

INCO : International Scientific Cooperation Projects (1998-2002)

Contract number: ICA4-CT-2002-10020

**Participatory Community Assessment in Dong Thanh Commune,
Cu Chi District of Ho Chi Minh City, Vietnam**

From 25th to 30th October 2003

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Keywords: PCA, participatory community assessment, peri-urban aquatic food production systems, Southeast Asia, Ho Chi Minh City, Vietnam
Project homepage: <http://www.ruaf.org/papussa>

Contract number : ICA4-CT-2002-10020

**TITLE : PRODUCTION IN AQUATIC PERI-URBAN SYSTEMS IN
SOUTHEAST ASIA**

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I. INTRODUCTION

1.1 Methodology

The Participatory Community Appraisal (PCA) steps were carried out from the 25th - 30th October 2003. The first day was the initial visit and contact with the Extension Station of Hoc Mon district. The Head of the Extension station supplied some information about the status of agriculture in the commune and then recommended the most appropriate community which would be involved for our PCA. As Dong Thanh is a peri-urban commune aquaculture is concentrated in the 1st and 4th villages and so village 1 was chosen as a representative community to carry out our PCA. The general agricultural status, livelihood, and poverty-prosperity classification of villagers were collected in the first day by the Head of the Farmers Association and Head of village. The selected participants from the community were then invited the next day. The main Participatory Community Appraisal activities were carried out on 30th October.

Those participating included: fish farmers, those carrying out rice cultivation, vegetables, lotus, and livestock – poultry, dairy cow, health service officials, the Head of the Farmers Association, and the Head of the local Women’s Union. The participants were divided into two groups based on gender (male/female). Most farmers present were estimated by the previously mentioned key informants to have a stable living standard, so representatives of each group were not divided on the basis of a poverty-prosperity classification. The average age of the women’s group was approximately 40 years old, whilst for the men’s group it was in the range of 30-45 years old.

1.2 General status of Village 1 – Dong Thanh commune – Hoc Mon district

Dong Thanh commune is located in the middle west of the city, bordering with Cu Chi, Binh Chanh districts and District 12. It also borders with Long An and Binh Duong Provinces. It is about 20 km away from the centre of the city. Access and transportation are very good as it is peri-urban commune that is not very far from the city.

There are 413 households in the village. According to the Head of the Farmers Association, there are no migrants coming from other places to the commune. There are about 25-30 households which carry out aquaculture with an area of 4 ha according to the Head of the village’s information. However the area for agriculture gets priority with an estimated area of more than 127 ha. Farmers culture fish on a household scale basis using both monoculture and polyculture. Species such as giant gourami are cultured in monoculture (highly intensive), species of whitefish (e.g. silver carp, silver barb, common carp, etc.) are cultured in a polyculture model which aims to reuse natural food, however not integrated farming with rice. Agriculture is their main income earning activity, whilst the youth in the village can become workers in the factories, which produce leather, shoes or textiles. According to the Head of the Farmers Association there are about 600-700 residents working in these types of jobs in the area.

II. The Characteristics of community inhabitants and production systems

In order to describe the general layout of the village through the different views of male and females, participants were divided into two groups by gender. They were given a large sheet on which they were asked to draw their own map of their village and put in the

buildings, roads, fields, rivers, water etc and other features that they considered the most important. The results from these maps can be summarized as follows:

*** The Community Map of Village 1 – Dong Thanh commune by every group**

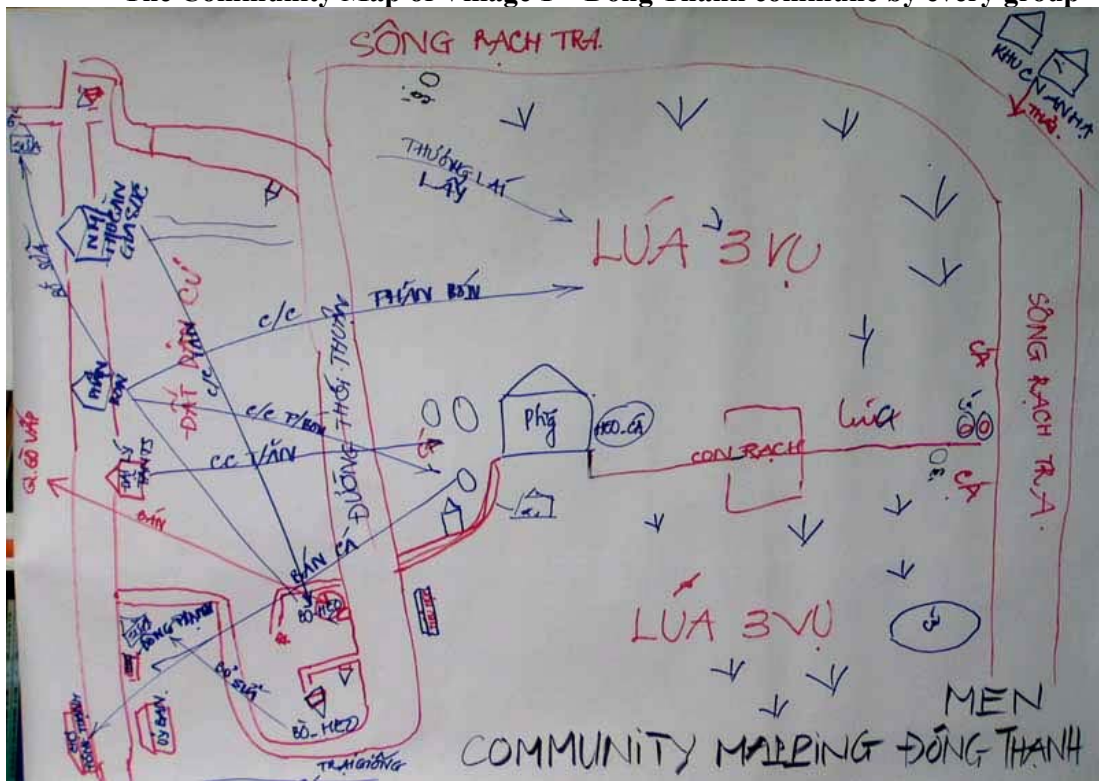


Figure 1 The Community map of Village 1 area – Dong Thanh commune by the men’s group

- Dong Thanh commune is nearest commune to the centre of city in comparison to other communes in Hoc Mon district. It is one of the two communes of Hoc Mon district that have already been reserved for agriculture areas. Therefore it is least affected by urbanization at the present but it might be affected in the future.
- The main agricultural activity is rice with up to 3crops/year.
- Fish culture is popular in the village. In particular giant gourami are cultured in monoculture or integrated with kissing gourami. Polyculture with tilapia, common carp, red tilapia, grass carp etc is also practiced with an integrated system using waste products as feed.
- Farmers also rear pigs and bulls in the village.
- Nowadays dairy cow production is developing in the commune but it is not yet developed in the village due to the high capital investment required. However there are about 50 households in the village which have been able to start in this activity.

