



INTEGRATED MANAGEMENT OF LAGOON ACTIVITIES IMOLA PROJECT

PRA REPORT

RESULTS OF LIVELIHOOD ANALYSIS BY PARTICIPATORY RURAL APPRAISAL IN QUANG PHUOC COMMUNE

Hue, March 2006



PEOPLE'S COMMITTEE OF THUA THIEN HUE PROVINCE





PRA & SLA REPORT

ON

SUSTAINABLE LIVELIHOOD ANALYSIS
BY PARTICIPATORY RURAL APPRAISAL
TECHNIQUES IN

QUANG PHUOC COMMUNE

- QUANG DIEN DISTRICT– THUA THIEN HUE
PROVINCE

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THROUGH PARTICIPATORY RURAL APPRAISAL
TECHNIQUES
IN
QUANG PHUOC COMMUNE

PART 1.

INTRODUCTION**BACKGROUND OF STUDY**

Lagoon system Tam Giang – Cau Hai is situated on the coordinates of 16°14' - 16°42' Northern latitude and 107°22' - 107°57' Eastern meridian, stretching 70 km along Thua Thien – Hue seashore. Climate of the lagoon system in coastal area is hot and humid. It is supposed to be the largest in Southern East Asia and one of the biggest lagoons worldwide. With great potential of natural resources, the lagoon used to enhance the socio-economic development. However, for the past ten years it has been affected by different factors and has undergone many risks and natural disasters.

Quang Dien district is one of five districts representing for lagoon area in the west of Thua Thien – Hue. It is 30km far from Hue City. The district consists of 10 communes and 1 town, the area is 16,307,7 ha. The population is 90,926 with average density of 558 people/km² (provincial density is 207 individuals/km²). The district owns a horizontal swamp 8.8km long. The lagoon located in the district has an area of 3,490 ha, which creates advantages for this area to develop aquaculture.

Quang Phuoc commune in Quang Dien district which has been selected for the study is 14km far from Hue city, stretching 5km along Tam Giang lagoon, next to Sia town. The income of this commune is still low, mostly depending on agriculture, fish catching and aquaculture farming. Most of land area is salitized and unfertile. Whereas, there are a lot of potentials and good conditions for this commune to extend aquaculture activities. This strength, however, has not been made use of properly, resulting in difficulties in livelihood of the majority of population, especially the fishing community, whose lives depend on catching fish and aquaculture farming.

Based on this situation, IMOLA project is conducting this SLA and PRA survey (PRA) in order to have a comprehensive picture about Socio-economic conditions and find out the solution to the local difficulties.

STUDY OBJECTIVES**General objective:**

To identify problems in the lagoon area, especially the situation of aquatic resources:

- Utilization and Management of aquatic resources (conflicts between aquatic resource use and management).
- Livelihood activities.
- Related individuals/organizations (their responsibilities and practical action)

Specific objectives:

- Evaluate the livelihood of communities in the lagoon area,
- Understand residents' perspectives on resource use, status and trends,
- Perceive responsibilities and practices of all organizations and individuals relating to resource management;
- Learn more about the local plan for more resource management;
- Get information about inputs and outputs market for aquatic resources.

PART 2.

METHODOLOGY

STUDY AREA

Quang Phuoc is selected to be the study area because it represents for a lagoon commune with different kinds of livelihood activities. It is situated on the lower part of Bo river and stretches along the lagoon. The main activities include agriculture, aquaculture, fish catching and other auxiliary careers. 85% of the population earns their living by agriculture, aquaculture and fishery capture; small number of people live on solely natural fishing and the rest of the local are doing the sub livelihood activities like cone hat knitting, carpentry, construction, embroidery . This commune consists of 8 hamlets, of which 5 villages are along the lagoon. Quang Phuoc owns the representations of the lagoon Ecology system and is usually flooded in winter, salt-infected in summer. However, in recent years, Tam Giang lagoon has been affected by different factors. The livelihood of the local residents are facing many problems, many of which are increasingly becoming a concern for many organizations, individuals of society.

DATA COLLECTION

Primary data

The Sustainable livelihood analysis (SLA) and Participatory Rural Appraisal (PRA) are the main approaches, which have been used to study the livelihood holistically. The SLA and PRA share the common value, that putting people in the central position to analyze their situation and sketch out a development plan themselves. Based on the objectives set above, different PRA techniques have been used to collect different information and to empower a number of participants, which have been described in the following table.

No	Applied tools	Collected information	Participant
1	Wealth Ranking	Status of each group of households (wealth off group, better off and, poor groups): - Average income - Household assets - Household labour resources - Debts	Hamlet leaders, community representatives
2	Seasonal Calendar (2 times)	- Climate - Activity calendar - Epidemic disease time. - Labor availability in periods of year - Income - Expenditure - Other information: social and cultural activities in a year , transportation,	Representatives in agricultural and aquaculture hamlets

No	Applied tools	Collected information	Participant
3	Problem trees (2 times)	<ul style="list-style-type: none"> - Big problems in agricultural production, aqua cultural farming and catching - Causes and root causes of the most important problems - Effects of the problems on the livelihoods 	Representatives in agricultural and fishing hamlets
4	Gender analysis (2 times)	<ul style="list-style-type: none"> - Working attendance of male and female - Different gender roles played by male and female 	Representatives in agricultural and fishing hamlets
5	Gender activity day (2 times)	<ul style="list-style-type: none"> - Daily activities of male and female 	Representatives in agricultural and fishing hamlets
6	Historical diagram	<ul style="list-style-type: none"> - Historical background - Vulnerability context - Upheavals and their effects on community 	Agricultural hamlets
7	Mobility map	<ul style="list-style-type: none"> - Community relationships (Male and female, the youth and the old) - Labor migration 	Agricultural and fishing hamlets
8	Map of resources	<ul style="list-style-type: none"> - Natural resource Resources: land area, water ground - Fishing gears, kind of farming 	Fishing hamlets
9	Venn diagram	<ul style="list-style-type: none"> - Community relationships - Support or restriction of these relationships 	Aquaculture farming and catching and Agricultural hamlets
10	Group discussion	<ul style="list-style-type: none"> - Supplementary information for tools, issues of interest such as utilizing and managing aquaculture resource 	Fishing community
11	Semi-structured interview	<ul style="list-style-type: none"> - Number of family members - Activities (Main, extra job) - Place of activity - Income of each household - Schooling status of children - Difficulties of family - Household development plan 	Representative for each agricultural and fishing household
12	Secondary data collection	<ul style="list-style-type: none"> - General data of society used to compare with related practical data and information 	Commune authorities, hamlet leaders

▪ Table 1. Techniques used in SLA and PRA

Semi-structured interview survey. As described in the table, the semi – structured interview technique has also been used to interview representative households directly. Some of the interviewees are selected by local authorities. When having opportunity, PRA members select the rest randomly. PRA team has interviewed 20 households representing for agriculture, fishery and other auxiliary careers. Interview contents focus on household economic conditions and issues, livelihood activities, advantages and disadvantages and development plan of each household in the future.

Secondary data

The secondary data has been collected from commune authorities, hamlet leaders. It has been done in different ways depending on the kind of data and the levels we worked with. It can be described as follows.

At commune level, data is collected mainly based on written documents of the People's committee and those from different departments in the commune. These include periodical Reports on local Socio-Economic situation, Plans for Socio- Economic Development for 2001-2006 and Task Orientation in 2006, Reports on Local Security and Defense in 2005, Report on the land management and report on governance for period of 2005-2010.

DATA PROCESSING

Secondary data including reports of the communes and villages, preliminary report of IMOLA are collected and referred. The data have been used to compare and contrast with primary data gathered during PRA. Based on these data, we have preliminarily synthesized, analyzed both source of data rightly in the field. A draft report was presented in front of community for verification and consolidation. During the verification, more information has been called out. Back to the office, we have put cleaned data in a structure way for the final report.

PART 3.

OUTCOMES AND ANALYSIS**BACKGROUND OF THE COMMUNE**

Quang Phuoc commune is a sunken area in the lower section of Bo River, next to Quang Tho in the south; Sia town and Tam Giang lagoon in the north; Quang An commune in the east; Quang Dien district capital in the west.

The Historical profile shows that Quang Phuoc commune appeared in 16th century, when it was originally composed of 15 hamlets with 2910 households, 16.000 peoples including 8880 females and 7120 male. Ancestors came from the North, especially from Thanh Hoa. At that time, main livelihood activities were agriculture, livestock raising and field working for feudal rich families. Since the establishment, the commune has undergone historical upheavals, such as the famine in 1945, the small pox in 1947, the flood in 1985, 1999.

In 1997, Under the Government Decree ND 22/CP, Quang Phuoc was divided into two separate administratively areas, which are presently called Sia town and Quang Phuoc Commune. The current Quang Phuoc commune is consist of 8 villages with population of 7724 people coming from 1,774 households. 3 villages laying beside center of District capital (Khuon Pho, Thu Le 3, Thu Le 2 village) specialize in agricultural production and service jobs. Three villages (Phuoc Lam, Phuoc Ly and Mai Duong village) which are located along Tam Giang lagoon work in agriculture production, aquaculture farming and natural catching. Phuoc Lap and Ha Do concentrate on natural fishing. It is noted that Ha Do village appeared long time ago while Phuoc Lap was resettled under the Resettlement program after the radical storm in 1985. Since then, the natural fishers have become permanent residents of Quang Phuoc commune.

The wealth ranking indicates that 18.9% percent of the households are under poverty line in accordance with the criteria set by the community. These families' income is under 100,000 VND/ person. They don't have production equipment, and no motorbike. Their houses are sorted as contemporary grade 4 houses without toilet. And, their debt is under 5 million VND. This group also includes the lonely, the elderly, either women or man headed families with less than two persons being at the labor age.

