

**APPENDIX 15.7
GREATER MEKONG SUBREGION (GMS)
BIODIVERSITY CONSERVATION CORRIDORS**

**Dong Hua Sao – Xe Pian – Dong Ampham - Xe Xap Biodiversity Corridor
LAO PDR**

Village Profile and Investment Plan

Songkhone Village, Kaleum District, Xekong Province

Version 24 May 2010

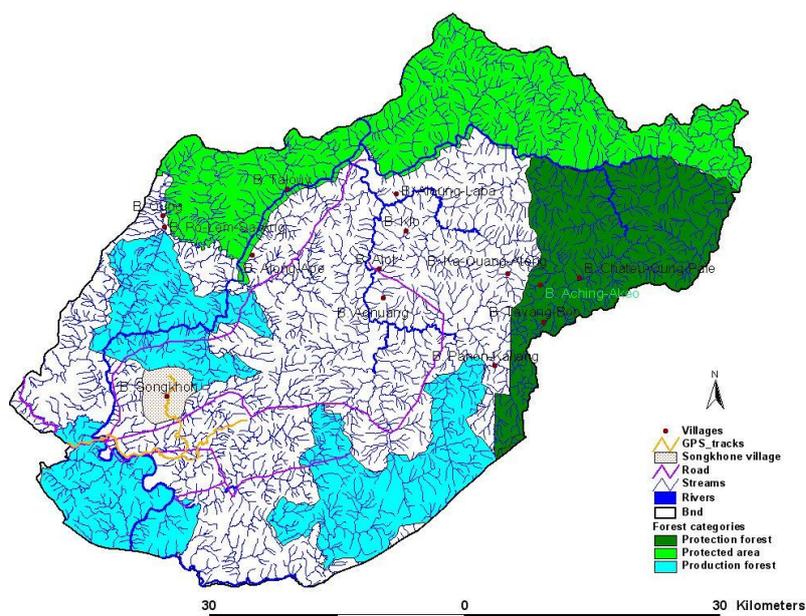
PART A: VILLAGE PROFILE

1. LOCATION

Songkhone village is located in Kaleum District, Xekong province (figure 1). The village is situated close to production forest, which is serviced by SUFORD project. In order to access the village, there is a dirt road from Kaleum district center to Songkhone village, which can be accessed only in the dry season. The location of the village is about 27 km distance from current district center and approximately 38 km from the new district area, where Kaleum district center will be moved to. According to GPS_UTM system, Songkhone village is located in the latitude 0695194 and longitude 01745215 with the elevation of 408 meters above sea level. According to the discussion with villagers and land and forestland allocation map, the village is bordering with following villages:

- Ta Hiu village in the North
- Ching village in the South
- Chrong village in the East, and
- Koung village in the West.

Figure 1. Location of Songkhone Village



2. SOCIO-CULTURAL PROFILE

2.1 Population

The total population in Songkhone village is 450 people with 205 females. According to the discussion with villagers and village land and forestland allocation map, the total village land area is 4,000 ha or equal to 40 sq.km. Comparing its total population to total land area, the population density is about 11 persons per sq.km (table 1).

Based on the record from socio-economic survey, children in this village start their school during 6 years old of age. There are currently similar numbers of male and female students attending primary school. However, the only male students are continuing their secondary education at the center of Kaleum district, while all female students quit the school at primary education level 5 due to their parents need for labor for farm activities. Females have not much success in higher education compared to males.

Table 1. Demographic Profile of Songkhone Village

Parameter	N	%
Total land Area (sq.km)	40	100
Population	450	100
Male	245	54
Female	205	46
Population Density	11	
Number of Households	78	100
Household Size	6	
Religion		
Ngae	450	100
Labor	200	
Male	100	
Female	100	
Children and elders	140	

2.2 Labor and Employment

Local people in this village have no problem with employment. This is because all households within the village have land for agricultural cultivation (rice). However, due to limitation of land for paddy, many households are practicing upland shifting cultivation with the rotation of 7 years. There is potential land for paddy rice field, but it is difficult to get water for irrigation. In this case, ADB2 supported construction of small dam for paddy rice field irrigation in Houay Chyo streams. The dam had been constructed in December 2009 (figure 2). This dam will be covering new paddy rice field of approximately 15 ha or more. Although the dam is completed, irrigation channel has not been constructed and it is under the plan within this year.