- There are 2 local markets, Dong Thanh market is about 3 km from the village and there is another one also about 2-3 km away.
- There is no health service in the village itself; however there is a health service in the commune about 1 km away.
- There is a primary school in the village, but no high school.
- There is a livestock feed factory (Viet Phuong factory) in Dong Thanh Street. This appears to be an advantage for livestock culture in the commune but actually the livestock feeds are mainly bought from livestock feed traders (retailing stores).
- The main source of water is supplied for agricultural activity in the village from the Rach Tra River and Dong Channel. These have been a positive advantage for agriculture development in the village. However the source of water has high acidity in the period of May-July annually. This is because of acidity from soil.
- Sometimes people discover the water is polluted due to the waste from the cloth factory or An Ha industrial park which can adversely affect the health of the cultured fish.
- There is a place in Dong Thanh where garbage collected from the city is stored for decomposing. This also can affect the health of people living in surrounding area.

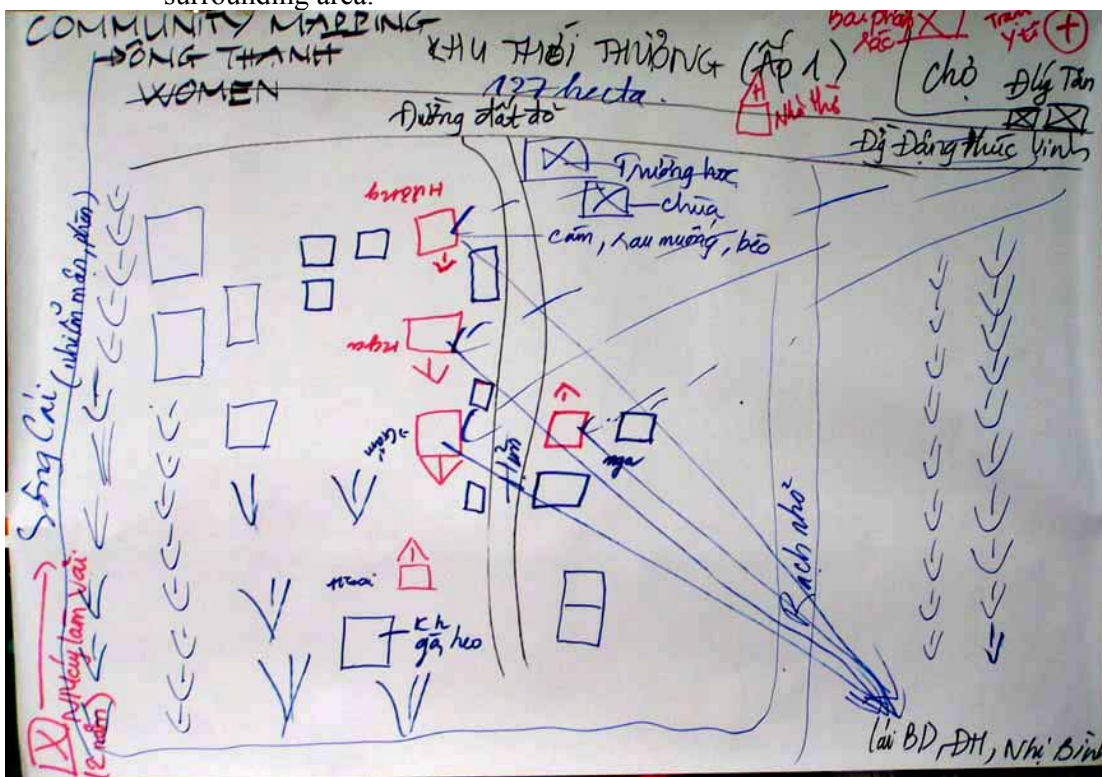


Figure 2 Community Map of Village 1 – Dong Thanh commune – Hoc Mon District by the women’s group

* The changing of weather, climate and the important events follow the seasons

Table 1 Seasons and important weather events (by women)

Women	Month											
Events	1	2	3	4	5	6	7	8	9	10	11	12
Dry season												
Rainy season												
Flooding												
Acidity of water												

Table 2 Seasons and important weather events (from men)

Men	Month											
Events	1	2	3	4	5	6	7	8	9	10	11	12
Dry season												
Rainy season												
Flooding												
Acidity of water												

- The two groups (men and women) acknowledge similar annual changes of climate and seasons in Dong Thanh commune. The rainy season is from May – December, and the dry season January – April.
- Towards the end of the rainy season flooding occurs (October – December) which often creates difficulties for agriculture in the village.
- The water used for agriculture is supplied all year-around from the Rach Tra River (a tributary source of the Sai Gon River) and Dong channel (Dau Tieng reservoir irrigation system) creating advantageous conditions for farmers' agricultural activities.
- Between the rainy and dry seasons the water is usually of a high acidity phenomenon in the period from May – July

* Fish Disease: there are no seasonal disease outbreaks. Disease seems to be not an important problem as farmers were not really concerned about it. However, in recent years farmers are facing a new problem of giant gourami disease causing losses within their systems.

* The resource map was incorporated into the community map which was also drawn by farmers themselves so that they can understand and describe exactly what inputs and outputs they have in their own systems. This type of map was also drawn separately by men and women. The information gained is summarized below:

Inputs into the production systems

- Seed fish: there is no fish hatchery in the commune and village. There is only one seed trader located in the commune which is located about 2 km from the selected village. Most farmers in the village buy seed fish from District 12 (common carp, tilapia, red tilapia) and Go Vap district (giant gourami).

