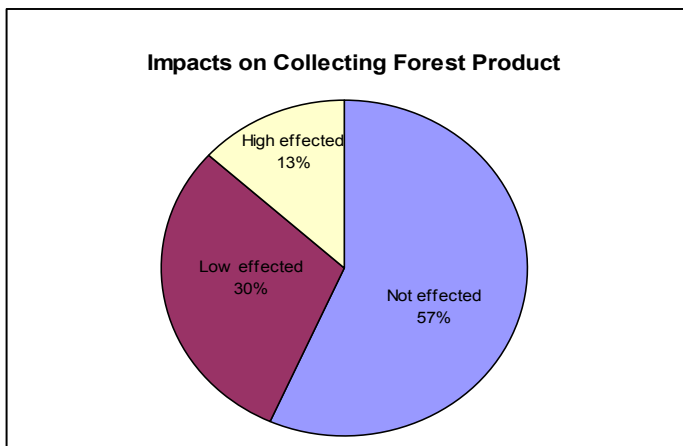
27% of the sample thought that will be no effect on income from Land revenues and half of them indicated that there will be low effect. Almost 1/3 said that the effects would be high and serious.

▪ **Effects to water quality and living things**



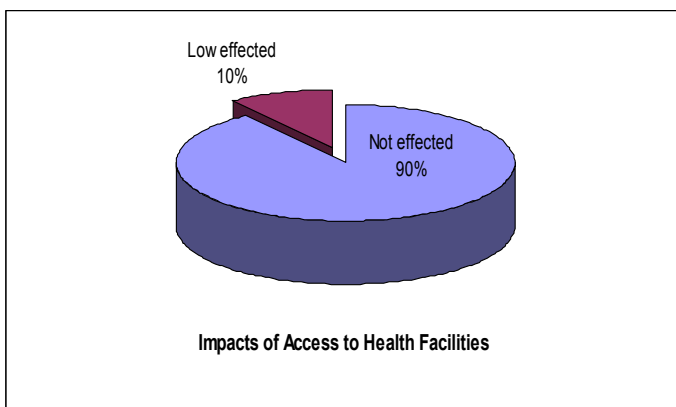
Similar to the above, more than half of the sample indicated that there will be no effect on water quality or on living things. However, about one-third said that the effects will be low to significant.

▪ **Effects on forest product collecting**



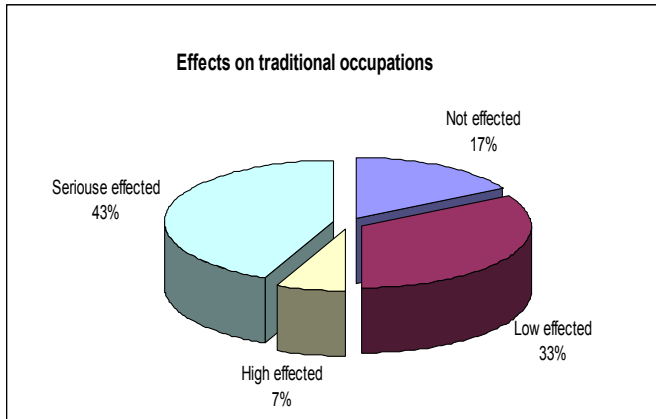
More than half of the sample population indicated they thought no impact by the project on collecting forest products and 30% said that there would be little. However, 13% of them though that the effect would be high.

▪ **Effects on hospital / health center accessibility**



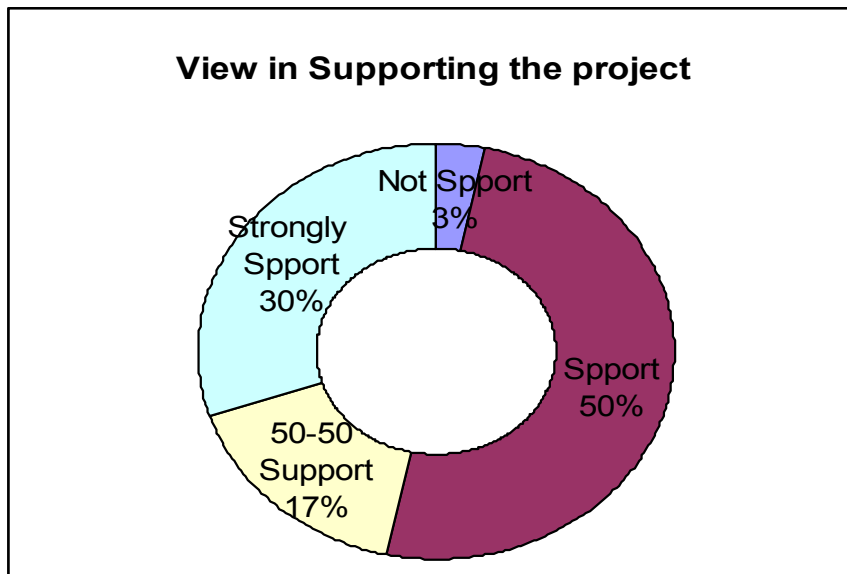
Most of samples said that there will be no effect on access to hospital/health center access and only few of them said that the effect will be very low. [Note: the participants may not have been aware of the access road and bridge that is being planned as part of the DSHPP]

- **Effects on children’s education**
All of the people sampled said that there will be no effect on children’s education.
- **Effects on traditional occupations**



The data indicated that 43% of the sampled people thought that the project will seriously affect their traditional occupation such on fishery, 30% of them said “Not affected”, 13% said “seriously affected” and 7% thought that they would be “Highly affected”.