According to the discussion with the head of District Agriculture and Forestry Office (DAFO) in Kaleum, the district plans to reduce shifting cultivation practice in Songkhone village as much as possible. This is because the village has potential to operate paddy rice fields as there are two main streams surrounding the village (Houay Chyo and Houay Preung), which can be used for paddy rice field irrigation. It would be enough for every household rice sufficiency if all available paddy rice lands could be made operational. It seems that villagers in Songkhone village tend to receive lot of public services in terms of village development and improving local people's livelihoods. This is a reason why current status of local people's livelihoods in the village is now better than it was 10 years ago.

Figure 2. Paddy Rice Irrigation Dam and Potential Areas for Paddy Rice Field



Picture on the right hand side is the potential land for extending paddy rice fields, which will be irrigated with water from small dam in Houay Chyo stream as shown in picture on the left hand side. Local people clear the land for planting rice in this year, then the land will be cultivated for paddy next year when channel of irrigation has been constructed.

2.3 Ethnic Composition and Main Characteristics

As has been show in table 1, there is only one ethnic minority group (Ngae) in Songkhone village. People of this ethnic group believe in ghosts or spirits. Hence, there is no temple in this village. The ethnic minority has their traditional customs, which are briefly described under 2.4 social organization and capacities.

2.4 Social Organizations and Capacities

Based on the results of socio-economic survey, both male and female seem to have similar tasks on social activities, except for leadership position. Male and female are members of different community organizations. Males are members of village youth union, village police, elderly group, and other organizations, while females are only members of village women union and elderly group (table 2).

Table 2. Participation of Male and Female in Social Organization Activities in Songkhone Village

Activities and Resources Access	Gender		Comment/s
	M	F	
Community-Related Activities			
Membership to community organization	✓	✓	
Participation in community projects	✓	✓	
Attendance to activities of community organization	✓	✓	
Leadership position	✓		Female has less chances to be leader than male
Schooling	✓	✓	
Religious (i.e. praying, going to church/mosque/temple)	✓	✓	
Rituals / community celebrations	✓	✓	

There are nice cultural customs celebrations in Songkhone village. These are religious celebration during December, in which local village offer different kinds of livestock to their spirits/ghosts depending on what livestock villagers have and how much rice production they gain in each year. Offered livestock include buffalo, cattle, pig, duck, or chicken. The Boun Gnai celebration is held in January, during which local villagers offer buffalo or cattle to the spirits/ghosts. Meat of buffalo or cattle has been divided into each household within the village for cooking and celebrating the festival. Usually villagers share their experiences in agricultural cultivation and their living conditions and also drinking during this festival. All members of the community participate in both village festivals.

2.5 Gender Analysis

According to the results of gender analysis, female are responsible for more tasks than men. The tasks of female include all daily activities within their household, while males are conducting hard labor works, such as gathering of fuel wood, repairing house, participating in the processes of land and forestland allocation, making decision on crops cultivation, and so forth (table 3)

Table 3. Household Labor Allocation and Resource Access in Songkhone village

Activities and Resources Access	Gender		Schedule Please identify what month/s of the year?	Frequency How many times a week/month/year?)	Comment/s
	M	F			
Domestic And Reproduction Activities					
Food preparation		✓	Daily	Daily	
Child rearing / child care		✓	Daily	Daily	
Cleaning and laundry work		✓	Daily	Daily	

Fuel wood gathering	✓	✓	Dec-May	Weekly during Dec - May	
Fetching water		✓	Daily	Daily	
House repair	✓		Yearly	Once-two a year	Depending on house conditions
Access To And Control Over Resources					
Forest products	✓	✓	May-Nov	Two times a week during May - Nov	
Land / land titling	✓				
Production benefits	✓	✓	Nov-Dec		
Decision-making in crop production	✓		Yearly	Yearly	Before rainy season

2.6 Dimensions of Poverty

Though villagers in Songkhone village is quite wealthy, local villagers classified their livelihood status as poor rather than wealthy. There are a total of 30 households (49%) within the village classified as poor households (table 4). In contrast, there are only 2 households classified as wealthy. These households have good or permanent house conditions, tractors for tilling agricultural land (paddy), and other household assets. Though some of the poor households have also permanent houses, they currently have no paddy rice field. There are a total of 46 households classified as middle households. According to villagers, almost all villagers within Songkhone village are facing rice shortage in 2010, except for 2 wealthy households who are doing paddy rice cultivation. The main cause of rice shortage is that upland rice output had dropped and there was rodent damaged.