CAPITAL STATUS**a. Natural Capital:**

Natural capital includes the area and quality of land and water. It also includes the animals, plants and species living on the area. According to the PC's report, the commune is 1,048 ha large of which 509.3 ha are of agricultural area, 161.4 ha of shrimp farming area, 367.27 ha of non-agricultural area, and 161.4 ha of unused land. There are two types of agricultural land. Sand mixed soil, which is around the residential area is used to plant garden, heavy rich soil is used to grow rice. Quang Phuoc commune is 5km along Tam Giang lagoon with 217 ha of lagoon water ground. Since the aquaculture development programme in 1994, 160.4 ha have been converted into shrimp farming area. Natural species in the lagoon are crabs, shrimps and fish of different kinds such as Whip fin silver biddy-Genus genres (ca mon), red snappers (ca hong), six-lined trumpeters (ca ong huong), bald glassy – Genus Ambassis (ca son), Daggertooth (ca lac), muraena (Lech), Goldlined seabream –Genus Rhabdosargus (ca Hanh), Flathead mullet – Genus Mugil Linne (ca Doi), Genus Oxyurichthys (ca Bong). Furthermore, there are some kinds of seaweed, such as green seaweed, soft seaweed, glacialaria which are available in natural lagoon.

b. Social Capital

All citizens are under the social network of unions and get support from it. Union system consists of Women's Union (WU), Youth's union, Ex-serviceman's Union and farmer's Union. Most of women in hamlets are members of Women's Union and benefit from WU's activities. For example, they have participated in the movement of economic development and birth-control programme facilitated by the WU. Moreover, WU is an intermediary unit that helps women to access to credit from Social Policy Banks. It also helps their members to participate in activities of national and international projects. Like women, local men are involved in Farmers' Union (FU) and access to credit and technology from different programs. The youth are provided with vocational training through the Youth's Union. The Youth union also helps the members get the loan for income generation through either their production at site or job abroad. It is said that thanks to these associations, local men and women are supported to promote the effectiveness of available traditional careers, such as: carpentry, bricklaying, cone hat making. They are also trained to new activities for living such as small business in construction materials, petrol, cattle's food, and aquatic products.

The social capital of the local community is manifested by the fact that 8/8 villages have been provincially and locally recognized as "Cultural villages". One of the important criteria for this recognition is the good relationship among villagers. Many families have strong relationships among the family members and are recognized as "Cultural families". Through this cultural movement, local people become very motivated to participate in different social and cultural activities in order to restore and promote good traditional cultural values. As the community is in good position of mutual relationship, it has helped the community members to overcome the difficulties in daily life and natural disasters. According to historical diagram, floods in 1952, 1953 and 1975 damaged all properties, houses and livestock. To deal with these difficulties, people gathered to help each other by rebuilding house from thatch, bamboo, neohouzeaua (a kind of bamboo), and leaf. This is the community strength to improve subsistence.

c. Human Capital

Labor. Total population of commune is 7724 people (3911 females) of which 2,650 people are at the labor age (male is from 18-55, female from 18-45). Thus, commune has plenty of human resources. Local authorities claim that labor here is very hard-working, especially women. They are experienced in agricultural production, aquaculture farming and catching. However, due to the lack of jobs, a great number of young laborers have to leave for seeking another job in faraway areas. According to commune's records, there are 115 individuals working as workers in Ho Chi Minh city, Da Lat, Da Nang, 7 ones are studying in Ha Noi, 25 ones are exported laborers in Malaysia and Taiwan.

Health. Generally the local health has recently been taken better care and public health is improved. Medical network has been established in all the villages. The national health care programs have been well implemented. According to the Health department's report, 100% children are victimized and provided with vitamins, women are trained to better take care of children. Hygienic environment is paid attention to. Malnourished prevention for children is notified and got certain achievement effectively. Health clinic's report showed that in 2005, rate of female disease was decreased to 26.5% (283 people), diarrhea of children dropped down at 8% (54 children) and malnutrition 21.4% (145 children). However, local people have also said in the Seasonal Calendar activity that they often got some common diseases, such as headache, backache and influenza in February and March.

Knowledge and educational level. Education situation has changed dramatically both in quality and quantity since the education's renovation in 2000s. Schools' reports indicate that the achievement of 2003-2004 school year was remarkable, there are 316 children at pre-school level. 938 children go to primary schools. Schooling result

indicates that 22.65% of children gain good record, 46.19% fair, 45.6% average, 11.92% weak and 100% is moved up. High school pupils are 726 ones, while 7.39%, 39.53%, 47.24% and 4.9% is good, fair, average and weak respectively. 12 students passed the entrance exam to University, 2 students to college and 17 students to professional school.

From the mobility map, the educational levels of Agriculture and Fishery community have been described as follows:

Level	Agricultural community	Fishery community
Pre-school and primary school	100%	100%
Secondary school	95%	90%
High school	22,6% (74 students)	2,9%
University	No collected data	5 students (PL and HD hamlet)

▪ *Table 2. Education levels of Agriculture and Fishery community*

d. Physical capital

Infrastructure system in commune is relatively sufficient. There are 2.5km provincial route passing over this commune. 1.3km inner road is built by district's fund. 80% of rural traffic is concretized (except Phuoc Lap hamlet). Commune has one medical station with one doctor, three nurses and basic medical devices. In each hamlet, one person is trained to look after and aid for residents. Kindergarten has 13 classes with 307 children living in 8 hamlets. Two primary schools with 25 classrooms contain 823 students; one secondary school has 12 classrooms with 723 students. In addition, there is a public studying center in commune. Most of hamlets have their own meeting hall. One post office is allocated in the center of the commune. 98% of households access to electricity network, 60% has motorcycles, 90% has media, such as television set, radio, CD player... 10% has telephone. Furthermore, commune has Dong Phuoc petrol station.

Agriculture production is facilitated with three agricultural cooperatives, one intake pumping station and two drainage-pumping stations. There are also three agricultural input suppliers and some private shops providing agricultural material including cattle feeds, fertilizers, etc...

e. Financial Capital

Financial capital of the commune comes from the financial flows such as income, loan, and remittance. The income comes from agricultural production, aquaculture farming, natural catching, service and other careers. According to the communes' financial reports, Gross Output of the commune in 2005 is 33,977,000,000 dong, 25.3% of the commune's Gross Output (GO) come from agriculture products, 21.6% from livestock's, 17.5% from aquaculture and fish capture, 25.6% from hand craft and 5% from service. Average income is 4,350,000 dong/individual/year. Additionally, every year, many families also receive remittance from their children who work far away from home, respectively 4-5 million dong from internal workers, 25-30 million dong from workers in Malaysia and 50-60 million dong from workers in Taiwan.

At present, capital is borrowed from Agriculture and Rural Development Bank, Social Policy Bank and other sources such as rich private owners, GO's and NGO's programs or projects. Total loan is 20 billion dong lent by the Vietnamese Bank for Agriculture and Rural Development (VBARD) and the Bank for Social Policy (BSP), of which 17 billion VND from VBARD bank have been used for shrimp farming, 3 billion from BSP used for service production. The loan of the agricultural family ranges from 3 million to 20 million. Shrimp farmers are usually in debt ranging from 30 million and to 100

million dong. The rest of the families borrow the amount of 5-10 million VND mainly from private rich individuals to carry out their catching activities.

CAPITAL TREND ASSESSMENT

Five resources of Quang Phuoc commune have been changing in different ways. Natural resource was plentiful in the past but it is becoming decreasing dramatically. For example, Farming land area is reducing because of increasing needs for residence of local population and commune inner traffic development. The natural lagoon area has been narrowed down due to the shrimp pond development. Lagoon environment is polluted, aquatic species tend to be running out and many of them have disappeared. Social resource is running in positive tendency due to the good activities of the social networks at family levels and community levels. In terms of human resources, quality of labor force tend to be improved as a result of access to many information channels, training courses of national and international programmes and projects. Intellectual standard of the people is likely to be enhanced. However, the fact that many people are leaving for working away has affected the structure of local labour force. Physical capital, including civil works and infrastructure has been accomplishing.

More and more agents and stations supplying services for agricultural production, aquaculture farming and catching are extended to the area. However, it is noticeable that the financial resources are going in a complicated way. Although agricultural yield increases, profit that it brings about is still low because of the high price of inputs. In shrimp farming, productivity is decreasing, the price is changing and epidemic diseases are spreading. These result in loss and insolvent debts. In terms of natural catching, income reduces since running out aquatic species. In contrast to these, income of remote workers and other service careers is high.

LIVELIHOOD ACTIVITIES

Agricultural production activities

Agricultural production activities include cultivation, breeding, services and other auxiliary careers. In these activities, women do 42% of work, men do 55%, girls do 2.5% and boys do 5%. In terms of breeding, women do 80%, men do 15%, girls do 5%; in terms of auxiliary, women, men, girls and boys do 40%, 40%, 10%, 10% respectively.

a. Cultivation

Production status. In terms of rice planting, winter-spring crop starts in November and ends in May. The Summer-Autumn crop is from May to September. Average productivity is 115-117 quintals/ha/year. Average productivity after winter-spring crop is 47-53 quintals/ha, and after summer-autumn crop is 45-50 quintals/ha. Rice varieties used are 4B, 13/2, Khang dan, TH5, T92. Total area used in agricultural production is 380 ha in 2005. Also in 2005, 16 salt-infected ha was converted to shrimp farming. Besides farming, local people do planting inter crops such as peanut, sweet potato, cassava, watermelon.

Advantages and disadvantages in agricultural production

Advantages. According to commune leader's opinion, Policy "don dien doi thua" "Farming plot concentration" has helped farmers reduce production expenditure because the rice fields are not tattered anymore. Fertilizer, pesticide and level 1 rice variety are provided in hand fully. A pumping station and solidified canal system supply water for fields have been constructed. In particular, inner field traffic system has been completed. Traders buy products in commune at the price 2,200 – 2,400 dong/kg. The maximum net interest is 2 million/ha/crop.

Disadvantages. Problem tree activities started with Problem Brainstorming, which indicate that farmers are facing many difficulties, including mice damaging crops, decreasing price of rice, increasing input supply price, lack of capital, lack of field, sunken field, salt-infected field, hard climate, unstable inner field traffic, costly farming services.