- Fertilizers and feed are available at retailing traders in the commune
- Farmers mainly feed their fish on rice bran, duckweed and morning glory. However morning glory for giant gourami is sometimes bought in Binh Chanh and District 12. Farmers rarely feed fish with commercial pelleted Cargill feed. There have been cases in the village of fish kills due to feeding vegetables and green matter which was contaminated with pesticide.
- Commercial pig feed is purchased from the Viet Phuong factory through the retailing store.
- In the dry season farmers must buy grass for feeding their cows

Outputs from the production systems:

- + Traders come to buy rice;
- + Some of fish are sent to Dong Thanh market and also local street markets. But mainly farmed fish is brought to the traders from Nhi Binh – Cu Chi District nearby Dong Thanh commune or Binh Duong province
- + Bulls and pigs are brought to the traders from Go Vap district

Table 3 List of inputs/ outputs of production activities

Men		Women	
Input	Output	Input	Output
Fish seed/fingerlings or fry, rice seed, vegetables	Fish, pork, chicken, dairy milk	Fish seed , vegetables	Fish, pork, chicken, dairy milk
Feed fish by-products (duckweed, rice bran, morning glory)	Lotus, vegetables, nuts, e.g.	Feed fish by-products (duckweed, rice bran, morning glory)	
Commercial pelleted feed for fish and pigs			
Fertilizer rice and vegetables		Pelleted feed for fish and pigs	
Young piglets and calves			

The men's group was far more descriptive about listing inputs and outputs to their systems than the women's group because men are probably more involved in the day to day management and running of the systems. This showed that men play more important roles in aquaculture activities than women do and implies that women may have other activities or they are too busy with house work.

Timelines:-Developmental history and important historical events for the villagers and their livelihoods

Farmers were divided into 2 groups of male and female and then asked to draw a timeline on a large sheet of paper showing the dates and years they considered the most important events that have significant impact on their lives or village development.

The information from men

- Cultivating rice has been going on in the village for a long time
- After 1975 the farmers began growing tobacco but were not very successful or cost effective so they stopped doing this by 1980.
- In 1980: Because of the price of fertilizer and high salaries for (labour intensive) agricultural labour, farmers changed their direction to culture fish.
- In 1995: started dairy cow development which has, in most cases, been successful. Since then their production activities include fish, rice, cows, bulls, and pigs.
-
- Although rice culture is now low benefit, farmers are going to continue because "they can use their effort to create profit"
-
- Farmers cannot practice fish culture more widely in the commune because the water supply is constrained in some places (water cannot be exchanged easily when a fish pond is surrounded by rice fields.

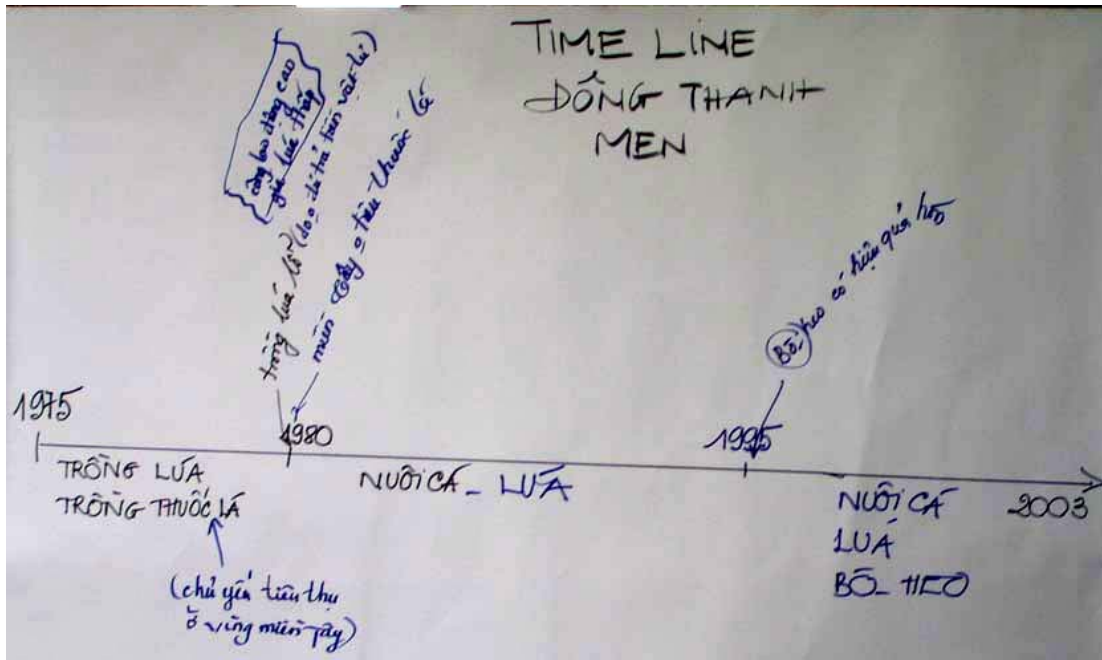


Figure 3 Timeline of the important historical events in the village – from the men’s group