Table 4: Wealthy Status and Number of Male and Female Headed Households in Songkhone Village

Parameter	N	%
No. of Poor households	30	49
Poor Population	137	49
% poor population		49
No.households with female headed	1	1.8

Though there is a high percentage of poor households in Songkhone village, living conditions of villagers in this village are now better than 10 years ago. This is because they receive a lot of support from district for improving local people's livelihoods according to the poverty reduction goal of the central government. Livelihoods of the poor household are still depending on natural resources, which they collect for daily household consumption (*please see the valuable resources for local people's livelihoods in table 6*).

3. BIO-PHYSICAL CONDITIONS

3.1 Climate

There is no meteorology center in Songkhone village. The climate data is based on the meteorology Center in Xekong Province. According to data in 2009, the total amount of rainfall was 1,337.7 millimeters per year, the mean of temperature was 27.5°C, and the average of humidity was at 68.33%. However, the weather data for 2010 is available for only 5 months from January to May, and it was recorded that the mean temperature is 29°C, and the average humidity is 56.4. The amount of rainfall cannot be calculated for 2010 because data for January to May is in the dry season, hence not much rainfall.

3.2 Topography and Physical Features

Songkhone village is situated in the valley surrounded by mountainous terrain along Houay Chyo and Houay Preung. The village is close to national production forest, which is under the services of SUFORD project. Average elevation is 450 meters above sea level and the slope is approximately higher than 36 percent. Forest types in this area are dominated by secondary forest mixed between broadleaf trees and bamboo,

where local villagers used to practice their swidden. The percentage of forest cover is about 50-60 percent with small trees. Soil condition in this area is quite fertile and suitable for cropping. This is because the area used to be dense forest area, which local villagers cleared for their upland swidden rice fields.

3.3 Rivers and Water Bodies

There are 8 main streams located in the area of Songkhone village (table 5). Water from some streams is used for paddy rice field irrigation. Water from these streams flows to Houay Preung, then it flows to Xekong river. According to villagers, 2 streams are the main ones for irrigation. These are: Houay Chyo and Houay Preung streams.

Table 5. Main Streams in Songkhone Village

Name of Stream	Flow to	Remark
Houay Preung	Xekong river	Will be used for irrigation for new paddy rice field
Houay Chyo	Houay Preung	Used for irrigation for current paddy rice fields
Houay Ta Gno	Houay Preung	
Houay Chor	Houay Preung	
Houay Ta Net	Houay Preung	
Houay Ching	Houay Preung	
Houay Ha Laek	Houay Preung	
Houay Ka Ching	Houay Preung	

4. LAND AND FOREST RESOURCE USE

4.1 Land Cover and Present Land Use

Forest cover in this village is mainly secondary forest, where local people used to practice their upland shifting cultivation for growing rice. Only the areas that are located far away from the village are dry mixed deciduous and evergreen forest, which are dense forests. The percentage of forest cover in secondary forest is about 50-60 percent with young trees (5-15 years), while the percentage of forest cover in dry mixed deciduous and evergreen forest ranges from 40-60 percent. Tree species found in the area of Songkhone village are valuable for both timber and house construction. These include varieties of Mai Kor (*Castanopsis spp.*), Mai Champa Pa (*Paramichelia baillonii*), *Dipterocarpaceae species*, *shorea spp.*, and so forth (please see detail of found tree species in 4.3 Biodiversity assets).