After ranking, it is found that the most important problem is the high price of the supply inputs that making the profit from farmer low despite of high productivity, However, it is said that it is impossible to analyze this problem as it is a natural tendency of any society. Thus the second- ranked important problem "sunken area" is analyzed. This problem mainly faced by Mai Duong's villagers. It is caused by different factors. It is partly because of natural characteristic of low land area. In addition, the lack of discharge pumping systems is the second primary reason of the problem. Farmers said that government in fact has invested to build drainage system for three hamlets of common issues (Phuoc Ly, Phuoc Lam and Mai Duong). However, during the implementation, the system was not installed properly, that bringing benefit to the fields of the two village only, excluding Mai Duong' field. When asked to analyse further why the systems was not installed properly, people could not speak out critically and just said that they did not know. To solve this problem, it is said that the local people and Government should make joint effort to build another system in Mai Duong.

b. Cattle raising

Production status. According to report of CPC in 2005, there are 3,256 pigs (including 1,546 sows, 1,710 porkers), 63 oxen, 51 buffaloes, 5,565 poultry. Income from sow is 4,430,000,000 dong/year, from porker is 2,199,000,000 dong/year and from poultry is 400,000,000 dong/year. Total annual income is 7 billion 29 million dong. Based on practical survey data, each family raises 4-6 porkers with interest from 1-3 million/time/year, some households raise up to 12 pigs but lose 200,000 dong/time after accounting. In addition, some households raise 1-2 sows which give a birth once or twice a year bringing 4-6 million (including expenditure unaccounted by farmer). For poker, it takes from three to four months to finish rising and people can raise two or three round in a year, While Sow can be raised in the year round, porkers are not favored in Winter.

Advantages and disadvantages. Generally, the animal husbandry activities have a few of opportunities to develop. The Commune has established a veterinary group to prevent disease for cattle. Cattle, poultry are injected 2 times in March and August. Every year, the agriculture cooperative provides good service for vaccination. Especially, some farmers are able to access to the technology and loans in raising chickens, super lean pigs under the help of Women and Farmer Association. The feed for pigs are available from garden plants. The market of the outputs is always marketable. However, there often occur animal diseases, such as plasmodium, cholera, typhoid. In addition, according to the commune's leader, the local raisers are not prepared to experiment a new breeding of super poker pigs, which he thinks may bring about more profits to the raisers.

c. Shrimp farming

Production status. Shrimp farming has started in commune since 1994. At that time, most of the raisers are originally rice farmers. 40 farmers and commune officers started to raise tiger shrimp in 20 ha. The gained productivity was 2.5-3 quintals/ha. The farming pond area increased sharply in crops between 1999 and 2000 with 160,4 ha and 321 households involved. The highest yield gained was the one in 2000 with 7.5-8 quintals/ha, bringing about the highest profit since 1994. It was about 45-50 million dong/ha. In the period of 2002-2005, this area remains the same but the yield becomes lower and lower, approximately 4-5 quintals/ha, resulting in heavy loss.

According to seasonal schedule activity, shrimp ponds are usually cleaned and dried in February. The raising starts in March and harvests in July. In term of labor division in

shrimp farming, men account for 80% work in charge of cleaning ponds, feeding and harvesting, while 20% work is done by women who help men take care shrimp.

Advantages and disadvantages. Obviously, the shrimp farming activity has been supported by the government. Under the support of Communist Party, the Government, state banks have delivered a huge amount of money for lending to shrimp farmers. For example, Agriculture and Rural Development Bank lends 50 million dong to any farmer owning shrimp pond of one ha. In addition, the local authorities are so supportive to the shrimp farming that they have issued the land right use certificates to 80% of the pond area.

Despite the favorable conditions provided by the government, the shrimp farmers are facing a lot of difficulties. The problems have been brainstormed by the local shrimp's farmers. They include pollution in ponds, disease, bad quality of breeding, not proper planning, lack of capital, unfavorable climate, over populated ponds, pesticides from rice fields. After ranking, it is found that the most broad and important problem of the shrimp farmers is pollution in ponds.

Analysis. There are many factors causing pollution. Many of them are the problems themselves and some of them are the causes of the other causes. However, the four primary causes accounted are over populated ponds, pesticides from rice field, raw feeds and polluted water from the lagoon. The over population of the ponds are caused by the fact that many people are encouraged to participate in this shrimp activity while the local authorities are not able to manage a proper master planning. In addition, the fact that the ineffective management work of the local authorities is not good enough and farmers' awareness is not high causing the problem too. On the other hand, farmers usually lack of money and feed shrimp by omnivorous food which is cheap and easy-taking. Pesticide is eliminated directly to source of water.

It is noted that the problem of pollution has brought about effects of disease, low productivity. This has trapped people in debts and made their lives miserable.

d. Capture fisheries activities

Fishing situation. The natural fishing activity includes 2 main careers namely fishing corral mostly done by fishers in Ha Do village and gillnet mainly done fishers in Phuoc Lap village. In fishing corral 70% of the work is done by men and 30% by women while men share the same amount of work as women's in gillnet. The period collecting the most products drops from March to April of lunar year calendar while the collected fish become less in the other months and the least in winter.*d..2 Advantages and disadvantages in natural fishing*

The local people have raised different problems. Namely, electric fishing more and more increases; water surface is narrowed down, water environment is polluted; meshes of fishing corral is small; there are few shrimps and fish; corrals are stolen; people lack of fishing instruments. After ranking, few shrimps and fish available is rated as the most broad and important problem presently.

Analysis. There are four primary causes causing aquatic product degradation. The first primary is the narrowed fishing ground, which in turn caused by the policy from the government that converting the natural lagoon ground to shrimp ponds. The pond areas are constructed by the lagoon banks, where used to be the hatchery area of fish, young habitats. In addition, it is said that the local authorities have issued the water use rights to the farmer raising shrimp but did not do the same things to the fishers doing natural capture. The second primary cause is supposed to be the increasing electric fishing gears used by the insider and the outsider of the fishing community.

While the local fishers claimed the poverty factor making people to fish by electric gears, some people from the verification meeting accused the greedy people not the poor people of doing electric fishing. An important factor causing to the electric fishing regards to the management capacity of the local authority, which is still weak. The third primary cause is the polluted lagoon water. This factor is led by the chemicals and waste from shrimp ponds, pesticides from rice field and household waste. Furthermore, the fact that the growing number of people doing the fishing in the negative trend of the lagoon is causing the little natural fish and shrimp available.

ISSUES OF SPECIAL INTEREST

GENDER ISSUE

There is a big different gender relation between men and women in both communities of Quang Phuoc commune. In term of working time, fishery women have to work 14 hours a day while fishermen work 9 hours a day. For the farming community, the working hours of men is also 9 hours a day and women work in 13 hours a day. In addition, women's role in productive work is nearly the same as men's role, which is 55%. But men involved in reproductive work only 31% while women take care of 69% of this domestic work, which usually bring no income and are not well recognised by the family members and community members. Furthermore, men are the people who participate more in the community work (75%) including participating in village meetings, workshops, attending wedding parties. This role helps men a lot in term of relationship, knowledge, information and food.

The use and management of the hydro-biological resources in the lagoon

The hydro-biological resources have been caught by different groups of people. The solely fishers are from the villages of Phuoc Lap and Ha Do. While the Ha Do are using gillnet as their major fishing gears, the fishers in Phuoc Lap mainly use fish corrals and some aggregating device for their living. It is said that 5 % of the fishers in these two villages are using electric fishing. In addition, people from other villages like Phuoc Lam, Phuoc Ly, Mai Duong, Thu le, Khuon Pho are also engaged in fishing in the lagoon. 50% of these groups are reported to be using electric fishing gears, other 30% are using stork and fork for fishing and only 20% are fishing with gillnet. It is concernedly noted that the groups from the neighboring communes are also involving in fishing the lagoon but most of them fish with destructive gears (80% with electric gear, 20% with trawling). The neighboring communes are named as Phu Thuan, Quang Thanh, Huong Phong, Dien Hoa and Dien Hai.

The hydro -biological resource in the lagoon used to be in great amount and variety, but due to the increasing destructive ways of capture, they are degrading alarmingly. Many of the disappearing were the high value habitats. For example, people definitely have not seen or caught species like six –lined trumpeters (ca ong huong), Daggertooth (ca lac), muraena (Let), line shrimp (tom rang), tom bac for last few years. 80% of Genus Rhabdosargus (ca Hanh), Flathead mullet – Genus Mugil Linne (ca Doi), *Siganus guttatus* (ca dia) have disappeared, 50% of natural crap are not seen any more. Through group discussion, some people also said that while the high value species are disappearing, some low value habitats are showing up. These specially include ground shrimp, Japanese shrimp and electric fiscal.

It is recognized that the lagoon management work has been underestimated. While many groups of people access to the lagoon for their living, few of them are responsible for protection and conservation of the resources in the area. At the moment, when asked, local people said the local authorities are the main actors in the management work. However, he reality shows that the local authority (CPC) alone is not enough and not able to control the degradation of the lagoon. Especially, in this case controlling the

electric fishing is a complicated issue that needs the collective effort from different group of people and departments, of whom, the local fishers are found to be the beneficiary from the lagoon and recommended to be the manager of the lagoon.

MARKET FOR FISHERY INPUT SUPPLY AND OUTPUTS.

The shrimp farming supply includes the supply of material utilized from the start to the end of process, namely pond preparation, shrimp care, disease protection and treatment and harvesting. Depending on the distances and the ways of payment, the prices for the input suppliers are different. The entire shrimp seedling is bought at the nursery stations in different areas with different prices. For example, Da Nang nursery station, which is 120 km away from the area sells seedling with 300.000 VND/10 thousand seeds. The nursery stations in Thuan An, 15 km from the area, sells it with the same price. And the nursery stations in Binh Dinh, which is 600 km from the area supplies the seeding to people with 250.000 VND/10 thousand seeds. All of the payments for seedling are "cash", which means that the buyers pay to the sellers' right the stations.

