

**CGIAR Research Program on  
Climate Change, Agriculture and Food Security (CCAFS)**

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**Village Baseline Study:**

**Site Analysis Report for Pailom village  
Champone district, Savannakhet province,  
Lao PDR (LA02)**

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**February 2015**

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The tools and guidelines used for implementation of the village baseline study across all CCAFS sites, as well as the mapping outputs at a higher resolution can be accessed on our website (<http://ccafts.cgiar.org/resources/baseline-surveys>).

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## **ABSTRACT**

Data collection for the village baseline study of Pailom village located in Savannakhet Province, Lao PDR, took place from 17<sup>th</sup> -19<sup>th</sup> Oct, 2014. Focus group discussions were conducted separately for men and women. The village experienced yearly food shortage leading to hunger and malnutrition. Contributory factors included the frequent drought and crop damage from pests and diseases, poor irrigation facilities benefiting only very few farms, high concentration of salt in soil that limits crop diversification in certain areas of arable land, and increasing population that reduces the land area per person. Rice production was the main livelihood in the village but only limited during the wet season because it is mostly rainfall dependant. During the dry season, fields are left to fallow and used for livestock grazing. The government has provided emergency food aid such as rice and corn powder at subsidized cost during food shortage. , Villagers were temporarily migrating to Thailand to work as labourers in factories and in other farms. Few organizations were operating in the village, particularly working on food security and food crisis issues.

Information networking for agricultural activities was mainly by individual (farmer to farmer) interaction rather than media. There was poor dissemination of agricultural information or technical support from agriculture extension workers and responsible agencies. Identified priorities in Pailom village include strengthening and promoting agricultural research extension to gather information on fertilizer management, sustainable agricultural production techniques, pest and disease management, drought and salinity resistant crop varieties and appropriate husbandry techniques.

## **Keywords**

Village Baseline Survey; Pailom, Laos; Participatory Mapping; CCAFS

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## Abbreviations

CC	Climate Change
CCAFS	Climate Change, Agriculture and Food Security
CGIAR	Consultative Group on International Agricultural Research
CUSO	CUSO International
CSV	Climate smart village
DAFO	District Agriculture and Forestry Office
DOI	Department of Irrigation
FGD	Focus Group Discussion
IWMI	International Water Management Institute
JICA	Japan International Cooperation Agency
KIP	Laos Kip
NAFRI	National Agriculture and Forestry Research Institute, Laos
MDC	Mekong Development Centre
NGO	Non-governmental organization
OBS	Organizational Baseline Survey
PAFO	Provincial Agriculture and Forestry Office
R&D	Research and Development
R4D	Research for development
VBS	Village Baseline survey

## TABLE OF CONTENTS

1. INTRODUCTION .....	8
2. METHODOLOGY .....	9
3. BRIEF PROFILE OF PAILOM VILLAGE .....	10
4. RESULTS .....	11
4.1. Topic 1: Community resources – participatory satellite imagery interpretation and visioning.....	11
4.1.1. Current resources .....	11
4.1.2. Gender-differentiated comparison of current conditions .....	17
4.1.3. Major changes of resource conditions .....	17
4.1.4. Vision of the future .....	21
4.2 Topic 2: Organisational landscapes .....	24
4.2.1 Basic spheres of operation .....	24
4.2.2. Organisational landscape of food security .....	27
4.2.3 Organisational landscape of food crisis situation .....	28
4.2.4. Organisational landscape of natural resource management.....	29
4.3. Topic 3: Information networks .....	30
5. CONCLUSION AND RECOMMENDATIONS .....	32
5.1. Conclusion .....	32
5.2. Recommendations and major opportunities.....	33

## LIST OF TABLES

Table 1. Summary for Layer 1: current conditions.....	14
Table 2. Major changes and drivers of change in the last 10 years .....	19
Table 3. Vision of the future .....	23
Table 4. Information on the organisations ranked by the men and women.....	26
Table 5. Information on highlighted organisations of men and women (1=yes, 0=no) .....	29
Table 6. Networks of information.....	31
Table 7. Potential CCAFS partners.....	33
Table 8. Recommendations for major opportunities.....	34

## LIST OF FIGURES

Figure 1. Organisational landscape of the men’s group .....	25
Figure 2. Organisational landscape of the women’s group.....	25
Figure 3. Organisational lanscape of food security – men.....	27
Figure 4. Organisational landscape of food security - women .....	28
Figure 5. Organisational landscape of food crisis – women.....	28

**LIST OF MAPS**

Map 1. Location of the Pailom village in the CCAFS benchmark Champhone site, Laos ..... 10  
Map 2. Men’s map of current community resources ..... 13  
Map 3. Women’s map of current community resources ..... 13  
Map 4 Major changes in resources (comparing past and present) for men ..... 18  
Map 5 Major changes in resources (comparing past and present) for women ..... 18  
Map 6 Future map of the community ..... 21

**LIST OF PHOTOS**

Photo 1. The organisational landscape activity in progress ..... 24

## 1. INTRODUCTION

The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) is a strategic ten-year partnership between the CGIAR and Future Earth to deal with the threats posed by a changing climate, to achieve food security, improve agriculture and livelihoods. In 2014, CCAFS South East Asia region identified sites for implementing Climate Smart Villages (CSVs). Six sites were selected in three countries of Vietnam, Cambodia and Lao PDR. The objectives of CCAFS CSV is to increase the adaptive capacity of small-holder farmers in light of climate change effects, improve livelihoods by sustainably increasing productivity and resilience, mitigate climate change by reducing greenhouse gases (GHGs), and enhance national food security and development goals.

This report presents the results of the Village Baseline Study (VBS) that took place in the Pailom CSV located in the Champhone District, Savannakhet Province, Lao PDR. The VBS is part of the baseline activities (including Household Baseline Survey and Organizational Study) done in target sites for CSVs. The VBS aims to provide baseline information at the village level about community resources, organizational landscapes, information networks, and the community's vision for the future.

More specifically, the objectives of the VBS are to:

1. Collect baseline data on indicators that allow site comparability and monitor changes in the villages over time. In particular, these are changes that allow people to manage current climate risks, adapt to long –run climate change, and reduce/mitigate greenhouse gas emission;
2. Understand the enabling environment that mediates certain practices and behaviours and creates constraints and opportunities (policies, institutions, infrastructure, information and services) for communities to respond to change.
3. Gather information on the aspirations of the community in order to make future interventions more sustainable and easily adopted.
4. Explore gender differentiation.
  - Perceptions of women and men were gathered separately to be able to present different gender perspectives.
  - Focus group participants were selected to present perceptions of groups differentiated by age.

This report is presented in five sections: the Introduction is followed by a brief overview of the methodologies used, brief profile of Pailom village, and the results relating to the three evaluated topics – community resources, organizational landscapes, and information networks. A conclusion and recommendations for CCAFS end this report.



## 2. METHODOLOGY

Data for the Village Baseline Study (VBS) was collected on 17 – 19 October 2014. The survey team comprised 2 facilitators, 2 note takers (male and female), 4 observers from NAFRI and IWMI, and 1 volunteer from Cuso International. The village authorities were consulted with regard to the venue (hall in a temple) and schedule of meeting the community.

Invitation was sent by the survey team to target groups of male and female participants selected via random sampling. Three days were spent on data collection. Each day had a different set of activities and participant group (15 men and 15 women in a group). The initial activity on the first day was the meeting of the survey team with the community members to introduce the study. During the rest of the first day, a focus group discussion was conducted with the first set of 15 men and 15 women. The survey team met the community members again at the end of the third day to attend a debriefing session where a summary of the findings was shared.

Data was collected using participatory methods. Throughout the data collection process, groups of men and women worked separately. A satellite image of the block was used in by each group in identifying and mapping resources important to the community, the past and current state of the resources and the cause of changes. The outputs were maps and sketches. The quality of the output depended entirely on how well the participants understood and interpreted the image.

On Day 2, the focus understood the organization landscape. Each group of 15 men and 15 women were ask to identify the organizations that they know operating with the village and the links that exist in relation to food security in a normal year, in a year of crisis, and in relation to natural resource management. The outputs were diagrams showing the organisational landscape.

On Day 3, the survey team worked with the a different set of 15 men and women to understand the diversity of options that people use to access information in relation to weather issues and farming activities. The outputs were diagrams showing four main sources of information network such as the flow of information in the village via individuals (farmers to farmers), the media (TV, radio, internet and etc.), and other sources of information network (e.g. a company or the middlemen who visited the village to sell fertilizer). Moreover, the community vision was generated by the participants. The output was a map/sketch showing “the vision of the community in next 15 years (2030)”.

Information generated from the survey was captured on sketches, maps, flip charts, information cards, and notes. All these needed to be brought together in one debriefing report from which this final report is written. The debriefing report was prepared in the field so that it could benefit from the presence of the site team. The photographed sketches and maps were inserted in the debriefing report. In this site analysis report proper maps and diagrams derived from the field outputs replaced them.