3.1 The information from women

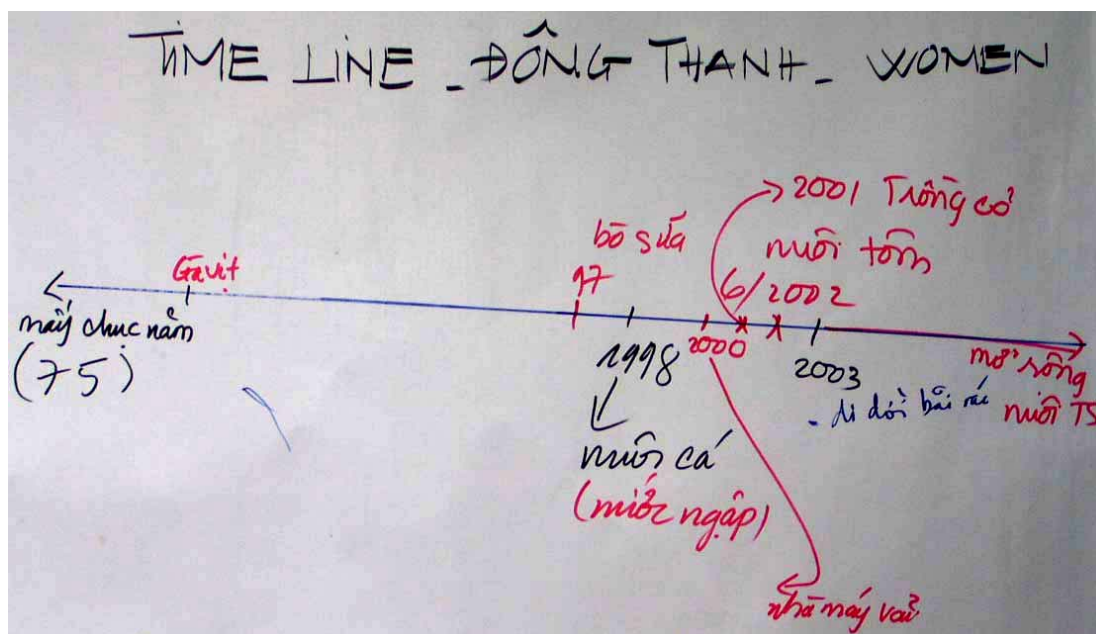


Figure 4 Timeline of the important historical events – from the women’s group

- The women’s group said that cultivating rice and chicken-duck farming has been going on in the village for a long time.
- In 1992: started to farm dairy cows with the direction and leadership from government policy.
- By 1997: dairy cow farming – milk production had developed strongly in the commune and was having a positive effect on the villages.
- In 1998: fish culture widely spread in the Thoi Thuan area (Ba Mai channel) due to flooding causing loss of rice production.
- In 2000: farmers recorded water pollution from the local Cloth factory and other factories in the nearby area such as An Ha Industrial Park
- 2001 June: Trial of grass growing instead of rice but not effective
- 2002: Trial on culturing freshwater prawns but not successful because of high water acidity in the rainy season which could be flushed out from the surface sulphate soil.
- Most of their houses are far from their fields, so it is difficult to protect and keep secure their fish from theft. However farmers wish to continue and develop their aquaculture.

III. Societal characteristics of inhabitant community

1. Poverty – prosperity classification

Farmers in Village 1 of Dong Thanh are more difficult to classify into wealth or well-being categories than other villages in the commune since their economic condition is relatively similar, so we didn't divide into the groups based on key informants perceived income and prosperity.

Estimating farmer's economic well-being base on the criteria as follows:

For the poorer category:-

- Lack of investment capital
- Dwelling is primitive
- Means of transport is poor, farmers' lack of recreational facilities, and furniture is primitive. They still own a motorbike, radio, and television.
- Farmers use well-water for their everyday household water supply.
- Their agriculture cultivation is on a relatively small scale.

2. Festivals in the community – seasonal calendar exercise

Traditional Tet is the biggest festival of the community, the others relate to people who join Buddhism and Catholicism for which there are special festivals. Besides they have parties for their ancestors or weddings or a middle of the Tet festival in the year.

3. Community health – discussion with farmers on health related issues

They pay very little attention to their health related problems. They often get skin diseases and nail fungus due to too much contact with water. According to the local health official about 20% of women in the commune get gynecological problems (Statistical data of Health Office of the commune, 2003). This rate is said to be decreasing over the years. An official from the Womens Union stated that disease can be the consequences of working longtime in wet conditions (contact with water). They usually come to commune medical aid station to diagnose and heal sickness. Besides, there is a supported program for the poorer women by supplying free drugs. Every year on the 20th October (Vietnamese Womens Day) and the 3rd March (International Women's Day), the medical aid station has free diagnosing, mainly for diseases such as gynecological problems, chronic diseases, and glycosuria, during which time they also supply gratuitous drugs. The poor women are from households that are certified to be in the target group of "Poverty Alleviation Program". This is done by local government.

4. Seasonal calendar

This exercise was also conducted by separate groups of men and women. Participants were asked about seasonal events that have significant impacts on their production activities or their life.

The Seasonal calendars for both the men's and women's groups are presented in Figures 5 and 6

a. The information from men

- For rice: there are 3 crops per year due to the all year round supply of water
 - + In the summer-fall rice: April – July
 - + In the Fall-Winter rice: August – November
 - + In the Winter-Spring rice: December – March (the highest production).
- Cultured fish: farmers stock fish seed into their polyculture ponds in June – July and culture for 6 months to sell for the Tet festival. Differently in Giant gourami monoculture fish always have to be cultured over a year (1.5 year) and therefore sold in September – October if they were stocked in May.
- The farming season of cultured fish is affected by the weather and also by acidity level of the water during the rainy season.
- Dairy cows are farmed all year around. They have been weaned for 3 months, then produce milk for 9 months.
- Pigs are reared with 3 crops per year, piglets/young pigs are produced in their village. The outputs from pig production ie the mature animals are mainly sold for the Tet Festival.

b. Information from women

- Fish: 2 crops per year (January – May; and June – December).
- Fish ponds are usually prepared (draining and liming) in the dry season (January – February) when they stop culturing for about a month ie ponds are empty.
- Farmers mainly culture snake skin gourami and giant gourami in the rainy season and tilapia in the dry season due to high acidity levels in water during the rainy season
- Rice cultivation:
 - + Crop I: January – March (the most profitable)
 - + Crop II: April – July
 - + Crop III: August – December (lowest production)
- Pigs are reared in 3.5 months and mainly sold in the Tet festival.
- Dairy cows are the most profitable farming activity for them and they farm and produce milk all year around, with the young cows being weaned for 3 months.

- Chicken is mainly bought in the Double Five festival (5/5 in lunar calendar) because of the high price. Besides they are also consumed from their own household production.

Mens' and women's' groups were describing similarly about their rice farming, problems of water acidity and also pig raising activities. Fish culture activities were described in more detail by men than women which again indicated that men are involved more in fish culture. Women were more concerned with dairy cow farming and they stated it's the most profitable activity whilst men did not mention this.