Lime, hat mat, sadamin, clorin and shrimp feed are provided by the local private middle men or small local enterprises like Mr Hoa in Ha Do village, Mr. Dau, Mr. Tieu and Ms. Yen from Mai Duong village right at the pond area. However, some people buying these items with big amount will go directly to the first level supplier or producers for cheaper prices. It is obvious that there are difference between prices of material in different areas. For instance, the lime is sold by the local private enterprises at 450,000 VND/ton but with the same quality of lime if we buy it in Lang Co (about 80km in distance) it costs only 310,000 VND/ton. Similarly, When Samadin is sold at site it costs 7,500 VND/kg, but it would be 1000 VND cheaper if it is bought in Hue, which is far from the area 30 km.

It is noted that although there are differences of the price, the local shrimp farmers are in favor of buying these items from their local private enterprises. It is because of the fact that these private middle men are willing to provide these supplies without payment until the harvest of finished shrimp. In addition, the fact that the shrimp farmers always find difficult financially for the last years, which make the relationship between the shrimp farmers and input suppliers more and more bound.

The bound relationship between the shrimp farmers and the private enterprises not only happens to supply items but also output market too. It is said that there are no single shrimp farmers from the local area who sell their finished shrimp, mainly tiger shrimp to outsiders. The tiger Shrimp are mainly sold to the private enterprises who supply the input during raising time. The local middle men including Mr. Hoa, Mr. Dau, Mr Tieu and Ms. Yen buy the tiger shrimp from the farmers with prices of 70,000 VND/kg of 40 shrimp and with 35,000 VND/kg of small size shrimp. The local enterprises told that the shrimps, after sorted, are usually sold to the packing enterprises in Hue and transported to some processing companies in Da Nang before they are exported to the final consumers abroad.

Unlike the market for farmed shrimps, the natural fish and shrimp market chain is a simple one. The fisher mainly buys net for fishing from Hue, costing 110,000 VND/gram. In addition, the fishers also need boats for fishing but the boats are usually made by their supporting neighbors, charging about 300,000 VND/boat as labor wage. The caught shrimps and fish are brought to the local markets or market in Hue by the local fisher women themselves.

ORGANIZATIONS, INDIVIDUALS RELATED TO THE COMMUNITY AND THEIR SERVICES

Venn diagram shows that the organizations and individuals related to the community include Commune's People's Committee, Department of fishery, District's section of rural development, Province's department of fishery resource conservation, Bank of Social policy, Farmers' Union, Women's Union, Veteran's Union, Youth's Union, agricultural cooperatives, shrimp feed suppliers, private enterprises, Shrimp farmers' groups, District's geographical department, District People's Committee, rich families.

The levels of the influence of these organizations are different from organizations to organizations. For both fishing community and farming community, the closest and the most influential organization is Commune's People Committees. The main functions of CPC are to manage socio-economic development activities and to control the security of the area. In addition, the CPC is in charge of management of the natural resources. In reality, the CPC has helped the local people in proceeding the land use right, supported them in administration, building houses for the poor and the disadvantaged. CPC helps people in natural disasters and inform the seasonal calendar for shrimp farming. However, the local people said that the local authority have some weaknesses need to be improved. For example, the process for land allocation is not fair and the punishment for electric fishing is not strict enough.

Further more, the other organizations and individuals are considered very influential to the livelihood of the local farmers and fishers. Department of Fishery provides people with information regarding shrimp farming, supports shrimp farmers in environment monitoring, technical training and transferring the technology, testing diseases. However, according to local farmers, the fishery department asked for money despite of the quality of test they provided. The private enterprises who have lent money to the shrimp farmers and sold seedling to the farmers are the one who buy shrimp after harvesting. Their strength is to supply inputs at site and later payment, but they usually buy finished shrimps with low prices. Besides, there are some rich families who lend money to the local farmers. These "informal private banks" often asks for high interest (3.5 -5%) from loan they provide. An important organization toward the shrimp farmers are the management board for shrimp farming and shrimp raisers' groups. These groups are in charge of managing the raising activities ranging from informing the seasonal calendars properly and in time, stopping the spreads of shrimp diseases on time.

The District People's Committee (DPC) is of the same importance as the DOFI. This organization issued the land right use certificate both for shrimp farming and residences. The process is facilitated by the geographic department in DPC. DPC also develops programmes for infrastructure development. It is complained that the DPC has issued so many land use right certificate that it causes the overpopulation of the ponds in the lagoon, affecting on the ecological system.

The agricultural cooperatives are helpful in term of providing the services for rice planting such as seeds, pesticides, fertilizers, vaccination. However, these items are provided with high prices. There are also some private enterprises providing similar services to the rice farmers.

It is widely recognized that the local unions like Women's Unions, Farmers' Union are playing an important role in helping the locals to access to loan from Bank for social policy and technologies. The banks, especially the Bank of Agriculture and Rural Development have provided great amount of loan to the local people particularly to the shrimp farmers. The problem is that many borrowers can't not afford to pay back. As a result, this bank is taking the money of new loan of the locals as repayment.

PART 4.

CONCLUSIONS AND RECOMMENDATIONS**CONCLUSIONS**

Quang Phuoc Commune is the commune with variety of lagoon representation and its local residents are earning their living by different livelihood activities. Nevertheless, shrimp farming activity has been putting farmers in dilemma as it has brought about failure, debts after debts. Furthermore, the natural fish capture is dealing with the problem of running out of natural fish and shrimp. Many of species have disappeared. The lives of the fishers become increasingly vulnerable and difficult. Although agriculture is giving high yield but the final profit the farmer gain is low due to the high price of input and services.

The local capitals have been changing over time. Besides some of capitals are going in positive trends, the others are becoming worse and complicated. Remarkably, the natural capital is alarmingly running out. The lagoon is being narrowed down, lagoon environment is polluting and species are disappearing.

The use and management of the lagoon is one of the concerns to those who are interested. Many groups of people are exploiting the resources both insiders and outsiders of the community. And each group of people is using its own fishing gears. Especially, the high percentage of the people using electric fishing gears is from the outside of the community. This has made the management even more complicated. Local people are passive toward the management and rely on the effort of the local authority while the local authorities themselves are not enough and not able to control over the lagoon.

By the end of the Pra, different solutions have been mapped out for development of livelihood activities and conservation of the lagoon resources. The solution raised need collective efforts from different stakeholders. Especially, The Pra has come up with the idea of management of combining the local authority's effort and the community effort and efforts from related departments. The communities are the beneficiary and their lives are affected by the changes of the lagoon. Therefore, every member of the community has to understand that they should be the key persons in managing their resources.

RECOMMENDATIONS

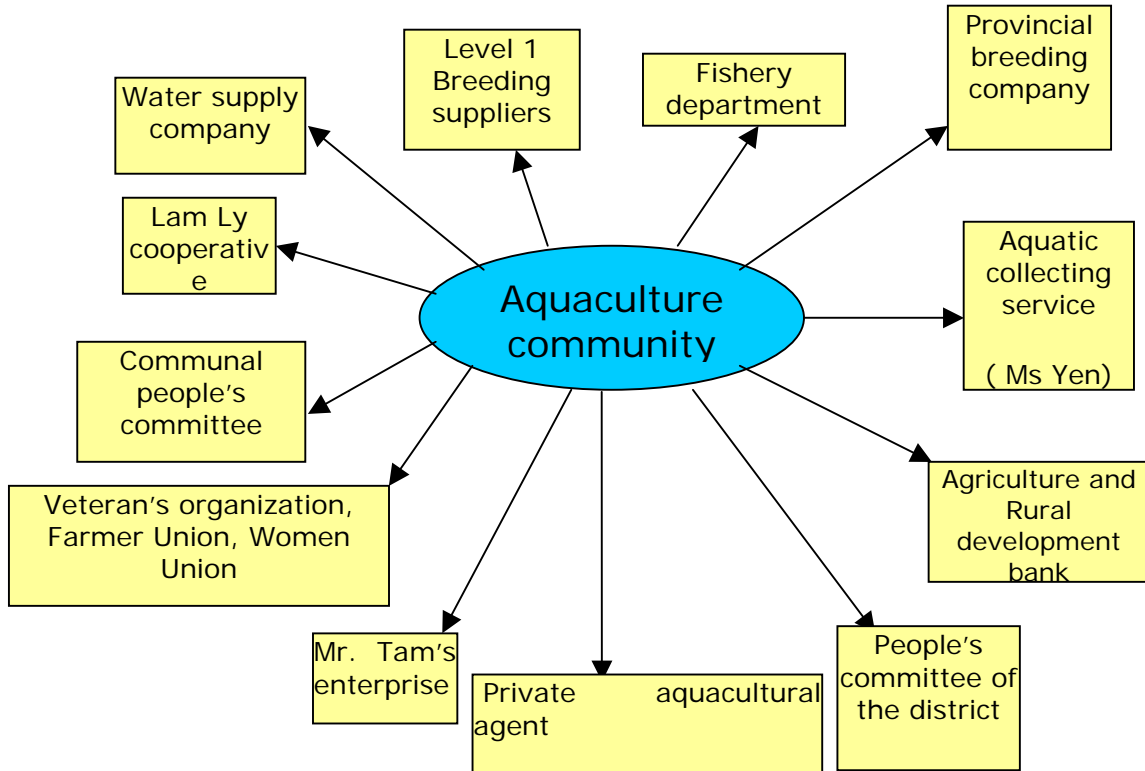
Beside the solutions for sustainable livelihood development, which should be based on the community capabilities. The other activities including advocacy work should be considered as many problems raised by the local people are related to the policy making process and its implementing mechanism. Particularly that is the aquaculture development programme of the government. Definitely this will take time for studying further about the policies and programs before the advocacy can be conducted.