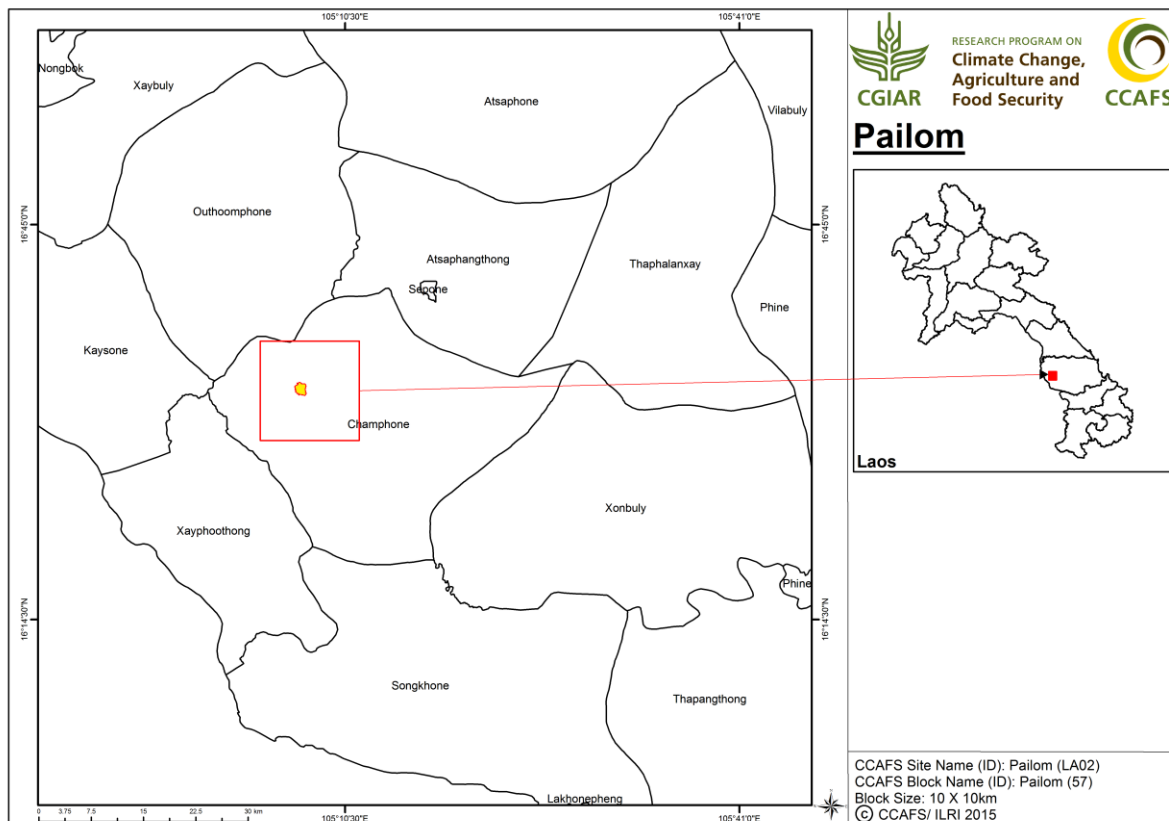
The detailed tools and guidelines used for the implementation of the village baseline study across all CCAFS sites, as well as the manuals, data and analysis reports can be accessed on our website (<http://ccaafs.cgiar.org/resources/baseline-surveys>).

### 3. BRIEF PROFILE OF PAILOM VILLAGE

Pailom village, Savannakhet Province, Laos has coordinates from 105° 7' 11"E to 105° 8' 7"E and from 16° 32' 2"N to 16° 33' 2"N (Map 1). It shares borders with Khokleng village in the north; Buk-Dong village in the east, Dongdokmai village in the south and Phonthan and Thong villages in the west. It is about one hour away via a bumpy road with many potholes, making it difficult to access. Pailom is a predominately agricultural based community with a total area of 215 ha, of which, 163 ha (76%) are paddy land. The village has more than 28 ha of natural forests, 4 ha of fishponds and other waterbodies, and remaining areas are lands for residence and infrastructures.

Climate in Savannakhet province, including Pailom village, is characterized by tropical conditions with seasonal monsoon. There are two distinct seasons. The rainy season, from May to October, has high rainfall with downpours. Weather in rainy season is hot and humid. Dry season starts in November and lasts in April or early May. It is cold in the beginning of dry season (November to February) and become warmer from March to May.

In 2014, population of Pailom village was 699 people (430 females and 269 males). The village has about 100 households. The main source of household income is agriculture, including cultivation, livestock, fishery and forestry. The village has limited access to markets, irrigation and aid from development projects. Monoculture rice production is limited to the wet season. Food shortages, chronic malnutrition and hunger are major problems of the village.



Map 1. Location of the Pailom village in the CCAFS benchmark Champhone site, Laos

## 4. RESULTS

### 4.1. Topic 1: Community resources – participatory satellite imagery interpretation and visioning

Community infrastructure, resources and gender-differentiated access and utilisation of those resources have been analysed, based on a process of participatory visual interpretation of high resolution satellite imagery (RapidEye). The aim was to create a basic understanding of existing community resources, as well as of community dynamics in relation to its environment. The participants discussed the current state of those resources, in terms of quality, access, management, history, and potential drivers of change. Later on, a mixed group developed an image of village resources and human well-being into 2030 to understand opportunities, constraints and aspirations for the future.

#### 4.1.1. Current resources

Focus group discussions of men's and women were organized separately. Each group had a satellite image of the area and were asked to locate various resources and describe their current use. As results, participants identified forest, ponds, roads, paddy field or farmland, irrigation canals, school, temple, etc. as their current resources. Maps 2 and 3 present current location of resources in Pailom and surrounding areas identified by men and women groups, respectively.

##### *Farmland*

Most of households in the village own an area of agricultural land. Farm size ranged between 0.8 and 5 ha. The lands were used for cultivation and for pasture. Farming system in Pailom village is mostly monoculture. Rice is the main food crop of Pailom village. Rice is mainly rainfed and cultivated in rainy season. Only 10 households had access to irrigation and they are able to cultivate rice during dry season. Rice farms have been reportedly damaged by pest and disease almost every year. Rice supply was reported to be insufficient during September and October prior to harvest season. During this time, farmers have to buy rice from market. Vegetable cultivation was rare due to poor water supply and difficulty in market access. Home gardens were irrigated by exploiting water from ponds and wells located nearby.

Farmland is also used for grazing. Cattle are mostly free-grazed on pasture land or taken by farmers to paddy fields after harvest. Use of buffalo power for farming has been declining due to the introduction of machineries and other farming techniques. Villagers often collect frogs and wild vegetables from paddy fields and ponds within the village.

##### *Pasture*

There was no communal pasture area but there were several private pasture lands located discretely within the village. Farmers regularly leave their cattle (mainly cows) on the pasture during the day and take them back to makeshift barn in the evening. For those who do not have pasture land can leave cattle in community forests. In recent years, number of cow and small livestock (i.e. pig, duck and chicken) has been increasing while number of buffalo has been decreasing. These trends associate to higher demand on meat and introduction of machinery.

##### *Forest*

Pailom village has natural forests. They are considered as community forests and play

important role in livelihood of villagers. The forests have provided both timber and non-timber products for the community before. However, nowadays villagers are only allowed to collect non-timber forest products (NTFP). Harvesting timber was controlled by community committee when needed for community purposes, such as building school, temple or village office. The forest also served as a water storage maintaining water level of the nearby ponds.

#### *Waterbodies*

Souy reservoir is the main source of the water for domestic use at Pailom village. The reservoir is located outside Pailom village but many households of the village benefit from this water source. In the past, the villagers had to take water from two large ponds in the village for domestic use. Since the Souy reservoir was established, the two ponds were used for fishery, supplying water for livestock and home gardens. These ponds are also habitat of amphibians, a favourite food of local people.

#### *Road*

There is a dirt road leading to Pailom village. The road has many potholes creating difficulty in transportation, especially during rainy season. Even though, the road creates opportunity for villagers to travel and sell their agricultural products in the market outside the village. Other roads in Pailom are mainly small pathway, which can only be access by foot or motorbike.

#### *School*

Pailom village has one primary school, which was being constructed during the survey time. The establishment of this school is supported by the Room to Read, a NGO that provides supports to primary schools and education materials for students. The school is about 5-10 minute walk from the temple. There is a secondary school located nearby the village but for higher education, students from Pailom have to go to the town.