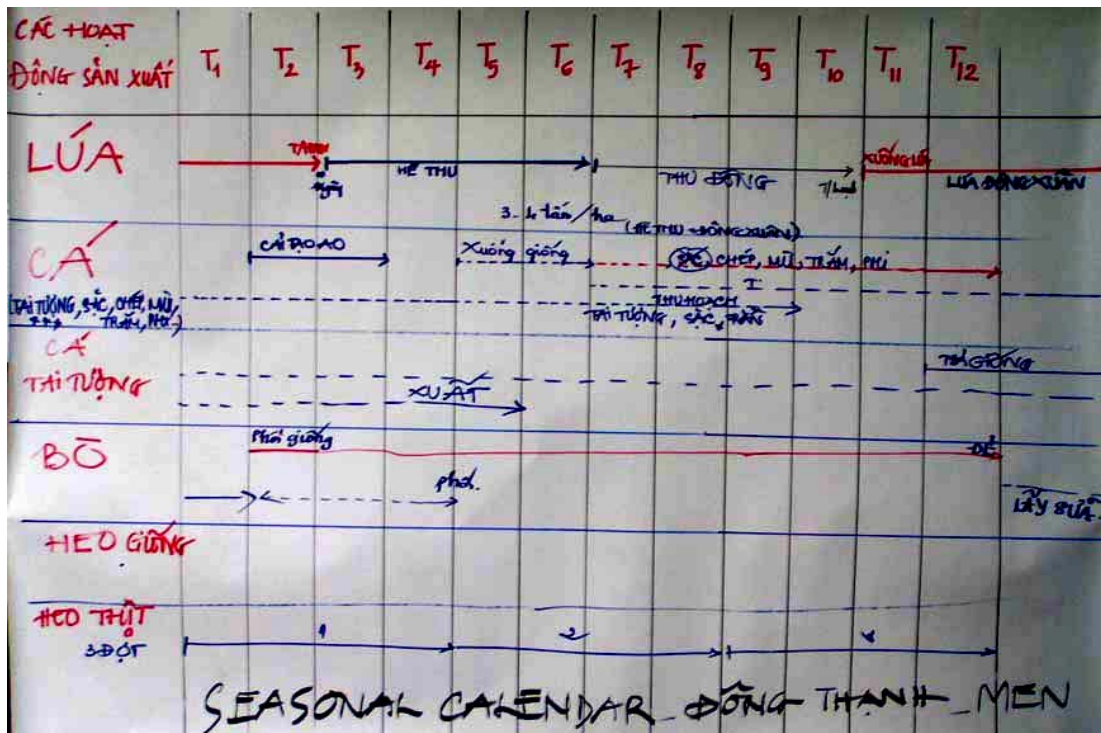


Figure 5. Seasonal calendar of the production activities – from the men's group

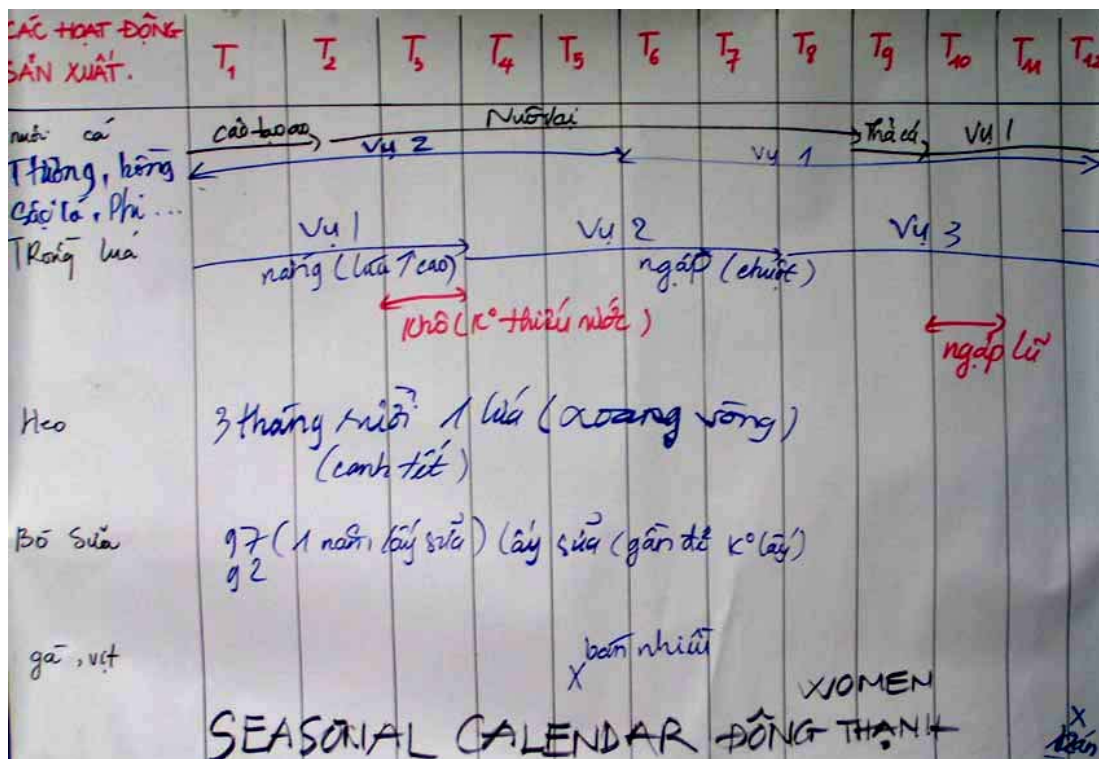


Figure 6. Seasonal calendar of production activities – from the women’s group.

5. Household food consumption and supply sources

Household food consumption was also described by farmers (separately by women and men). In this exercise the participants were giving big sheets of paper to show all of the food items that they usually consume and also how often. Information was collected differently in the mens’ and women's' groups.

Annual household food consumption for the mens’ and womens’ groups is shown in Figures 7 and 8.

a. The information from women

- Rice is the staple food which is consumed all year around. Almost all farmers produce enough for their own needs and consumption within their family.
- Farmers like to eat freshwater fish which they produce themselves.
- They consume pork about 10days per month, mainly in the Tet festival.
- Chickens: farmers produce chicken themselves and eat 3-4 times/month
- Farmers eat morning glory all year around
- Almost all other vegetables they buy

- Expenditure on food is about 5,000 – 10,000VND/day but can be up to 20,000VND/day. They like to eat marine fish very little.
- Farmers don't eat beef because of its high price.
- They like to eat natural/wild collected vegetables more than other vegetables, then morning glory, freshwater fish, and finally pork.

b. The information from men

- Rice is the main staple food which is eaten all year around. Almost all farmers produce their own and consume within their family.
- Pork and beef: the main consumption is pork, people rarely eat beef.
- Freshwater fish: people must buy e.g. catfish
- They like to eat wild fish such as climbing perch and snakehead.
- They must buy marine fish which are usually sold at a lower price and in the form of steamed fish.
- For vegetables they consume morning glory the most, then Sweet potato buds, and cabbage.
- They eat fruit very little.
- Water: they use water from the well for their daily household needs.