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Venn diagram of Aquaculture, capture and agriculture community

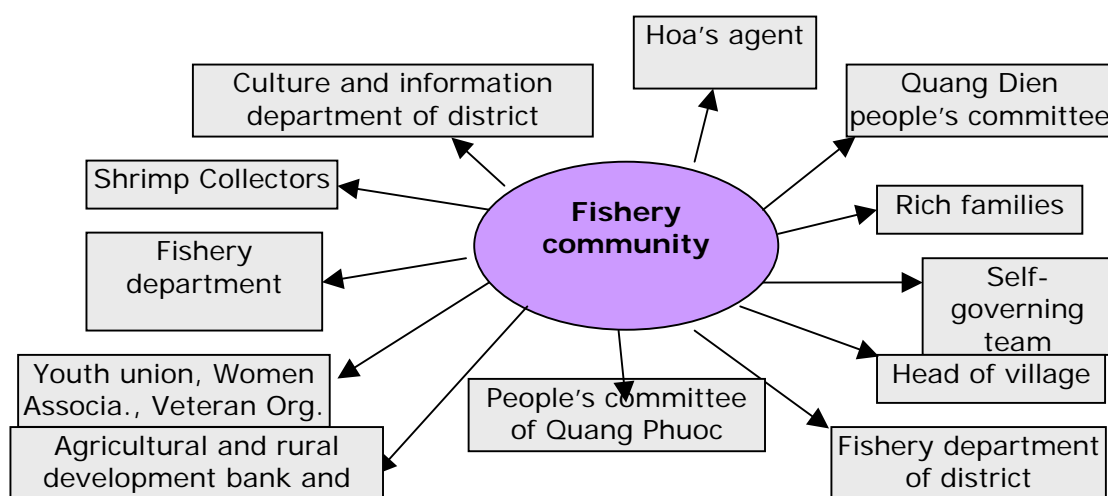
(Phuoc Lam, Phuoc Ly, Mai Duong)



Venn diagram analysis of residential area in Phuoc Lam, Phuoc Ly and Mai Duong village.

No	Name of organization/ individual	Support	Limitation
1	Lam Ly cooperative	Providing breed, fertilizer, medicine	Price is higher than that of the market
2	Commune People's Committee	Administrative procedures, providing people with land, dismissing temporary houses	Unfair in land providing
3	People's committee of the district	Providing aquaculture land, building infrastructure, granting	Too many land use certificates issued affecting environment
4	Aquaculture management board and shrimp farmers' groups	Directing seasonal calendar Deploying agricultural projects such as, solidifying drainage canal, interior field traffic and irrigation.	
5	Aquaculture and rural development bank.	Loaning for aquaculture and animal husbandry	Because the debt is overdue, the State must take new loan for animal husbandry to pay aquaculture debt.
6	Social policy bank	Lending through organizations	
7	Fishery extension center A branch of aquatic benefit protection.	Providing with information, seasonal calendars, weather forecast and environment.	Quarantine costs money and does not obey technology.
8	Provincial breed company	Providing with breed level 1	Price is higher than that of the market
9	Veteran's organization, Farmer's association, Women's association	Organizing activities, loaning	
10	Private agricultural agent	Providing with agricultural materials	
11	Aquatic collecting service	Collecting directly in time.	Buy raised shrimp with low price

Venn diagram of Phuoc Lap and Ha Do villages



Venn diagram analysis of Phuoc Lap and Ha Do villages

Name of organization/individual	Responsibility	Support	Limitation
1. Fisheries department	State administration	Transferring technology	No
2. Quang Dien district's people committee	State administration	Providing scheming land	No
3. People's Committee of Quang Phuoc commune	State administration	Scheme	Late in assigning scheme.
4. Agriculture and social policy bank	Loaning	Delivering loan in time	Collecting interest in advance
5. Fishery department of the district	Lagoon management	Technology, diseases	Late in checking diseases
6. Land office of the district	Providing with land, aquaculture	Providing land	Late in providing records
7. Culture and information office	Propagandizing	Policy of the Party and the State	
8. Organizations	Propagandizing loaning capital	Loan, insurance,	

Name of organization/individual	Responsibility	Support	Limitation
		propaganda of family planning	
9. Head of village	Community management	Directing administrative procedures	
10. Food agent	Selling food	Selling material for later payment	Some household don't sell debt because their debt are too much
11. Aquaculture group	Shrimp management	Transmitting seasonal calendar, putting diseases out	
12. Shrimp collectors	Collecting shrimp	Lending money to buy food in time	Buying shrimp with low price
13. The rich	Lending money to buy food	Loaning capital to fishers	High interests, collecting interests in advance

The seasonal calendar of agricultural villages

Criteria	1	2	3	4	5	6	7	8	9	10	11	12
Weather						Hot	Dry, scarce water		Floods and storms	Floods and storms	Wet and cold	The coldest
Winter- spring rice	Finish sowing	Caring	Caring	caring	Harvesting						Working the soil	Sowing
Summer- autumn rice					Working the soil	caring			Harvesting			
Labor	Gathering, woman labor	Agriculture, woman labor			Man labor				Working far away from home			Woman labor
Income					High income				High income			
Expenditure		Spending most money				Spending a lot						
Diseases	Backache, headache	Flu										
Festivals		Xuan Thu festival (at the beginning of the year)									Ceremonies	

Discussion:

- Financial situation: the most difficult is in January and February
- Labor sources: the scarcest is in May

- Traffic: the most difficult is in September and October
- Food: the scarcest is in February and March
- Life: meeting with advantages in April (borrowing rice), May, June, July
- Spending the most: December, January, February

ANNEX 4

The seasonal calendar of Phuoc Lap, Ha Do (according to lunar year calendar)

Criteria	1	2	3	4	5	6	7	8	9	10	11	12
Weather	Rain and cold	High tide			Sunny, scorching sun, low tide		Flood	Fresh water, flood	Much fresh water	Little fresh water, and cold		fresh rain
Natural fishing	Low income	Low income, high investment	High income, high investment	High income	Discontinuous	Discontinuous	Discontinuous, High investment	Low income			Low income	Low income
Types of shrimps and fish	GROUND SHRIMP	Ground shrimp	Oxyurichthys tentacularis	Oxyurichthys tentacularis	Ciprinus centralus white prawn Rhabdosargus	White prawn	Oxyurichthys tentacularis	Oxyurichthys tentacularis, Siganus guttatus	Small fish (eleotris fusca)			

Criteria	1	2	3	4	5	6	7	8	9	10	11	12
					sarba							
Aquaculture		Cleaning and drying pond	Breeding dropped	Caring and feeding	Feeding	Harvesting	Harvesting					
Labor		Man		Woman			Man					
Diseases	Hunam Flu			Diseases of shrimp	Diseases of shrimp							
Cultural activities Festivals	Pray to God for fish						Offering for good harvest	Getting married				Family union
Community									Difficult in moving			
Economy	The lowest income	Lack of capital for aquaculture	Getting benefits from fishing, spending much on shrimp	Spending much on shrimp		High income from shrimp				Low income		Most difficult

Discussion:

- Economy: most difficult is in December, January, and February of lunar year calendar
- Life: having advantages in June and July

Annex 5

Daily activities of each gender in Ha Do village

(fishing corral and fishing trade)

Time	Women	Men
5-6 a.m	Buying shrimp	Collecting fish from corrals
6-9 a.m	Selling at markets	Cooking, instruments preparation, fixing corral in lagoon
9-10 a.m	Cooking, caring, cleaning houses	Staying at lagoon
10-11a.m	Having lunch	Having lunch
11-12a.m	Washing dishes	Resting
12-13p.m	Resting	Resting
13-14p.m	Selling fish	Doing errands, going out
14-15p.m	Cleaning	Going for a drink
15-16p.m	cooking	Preparing for instruments
16-17p.m	Eating	Eating
17-18p.m	Cleaning	Start corraling
18-19p.m	Watching TV	Corral keeping
19p.m-5 a.m	Sleeping	Sleeping at lagoon
	Phuoc Lap village(natural fishing)	
17 -24p.m	Fishing in lagoon	Fishing in lagoon
24p.m-5a.m	Sleeping	Sleeping
5-6a.m	Selling fish	Washing nets
7-8a.m	Preparing breakfast	Washing nets
8-9a.m	Having breakfast	Having breakfast
9a.m-16p.m	Spreading nets	Spreading nets
16-17p.m	Preparing dinner, feeding cattle	Washing nets
17p.m	Having dinner	Having dinner

Annex 6

Gender role analysis

Gender role	Activities	Participation (% man)	Participation (% woman)	Boy (%)	Girl (%)
Productive role	-Aquaculture	80	20		
	-Aquatic fishing	60	40		
	-Raising	20	80		
	-Aquatic selling	20	80		
	-Total	180	220		
Reproductive role	-Going to market	5	90		5
	-Cooking	30	60		10
	-Caring for children	20	70	2	8
	-Taking children to school	80	20		
	-Caring for the old	40	60		
	-Washing clothes	0	100		
	-Total	175	400		
Community role	-Festivals	60	40		
	-Road cleaning	80	20		
	-Constructing roads	90	10		
	-Joining weddings	70	30		
	-Joining funerals	70	30		
	-Village conference	80	20		
	-Total	450	150		

Problems tree of Agricultural villages

Problems in the community:

No	Big problem	Total mark	Ranking
1	Destruction caused by mice	131	
2	Low- valued	191	
3	Lean crops	70	
4	Expensive materials	267	1
5	Lack of capital	77	
6	Lack of land/field	213	
7	Sunken land	218	2
8	Infertile land	200	
9	Salinity	185	
10	Weather	141	
11	Interior traffic is unstable	198	
12	Agricultural services cost much	203	

Total mark shows that the most difficult problems are:

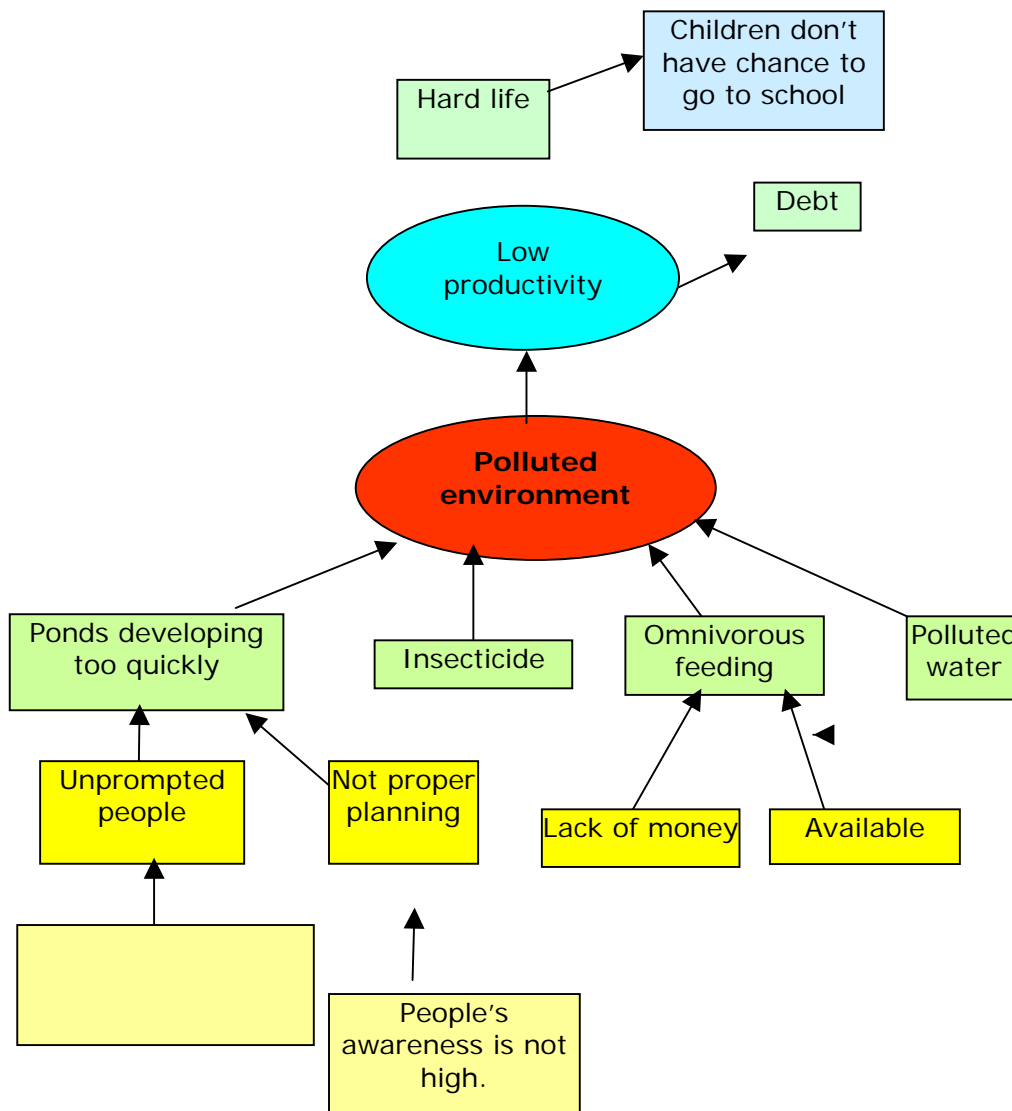
Firstly, expensive materials (unchanged price stipulated by the State and social transition)

And secondly, sunken field.

Analyzing the problem tree of Aquaculture village

No	Big problems	Preference
1	Polluted environment	28 among 30 people considers this problem is important (others do not do aquaculture)
2	Diseases	
3	Breeding is unavailable	
4	Schemes are not synchronous	
5	Lack of capital	
6	Unfavorable weather	
7	Violent pond development	
8	Polluted environment caused by discharging insecticide	
9	Nuoc dau do from the sea	

From the table above, we can see that polluted environment is the most difficult problem.

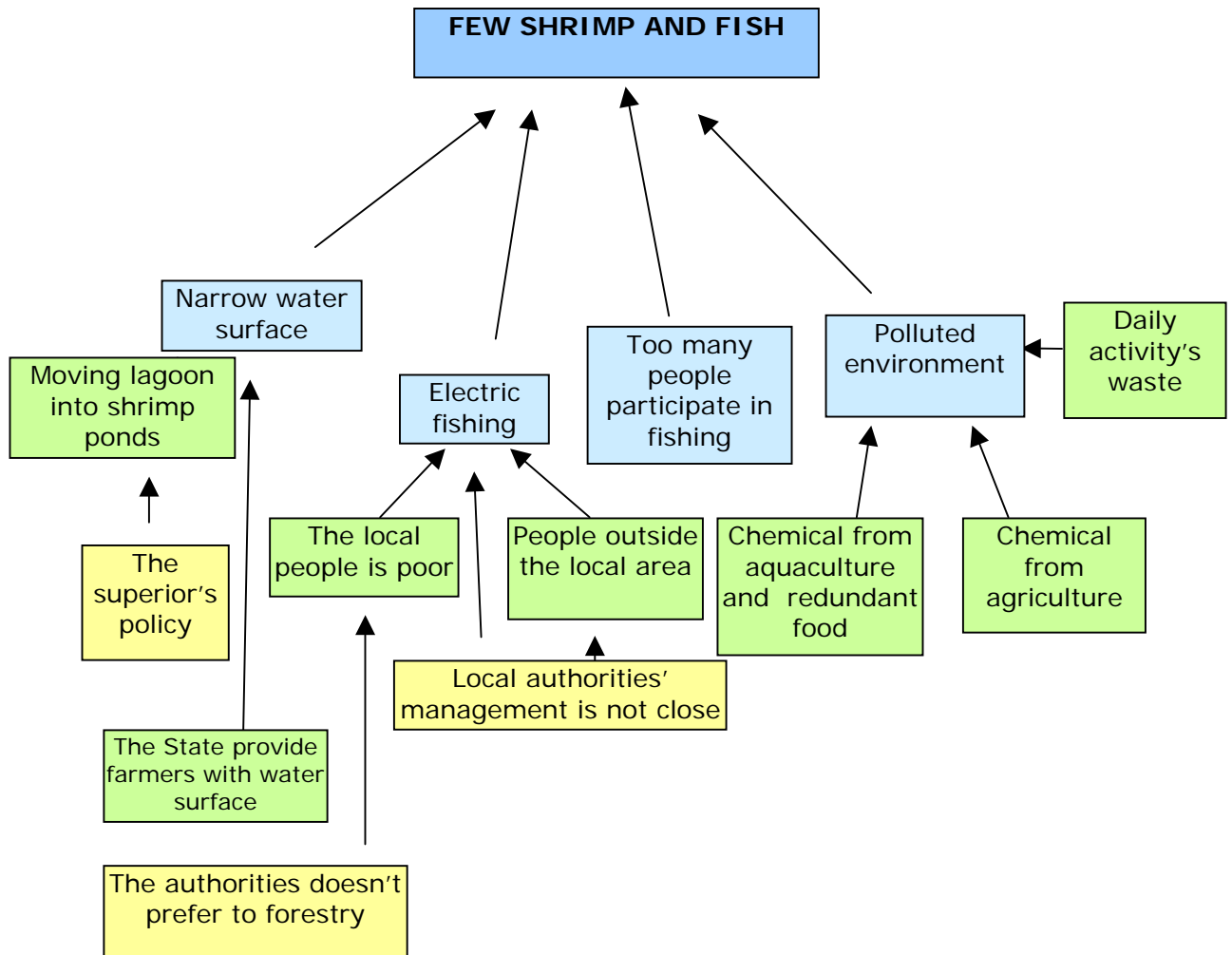


The problem tree of the Capture Fisheries villages (Ha Do, Phuoc Lap)

List of big problems

N°	Big problem	Total mark	Ranking
1	Electric fishing is widely used	16/18	Preference 2
2	Lack of water surface/ water surface is narrowed	18/18	Preference 1
3	Polluted environment	16/18	Preference 2
4	Few shrimp and fish	16/18	Preference 2
5	Stolen corrals	8/18	
6	Lack of fishing instruments	12/18	
7	Net eyes are too small	6/18	

▪ Figure 1. Analyzing the most important problems



The Historical timeline

Time	Event	Impact	Solution
XVI century	<ul style="list-style-type: none"> - 15 villages include 2910 households (8,880 women, 7120 men) - Thu Le village was established nearly 400 years ago. Formerly, it had 8 surnames but now it has 14 ones. This village has over 400 people, most of them migrated from Thanh Hoa province. - Khuon Pho composes of 10 surnames. The last two surnames have 4 subgroups that come from other areas. Main careers are agriculture, raising. 		
1943	<ul style="list-style-type: none"> - Cholera - Famine - Dying of being full 	<p>20% of people died</p> <p>2% of People died</p>	Support from Japanese government
1947	<ul style="list-style-type: none"> - Smallpox 	5% of people died (about 100 people)	People had inoculation from French government
1952	<ul style="list-style-type: none"> - Violent storm 	80% of houses were collapsed	The State supported partly, people hands in hands built houses with bamboo trees
1953	<ul style="list-style-type: none"> - Big flood 	Broken dyde, 5% of houses were collapsed	
1975	<ul style="list-style-type: none"> - Big flood 	Houses and properties were damaged	

1979	- People immigrated to Daklak, O o, A luoi according to The State's new economic policy	Occupying 30% of people having high income	
1983	- Big flood	Broken dyke, 5% of houses were collapsed	
1985	- The 8 th storm	Collapsed house caused one death	
1997	- According to the 22/CP decree, Quang phuoc commune is divided into 8 villages including 7,721 persons, 1404 households (4,210 men, 4,246 women). The number of people at working age is 4,210 (2,736 men)		
1999	- Big flood	2 people died	Much attention from the State, people were provided with houses, food, instruments...