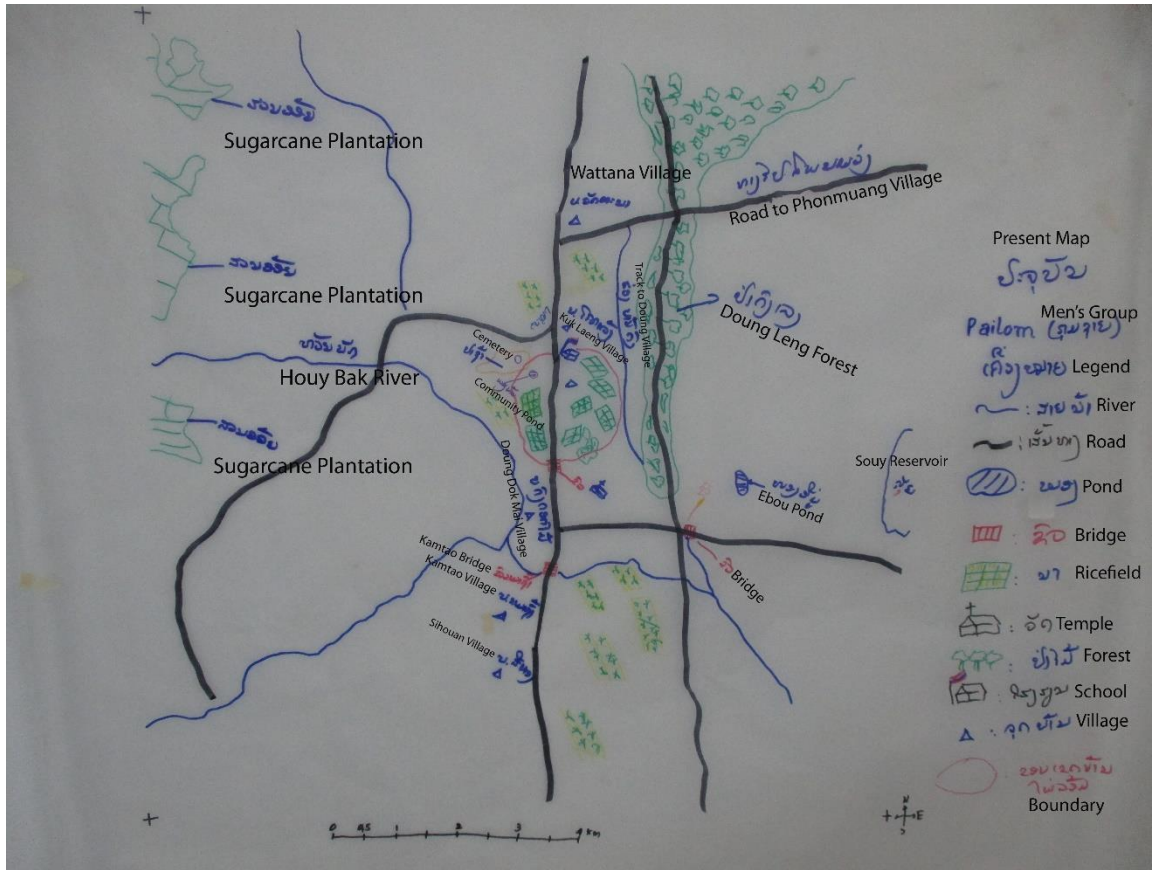
#### *Temple*

There is a temple situated at the central part of Pailom village, near by the main village road. This is not only a place of worship but also for organizing community events, such as meetings and ceremonies. The temple is repaired and maintained yearly by village committee.

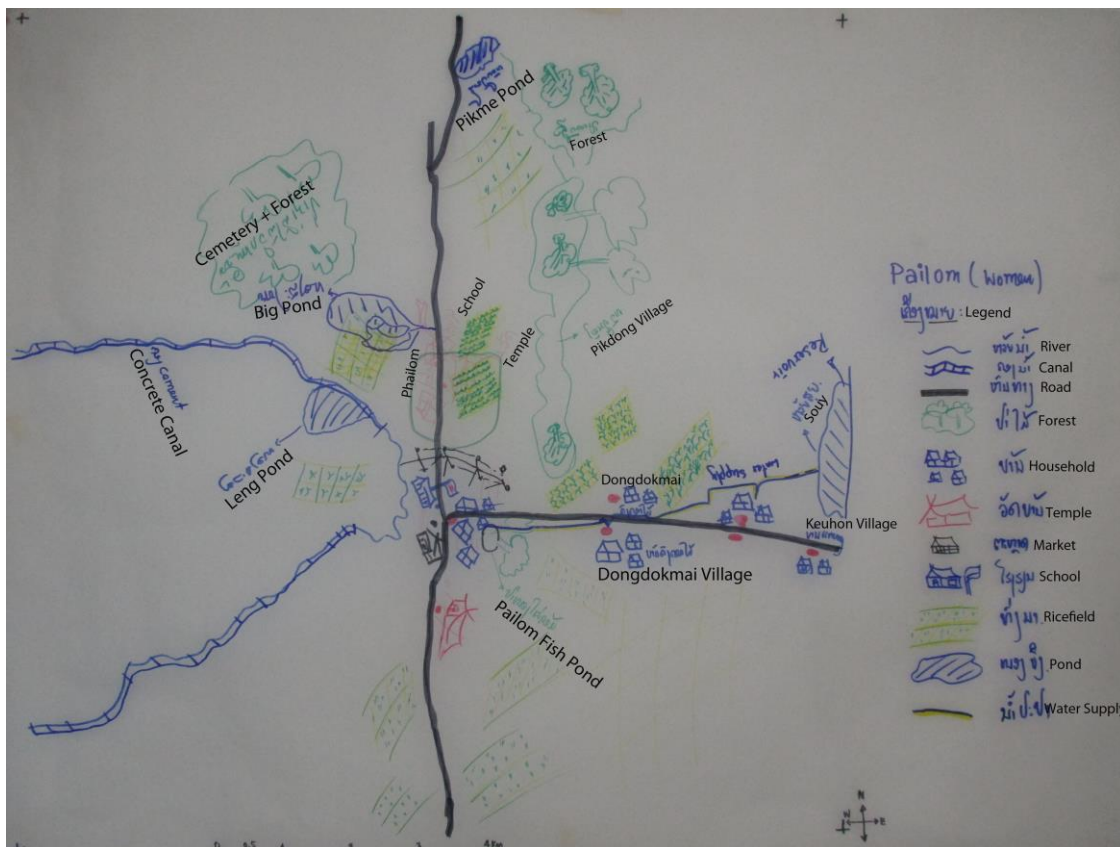
#### *Market*

There is a local market in Pailom village, which only opens on Thursday and Sunday. Traders from cities and towns bring clothes and other commodities to this market to sell to villagers. This is also a place for farmers from Pailom and other neighbouring villages to sell their agricultural products.

Detailed information of resources and infrastructures described by discussion groups is provided in the Table 1 below:



Map 2. Men's map of current community resources



Map 3. Women's map of current community resources

**Table 1. Summary for Layer 1: current conditions, as perceived by men (M) and women (W)**

<b>Land cover class</b>	<b>Community determined land use</b>	<b>Location Names</b>	<b>Current state (quality)</b>	<b>Time to resource (by foot)</b>	<b>Management and ownership issues</b>	<b>Environmental Benefits</b>	<b>Opportunities</b>	<b>Limitations</b>
<b>Forest (M)</b>	Timber and non-timber forest products (NTFPs) and mushroom	Dong Phata	Degraded – fewer trees are found	30 minutes	Managed by community and owned by the Government		Increase income and replanting	None
<b>Forest (W)</b>	Cemetery forest	Village holding name	Increasing tree density (eucalyptus)	15 min	Managed by community	Atmosphere	Increase amount of seedling plantation	
	Firewood, collecting mushroom and wild vegetables	Dong TaoThan	Less quantity and need to pay for the collecting firewood	30-45 min in the dry season and 1 hour in the rainy season (by tractor)	Managed by community nearby (not belong to Pailom)	-	Collect NTFP	Far from the village. Payment is imposed for collecting
<b>Pond (M)</b>	Some households use the pond for fishing	Pond of Pailom	5meters deep	30 minutes	Managed by the community			
<b>Forest and pond (W)</b>	Water for domestic use and Pasture.	Pah Pailom	Size reduced due to soil erosion (happened naturally).  Increasing density of the trees.	25 min	Managed by community. Livestock is by individual owners	Protects the soil and forest management	Grows quickly even with small amounts of rainfall	