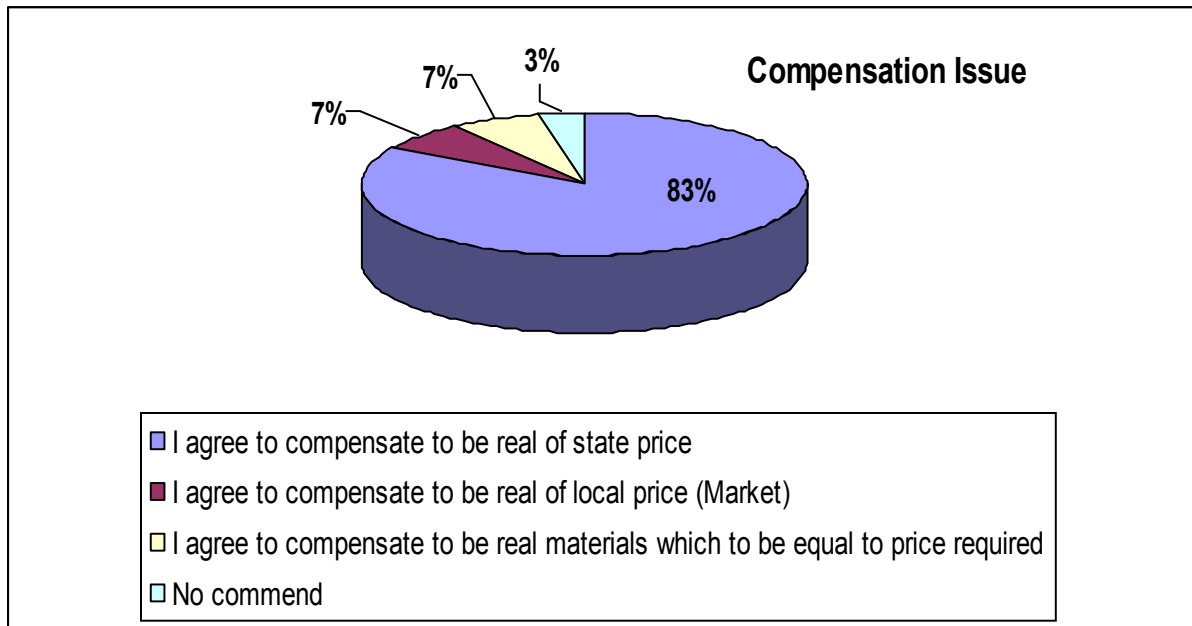
9.4.7 Views on Supporting the Project



As shown in the figure at left most people expressed support for the project. An additional expectation of people from project areas are electricity, better of economic, livelihoods, opportunity to get permanent occupation, and improve the young people’s education, especially girls.

9.4.8 Compensation Issues

The surveys revealed that most of the population expects full and appropriate compensation.



9.5 Vulnerable People at Potential risk from Human Trafficking

9.5.1 Current situation of Human Trafficking in the Lao PDR

Laos is particularly susceptible to trafficking as it is situated in a rapidly developing region, with a young population, and relatively low economic indicators. Regional disparities in development, coupled with increasing modernization and exposure through media encourages young people to pursue a more materialistic lifestyle.

The migration of young people from the villages along the Mekong River has left some families and communities without their strongest, most productive members. The reasons given by migrant laborers and trafficking victims for leaving their villages often without parental consent are mostly economic reasons, particularly the desire to earn more money for the family; although this is not necessarily related to deep poverty as materialism and consumerism appear to be significant factors.

Lao PDR is primarily a source but also a transit and destination country for human trafficking. Many Lao victims are recruited by local persons who have cross-border experience but not connected to any organized crime syndicates¹⁶.

9.5.2 Internal Trafficking

Laos has internal trafficking of women and girls from rural to urban areas for sexual exploitation.¹⁷ Internal trafficking of minority women and girls has increased in the northern part of Laos.¹⁸

9.5.3 External Trafficking

While some are truly happy to be away from the village life that they perceived as boring and without future, the life of illegal immigrants is not always as easy as dreamed, complains of abuses in terms of working hours, conditions and payment are frequent, moreover migrants are living in the fear of being illegal, caught detained and sent back without a penny.

Brokers and international traffickers, playing on their ignorance, lure some of them: slavery like practices, abuses, deception and exploitation are quite common if not recurrent, mostly for young women who choose voluntary to go for a variety of services and jobs; several of them become caught in the trafficking networks. Once entered in prostitution women and young girls become vulnerable to being trafficked. Living conditions are varying, the worst being slavery like and bonded labors situation.

9.5.4 Sources

Lao men, women, and children are trafficked for sexual and labor exploitation in Thailand. Many of the trafficking victims were from the lowlands. Men are trafficked for forced labor in factories and the fishing industries¹⁹. From 2005-2006 while there are 216,623 labors working in Thailand as legally and illegally, the Thai authorities estimate that at least 180,000 undocumented Lao worked. Meanwhile they are 1,229 victims repartitioned from Thailand since 2001 to present, that included 1,172 women, and 65% were teenage, younger than 18 years old²⁰.

¹⁶ 2006 US Department of State Human Rights Report

¹⁷ 2007 US Department of State Trafficking in Persons Report

¹⁸ 2006 US Department of State Human Rights Report

¹⁹ 2007 US Department of State Trafficking in Persons Report

²⁰ 2008 Investigating Unit of Police Department Report. Ministry of Public Security of Lao PDR

9.5.5 Causes

There are many causes of human trafficking in Laos. Many argue that the economic differences in the Sub-Mekong region encourage people to migrate to relatively wealthier neighboring countries like Thailand.¹⁰ In 2005, An ILO supported study by the Lao Government found that nearly 7 percent of households in three border provinces had family members working in Thailand. With more than half of the population under the age of 20, young Lao migrate to fill unskilled jobs and become vulnerable to trafficking.²¹ World Vision argues that the rural to urban migration increases the urban poor and population at risk of trafficking.²²

9.6 Relevant Laws in the Lao PDR

The 2004 Law on Women, the Law on the Protection of Children, and other provisions of the Lao criminal code criminalizes most forms of trafficking for labor and sexual exploitation. Penalties are commensurate with those for rape. In late 2006, the Lao government drafted the National Plan of Action to Combat Human Trafficking.