CÁC LOẠI THỰC PHẨM THƯỜNG DÙNG .	TỰ SẢN XUẤT				MUA				MUA, TỰ CÓ			
	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆	T ₇	T ₈	T ₉	T ₁₀	T ₁₁	T ₁₂
GRASS												
MEAT (PORK, BEEF)												
FRESHWATER FISH												
SEA FISH												
VEGETABLES												
FRUIT												
WATER												

THƯỜNG DÙNG: CÀO, THỊT (HEO, BÒ), CÁ NƯỚC NGỌT, CÁ BIỂN, RAU, TRÁI CÂY, NƯỚC LŨNG.

TỰ SẢN XUẤT: T₁ - T₄; MUA: T₅ - T₈; MUA, TỰ CÓ: T₉ - T₁₂.

CHỮ GHI CHÚ:

- ĂN CHỖ VẼO THỊT HEO
- BIỂN ĂN THỊT BÒ
- LẤY CÁ NUÔI (MUA: CÁ HỒ, TRÁO)
- CÁ TỰ NHIÊN (NHIỀU): RÔ, TRÁO, TRÈ, LÔNG TONG
- CÁ HỒ, NGỨ, (THU)
- ĂN NHIỀU DO GIÁ RẺ (2.500.3000đ/giá)
- TỰ CÓ: RAU LANG, MUỐNG
- MUA: CẢI

FOOD CONSUMPTION ĐÔNG THANH MEN

Figure 7 Annual food consumption with sources of supply, – the men’s group

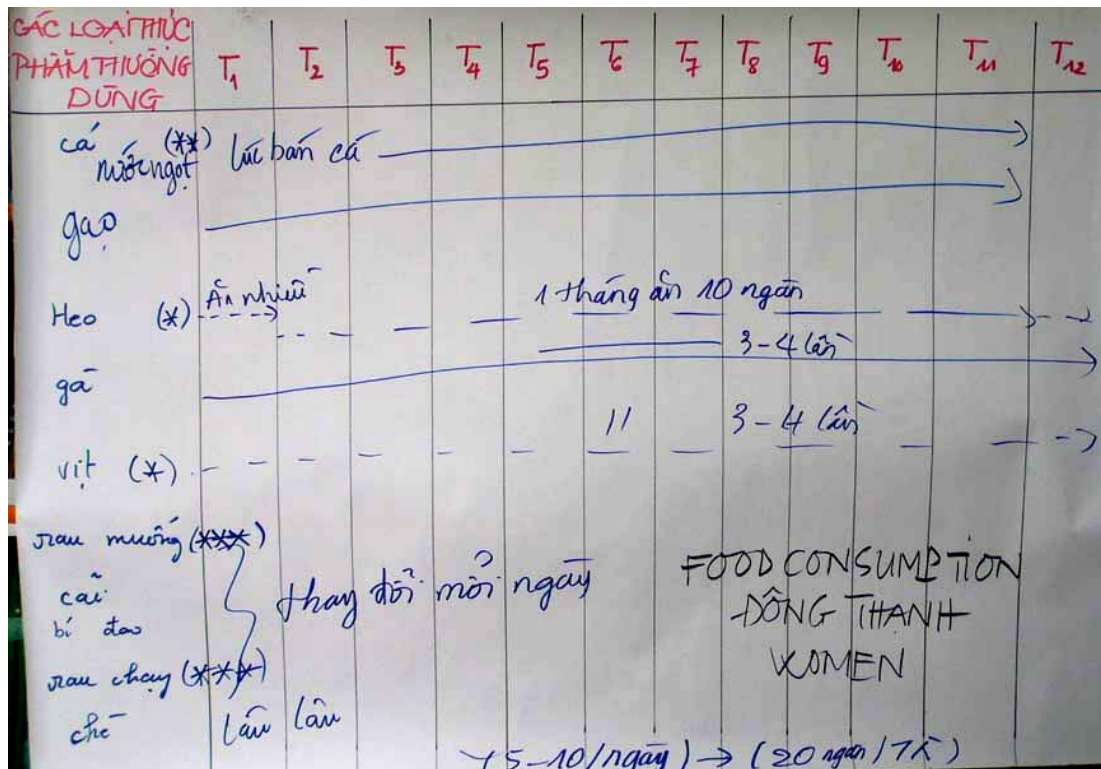


Figure 8 Annual food consumption and sources of supply – the women's group

6. Daily Activities

* The information from women

- They usually get up at 4 – 5am then prepare to have breakfast, do exercise, take bath for pigs and cows and also clean pigs' house. Do milking if they have dairy cows (5 – 6am)
- Work in the field (6 – 11am and 13.00 – 15.00)
- The rest time is around 10 – 12h
- Women work in many jobs during the morning and afternoon
- Fish is not consumed much, mainly during the harvest period

* The information from men

- They often get up at 5am, have breakfast, and take care of cows and bulls.
- Feed fish and cows 2 times per day.
- 8 – 11am they cut grass for the cows/bulls or work in their fields
-

- They are usually free in the afternoon (sometimes, they collect duckweed for feeding the fish).
- At night, they catch wild fish.
- Sometimes there is a meeting at 8 – 10pm

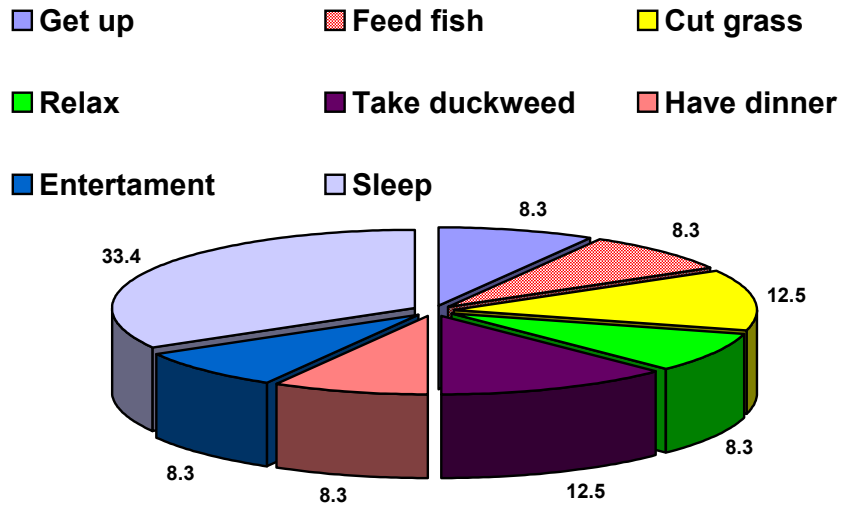


Figure 9. Time distribution of daily activities for the men's group (% of 24h)