Land cover class	Community determined land use	Location Names	Current state (quality)	Time to resource (by foot)	Management and ownership issues	Environmental Benefits	Opportunities	Limitations
<b>Pond (W)</b>	Water supply and fishery domestic use and home garden	Souy reservoir	Increasing pond size and became a reservoir, eroded bank	8 km from Pailom	/Managed by community nearby.	Promote aquaculture.	- Provides water for domestics use and fishery - Rainfall storage	Decline in population of snail for human consumption.
	Pond in the temple	Nong SaYai	Poor quality – Turbid	5 min				
			Temple pond	Poor quality	3 min	Managed by the community	Support forest cover	Provides water for domestic use
<b>River (M)</b>	Use for agriculture	River of Ban Dong	Good condition	1 Hour	Managed and owned by community			
<b>Infrastructure (M)</b>	<b>School</b>	Pailom	Poor condition Under renovation	5-10 minutes	Managed by organization of Room to read		Update the level of education	Poor physical state
	<b>Temple</b>		Deteriorating - Repair by community every year		Managed by community			
	<b>Cemetery</b>		Good - protected by the community					
	<b>Canal</b>		Bad condition					
<b>Infrastructure (W)</b>	<b>Schools</b>	Pailom Primary School	On-going construction	5 min	Public school		Easier access to education due to close proximity with the village	

Land cover class	Community determined land use	Location Names	Current state (quality)	Time to resource (by foot)	Management and ownership issues	Environmental Benefits	Opportunities	Limitations
	<b>Market</b>	Talad nat	Small market and open only 2 days per week.	25 min	Local villages group		Platform for commercial activity	
	<b>Temple</b>	Pailom temple		2 min	Managed by community		Community gathering s and religious events	
<b>Roads (M)</b>	Transport	Red road	Bad condition – unpaved	1 Hour	Managed by community and owned by Government			Poor physical state
<b>Roads (W)</b>	Transport	Main road to village	Dirt road	1/2 hour	Local authority		Encourages commerce	
<b>Farmland (M)</b>	Crop system		Planting pepper, bean, every 3 months then harvest, farmlands are spread	10 minutes	Managed by community			
	Livestock( Cow, Buffalo)			30-40 minutes				
<b>Farmland (W)</b>	Crop cultivation and livestock raising	Din na Din souan	Average of 2.9 ha per household. (min = 0.8 ha; max =5ha) Land is mostly inherited		Individual owner manages the plot			Rainfed – available only during rainy season. Limited to certain plots.



#### ***4.1.2. Gender-differentiated comparison of current conditions***

The men and women in focus group discussions have different views, which regard to their community resources. The men group indicated that irrigation water is the most significant resource for them, particularly in expanding their cultivated land. The men reported that there is still ample land and sufficient labor force to increase agriculture production. The women group more concerned about the diseases on rice. They were also interested in pig raising, a good income source of households. Regarding important off-farm activities for household income, men group was interested in handicraft (making rice box from bamboo) while women group was interested in weaving and collecting wild vegetables and hunting animals.

#### ***4.1.3. Major changes of resource conditions***

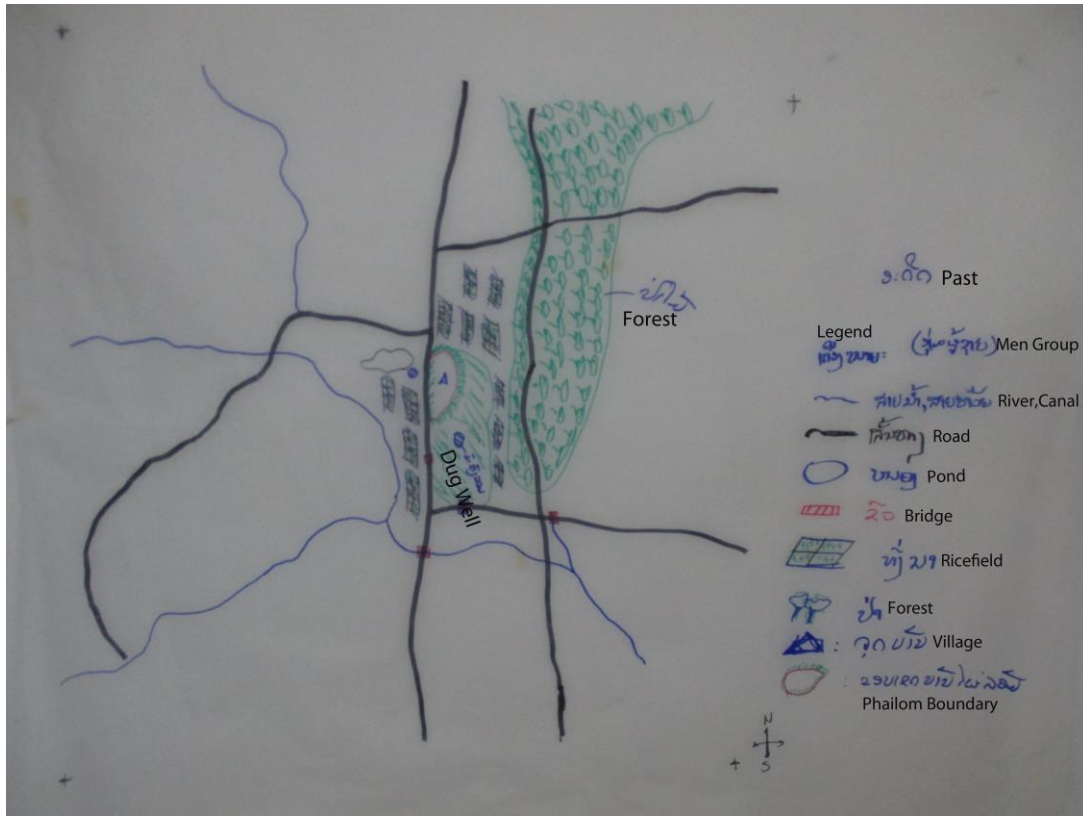
For historical land and resource use, the male and female participants described major changes and related driving forces at the landscape level. Maps 4 and Map 5 compare the past and present resource conditions according to descriptions of male and female participants, respectively. Table 2 shows a summary of the information provided by both groups during the discussions.

Both men and women groups reported that the village was established in the area for more than a century. Land belong to the village was initially covered by forest. Population growth and the increasing settlements and expanding of agricultural land had drastically reduced forest area. Consequently, wildlife was also become rare. Bamboo forest was substantially cut and cleaned for ease access to farmland.

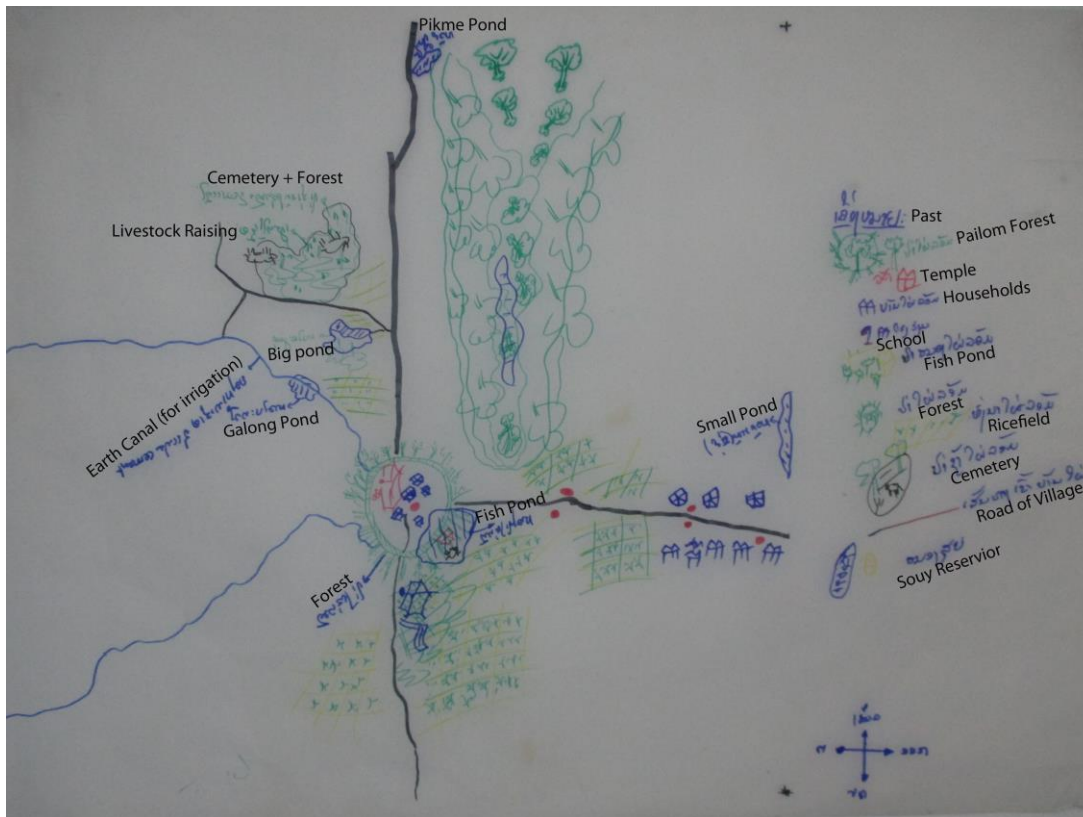
Women group reported that ponds in Pailom have become polluted. Pond water is turbidity and smelly, so that it is not suitable for domestic uses. They also mentioned that size of Souy reservoir has gradually increased but its water level became shallower due to sedimentation. Yield of fish and other aquatic products is believed to decline due to over harvesting. This put more pressure to livelihood of local communities. Mentioning about environment at Souy reservoir, a woman said “I can observe that we don’t feel fresh air any more when going to that area because there is no tree”.