Market of hydro-biological products

Annex 11a.

ASSESSING THE INPUT MARKET

Item	Place	Distance	Cost	Payment	
				Instant payment	Later payment
1. Aquaculture					
Lime	Lang Co	80km	VND 310,000/ton	X	
	Buying retail at local area	0	VND 450,000/ton	X	
Hat mat	At local area		VND 16,000/bag 30kg		X
Chlorin	At home	0	VND 25,000/kg		X
	Hue city		VND 20,000/kg	X	
	At home	0	VND 20,000/kg	X	
			VND 22,000/kg		X
Samadin	At home	30	VND 18,000/kg	X	
			VND 7,500/kg	X	
			VND 7,000/kg		X
	Hue city	30	VND 6,500/kg	X	
Sinh Long shrimp feed	Mr. Hoa's	1-2km	VND 18,500/kg		X
			VND 18,300/kg	X	
	Hue city	30kg			
KB2000	Mr. Hoa's (in Hue)		VND 9,000/kg		X
Pumping machine	community		VND 30,000/hour		
Buying machine	Hue city		VND 8mil./machine	X	
Bamboo tree, pond fixing cost			VND 7,000/tree	X	
Net	Ms. Yen's (in Sia Town)	3km	VND 32,000/kg	X	
Canvas	Hue city		VND 30,000/kg	X	
Shrimp breed	Thuan An	15km (by boat)	VND 30,000/10,000 breedsP15	X	
		42km (by car/motorbike)			
	Danang	120km	VND 300,000/10,000 breeds	X	
	Binh Dinh		VND 250,000/10,000 breeds	X	
Employing			VND 35,000/service	X	

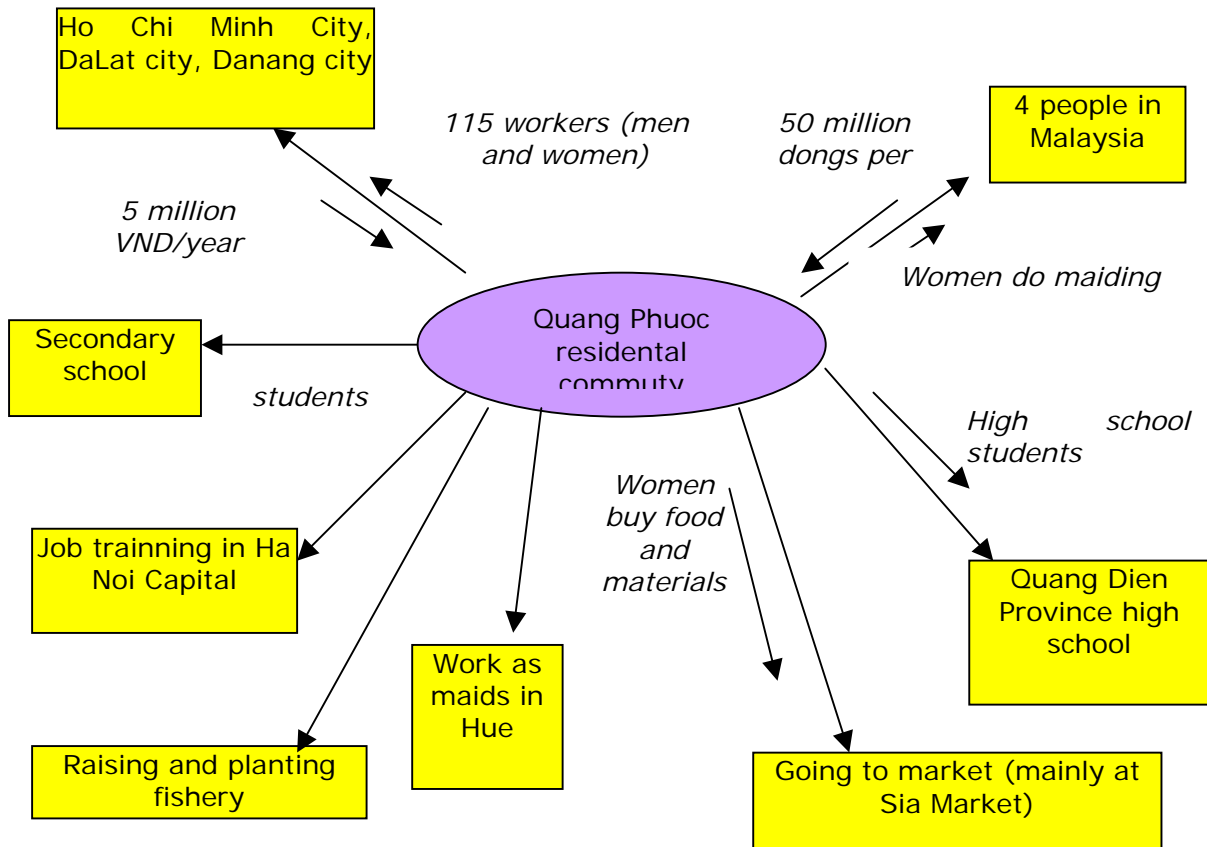
				Payment	
labors					
2. Capture Fisheries					
Junks/boats	At local area		VND 300,000/boat as wages		
Nets	Hue city		VND 110,000/300gram		

Annex 11b:

Assessing the output market

Items	Place	Distance	Price	Payment	
				<i>Instant payment</i>	<i>Later payment</i>
Sugpo prawn	At local area (O Hoa local people - Mr. Thanh in Phuoc Lap village Mr. Ha in Ha Do village Mr. Dau in Mai Duong Mr. Tieu in Mai Duong)	Sold to Hue. Then sold again to Da Nang companies	VND 70,000/kg (40 prawns/ kg)		
	Hue city		VND 35,000/kg (smaller size shrimp)		
Natural shrimp			VND 40,000/kg		
Ground shrimp	Mainly from the above households		VND 50,000/kg (type 1)		
Crab			VND 30,000/kg (smaller size shrimp)		
Oxyurichthys tentacularis			VND 5,000/kg		

Quang Phuoc Mobility map



Annex 13

Wealth rank in Quang Phuoc commune

No	Sorting	Income	Property	Personality
1	Rich group	>200.000 VND/person (obtaining 40%)	<ul style="list-style-type: none"> - Producing materials: boat, buffalos, cows... - Firm house, toilets - Motorcycle - Borrow 50 million VND from bank but not over deadline (do saving) - Shrimp lake 5.000m² - Property total 120 -150 million VND - Personal availability 	<ul style="list-style-type: none"> - 5-7 members - 5 main people
2	Medium group	100.000 VND-200.000VND/ month/person	<ul style="list-style-type: none"> - Have producing materials but not enough - 4 level house, toilet - Motorcycle - 50 million dong in debt (not after deadline) - 15- 20 million dong more in debt (not over deadline), do not have money to send saving - Personal availability - Total property (less than 120 million dong) 	<ul style="list-style-type: none"> - 5-7 members - 2-3 main bread makers
3	Poor group	Less than 100.000 VND/month/ people	<ul style="list-style-type: none"> - Do not have producing materials - Do not have motorcycle - Haft-firmed house at 4 level without toilet - 5 million dong in debt over deadline 	<ul style="list-style-type: none"> - Lonely - more than 5 members - 0-2 bread makers

Results: Group 1: 213 households (11,94 %); group 2: 1233 households (69,11 %); group 3: 338 households (18,95 %)

Annex 14

Gender role in agriculture hamlet analysis

Gender role	Analysis	Men participation (%)	Women participation (%)	Young girls	Young boys
Productive role	- Land making	80	15	0	5
	- Raising seed	90	10	0	0
	- Rice collect	40	40	10	10
	- Raising animal	15	80	5	0
	- Extra job	40	40	10	10
	- Transplant rice	10	90	0	0
	Total	275	275	25	25
Reproductive role	- Go shopping	5	90	5	
	- Cooking, washing	5	80	15	
	- Children taking care	30	50	15	5
	- Help children go to school	50	30	10	10
	- Old age taking care	40	40	10	10
	Total	130	290	55	25
Community role	- Meeting	80	20	0	0
	- Festivals	70	30		
	- Road making	50	30	5	15
	- Hamlet sanitary	30	50	15	5
	- Funeral work	60	40		
	Total	290	170	20	20
Total		695	735	100	70

Gender working day

No	Time	Men	Women	Young girls	Young boys
1	5am: 6am	Sleeping	Cooking	Studying	Studying
2	6am: 7am	Having breakfast	Having breakfast	Having breakfast	Having breakfast
3	7am: 8am	Working	Shopping	Shopping	Going to school
4	8am: 11am	Working	Working	Going to school	Going to school
5	11am: 12am	Having lunch, taking snap	Cooking, having lunch	Helping mother	Helping mother
6	12am: 13pm	Taking snap	Cleaning, cattle caring	Going to school	Going to school
7	13pm: 17pm	Working			
8	17pm: 18pm	Relaxing	Cooking	Helping mother	Helping mother
9	18pm: 19pm	Eating	Eating	Eating	Eating
10	19pm: 20pm	Thresing corn	Cleaning	Studying	Studying
11	20pm: 22pm	Watching TV	Watching TV	Studying	Studying
12	22pm-5pm	Sleeping	Sleeping	Sleeping	Sleeping

List of PRA participants in Quang Phuoc Commune

List of PRA members

No	Name	Sex	Background	Employer
1	Nguyen Thi Cam Tu	Female	Fishery Processing	DOFI
2	Ho Loc	Male		Quang Dien District
3	Phan Hung Son	Male		Quang Phuoc Commune
4	Ngo Van Ke	Male		Quang Cong Commune
5	Hoang Thao	Female		Quang Loi Commune
6	Ngo Trung Nhat Quang	Male	Fishery Extension	DOFI
7	Duong Thi Thu Suong	Female		Phong Dien District
8	Lam Thi Thu Suu (Coach)	Female	Community development	Centre of Social Sciences and Humanities