9.7 Migration and Human Trafficking in the project areas

9.7.1 Background Situation

Champasak province is one of the three heavily populated provinces by Lao PDR standards and is the original home of a large segment of illegal Lao migrant workers in Thailand²³.

As in the west of the country, bordering northeastern Thailand, and are the country most populous areas, with relatively high population of ethnic minorities. They are all fertile lowland areas along the Mekong River, where it is relatively easy to cross border into Thailand. An important factor in the high cross-border migration rates is the kinship between ethnic Lao on this side of the country and the northeastern Thais.

Statistics regarding returned trafficking victims held by the department of Social Welfare indicate that this province is a major source area for illegal cross-border migrants.

9.7.2 Sources

Statistics regarding deported from 2008-2009 at VangTao-XongMek international border were 48,535 people. 21,679 were women and 2,727 young people under 18 years old (249 female). In a similar period, there were 42 trafficking victims that were returned, including 11 women.

9.8 Results and Analysis of the Vulnerable People Assessment

Trafficking is seen in a context of strong (illegal) migration in the project areas.

This survey does not show the number of migrants that are actually now working in other provinces or Thailand. It just attempted to assess through family conversations, the types and conditions of migration common in the area. Even this level of survey was a challenge because people are often scared to talk freely about this issue and especially about what has happened in their own family.



²¹ ILO-IPEC: Lao PDR, The Situation

²² World Vision Laos PDR: Human Trafficking

²³ Information obtained from the analysis of the labor movement survey 2000

While the data collection team was in the villages of the project area, we saw only a few very young people there who were helping their family work in farm, and gathering forest product for food. The remaining have left to work illegally in Thailand, according to answers from most respondents.

“A house with seven (7) residents in Ban Hang Don Sadam”



The core reason of migration appears to be poverty and hope for opportunity to get better life. Beside this many young people want to experience living in a big town and want to follow a material lifestyle. Therefore, especially among young people in these villages, many have done or are currently working illegally in Thailand. This makes them susceptible to labor exploitation



and trafficking.

Overall the assessment found that in these areas, many returnees had left the village for longer than one year. They were initially forced to work for free to pay off debts for their transport and broker fees when they first come to Thailand. During an interview, one mother of an illegal migrant worker in Thailand said: we almost don't get any money from our children from working in Thailand; on the contrary we still have to find money to pay taxes for them to the district office every year (300,000 kip).

This assessment also found that most brokers are from the project village areas. They are often relatives, friends, or neighbors. People get easily exploited because villagers have a lack of awareness and exchange of information between returnees or victims exclude authorities. Therefore there is a big gap in information, and support for brokers is increasing and expanding to all villages nearby. A case study is shown below:

Case study (A):

A man 46 years old, farmer and fisherman, has 5 people in the family, including 3 children. He said: Because of poverty and needing some money to buy a boat, we took a chance to go to Thailand. It was in the middle of last year (June 2008). A relative who lives at Khone village, and was coming back from working in Thailand said “it was a construction job in Thailand, and they really good pay for 6000 bath/ month per person with convenience of living condition offered”. We believed him and followed him to go there, including my 20 years old son. We took responsibility to pay for all transportation ourselves from the village, to Champasak, to Pak Xonglahanam, and then went cross local border at Nakhonephen-Moukdahan, Thailand, without any documents. When we got there was a Thai broker waiting for us and the hand over from the Lao broker to take us the work place. We worked there a total of 7 months, as general construction workers, slept in a hut beside the construction site, meals have to search for ourselves, and we got first paid after three months a total of 3,500 baht for both, then the second payment was on the seventh month for 12,000 baht. The employer said they were broke and had no money to pay, so we have to leave as soon as possible if not police will come to arrest us by employer telling. Then we had to pay for taxi driver to send us to Chong Mek border 3,500 baht for each, then come back home with empty hands. At the end of interview he said: I will never go back again and will not let any of my family members to go work illegally in Thailand either.

Vulnerability is a driving factor of trafficking

How a person shift from one situation to one other is the result of a complex combination of factors. At the departure point, it is not always easy to make a clear distinction between

those who are voluntarily willing to leave illegally Laos (following a recruiter or on their own initiative), and are in the end trafficked into situations without their being aware that they will eventually be exploited, deceived, forced if not kidnapped.

If a young woman voluntarily leaves her village (and illegally her country), knowing that she might end up in the sex trade, but once there decides that this was not what she wanted but cannot leave out of fear of reprisals, she has to be considered as a victim of trafficking (and should not be punished because “she got what she deserved” while taking risks).

This assessment found 2 vulnerable families in Ban Hang Don Sadam²⁴, one of them (case study B) just moved from the reservoir areas²⁵ this year into the village, and other family (case study C) was new, having moved from Xienkouang province a few years ago. They all have children who are returnee trafficking’ victims from Thailand and there are still missing cases remaining, as shown in the a detailed case study below:

Case study (B):

A woman, 40 years old, worker and fisher, has 7 people in the family, including 5 children. She said: we have nothing remaining of this hut for shade when raining and sun shining, we have to do everything and every kind of work we can for income to live and for our children to go school. We took a chance for our son (19 years old) to go to Thailand because of poverty and hope for better life. The broker from Hang Khone village said: that is nothings to worry about if he comes with me, he will get job with good pay and won't be responsible for any transport or documents to travel there because I will be responsible for all. The employer will pay 6,000 baht per month for easy job at garment factory including comfortable living conditions. Then we make decision for our son to go with the broker in the middle of last year; he was gone for almost 6 months and we didn't hear anything since he showed up here.