Both men and women groups reported that rainfall has become unpredictable in the last five years. That is, the rainy season comes late and the dry season extends longer than usual.

Area of farmland and rice production had increased quickly in last 10 years. Households, who have family members working abroad (mainly in Thailand), use remittance to invest in expanding planted area of rice. They converted a part of fallow and pasture lands to rice field.



Map 4 Major changes in resources (comparing past and present) for men



Map 5 Major changes in resources (comparing past and present) for women

**Table 2. Major changes and drivers of change in the last 10 years, as perceived by men (M) and women (W)**

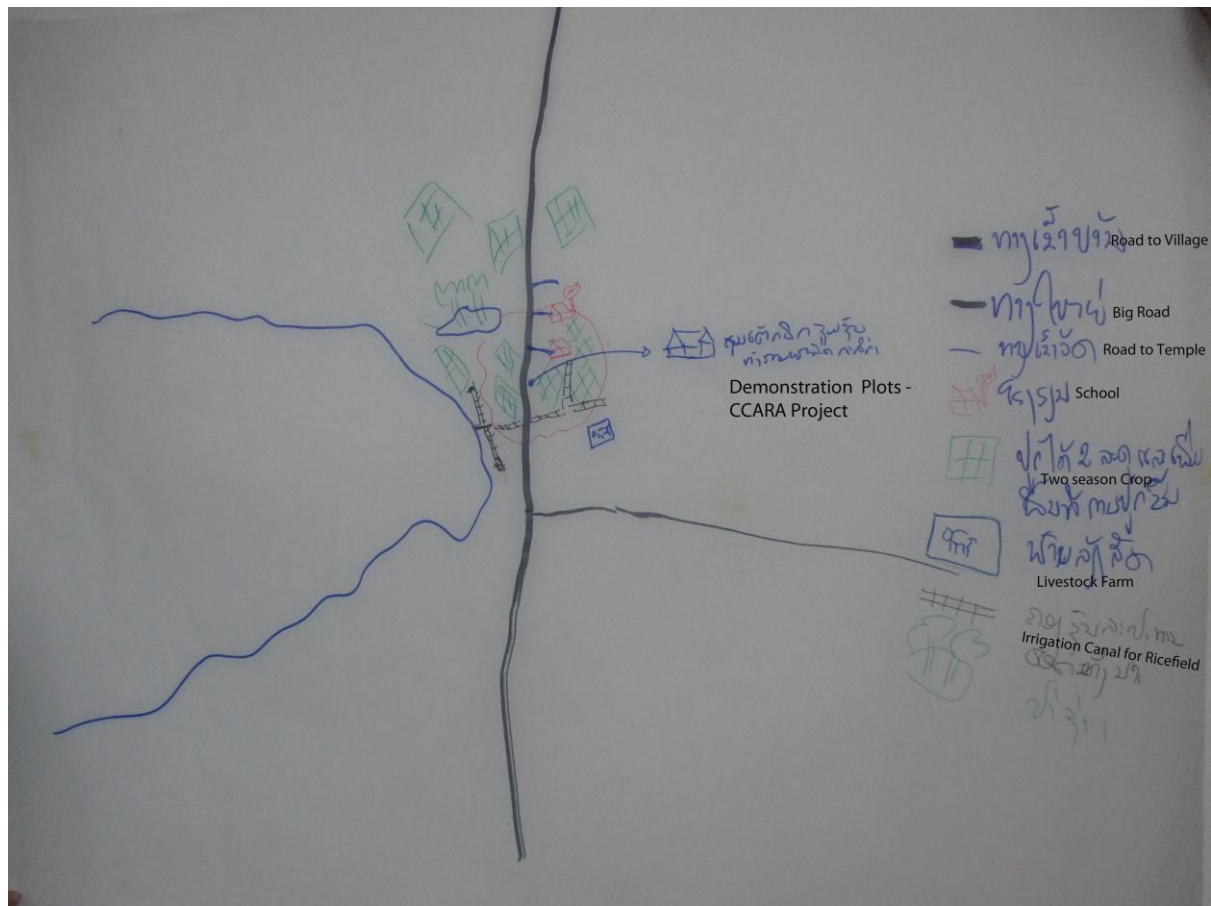
<b>Land cover class</b>	<b>Community determined land use</b>	<b>Location Names</b>	<b>Past state (quality)</b>	<b>Time to resource (by foot)</b>	<b>Drivers of change</b>	<b>Management and ownership issues</b>	<b>Environmental Benefits</b>
<b>Forest (M)</b>	Timber - use to build school Mushroom products		Bad condition – Small forest	30minutes		Managed by community and owned by Government	
<b>Forest (W)</b>	Source of firewood and charcoal	Everywhere	Thick and vast		Increased population resulted in depletion	Community	Diversity in ecosystem
<b>Pond (M)</b>	Pond	Pailom Pond	Not good	30 minutes		Managed by community	
	Pailom's Pond		Bad condition	30 minutes		Managed by the Community	
<b>Pond (W)</b>	Domestic use and fishery	Souy Pond	Less water	8 km from Pailom	Built reservoir	Community management	Encourages vegetation cover and forest
	Domestic use and for home garden	Nong SaYai	Depleting water and small size but water quality is good	5 minutes	Increase of population resulting to expansion of depth and size	Community management	
	Domestic use	Pond in the temple	Clean water – Good quality	3 minutes	People have other sources of water supply	Managed by the community	Water source for domestic use and livestock

<b>Land cover class</b>	<b>Community determined land use</b>	<b>Location Names</b>	<b>Past state (quality)</b>	<b>Time to resource (by foot)</b>	<b>Drivers of change</b>	<b>Management and ownership issues</b>	<b>Environmental Benefits</b>
<b>Infrastructure (M)</b>	School	Secondary school of Pailom	Under construction	5-10 minutes	Change of government	Managed and owned by the community	
<b>Infrastructure (W)</b>	Schools	Pailom Primary School	Poor infrastructure and used to be temple		Population increase	Public school	
	Temple	Pailom temple	Smaller and this area used to be paddy field		population increase	Community owned	
<b>Roads (M)</b>	Transport	Red road	Bad condition - unpaved	1 hour		Managed by community and owned by Government	
<b>Roads (W)</b>	Transport	Road from main road - entry to villages	Dirt and small road		Increase in population	Local authority	
<b>Pasture (M)</b>	Livestock – Cow & Buffalo		Small	30 minutes	Area is too small for livestock	Managed by community	
<b>Farmland (W)</b>	Pasture and cultivation	Din na (paddy field)	Households had large parcels, production input was lower than present		Fertilizer and rice varieties	Individually owned	

#### 4.1.4. Vision of the future

Vision of the future was discussed in the 3<sup>rd</sup> day with participation of men and women, including those who participated in the last 2 days. All participants developed an image of community resources and human well-being towards 2030 based on community aspirations for the future and described opportunity and constraints to realize their vision. 15 photographs taken by villagers (in Day 2) about things that they were proud of and things those need to be improved were introduced to participants.

Map 6 shows vision of Pailom's villagers about future.



Map 6 Future map of the community

#### Road

It was suggested that the main road should be asphalted and widened. All participants indicated that improved road condition is very important for the overall development and prosperity of the village and would open good economic opportunities to the community. These will provide better access to different areas of the community, enhance trading, motivate farmers to diversify crop and livestock products, create opportunity for organizations to work in the village and promote access to education of youth.

### *School*

There will be a secondary school built in the village so farmers can reduce educational expenditure for their children. The new school will improve education of Pailom's people, and in turn, educated generations will contribute to community development in the future.

### *Irrigation canal*

As water is essential resource for agriculture, irrigation canals and facilities will be improved and built to promote intensive cultivation with 2 – 3 cropping season per year. This will also allow farmers to grow vegetables and other crops. Participants expected that all of households can access to irrigation in the future.

### *Livestock*

Currently, cattle are commonly raised in a small-scale following traditional free-grazing method and small livestock (i.e. pig and chicken) production was mainly self-sufficient. The farmers intend to increase investment for livestock breeding and separate livestock area from residence to prevent infection of zoonomists. Participants also express the need for advance techniques in livestock production.

### *Farmland*

Agriculture land is abundant but a large area has been left fallow due to water shortage and limited access to market. With current limitation, villagers have agreed that they will maximize income from existing suitable land by using it more properly and effectively.