There are only 5.5 hectares of paddy rice fields in this village, which means that villagers in Songkhone village are conducting both paddy rice field and upland shifting cultivation. Due to limitation of land for paddy, local people are mainly dependent on upland rice cultivation. The rotation of upland shifting cultivation is about 7 years. The land use types that are available in Songkhone village are listed here in table 6 below:

Table 6. Land Use Types in Songkhone Village

Land use types	Areas (km ²)	Remark
Total land	40	
Paddy	0.055	
Upland shifting cultivation	0.82	
Garden land	0.063	
Utilization forest	1.01	
Degraded forest	17.27	This land area is including secondary forest and degraded forest. Local people would like to reforest about 20 ha of this land use type.
Village protection forest	3.50	
Village conservation forest	7.75	
Other lands	9.532	

4.2 Forest Resources

Forest resources are still rich in Songkhone village, Kaleum district. There are: wildlife, wild plants, mushrooms, bamboos and rattan shoots, and other wild vegetables (table 7 and 8). Natural resources are used for both household consumption and sale. The livelihoods of local people are dependent on natural forest resources, which is now decreasing due to numbers of population increasing. Though all households in Songkhone village are involved in forest resource collection, local people could not estimate the numbers of collected resources and values of used and sold resources.

Table 7. Plants, Use, and Involved Households

Plants	Use for	No. household involved
Malva nut	Sale and a bit for household consumption	78
Bamboo shoot	Household consumption and sale	78
Rattan	Handicraft for household use and sale	78
Rattan shoot	Household consumption	78
Flower of broom grass	Making bloom for household use and sale	78
Root of climber	Household consumption, mostly during rice shortage	78
Mushrooms	Household consumption	78
Vegetables (lizard's tail, Indian pennywort, herbs, and etc.)	Household consumption	78

Table 8. Wildlife Species, Cost, and Involved Households

Wildlife	Unit	No. unit	Use for	No. household involved
Wild pig	Head/year	10	Household consumption	78
Deer	Head/year	NA	Household consumption	78
Banking deer (<i>Muntiacus muntjac</i>)	Head/year	NA	Household consumption	78
Wild chicken	Head/year	30	Household consumption	20
Bamboo rat	Head/year	30	Household consumption	14
Squirrel	Head/year	50	Household consumption	35
Wild cat	Head/year	3	Household consumption	7
Snake	Head/year	NA	Household consumption	15
Birds	Head/year	200	Household consumption	78
Rats	Head/year	>100	Household consumption	78
Monkey	Head/year	20	Household consumption	30

Some wildlife species listed in table 8 are in the red endangered list of IUCN, which are including deer, some snake and bird species.

4.3 Biodiversity Assets

Since Songkhone village is surrounded by mountains with secondary, deciduous, and evergreen forests, the biodiversity within the village's area are still rich. These are plants and wildlife species. All forests located close to village are secondary or fallow forests, which local people clear and spare for their swidden rice cultivation. There is no big tree that can be used for timbers and household construction in secondary forest. Valuable trees for timbers and house construction are available in the deciduous and evergreen forests. According to villagers during village meeting, valuable tree species include Mai Dou (*Pterocarpus macrocarpus*), Mai Gnang (*Dipterocarpus spp.*), Mai Kaen (*Shorea spp.*), Mai Paek (*pinus spp.*), and so forth (table 9). There are also plants, climbers, and wildlife species that represent natural biodiversity in Songkhone village. The list of valuable plants can be referred to in table 7, while wildlife species that are used by local people are listed in table 8 above.

Water resources like fish, frog, and other animals are also available in the streams surrounding the village.

Unfortunately, local villagers could not figure out these resources during village meeting.

Table 9. Recent Valuable Trees for Timber in Songkhone Village

Lao name	Scientific name	Use for
Mai Dou	<i>Pterocarpus macrocarpus</i>	Timber and house construction
Mai Gngang	<i>Dipterocarpus spp.</i>	Timber and house construction
Mai Bak	<i>Anisoptera robusta</i>	Timber and house construction
Mai Peuay	<i>Lagerstroemia spp.</i>	Non use
Mai Khaen	<i>Hopea spp.</i>	Timber and house construction
Mai Tae Kha	<i>Afzelia xylocarpa</i>	Timber and house construction
Mai Gnom Pha	<i>Ailanthus triphysa</i>	Timber and house construction
Mai Ngiu Pa	<i>Bombax albidum</i>	Non use
Champa pa	<i>Paramichelia baillonii</i>	Timber and house construction
Mai Kor	<i>Casanopsis</i>	House construction and fuel wood
Mai Paek (pine)	<i>Pinus spp.</i>	Timber and house construction
Mai Hing	<i>Keteleeria evelyniana</i>	Timber and house construction

Actually, there are many valuable tree species available in Songkhone village, which local people are not aware of the names of all tree species within their village area.