The man (victim) said: we traveled to Champasak, and then went across the border at Chong Mek-Ubon border. I don't know how I can cross border that easy, I have never been to Thailand before and don't have any papers or passport. Afterwards he left me at the Orchids farm and I never saw him again. I work there four months with no pay then when I ask them they said I have to earn the money that they pay the broker for at least one year, and if I don't do they will call police to come arrest me. After four months they gave me 1500 baht to buy things that I need to use daily. I escaped when I told them I want to go market, then I was running away on the road until the police saw me then they took me to police station and interviewed me, they took all my money then sent me back to the Chong Mek border. It was a Lao man helping me to get work at restaurant there for one month, I got 300,000 kip then traveled back home.

Case study (C):

A 38-year-old woman and 45 year-old-man, farmer and fisherman, have 5 people in the family, including 3 children. They moved from the north of Lao to this village a few years ago. They said they did this because of poverty, and don't know what to do to get a better life, then when broker came to us and offered a good job and good pay for our children how could we deny that opportunity, we trusted the broker and didn't know of any risk as we are very poor of knowledge. We send our children (a 14 year-old girl and 15 year-old boy) to go with the broker from Nakasang village since 2007 and never heard anything from them since the day they left home with the broker.

²⁴ According to the village report of vulnerable families in the Hang Don Sadam village of 2009

²⁵ At the Mekong mainstream where will get flood from the construction of dam side

Attachment 1

Questionnaires used in the project areas to collect data and information

ໂຄງການ
(Project) _____
GPS. No: _____

ເລກທີແບບສອບຖາມ _____
ບ້ານ _____
ເມືອງ _____
ແຂວງ _____

ລະຫັດຟອມ: W 04

ແບບຟອມສອບຖາມ / ເກັບກຳຂໍ້ມູນສຳລັບແມ່ຍິງຂັ້ນຄົວເຮືອນ



A. ກ່ຽວກັບການສຳພາດ (Interviewer Section)

A1. ຊື່ຜູ້ສຳພາດ (Interviewer) ເພດ: ຍ <input type="checkbox"/> / ຊ <input type="checkbox"/>		
A2. ຊື່ຜູ້ຖືກສຳພາດ (Interviewee)		
A3. ວັນ,ເດືອນ,ປີ ສຳພາດ (Date)	ເວລາເລີ່ມ (Start):	ສຳເລັດ (Finish):	
A4. ພາສາທີ່ໃຊ້ສຳພາດ (Language)			
A5. ນາຍພາສາ (Translator)			
A6. ເລກທີ່ຮູບຜູ້ໃຫ້ສຳພາດ (Pic No.)			
A7. ອາຍຸ (Age)			
A9. ສາສະໜາ(Religion)			
A10. ຊົນເຜົ່າ (Ethnic)			
A11. ສະຖານະພາບ	<input type="checkbox"/> ໂລດ	<input type="checkbox"/> ແຕ່ງງານ	<input type="checkbox"/> ແມ່ຮ້າງ <input type="checkbox"/> ແມ່ໝ້າຍ
A12. ລະດັບການສຶກສາ	<input type="checkbox"/> ປະຖົມ	<input type="checkbox"/> ມັດທະຍົມຕົ້ນ	<input type="checkbox"/> ມັດທະຍົມປາຍ
A13. ເປັນຫົວໜ້າຄອບຄົວ	<input type="checkbox"/> ແມ່ນ	<input type="checkbox"/> ບໍ່ແມ່ນ	
A14. ອາຍຸໃນເວລາແຕ່ງງານ	_____ປີ		
ຈຳນວນຄັ້ງແຕ່ງງານ	<input type="checkbox"/> 1 ຄັ້ງ ຖ້າຫລາຍກວ່າ 1 ຄັ້ງໃຫ້ລະບຸຈຳນວນ.....ຄັ້ງ ສາຍເຫດ :		
ເປັນເມຍຜູ້ທຳອິດບໍ່	<input type="checkbox"/> ແມ່ນ	<input type="checkbox"/> ບໍ່ແມ່ນ ຖ້າບໍ່ແມ່ນຍ້ອນຫຍັງ ?	
B. ກ່ຽວກັບສະມາຊິກໃນຄອບຄົວ	ຍິງ _____ ຄົນ	ຊາຍ _____ ຄົນ	
B1 ຈຳນວນລູກ	ຍິງ _____ ຄົນ	ຊາຍ _____ ຄົນ	
B2 ຈຳນວນລູກທີ່ໄດ້ເຂົ້າໂຮງຮຽນ	ຍິງ _____ ຄົນ	ຊາຍ _____ ຄົນ	
B3. ຈຳນວນລູກທີ່ໄດ້ອອກໂຮງຮຽນ	ຍິງ _____ ຄົນ	ຊາຍ _____ ຄົນ	ສາເຫດ : _____ _____
B4 ຈຳນວນລູກທີ່ຮອດອາຍຸໄດ້ເຂົ້າໂຮງຮຽນ ແລ້ວບໍ່ໄດ້ເຂົ້າ	ຍິງ _____ ຄົນ	ຊາຍ _____ ຄົນ	ສາເຫດ : _____ _____
B5 ຊື່ຜົວ			