**Table 3. Vision of the future**

<b>Items from the 2 map legends</b>	<b>Preferred condition for 2030</b>	<b>Opportunities</b>	<b>Constraints</b>	<b>Organisations to involve</b>
<b>Road</b>	Main road to village would be bigger and paved.  Better condition for small road e.g. road to temple and road to inspirit forest	Improve transportation, Bring the opportunity for buying and selling the products especially rice and also other crops.  Open to other visitors to visit the temple as well as the village	This will also attract people from other areas	Government  Government+ villagers
<b>Schools</b>	Want to have more schools in the area. These should include both primary and secondary schools	Children don't have to go far to enrol in a secondary school Education of their children Employment Educated children will build a better future	-	The government and the private sector
<b>Livestock</b>	Having livestock farm in the village (a bit far from village settlement)	Improve income generating activities Acquire technical support to enhance livestock production	High supply and competition on the market lower the price substantially	Community + technical extension from Government or other project.
<b>Farmland</b>	Farmland area still remain but possible to cultivate 2 season and rotation cropping system	Improve technical knowledge Improve income generating activities	-	community
<b>Irrigation canals</b>	Irrigation canals reached to each farmers' field	Farmer can cultivate two season Increase productivity Increase hired labour	Pressure on the labour requirement, Increase water demand	community

## 4.2 Topic 2: Organisational landscapes

Operational sphere and characteristics of organizations will inform CCAFS on the level of preparedness of Climate-Smart Village in responding to the challenges viewed as consequences of climate change. This section presents the different formal and informal organisations working with the community with respect to food security in different situations (i.e. average and crisis conditions), and natural resources management (NRM). It also identifies the types of activities that organisations can engage in.

### 4.2.1 Basic spheres of operation

The men group identified only four organisations present in the area but not operating within the village. These include CCARA-IRRI (conducting experiments on rice seeding, Room to Read (supporting education), JICA (supporting irrigation), and UNICEF (working on salinity). The first two organizations were identified to have been operations for 1 to 5 years, while the last two were identified to have existed longer (Figure 1).

The women identified one organization operating locally and two organizations operating beyond locality. Room to Read is supporting in building a school, district hospital is responsible for health care and vaccination) and IRRI in collaboration with DAFO is supporting rice production (Figure 2). There is no cooperative or farmer's group to organize agricultural production in the village.

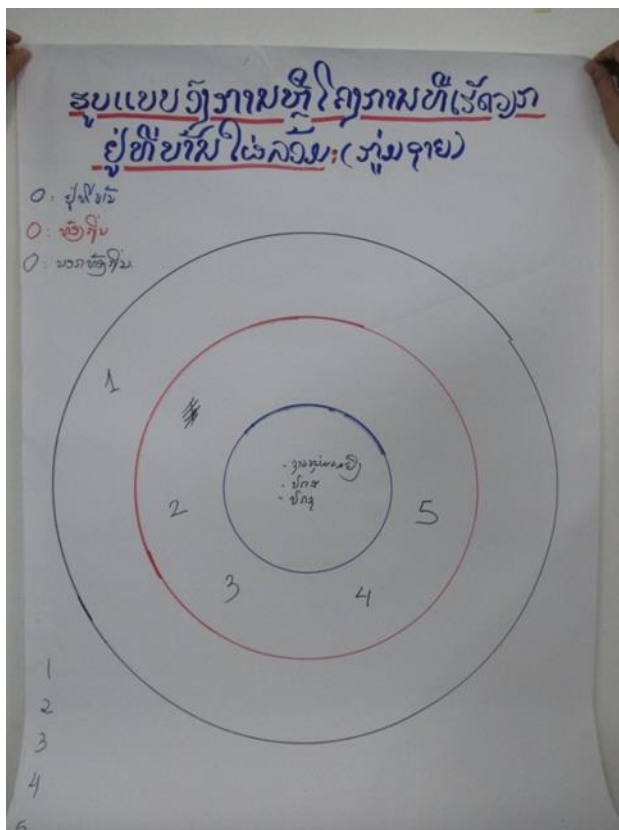
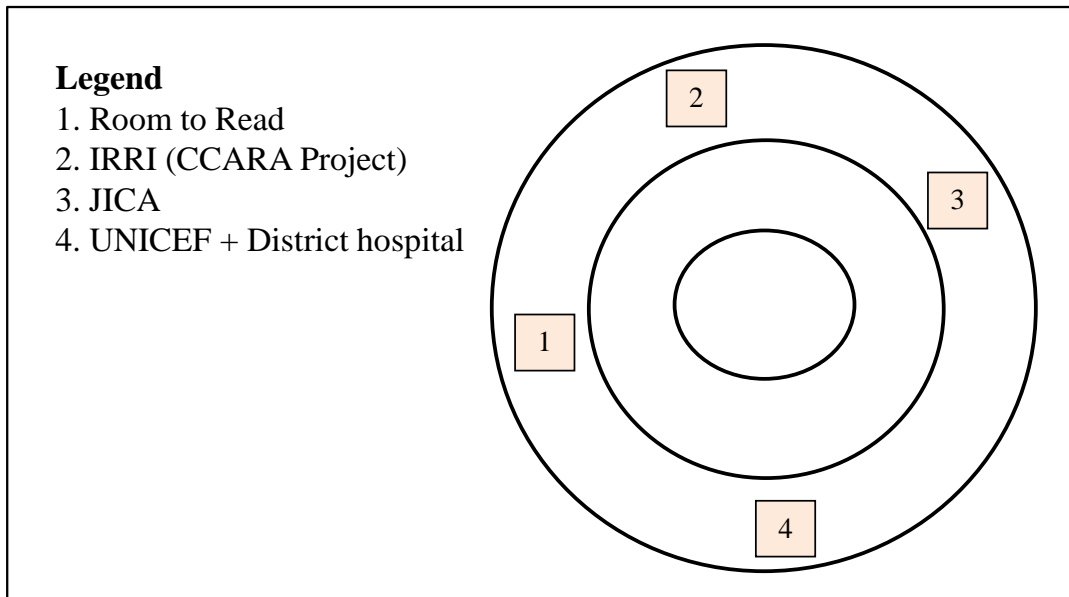
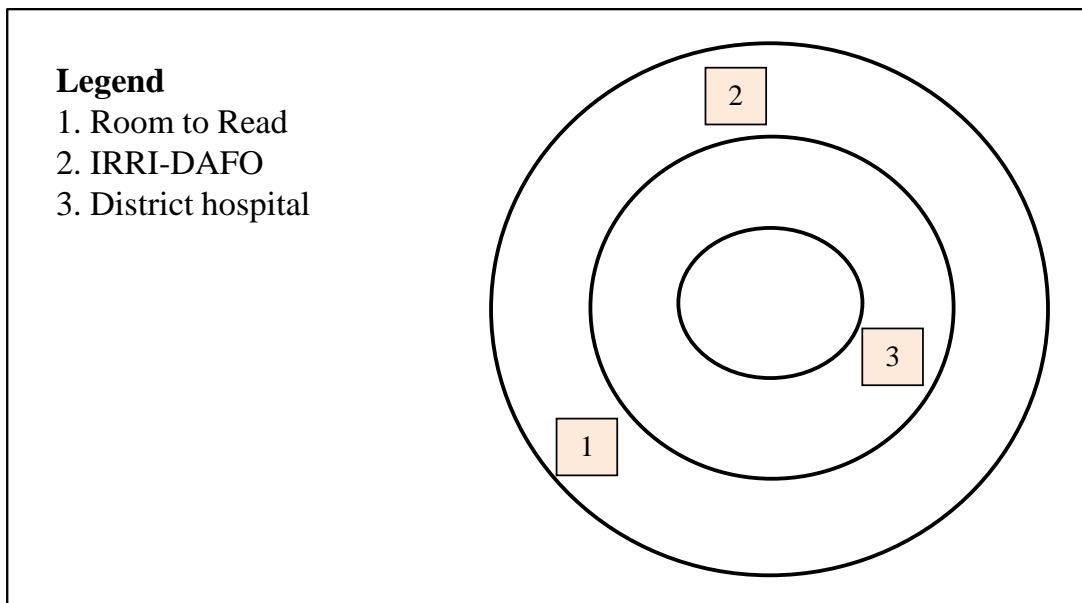


Photo 1. The organisational landscape activity in progress





**Figure 1. Organisational landscape of the men's group**



**Figure 2. Organisational landscape of the women's group**

**Table 4. Information on the organisations ranked by the men and women**

		For community groups								
	Organisation name	Main activities	No. of members (estimate)	Access (open or restricted to...)	Origin (indigenous, state, NGO, project)	Sphere of operation (community, local, beyond local)	Sources of funding (members, external, both)	Existed how long (less than 1 yr, 1-5, longer)	Formal or informal	
Men's group	1	IRRI-CCARA	Experiment rice seeding	4	Restricted	Project	Beyond	External	1-5	Formal
	2	Room to Read	Support education	20	Open	NGO	Beyond	External	1-5	Formal
	3	JICA	Irrigation		Restricted	NGO	Beyond	External	Longer	Formal
	4	UNICEF	Salinity		Open	NGO	Beyond	External	Longer	Formal
Women's group	1	Room to Read	Build the school		Open	NGO	Local	External	1-5	Formal
	2	IRRI+DAFO	Rice cultivation		Restricted	International Organization	Beyond	Members	1-5	Formal
	3	District hospital healthcare	Healthcare and vaccine		Open	Government	Local	External	Longer	Formal

#### 4.2.2. Organisational landscape of food security

According to the men and women groups during the focus group discussion, IRRI-CCARA project relates to food security in Pailom because it is working in development of decision support system in rain-fed rice areas. Services and information that the project provided to the communities include sowing time, fertilizer application and selection of rice varieties. The project relates to food availability because it has introduced new rice variety, established a demonstration plots for high yield rice variety and other capacity building initiatives. JICA also supports in building irrigation canal and facilitate access to water sources. The men's group added Bank of Laos as an organization operating beyond locality. They mentioned that this was only bank operating in the village that provides capital in the form of loans.