5. ECONOMIC SITUATION

5.1 Household Income, Livelihood, and Expenditures

The local village has no record/estimates of their household incomes. However, the total cash income for the whole village is estimated at LAK5,000,000 per year. Sources of this household income is livestock such as buffalo, cattle, pig, and poultry, NTFPs such as malva nut and so forth. The expenditure of villagers in Songkhone is also estimated at the same amount as income (LAK5,000,000 per year). The expenditure mainly goes for clothes, medicine during sickness, and daily food items.

5.2 Farming System in Songkhone Village

As mentioned above, villagers in Songkhone are doing both paddy and upland swidden. Since the paddy land is limited (5.5 ha for the whole village), local people are mainly focusing on upland swidden rice cultivation. However, villagers in this village will get more paddy rice field soon as the dam in Houay Chyo has been constructed and waiting for a channel of irrigation from dam site to the new paddy rice fields along Houay Chyo stream. The potential land area for new paddy rice field that can be irrigated by this dam is about 15 ha¹

Based on the results of gender analysis of farming activities, female tends to hold more tasks than male in Songkhone village. Females are responsible for daily activities such as feeding, cleaning, marketing, planting, harvesting, and so on, while males are holding the tasks of acquisition and land preparation for cropping (table 10).

Table 10. Farming System in Songkhone Village

Activities and Resources Access	Gender		Schedule Please identify what month/s of the year?	Frequency How many times a week/month/year?)	Comment/s
	M	F			
Animal Production: Poultry and livestock					
Acquisition	✓				
Feeding		✓	Daily	Daily	
Cleaning		✓	Yearly	Weekly	

¹ This area was estimated by villagers during village meeting, the actual area might be larger than this estimated area.

Treatment for disease	✓	✓			
Selling		✓			
Agricultural Crop Production					
Commercial crop	✓	✓	Daily	Daily	Seasonal
Land preparation	✓		Apr-Jun	Yearly	
Planting	✓	✓	May-Jun	Yearly	
Crop management	✓	✓	Jun-Oct	Daily	
Harvesting	✓	✓	Nov-Dec	Daily	
Transport		✓	Dec-Jan	-	
Marketing		✓	-	-	
Subsistence crop	✓	✓			Subsistence crops are including Tobacco, Sugarcane, Cassava (tapioca), maize, Coffee and some other vegetables
Land preparation	✓		Apr-May	Yearly	
Planting		✓	May-Jun	Yearly	
Crop management		✓	Daily	Daily	
Harvesting		✓	Oct.	Daily in October	
Transport		✓	Daily	Daily	Transport from farmland to home

5.3 NTFP in Songkhone Village

Almost all collected natural resources are used for household consumption rather than for commerce, except for Malva nut. Main natural resources for villagers' household consumption are bamboo shoots, rattan shoots, mushrooms, and other wild vegetables (*see list of natural resources in table 7*). There are some wild plants and wildlife species used for both consumption and local medicine. Local medicines are made from climbers, mushrooms, leaf, bark, stem, and roots of plants. Unfortunately, local villagers could not figure out the names of those medicine plants during village meeting.

The results of gender analysis indicate that males holds more tasks in collecting NTFPs than female. Male responses on hunting wild animals and transporting those hunted animals from the forest to home. Also, some resources are needed to process, which have been done by male rather than female. Female is mainly responsible for gathering resources and marketing (table 11).

Table 11. Gender tasks for NTFPs collection in Songkhone Village

Activities and Resources Access	Gender		Schedule Please identify what month/s of the year?	Frequency How many times a week/month/year?	Comment/s
	M	F			
Gathering of Forest Products					
Hunting/ gathering: Identify resource	✓	✓	May-Dec		
Processing of forest product:	✓				Handicraft from bamboo and rattan
Transporting product	✓		Nov-Dec	Yearly	
Marketing of product		✓	Feb-May	Daily	

5.4 Financial Services and Access to Credit

There are no credit services within Songkhone village; villagers have to access Kaleum district center for getting loan from Na Gna Bay Bank. According to village meeting, local villagers in this village can propose for a loan of about LAK3,000,000 to 4,000,000 at any one time with an interest of 10 percent per year (loan for livestock raising).