B6. ອາຍຸຂອງຜົວ	_____ ປີ
B7. ອາຍຸຂອງຜົວໃນເວລາແຕ່ງງານ	_____ ປີ
B8. ຜົວແຕ່ງງານຈັກຄັ້ງ	<input type="checkbox"/> 1 ຄັ້ງ ຖ້າຫລາຍກວ່າ 1 ຄັ້ງໃຫ້ລະບຸຈຳນວນ.....ຄັ້ງ ສາຍເຫດ :
B9. ຊົນເຜົາຂອງຜົວ	
B10. ສາສະໜາຂອງຜົວ	
B11. ອາຊີບຂອງຜົວ	<input type="checkbox"/> ຄ້າຂາຍ <input type="checkbox"/> ຊາວໂຮ່ນາ <input type="checkbox"/> ທະຫານ <input type="checkbox"/> ຕຳຫລວດ <input type="checkbox"/> ເຮັດວຽກຢູ່ຮ້ານອາຫານ/ບ້ານພັກ/ໂຮງແຮມ <input type="checkbox"/> ອື່ນໆ _____
C. ບົດບາດຕ່ຳກິດຈະກຳອື່ນໆ	
C1. ຄະນະບ້ານ	<input type="checkbox"/> ແມ່ນ <input type="checkbox"/> ບໍ່ແມ່ນ
C2. ຄະນະໜ່ວຍໄກ່ເກ້ຍ	<input type="checkbox"/> ແມ່ນ <input type="checkbox"/> ບໍ່ແມ່ນ
C3. ຄະນະສະຫະພັນແມ່ຍິງ	<input type="checkbox"/> ແມ່ນ <input type="checkbox"/> ບໍ່ແມ່ນ
C4. ສະມາຊິກສະຫະພັນແມ່ຍິງ	<input type="checkbox"/> ແມ່ນ <input type="checkbox"/> ບໍ່ແມ່ນ
C5. ຄະນະຊາວໜຸ່ມ	<input type="checkbox"/> ແມ່ນ <input type="checkbox"/> ບໍ່ແມ່ນ
C6. ຄະນະແນວໂຮມ	<input type="checkbox"/> ແມ່ນ <input type="checkbox"/> ບໍ່ແມ່ນ
C7. ຄະນະພັກບ້ານ	<input type="checkbox"/> ແມ່ນ <input type="checkbox"/> ບໍ່ແມ່ນ
C8. ກອງທຶນພັດທະນາບ້ານ	<input type="checkbox"/> ແມ່ນ <input type="checkbox"/> ບໍ່ແມ່ນ
C9. ໂຄງການພັດທະນາຕ່າງໆ	<input type="checkbox"/> ແມ່ນ <input type="checkbox"/> ບໍ່ແມ່ນ
C10. ກຸ່ມທ້ອນເງິນ	<input type="checkbox"/> ແມ່ນ <input type="checkbox"/> ບໍ່ແມ່ນ
C11. ການຝຶກອົບຮົມວິຊາຊີບຕ່າງໆ	<input type="checkbox"/> ແມ່ນ <input type="checkbox"/> ບໍ່ແມ່ນ
C12. ຮີດຄອງປະເພນີ, ຄວາມເຊື່ອຖື	<input type="checkbox"/> ແມ່ນ <input type="checkbox"/> ບໍ່ແມ່ນ
C13. ການຕັດສິນໃຈກ່ຽວກັບການສ້າງພື້ນຖານໂຄງລ່າງບ້ານ	<input type="checkbox"/> ແມ່ນ <input type="checkbox"/> ບໍ່ແມ່ນ
	ອື່ນໆ _____
D. ດ້ານສຸຂະອະນາໄມ	
D1. ແຫລ່ງນຳດຶມ-ນຳໃຊ້ພາຍໃນບ້ານ	<input type="checkbox"/> ແມ່ນນຳ <input type="checkbox"/> ນຳຂອງ <input type="checkbox"/> ບຶງ, ໜອງ <input type="checkbox"/> ນຳລິນ <input type="checkbox"/> ນຳບາດານ <input type="checkbox"/> ນຳສ້າງ
D2. ການປັບປຸງຄຸນນະພາບຂອງນຳກ່ອນໃຊ້ດຶມ	<input type="checkbox"/> ດຶມ <input type="checkbox"/> ຕອງ <input type="checkbox"/> ໃຊ້ສານເຄມີ (ກູ້ລິນ) ຂ້າເຊື້ອພະຍາດ <input type="checkbox"/> ດຶມນນຳດິບ
D3. ວິທີກຳຈັດຂີ້ເຫຍື້ອ	<input type="checkbox"/> ຖິ້ມຕາມແຄມບ້ານ <input type="checkbox"/> ຖິ້ມລົງແມ່ນນຳ <input type="checkbox"/> ຈູດ ຫລື ເຜົາ <input type="checkbox"/> ຊຸດຊຸມຝັງ
D4. ມີວິດຖ່າຍບໍ່?	ບໍ່ມີ <input type="checkbox"/> , ມີ <input type="checkbox"/>
	ຖ້າມີ, ແມ່ນວິດປະເພດໃດ? <input type="checkbox"/> ຊັກໂຄກ <input type="checkbox"/> ວິດຊຶມ <input type="checkbox"/> ວິດແຫ້ງ <input type="checkbox"/> ອື່ນໆ _____
E. ດ້ານສຸຂະພາບ	
E1. ທ່ານເຄີຍເປັນພະຍາດຫຍັງ? <input type="checkbox"/> ເຄີຍ <input type="checkbox"/> ບໍ່ເຄີຍ	ລະບຸ _____
E2. ເວລາທ່ານເຈັບເປັນ ທ່ານມັກໄປໃຊ້ບໍລິການ / ບິນປົວຢູ່ໃສ ?	<input type="checkbox"/> ໄປຫາ ອສສປ ຫຼື ແພດບ້ານ

- ປົວຢາພື້ນເມືອງຢູ່ກັບບ້ານ
- ຊື້ຢາຈາກຮ້ານຂາຍຢາ
- ໄປຫາສຸກສາລາ
- ໄປໂຮງໝໍເມືອງ
- ໄປໂຮງໝໍແຂວງ
- ອື່ນໆ ໃຫ້ບອກແຈ້ງ.....