In terms of food access, it was mentioned that UNICEF in collaboration with District hospital in providing information on nutrition and clean drinking water to the community. There was no immediate linkage among the organizations. Activities of an organization are independent to others.

Participants provided the highest score to Room to Read because they perceived that education is the most important investment of the community at present as well as in the future.

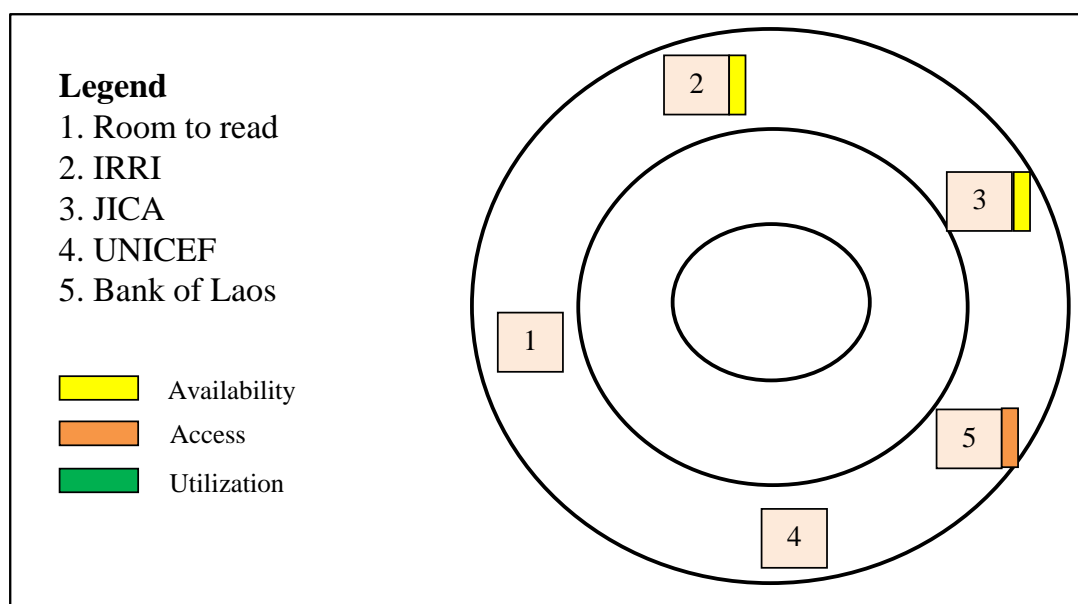


Figure 3. Organisational lanscape of food security – men

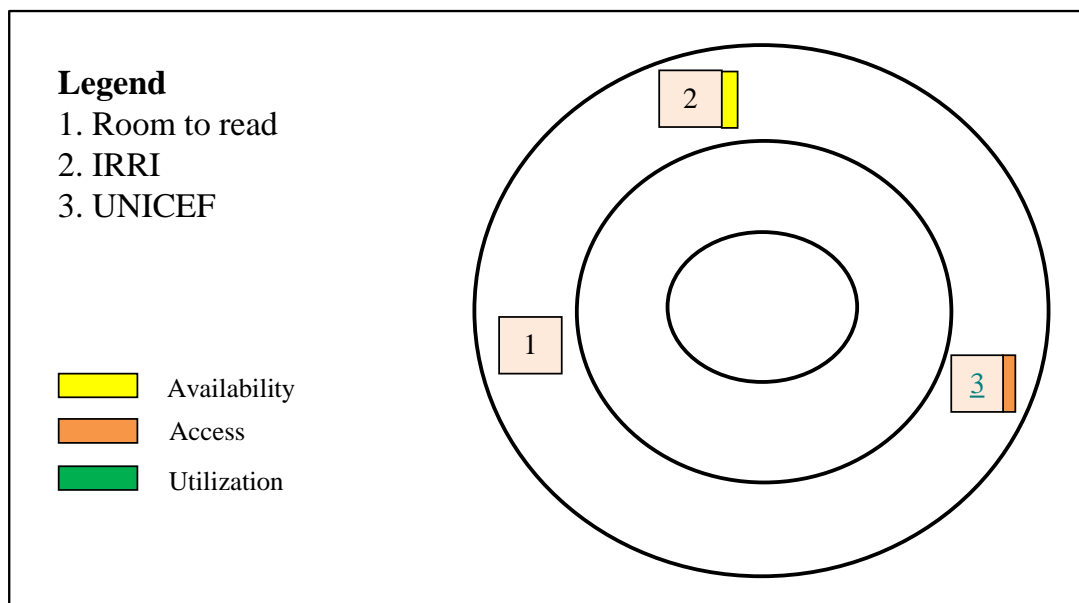


Figure 4. Organisational landscape of food security - women

#### 4.2.3 Organisational landscape of food crisis situation

Participants identified food crisis events (e.g. flood and drought occurred) and discussed on organizations involved in helping communities. The women’s group mentioned a food crisis event occurred 30 years ago and whole community resorted to eating flour provided by the state. Another food crisis event occurred between 2008 and 2009 due to a serious drought. During food crisis, the government distributed food at a lower price to people. According to a woman, “when food crisis occurred, only the government helped our community, there is no other organization come to our village”. Meanwhile, the men’s group was not able to identify any organization working in the area of food crisis.

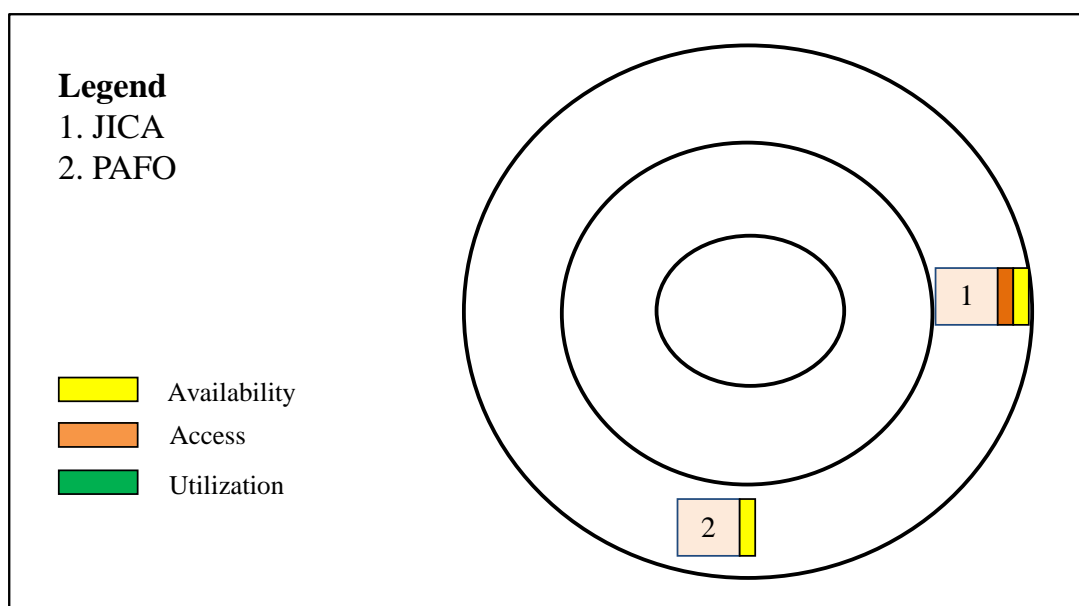


Figure 5. Organisational landscape of food crisis – women

#### 4.2.4. Organisational landscape of natural resource management

There is no organization working on natural resources management that were identified by men's group. Some participants in women's group mentioned that there was only one organization worked on natural resources management about eight years ago and they cannot remember name of the organization. Some other participants identified DAFO and a private company supported eucalyptus seedlings to plant in the cemetery forest. In general, natural resources are managed by communities.