In order to access the Na Gno Bay Bank, villagers have to submit their collateral assets to village headman

in order to get agreement from village headman on behalf of the village. Then the villager must bring the warranty documents with signature of village headman to Na Gno Bay Bank. Then the staff of the bank will proceed with explaining the processes of loan from the bank

5.5 Markets, Enterprises, and Industry

There is neither a public nor a private enterprise in Songkhone village. Livestock and natural forest resources are the main enterprises within the village. Since there is no private store in this village, villagers have to access the district center for marketing. On the other hand, there are middlemen/traders accessing the village for buying NTFPs from villagers and selling those products in the center of the district. In order to sell livestock such as buffalo, cattle, and pig, villagers have to bring their livestock to the district center.

6. PHYSICAL AND SOCIAL INFRASTRUCTURE

6.1 Physical Infrastructure

Roads/accessibility: An unpaved road from Dakcheung district to Songkhone village. It is difficult to access the village during rainy season. The length of the road from current district center to Songkhone village is about 27 km.

Water source accessibility: There are 3 points of water supply within this village. However, one of those points cannot be used because of damage during construction of primary school within this village. Villagers request BCI phase II to provide 2 more points of water supply.

Electricity: there is currently no electricity within this village; villagers submitted proposal for connecting electricity cable to the village and now local people are waiting for response from district level.

Irrigation system: Small irrigation dam has been constructed in Houay Chyo stream, which will be covering 15 ha of paddy rice fields that are located below the dam.

Communication system: Television, and radio are the main tools for getting news. In the meantime, communication of words from mouth is still practiced in Songkhone village.

6.2 Social Infrastructure

There are some social infrastructures available in Songkhone village. These include community meeting hall that is located in the center of the village, primary school located in the northern part of the village, and 3 points of water supply (table 12). Villagers are also supported by ACF² project to construct toilets within the village; unfortunately those toilets have not been used and some of them are now unusable.

Table 12. Availability of Social Infrastructure in Songkhone Village

Community facilities	Comments
Community Meeting Hall	Excellent wooden meeting hall
Health care center	There is neither doctor nor nurse available
Schools (Primary school)	Cement concrete building
Toilet	Some have been destroyed
Water supply	3 pots for the whole village

7. OTHER ONGOING/PLANNED PROJECTS/PROGRAMS

There are 4 projects operating in this village; these are:

1. ACF, which is supporting water supply, toilet, and home gardens (began in 2000)
2. ADB² supports construction of primary school (began in 2005)
3. LIP project supports local villagers to produce maize, peanut, and Chinese cabbage (began in 2009)

² Villagers don't know the full name of the project, they just called what they heard from district staff.

4. OXFAM donated rice, fish-can during rice shortage. The project provided 22 kg of rice per person.

PART B: VILLAGE INVESTMENT PLAN UNDER BCI PHASE II

1. VILLAGE PRIORITIES AND RANKING

Small scale infrastructure	Priority	No
Local doctor (they have care health centre building but no have doctor)	1	1
Water supply (more)	2	2
Electricity (household)	3	78
Telephone and network	4	1
Secondary school	5	1

2. LIVELIHOOD OPTIONS

ITEMS	AREA (ha)	No. Households	
Agarwood/black wood plantation	78	78	1 ha per household
Teak plantation	60	60	1 ha per household
Fruit tree plantation (orange, tamarind, etc.)	40	78	About 0.5 ha per household

3. REFORESTATION

There are 1,727 ha of degraded forest within the boundary of Songkhone village. Local villagers request BCI phase II to provide seedlings of native tree species for reforestation of 20 ha of this degraded forest.

4. COST ESTIMATES

Items	Unit cost	US\$	Remark
a) Small scale infrastructure			
Water supply*	2 pots	4,500	Based on BCI phase 1, the cost of water supply or ground water wells is about \$1,500/pot Secondary school will be located in the zone of current primary school.
Secondary school*	1 building	40,000	
b) Livelihood options			
Agarwood/black wood plantation	78 ha		Local people request BCI phase II provides seedlings and technic for establishment plantations
Teak plantation	60 ha		
Fruit tree plantation	40 ha		