E3ແມ່ນໃຜເປັນຜູ້ຕັດສິນໃຈ

- ຜົວ
- ເມຍ
- ຮ່ວມກັນ
- ຜູ້ອື່ນ.....

E4. ທ່ານເກີດລູກຢູ່ໃສ?

- ໂຮງໝໍ
- ສຸກສາລາ
- ເຮືອນຂອງຕົນເອງ
- ຢູ່ບ່າ
- ອື່ນໆ

ຍ້ອນຫຍັງ?

F. ທາງດ້ານເສດຖະກິດ

F1. ອາຊີບຫລັກເມຍ..... ອາຊີບຫລັກຜົວ.....

F2. ລາຍຮັບສະເລ່ຍຕໍ່ປີຂອງຄອບຄົວຂອງທ່ານກີບ

ໄດ້ມາຈາກໃສແດ່.....

ລາຍໄດ້ຫລັກແມ່ນ:..... ໄດ້ເຮັດຈັກມື້/ເດືອນ....., ຈັກມື້/ປີ.....

ລາຍໄດ້ສຳຮອງແມ່ນ:..... ໄດ້ເຮັດຈັກມື້/ເດືອນ....., ຈັກມື້/ປີ.....

F3. ສັດລ້ຽງສ່ວນຫລາຍແມ່ນ (ຕອບໄດ້ຫລາຍກວ່າ 1 ຂໍ້):

- ເປັດ, ໄກ່
- ແບ້
- ໝູ
- ມ້າ
- ງົວ
- ຄວາຍ
- ຊ້າງ
- ອື່ນໆ:.....

F4. ລາຍໄດ້ທັງໝົດໄດ້ນຳໄປໃຊ້ເຮັດຫຍັງແດ່: (ຫລາຍສຸດ, ປານກາງ, ໜ້ອຍສຸດ)

.....
.....
.....

G. ແຫລ່ງພະລັງງານທີ່ໃຊ້ທຸກໆມື້

- ຟື້ນ
- ຖ່ານ
- ໄຟຟ້າ
- ອື່ນໆ

H. ພະລັງງານແສງສະຫວ່າງທີ່ໃຊ້ໃນຄອບຄົວ

- ຕະກູງ
- ໝໍ້ໄຟ
- ໄຟຟ້າ ອື່ນໆ.....

I. ຄອບຄົວຂອງທ່ານມີເຂົ້າກຸ້ມກິນຈັກເດືອນ?

- 12 ເດືອນ
- 9 ເດືອນ
- 6 ເດືອນ
- 3 ເດືອນ
- 0 ເດືອນ

ສ່ວນຫລາຍໄດ້ແກ້ໄຂແນວໃດ ?

J. ທ່ານມັກເຂົ້າຮ່ວມການປະຊຸມ, ໂຮມຊຸມນຸມຕ່າງໆ ທີ່ທາງການຈັດຂຶ້ນບໍ່?

- ເຂົ້າຮ່ວມ
- ບໍ່ເຂົ້າຮ່ວມ ຍ້ອນຫຍັງ
-
-

K. ແມ່ນໃຜໃນຄອບຄົວຂອງທ່ານທີ່ເປັນເຈົ້າການ ໃນການ:

- ໄປຫາແຫລ່ງພະລັງງານທີ່ໃຊ້ໃນການຫຼຸດຕົ້ນ (ຟືນ) ຍິງ ຊາຍ
- ໄປຫາແຫລ່ງນໍ້າກິນ-ນໍ້າໃຊ້ໃນຄອບຄົວ ຍິງ ຊາຍ
- ກໍາຈັດຂີ້ເຫຍື້ອ ຍິງ ຊາຍ
- ລ້ຽງ/ດູແລສັດປີກ (ເປັດ, ໄກ່, ໄກ່ງວງ) ຍິງ ຊາຍ
- ລ້ຽງ/ດູແລແບ້, ໝູ ຍິງ ຊາຍ
- ລ້ຽງ/ດູແລສັດໃຫຍ່ (ຊ້າງ, ມ້າ, ງົວ, ຄວາຍ) ຍິງ ຊາຍ
- ໄປຫາເຄື່ອງປ່າຂອງດົງມາເປັນອາຫານສໍາລັບຄອບຄົວ ຍິງ ຊາຍ
- ໄປຫາເຄື່ອງປ່າຂອງດົງມາເປັນຢາສໍາລັບຄອບຄົວ ຍິງ ຊາຍ
- ໄປຫາເຄື່ອງປ່າຂອງດົງມາຂາຍ ຍິງ ຊາຍ
- ຜະລິດເຄື່ອງຫັດຖະກໍາຈັກສານ ຍິງ ຊາຍ
- ຜະລິດເຄື່ອງຫັດຖະກໍາຕໍ່າ, ຖ້ຽກ, ແສ່ວ ຍິງ ຊາຍ
- ຄ້າຂາຍ ຍິງ ຊາຍ
- ເຮັດໄຮ່ ຍິງ ຊາຍ
- ເຮັດນາ ຍິງ ຊາຍ
- ເຮັດສວນ ຍິງ ຊາຍ
- ຊື້ເຄື່ອງໃຊ້ໃນຄອບຄົວ ຍິງ ຊາຍ
- ສິ່ງເສີມລູກເຂົ້າໂຮງຮຽນ ຍິງ ຊາຍ
- ຕັດສິນໃຈໃຫ້ລູກເຂົ້າໂຮງຮຽນ ຍິງ ຊາຍ
- ຕັດສິນໃຈໃຫ້ລູກອອກໂຮງຮຽນ ຍິງ ຊາຍ
- ຕັດສິນໃຈໃຫ້ລູກແຕ່ງງານ ຍິງ ຊາຍ
- ເຂົ້າຮ່ວມປະຊຸມ ຍິງ ຊາຍ