Table 5 summarizes information about the organisations identified by men's and women groups. The organisations are classified according to their role in supporting food availability, access and/or utilization, as well as the provision of relief in times of food crisis, and the management of natural resources.

**Table 5. Information on highlighted organisations of men and women (1=yes, 0=no)**

Name of organisation	Org. ID by men	Sphere*	Food security	Food crisis	NRM	
<b>Men</b>	Room to Read	1	3	0	0	0
	IRRI (CCARA)	1	3	1	0	0
	JICA	1	3	1	0	0
	UNICEF + District Hospital	1	3	0	0	0
	Bank of Laos	1	3	1	0	0
	Provincial Administration	0	0	0	0	0
	DAFO + Company	0	0	0	0	0
<b>Women</b>	Room to Read	1	3	0	0	0
	IRRI (CCARA)	1	3	1	0	0
	JICA	1	3	1	1	0
	UNICEF + District Hospital	1	3	1	0	0
	Bank of Laos	0	0	0	0	0
	PAFO	1	3	0	1	0
	DAFO + Company	1	2	0	0	1

\* 1=village2=locality3=Beyond locality

### **4.3. Topic 3: Information networks**

The information networks helps to understand the diversity of options that people use to access information for agricultural production and how information sources meet people's needs. The men's group identified the following information that they need to make farming decision: crop variety, farming techniques (use of fertilizers, pesticide and insecticide), climate. The women's discussion group came up with the following list: Climate, crop variety, market, availability of labour, farming techniques (use of fertilizers, water, soil).

Information sources as described by male and female participants are summarized in the Table 6.

#### *Individual*

Results shown in Table 6 denote that, individual such as friends and neighbours are the most popular information source in Pailom village. Most of the farmers receive information from their neighbours and friends inside and outside the village. They share information with regard to market price, crop variety, fertilizer as well as the labour availability and farming techniques. The common mode of passing information is the face-to-face communication. They also use telephone to pass information on to others.

#### *Television*

Television is also an important source. In Pailom village, people can access to Laos, Thailand and some international channels. Because of language similarity, Thai channels are favoured by the community. People can watch Thai channels to gather information about weather forecast, rice variety, fertilizer inputs, soil management, etc. Participants said that information on TV is very useful. However, regarding farming techniques, it is difficult to them to follow due to complex instruction. Radio was mentioned as one of information sources but not many people listen to the radio.

#### *Organization*

According to participants, there is no information disseminated from the identified organizations. At village level, there was also no action of agriculture extension or of DAFO to address the needs of farmers. Although IRRI-CCARA project has provided farming information, only farmers participating to project activities could receive the information. In Pailom, farmers often learn fertilizer application techniques from private companies when they visit the village to demonstrate and sell their products.

#### *Others*

Personal experiences are shared among farmers supporting farming decision. For example, weather forecast based on movement of insects can help them to prepare for the next planting season.

**Table 6. Networks of information**

Source	Topic (men)			Topic (women)					Total
	Crop variety	Farming techniques	Climate	Climate	Crop variety	Market	Labour	Farming techniques	
<b>Individual</b>									
Family	1	1	1	1	1	1	1	1	<b>8</b>
Firends	1	1	1	1	1	1	1	1	<b>8</b>
Neighbours	1	1	1	1	1	1	1	1	<b>8</b>
<b>Organizations</b>	0	0	0	0	0	0	0	0	<b>0</b>
<b>Media</b>									
Radio	1	1	1	1	1	0	0	1	<b>6</b>
TV	1	1	1	1	1	0	0	1	<b>6</b>
<b>Others</b>	0	1	0	0	0	0	0	1	<b>2</b>

## 5. CONCLUSION AND RECOMMENDATIONS

### 5.1. Conclusion

#### *Resources*

The average farm size in Pailom village is 1.9 ha. Rice is the main annual crop with average yield is 1.7t ha<sup>-1</sup>. Rice production is mainly for home consumption and a part of it is sold in local market. Land of Pailom is suitable to grow rice although lacking of irrigation water. If this limitation is overcome, paddy land can be expanded and rice production will significantly increase. Towards 2030, farmers expect to have an irrigation system so that they can grow 2 rice seasons per year and apply crop rotation with other annual crops. They are also willing to learn proper and sustainable fertilizer use, soil management techniques, salinity, drought and pest control.

Forest is an important resource of the community in Pailom village as it contributes to daily livelihood of villagers. It is a source of food and other Non-Timber Forest Products, especially in times of food shortage. However, managing and conserving forest is not priority of local government. This responsibility is taken by communities.

Streams and pond are important water sources for irrigation and domestic uses. It indirectly contributes to income and, overall, well-being of the community. According to villagers, water bodies have been depleting in some areas of the village due to the construction of a reservoir upstream and long dry season. Considering that Pailom village relies mostly on farming, lack of irrigation currently limits farmers to increase land productivity, diversify agricultural products and change traditional farming techniques.

Livestock is mainly for home consumption. Livestock production is in household scale and lack of appropriate techniques. Farmers expressed their willingness to learn new techniques in animal husbandry.

Soil salinity also creates a significant constraint to the agriculture production in Pailom. In some area, farmers have to select salt-tolerant crop varieties to maintain crop yield. Infrastructures in the region are not in good condition. Especially road network is meagre and degraded, which restricts people access to market and services.

Regarding human resource, the seasonal labour migration influences much agricultural production and livelihood of people in Pailom and surrounding villages. It is important to know the contribution of “cross-border” jobs to food security and adaptive capacity of the communities.

#### *Organizational landscape*

There were few organizations operating in the region that relate to climate change and food security (Table 7). According to villagers, there was no organization that is responsible for natural resource management. Village committee is now in charge of managing and conserving resources. Government-led agricultural extension services are often provided at provincial and district levels but do not effectively work at village level. Currently, scope of agriculture extension is rather narrow. It mainly supports small-scale livestock but not much consider other aspects of farming.



### *Information network*

In Pailom, the main channel of information exchange was still traditional farmer-to-farmer communication. There is no TV program for framers so people have to collect information from different channels, even from foreign channels. The internet access has been available but only the young people can use it. From these sources, farmers can find interesting information but it is not easy for them to follow due to complicated technical guidance.

**Table 7. Potential CCAFS partners**

<b>ORGANISATION</b>	<b>SPHERE OF OPERATION</b>	<b>ACTIVITIES</b>	<b>STRENGTH</b>
IRRI CCARA	Beyond	Promote improved varieties for rainfed rice production, Optimal use of fertilizer, weather information service for farming	Build farmer's capacity Transfer of farming technology
JICA	Beyond	Provision of irrigation	Enhance cropping system and productivity Address water shortage problem
UNICEF	Beyond	Vaccination programmes and health information dissemination	Transfer information, enhance health and overall well-being of the community, potential to address malnutrition

## **5.2. Recommendations and major opportunities**

Pailom Village has diverse natural resources and relatively traditional farming techniques. People are facing impacts of unpredictable weather pattern on farming in particular and on their livelihood in general. Therefore, there are advantages for CCAFS to have interventions in Pailom. The village can become a showcase of CCAFS climate-smart village. Willingness of the farmers to participate in the Village Baseline Survey indicates that CCAFS can have future interventions in the region in the next phase. To implement future interventions, CCAFS should seek for partners, who have relevant expertise to tackling potential areas of work stated above.

Potential interventions could be strengthening forest management through community-based incentive scheme and providing guidelines for community in exploiting forest products. Agro-forestry is not new in Laos. It can be integrated with CCAFS to manage natural resources sustainably embedded with climate change mitigation and adaptation strategies.

The lack of farming knowledge in the region suggests an entry point for CCAFS to work with agricultural extension agencies in Savannakhet combining innovative farming techniques with climate-smart agriculture practices. For scaling up, CCAFS should closely coordinate with relevant government authorities and provide appropriate measures to identify significant bottlenecks, especially in the management and protection natural resources.

Table 8 below lists constraints in Pailom and potential CCAFS action researches.

**Table 8. Recommendations for major opportunities**

<b>Gaps in knowledge/ current constraints that could provide opportunities/niches for CCAFS and partners</b>	<b>Opportunities for research (CCAFS)</b>	<b>Opportunities for Action Research (CCAFS partners)</b>	<b>Development Interventions (Partners)</b>
1. Lack of access to irrigation		x	x
2. Insufficient knowledge on pest and disease management	x	x	x
3. Lack of soil management techniques	x	x	x
4. Management of forest resource	x	x	x
5. Seasonal food shortage	x	x	x
6. Malnutrition and under-nutrition (food preference)	x	x	x
7. Poor agriculture extension services (livestock and fertilizer application)	x	x	x
8. Lack of information on sustainable agriculture techniques	x	x	x
9. Poor market access	x	x	x