HOẠT ĐỘNG TRONG NGÀY	5h	7h 00	9h	5h	10h	11h	12h	1h	2h	3h	4h	6h	7h 00	8h 30
TÁM BỒ	xxx													
CHO BỒ ĂN		x	o	o										
CẮT CỎ			x	x	x	x								
ĂN CƠM TRƯA							xxx	xxx	xxx					
LẤY BẾP		xx									x			
CHO CÁ ĂN												xx		
CÁM CHIỀU													xx	
GIẢI THƯ														xx
NGỦ TỐI														xx
ĂN SÁNG (cá)	xx													
BARUÔNG			xx	x	x	x								
VIỆC NHÀ				x	x	x								
CÀ PHÊ CHIỀU													x	x
ĐÁNH CÁ (kayak)														
LÀM VIỆC (HỒI)			x											

Figure 10. The daily activities of the men

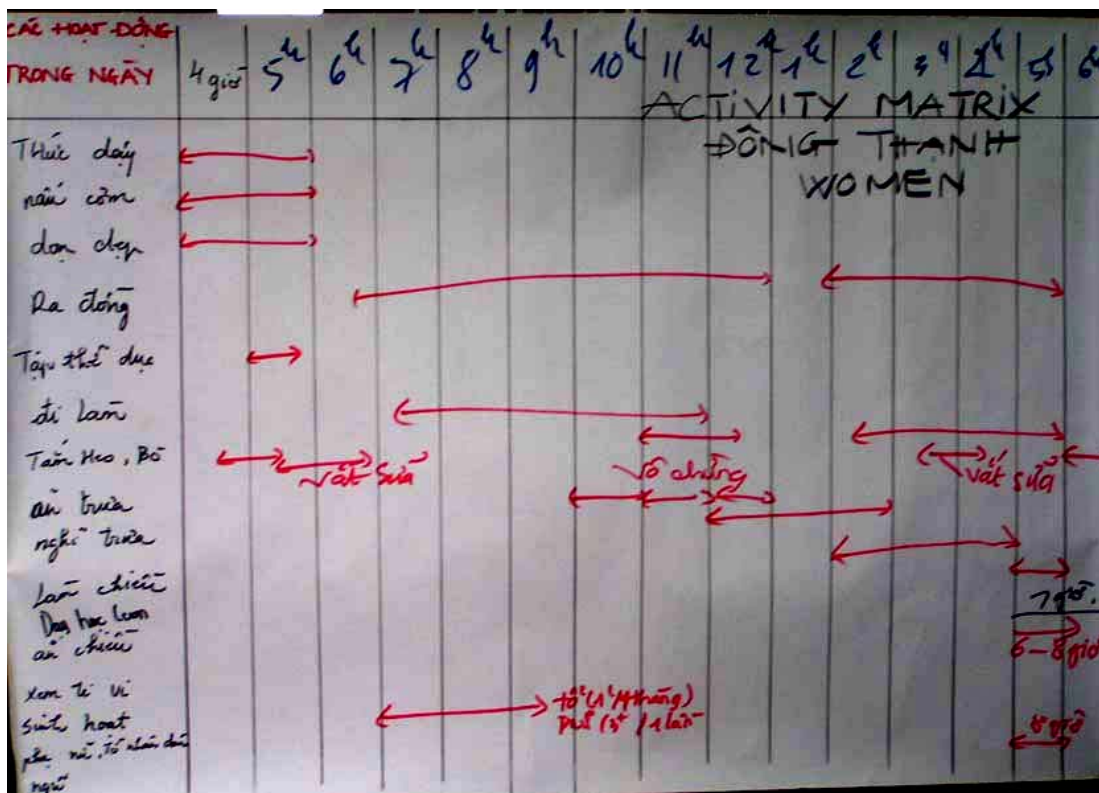


Figure 11. The daily activities of the women

IV. The difficult problems and important events of the community inhabitants

List of difficult problems of the participants:

- Technology: they need more training on fish, prawn farming technology, and the use of drugs to treat fish.
- They hope that there will be a hatchery in the locality so that farmers can be active in their seed selection of good quality.
- The high food price: causes reductions in their profit
- The high seed price: causes reductions in their effective production
- Outputs: farmers are usually constrained with low price due to middle men's controls. In addition small fish size due to inappropriate husbandry techniques was also the reason for low fish prices.
- Farmers want to study and learn the technology behind tilapia propagation/breeding.
- Wastewater: polluted very little, but still influences their agriculture activities.

- Capital: they need support capital for their agriculture activity. However not only for aquaculture development but also interested in dairy cows and milk production.

Table 4 Problems and ranking by farmers

Rank	Problems			Note
	Men	Women	Pool	
1	Fish culture/fish disease prevention technique and capital	Capital	Capital	Need support
2	Availability of seed	Marketing of products	Culture/fish disease prevention technique	Need support
3	High price of feed	Water pollution	Water pollution	Need support
4	Water pollution	Fish culture techniques	Marketing of products/seed source	Need support
5	High of seed	Acid water	Seed production techniques	Need support
6	Marketing of products	Flooding	Pollution from garbage site	No problem at the moment any more
7	Seed production techniques	Availability of seed	Acid water	Able to solve
8			High price of feed	Need support
9			Flooding	Able to handle

Table 4 showed that men and women have different views on their own problems. Technical and capital difficulties are the most important problems. Fish seed availability is secondly important and the third is the high price of fish feed which affects their production profitability. In a different way women were thinking firstly of their capital for aquaculture activities. They are less concerned on technical problems than men. This is relevant as they are usually not involved directly in aquaculture. The second most important problem for women is marketing of their product which implied that women are more involved in marketing of aquaculture products. The third important problem in the women's view is water pollution due to wastewater contamination from factories. Though water pollution is not a concern for men but it very important to women, thus it is the third major problem for the overall group in Dong Thanh. The most important difficulty for farmers in Dong Thanh commune is lack of capital and technical support. Out of the mentioned problems, farmers need outside support to solve their difficulties.