List of local participants for PRA in Quang Phuoc Commune

Date: Morning of 03/03/2006

Meeting place : Quang Phuoc Commune People's Committee

Techniques: Wealth ranking, Secondary data

No	Fullname	Sex
1	Hoang Loan	Female
2	Truong Thi Thuy	Female
3	Vo Thi Duyen	Female
4	Nguyen Thi Lan Phuong	Female
5	Ho Thi Phuong	Female
6	Duong Thi Thao	Female
7	Nguyen Thi Thanh Thuy	Female
8	Hoang Thi Thuy	Female
9	Ho Thi Do	Female
10	Phan Thi Nhung	Female
11	Le Thi Dung	Female
12	Nguyen Thi Nguyet	Female
13	Dang Thi Le	Female
14	Phan Thi Buom	Female
15	Phan Thi Hoan	Female
16	Vo Thi Minh Hue	Female
17	Ngo Thi Quynh Phuong	Female
18	Phan Hung	Male
19	Phan Mau Phien	Male
20	Ngo Thoi Phong	Male
21	Vo Thanh Dien	Male
22	Le Loc	Male
23	Le Man	Male
24	Dang Phuoc Nam	Male
25	Nguyen Tin	Male
26	Nguyen Phuoc	Male
27	Phan Hai	Male
28	Phan Dien	Male
29	Nguyen Thien	Male
30	Hoang Ngoc	Male
31	Nguyen Thi Cho	Female
32	Le Thi Than	Female
34	Nguyen Tho	Male
35	Ha Dan	Male
36	Nguyen Bac	Male
37	Le Huu Phuoc	Male
38	Phan Gia Khanh	Male
39	Ho Dang Nam	Male
40	Phan Mau Dung	Male
41	Tran Ngoc	Male
42	Vo Duong Hoa	Male
43	Tran Ban	Male
44	Truong Minh Phu	Male
45	Nauven Thav	Male

46	Nguyen Hoi	Male
47	Ngo Thi Duat	Female
48	Nguyen Van Tung	Male
49	Le Lai	Male
50	Vo Quen	Male
51	Le Thu	Male
52	Duong Toan	Male
53	Phan De	Male
54	Le Long	Male
55	Phan Gia Hien	Male
56	Ho Binh	Male
57	Hoang Mong	Male
58	Hoang Hung	Male
59	Phan Hien	Male
60	Hoang Dung	Male

List of local participants for PRA in Quang Phuoc Commune

Date: Morning 01/03/2006

Meeting place: Ha Do hamlet – Quang Phuoc commune

Tools: Seasonal Calendar, Group Discussion, Interview, Problem Tree

No	Full name	Sex
1	Nguyen Cuong	Male
2	Nguyen Vinh	Male
3	Hoang Mau	Male
4	Nguyen Tho	Male
5	Vo Duong Hoa	Male
6	Le Loc	Male
7	Duong Ket	Male
8	Nguyen Bac	Male
9	Phan Hai	Male
10	Nguyen Tin	Male
11	Le Thi Dung	Female
12	Dang Thi Le	Female
13	Dang Thuan	Male
14	Hoang Huu Kham	Male
15	Ho Binh	Male
16	Hoang Huu Chung	Male
17	Vo Thanh Dien	Male
18	Vo Le	Male
19	Le Mon	Male
20	Duong Bo	Male
21	Phan Thi Buom	Female
22	Tran Van Tuan	Male
23	Ha Dan	Male
24	Nguyen Me	Male
25	Ha Thi Lan	Female
26	Nguyen Thi Quyet	Female
27	Nguyen Thien	Male
28	Tran Thi Cai	Female
29	Hoang Dung	Male
30	Le Thi Thuy	Female

List of local participants for PRA in Quang Phuoc Commune

Date: Afternoon of 01/03/2006

Meeting place: Ha Do hamlet, Quang Phuoc commune

Tools: Mobility Map, Gender Analysis, Problem Tree

No	Full Name	Sex
1	Nguyen Cuong	Male
2	Nguyen Vinh	Male
3	Hoang Mau	Male
4	Nguyen Tho	Male
5	Vo Duong Hoa	Male
6	Le Loc	Male
7	Duong Ket	Male
8	Nguyen Bac	Male
9	Phan Hai	Male
10	Nguyen Tin	Male
11	Le Thi Dung	Female
12	Dang Thi Le	Female
13	Dang Thuan	Male
14	Hoang Huu Kham	Male
15	Ho Binh	Male
16	Hoang Huu Chung	Male
17	Vo Thanh Dien	Male
18	Vo Le	Male
19	Le Mon	Male
20	Duong Be	Male
21	Phan Thi Buom	Female
22	Tran Van Tuan	Male
23	Ha Dan	Male
24	Nguyen Me	Male
25	Ha Thi Lan	Female
26	Nguyen Thi Quyet	Female
27	Nguyen Thien	Male
28	Tran Thi Cai	Female
29	Hoang Dung	Male
30	Le Thi Thuy	Female
31	Bui Thi Trang	Female
32	Hoang Thi Ha	Female
33	Le Thi Gai	Female
34	Le Thi Thuy	Female

List of local participants for PRA in Quang Phuoc Commune

Date: Morning, 28/02/2006

Meeting place: Lan Ly cooperative

Tools: Veen diagram, map of resources, semi-structure interview

No	Full name	Sex
1	Le Long	Male
2	Tran Chuong	Male
3	Phan Gia Hien	Male
4	Hoang Loan	Male
5	Duong Toan	Male
6	Le Huu Phoc	Male
7	Nguyen Khoi	Male
8	Tran Ngoc	Male
9	Tran Nam	Male
10	Nguyen Thi	Male
11	Vo Hien	Male
12	Tran De	Male
13	Tran Sang	Male
14	Phan Dien	Male
15	Tran Ban	Male
16	Truong Chuong	Male
17	Le Dinh	Male
18	Huynh Thi Hong	Female
19	Ho Thi Chuyen	Female
20	Ho Thi Phuong	Female
21	Duong Thi Nham	Female
22	Nguyen Thi Lan Phuong	Female
23	Ngo Thi Quynh Phuong	Female
24	Phan Thi Hoan	Female
25	Vo Thi Hue	Female
26	Truong Thi Thuy	Female
27	Vo Thi Duyen	Female
28	Le Lang	Male
29	Phan Gia Khanh	Male
30	Phan Van De	Male
31	Vo Quen	Male
32	Tran Thuong	Male

List of local participants for PRA in Quang Phuoc Commune

Date: Afternoon, 28/02/2006

Meeting place: Lan Ly cooperative

Tools: Mobility map, Gender discussion, problem tree

No	Full name	Sex
1	Le Long	Male
2	Tran Chuong	Male
3	Phan Gia Hien	Male
4	Hoang Loan	Female
5	Duong Toan	Male
6	Le Huu Phuoc	Male
7	Nguyen Kho	Male
8	Tran Ngoc	Male
9	Tran Nam	Male
10	Nguyen Thi	Male
11	Vo Hien	Male
12	Tran De	Male
13	Tran Sang	Male
14	Phan Dien	Male
15	Tran Ban	Male
16	Truong Chuong	Male
17	Le Dinh	Female
18	Huynh Thi Hong	Female
19	Ho Thi Chuyen	Female
20	Ho Thi Phuong	Female
21	Duong Thi Nham	Female
22	Nguyen Thi Lan Phuong	Female
23	Ngo Thi Quynh Phuong	Female
24	Phan Thi Hoan	Female
25	Vo Thi Hue	Female
26	Truong Thi Thuy	Female
27	Vo Thi Duyen	Female
28	Le Lang	Female
29	Phan Gia Khanh	Female
30	Phanvan De	Male
31	Vo Quen	Female
32	Tran Chuong	Male

List of local participants for PRA in Quang Phuoc Commune

Date: Morning, 27/02/2006

Meeting place: Quang Phuoc Commune People Committee

Tools: Interview, Wealth ranking

No	Full name	Sex
1	Le Quang Trung	Male
2	Nguyen Ba Thanh	Male
3	Nguyen Hoi	Male
4	Phan Gia Dan	Male
5	Phan Hang	Male
6	Le Huu Phuoc	Male
7	Pha Phuoc	Male
8	Nguyen Thua	Male
9	Tran Van Tuan	Male
10	Le Doan	Male
11	Duong Toan	Male
12	Tran Thuong	Male
13	Le Boi	Male
14	Le Dinh	Male
15	Hoang Loan	Male
16	Tran Nam	Male
17	Phan Chau	Male
18	Nguyen Thi	Male
19	Vo Duong Hoa	Male
20	Nguyen Cuong	Male
21	Hoang Thi Loan	Female
22	Le Duc Lap	Male
23	Phan Hung	Male

List of local participants for PRA in Quang Phuoc Commune

Date: Afternoon, 27/02/2006

Meeting place: Quang Phuoc Commune People's Committee

Tools: historical diagram, seasonal calendar, gender analysis

No	Full name	Sex
1	Nguyen Tung	Male
2	Le Lai	Male
3	Phan Hien	Male
4	Phan Dat	Male
5	Nguyen Ba Thien	Male
6	Ho Khuu	Male
7	Le Thu	Male
8	Nguyen Hoi	Male
9	Nguyen Ba Khanh	Male
10	Phan Trai	Male
11	Ho Thi Do	Female
12	Hoang Thi Thuy	Female
13	Nguyen Thi Thanh Thuy	Female
14	Le Thi Than	Female
15	Nguyen Thi Cho	Female
16	Hoang Thi Hong	Female
17	Phan Thi Hong Nhung	Female
18	Ngo Thi Duat	Female
19	Phan Mau Dung	Male
20	Phan Chau	Male
22	Nguyen Mach	Male
23	Phan Phuoc	Male
24	Phan Mau Hai	Male
25	Nguyen Thay	Male
26	Phan Thong	Male
27	Nguyen Chan	Male
28	Phan Gia Dan	Male
29	Hoang Ngoc	Male
30	Phan Mau Phien	Male
31	Ngo Thoi Phong	Male