📌 ກະລຸນາເລົ່າໃຫ້ຟັງແຕ່ໜ້າວຽກຂອງຜູ້ຍິງເຮັດຫຍັງແຕ່ແຕ່ລະມື້? ນັບແຕ່ຕົ້ນນອນ

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📌 ກະລຸນາເລົ່າໃຫ້ຟັງແຕ່ໜ້າວຽກຂອງຜູ້ຊາຍເຮັດຫຍັງແຕ່ແຕ່ລະມື້? ນັບແຕ່ຕົ້ນນອນ

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L. ຜ່ານມາທ່ານເຄີຍເຂົ້າຮ່ວມໃນກິດຈະກຳໃດແດ່ຂອງບ້ານ ?

- ໜ່ວຍໄກ່ເກ່ຍ
- ການຕັດສິນໃຈກ່ຽວກັບການສ້າງພື້ນຖານໂຄງລ່າງຂອງບ້ານ
- ຮີດຄອງປະເພນີ, ຄວາມເຊື່ອຖື
- ໂຄງການພັດທະນາຕ່າງໆ
- ກອງທຶນພັດທະນາບ້ານ
- ກຸ່ມທ້ອນເງິນ
- ອື່ນໆ _____

M. ທ່ານມີສ່ວນຮ່ວມໃນພິທີກຳ ແລະ ປະເພນີທີ່ສຳຄັນແນວໃດແດ່?

N. ຊົນເຜົ່າຂອງທ່ານມີປະເພນີໃນການມອບຊັບສິນ ຫລື ທີ່ດິນໃຫ້ລູກສາວ / ລູກຊາຍ ຄືກັນ ຫລື ແຕກຕ່າງກັນແນວໃດ ?

O. ການອອກຊື່ໃນເອກະສານກ່ຽວກັບທີ່ດິນປະເພດຕ່າງໆ (ເອກະສານຢັ້ງຢືນການເສຍພາສີທີ່ດິນ, ເອກະສານຢັ້ງຢືນການນຳໃຊ້ທີ່ດິນ, ໃບແຜນທີ່ດິນ ແລະ ອື່ນໆ) ຂອງຄອບຄົວທ່ານແມ່ນອອກຊື່ໃຜ ?

- ອອກຊື່ຜົວ ຫລື ພໍ່ ຫລື ລູກຊາຍ
- ອອກຊື່ເມຍ ຫລື ແມ່ ຫລື ລູກສາວ
- ອອກຊື່ທັງຜົວ ແລະ ເມຍ (ສິນສົມສ້າງ)
- ອອກເປັນກຳມະສິດຮ່ວມ

P. ສະພາບຖິ້ວໄປ

ແມ່ຍິງຊາວບ້ານທົ່ວໄປປະກອບອາຊີບຫຍັງແດ່?	
ຊອກຢູ່ຫາກິນເດ ພາກັນໄປຊອກໃສ? ຫາກິນປະເພດໃດ?	
ຜູ້ຍິງແຕ່ງງານອາຍຸຈັກປີ	
ຜູ້ຊາຍແຕ່ງງານອາຍຸຈັກປີ	
ຍິງໜຸ່ມສ່ວນຫລາຍເຮັດອາຊີບຫຍັງ? ແລະເຂົາເຈົ້າມີການເຄື່ອນໄຫວແນວໃດ?	

Q. ຜ່ານມາທ່ານເຄີຍໄດ້ຮັບຮູ້ກ່ຽວກັບໂຄງການນີ້ ຫລື ບໍ່? (ໝາຍ ✓)

- ບໍ່ເຄີຍ
- ເຄີຍ

- ຖ້າເຄີຍ ຮູ້ຈາກໃຜ? ອຳນາດການປົກຄອງບ້ານ
 ພະນັກງານໂຄງການທີ່ລົງມາສຶກສາເບື້ອງຕົ້ນ
 ຊາວບ້ານຜູ້ອື່ນໆ / ຈາກບ້ານອື່ນ

R. ໃນຖານະທີ່ເປັນແມ່ຍິງ ທ່ານຄິດວ່າຕົນເອງຈະໄດ້ປະກອບສ່ວນໃນໂຄງການນີ້ຄືແນວໃດ?

S. ທ່ານຄິດວ່າແມ່ຍິງຄວນມີສ່ວນຮ່ວມໃນໂຄງການນີ້ ຫລື ບໍ່?

- ຄວນ ບໍ່ຄວນ

ຍ້ອນຫຍັງ? _____

ປະກອບສ່ວນແນວໃດ? _____

T. ທ່ານຄິດວ່າແມ່ຍິງຄວນໄດ້ຮັບຜົນປະໂຫຍດຈາກໂຄງການນີ້ແນວໃດ?

U. ຄຳຄິດຄຳເຫັນຂອງທ່ານຕໍ່ກັບຜົນກະທົບຂອງການພັດທະນາໂຄງການນີ້

ໃຫ້ຈັດລະດັບຄວາມຮ້າຍແຮງຂອງແຕ່ລະຜົນກະທົບ ແລ້ວໝາຍ ☑ ໃສ່ຫ້ອງຄະແນນລຸ່ມນີ້:

ຄະແນນ: 1= ບໍ່ມີຜົນກະທົບ, 2= ຜົນກະທົບຕ່ຳ, 3= ຜົນກະທົບຮ້າຍແຮງ, 4= ຜົນກະທົບຮ້າຍແຮງທີ່ສຸດ

	1	2	3	4
<input type="checkbox"/> ທຳລາຍປ່າໄມ້, ສິ່ງຜົນກະທົບ ໃຫ້ແກ່ສິ່ງທີ່ມີຊີວິດໃນທຳມະຊາດ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> ແຕະຕ້ອງຮີດຄອງປະເພນີ, ຄວາມເຊື່ອຖືຂອງປະຊາຊົນໃນບ້ານ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> ສູນເສຍເນື້ອທີ່ສຳລັບການປູກສ້າງ ແລະ ທຳການຜະລິດຕ່າງ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> ສູນເສຍຊັບສົມບັດສ່ວນລວມ ແລະ ສ່ວນບຸກຄົນ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> ທຳລາຍໄມ້ປູກ ແລະ ພືດ/ຜົນລະບູກຂອງປະຊາຊົນ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> ຫຼຸດຜ່ອນລາຍຮັບຈາກການນຳໃຊ້ດິນ ຫຼື ສະຖານທີ່ດັ່ງກ່າວ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> ຜົນກະທົບຕໍ່ຄຸນນະພາບຂອງນ້ຳສິ່ງຜົນແກ່ສິ່ງທີ່ມີຊີວິດ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> ຜົນກະທົບຕໍ່ການຊອກຢູ່ຫາກິນ/ເກັບເຄື່ອງປ່າຂອງດົງຂອງປະຊາຊົນ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> ຜົນກະທົບຕໍ່ການເຂົ້າເຖິງໂຮງໝໍ/ສຸກສາລາ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> ຜົນກະທົບຕໍ່ການປະກອບອາຊີບເດີມຂອງປະຊາຊົນ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> ຜົນກະທົບຕໍ່ການເຂົ້າໂຮງຮຽນຂອງລູກຫລານ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> ຜົນກະທົບດ້ານອື່ນໆ _____				

V. –ໃນຖານະທີ່ເປັນແມ່ຍິງ ທ່ານຄິດວ່າໂຄງການນີ້ຈະສົ່ງຜົນກະທົບຕໍ່ທ່ານແນວໃດ?

W. ຄຳຄິດຄຳເຫັນຂອງທ່ານຕໍ່ການສະໜັບສະໜູນໂຄງການນີ້

ໃຫ້ຈັດລະດັບການເຫັນດີສະໜັບສະໜູນ ແລ້ວໝາຍໃສ່ຫ້ອງຄະແນນລຸ່ມນີ້:

- 1= ບໍ່ສະໜັບສະໜູນ, 2= ຂ້ອນຂ້າງສະໜັບສະໜູນ,
3= ສະໜັບສະໜູນ, 4= ສະໜັບສະໜູນທີ່ສຸດ

X. ການຍົກຍ້າຍຈັດສັນບ້ານ

ຖ້າຫາກມີການຍົກຍ້າຍບ້ານຂອງທ່ານໄປຢູ່ບ່ອນໃໝ່ທ່ານຢາກຈະຍົກຍ້າຍໄປບ່ອນໃດ?

ຍ້ອນຫຍັງ: _____

W. ຖ້າຊັບສິນຂອງຂອງທ່ານຖືກຜົນກະທົບຈາກໂຄງການ, ທ່ານມີຄຳຄິດເຫັນແນວໃດ ຕໍ່ການທົດແທນຄ່າເສັຍຫາຍ?

- ຂ້າພະເຈົ້າ ເຫັນດີ ມອບໃຫ້ລັດ ເພື່ອປະກອບສ່ວນ:
ຕ້ອງການໃຫ້ທົດແທນຄືນຕາມຕົວຈິງ ເປັນເງິນຕາ ໂດຍອີງໃສ່ລາຄາຂອງລັດທີ່ກຳນົດ:
ຕ້ອງການໃຫ້ທົດແທນຄືນຕາມຕົວຈິງ ເປັນເງິນຕາ ໂດຍອີງໃສ່ລາຄາຂອງທອງຕະຫຼາດ:
ຕ້ອງການໃຫ້ທົດແທນຄືນຕາມຕົວຈິງ ເປັນວັດຖຸ ຕາມມູນຄ່າເທົ່າທຽມກັນ:
(ໃຫ້ກຳນົດຊື່ ຫຼື ປະເພດວັດຖຸທີ່ທ່ານຕ້ອງການໃສ່ລຸ່ມນີ້):

X. ຂໍສະເໜີຂອງທ່ານ ຕໍ່ກັບໂຄງການ.

ທີ່ບ້ານ(at Village) _____, ວັນທີ(date) _____

ຍິ່ງຍືນຈາກນາຍບ້ານ (ເຊັນ ແລະ ປະທັບຕາ)
Sign and Stamp from Chief village

ລາຍເຊັນຜູ້ຖືກສຳພາດ
Signature of interviewer

ລາຍເຊັນຜູ້ສຳພາດ
Signature interviewer

ຊື່ແຈ້ງ(Name): _____

ຊື່ແຈ້ງ(Name): _____

ຊື່ແຈ້ງ(Name): _____