CÁI TRỞ NGẠI VÀ KHÓ KHĂN TRONG VÙNG	PROBLEM RANKING ĐỒNG THANH			XẾP LOẠI
	NAM MEM	NỮ WOMEN	TỔNG CỘNG TOTAL	
Nước thải	11	25	36	3
Sắc phèn	0	15	15	9
Ngập	0	10	10	11
Đầu ra	8	26	34	4
Thức ăn giá cao	13	0	13	10
Chống đất	9	0	9	12
Nhiễm mặn	0	0	0	13
Vốn	35	53	88	1
Rác gây bệnh	0	18	18	8
Kỹ thuật (Ép cá)	4	17	21	7
Cá giống tại địa phương	27	7	34	4
Kỹ thuật h/đào thuốc cá, tằm	35	8	43	2
Tập huấn	13	18	31	6

Figure 12 Difficulties and problems ranking by the participants

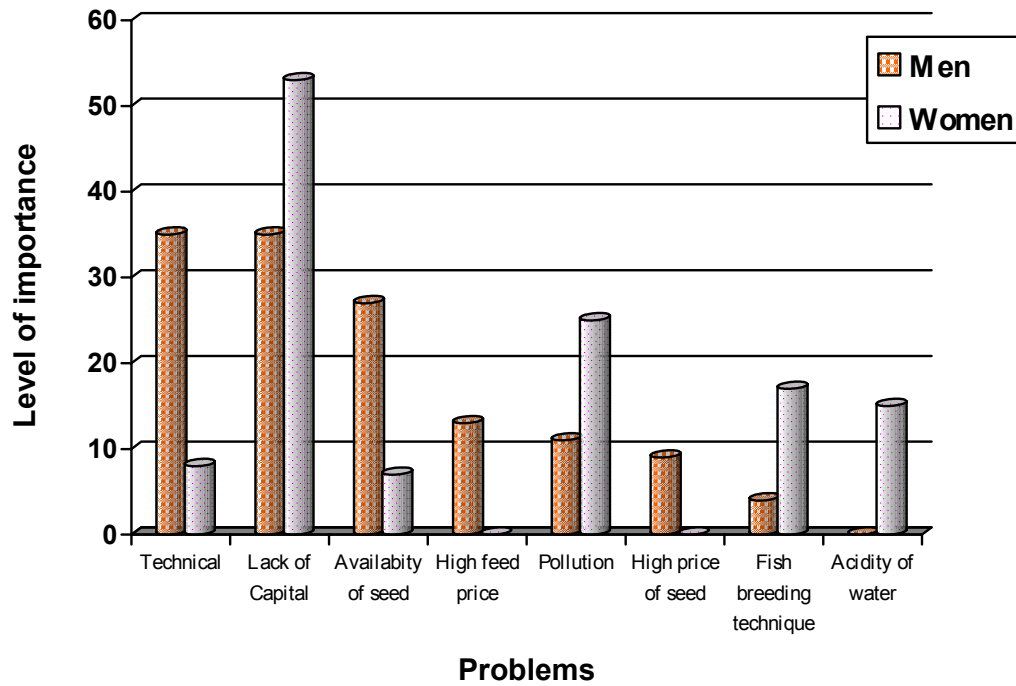


Figure 13 Problems and ranks according to men’s and women’s opinions

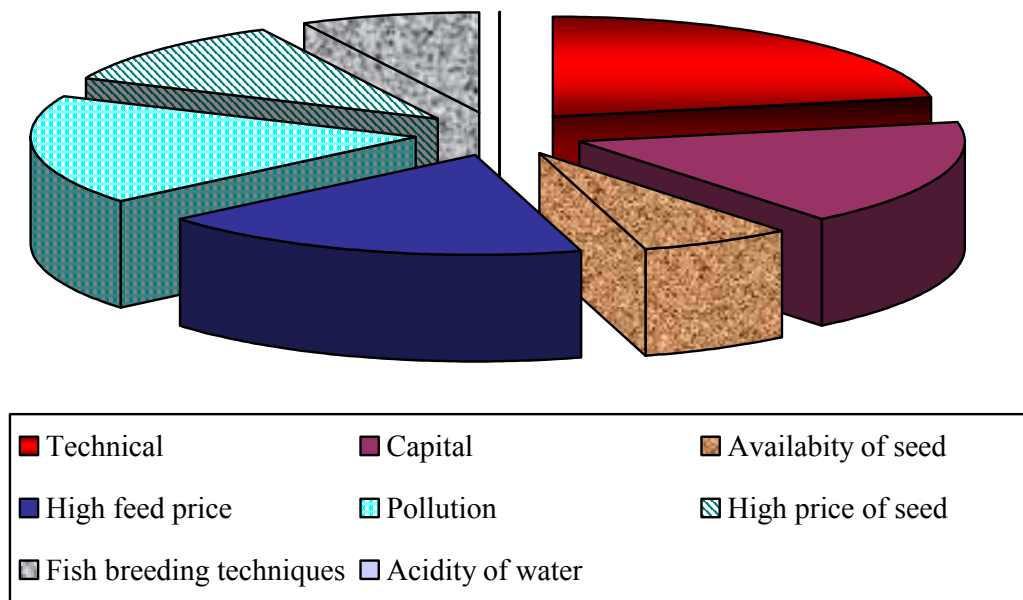


Figure 14 Problems evaluated by participants as a whole group

V. Summary

- Villages 1 and 4 are reserved as agricultural areas of the city in the future, thus will be influenced by urbanization relatively little.
- About 30% of households are engaged in aquaculture
- The main agriculture activities are rice, fish, morning glory and lotus.
- Households' domestic water sources are mainly local wells, but increasingly residents are aware of contamination as a result of effluents released from nearby factories.
- Aquaculture products played important roles in farmers' livelihoods.
- Lack of capital and advice and training in aquaculture/agriculture technology are the most difficult problems mentioned by the participants
- High input and low output prices were also constraints to farmers.
- In general farmers don't really face big problems with their health, except for women's diseases.
- The opinion of the participants was that dairy cows are presently the most financially beneficial production system for their available land use.
- Farmers often support each other to work and vice versa.
- Farmers would like to culture all male tilapia.
- Rice is the main income earning activity, so fish culture can't completely replace rice cultivation in the village, however the two can follow a pattern of parallel development
- The dairy cow replaces pig capability
- Water is available for agriculture activities all year round
- Sometimes the source of water is polluted by the Cloth factory waste in the dry season
- Villages 1 and 4 of Dong Thanh commune are agriculture reserved areas therefore having development potential for a suitable aquaculture development strategy of the commune
- At present about 50% of households in the village farm dairy cows and 30% culture fish in the village.