

**Provincial Department of Agriculture and Rural Development
Provincial Women's Union
Research Institute for Aquaculture No 1**

**A livelihoods study of fishers and farmers
in
Quang Tri Province**

October 2001

Supported by STREAM Initiative

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Acronyms

| | |
|----------|--|
| DARD | Department of Agriculture and Rural Development |
| DFID-SEA | Department for International Development South East Asia |
| GDP | Gross Domestic Product |
| HEPR | Provincial Commission for Hunger Eradication and Poverty Reduction |
| HCMC | Ho Chi Minh City |
| PRA | Participatory Rural Analysis |
| SAPA | Sustainable Aquaculture for Poverty Reduction |
| STREAM | Support to Regional Aquatic Resources Management |
| VAC | Vuon-Ao-Chuong (Garden-Pond-Animal Pen) |
| VND | Vietnamese Dong (15,400 Dong \approx US\$ 1) |

Acknowledgements

Thanks to guidelines and assistance from DFID-SEA, these livelihoods studies were conducted in the two communes of Ta Long in Dakrong District and A Tuc in Huong Hoa District in Quang Tri Province.

The livelihoods analysis methods referred to in the report were introduced by DFID-SEA and the Research Institute for Aquaculture No 1 at two training workshops in Thai Nguyen from 13-15 February 2001 and Quang Tri from 20-24 August 2001 where the handbook on "Livelihoods Analysis and Participatory Rural Appraisal (PRA)" by RIA-1 and DFID-SEA were used as training materials.

The implementation process was facilitated by a range of organizations including the Provincial Department of Agriculture and Rural Development, the Provincial Women's Union, the People's Committees and the Agriculture and Rural Development Offices. We would like to extend our sincere thanks to the above-mentioned institutions and organizations who have kindly supported us in preparing this report.

EXECUTIVE SUMMARY

This is the report of a livelihoods study team working together with villagers from two communes in Quang Tri Province, Vietnam: Ta Long Commune in Dakrong District and A Tuc Commune in Huong Hoa District. The study is based on information provided by members of the communes, who shared their knowledge and spoke about real problems they face with their livelihoods. This study was conducted from 10-22 October 2001. The team worked with key informants in two communes who volunteered to participate and represented the households in the village.

The commune members rely mainly on agricultural activities, largely depending on rice. Other income is from self-sufficiency cassava, potato, rice and maize. The annual per capita income for poor families in these two communes is between 180-186 kg of unhusked rice. Farming practices are based on traditional experiences and are quite 'old-fashioned'. The geographical location of the communes is complicated and difficulties in economic life mean that the transport infrastructure is underdeveloped. At village level, people transport commodities by carrying them in baskets on their backs.

Infrastructure facilities are poor. While the commune has several primary schools, these are housed in makeshift and unstable buildings. Access to lower secondary school is limited. Health care is equally rudimentary, with health care stations housed in lower grade buildings. The national network has not yet provided an electricity supply to the commune so it has to use mini hydro-power motors and only ten households (in Ba Hy Village) are able to benefit from these.

There is no village or commune market and farmers find it hard to sell their produce. This compels farmers to be self-sustaining in their farming methods, so that when produce grown, it is consumed by the family itself. This in turn imposes a greater burden when people are disadvantaged in their lives.

Generally speaking, the poor people in Ta Long and A Tuc Communes are disadvantaged in terms of land, credit, labor, knowledge and information and are often exposed to risks. Economic effectiveness was found to be low, and a large proportion of land area was not being utilized in efficient ways. Many places are being left unclaimed. Credit loans were also not being used effectively. Basic infrastructure has not been fully set up, and production development areas were not reflected in commune plans. Low education levels, lack of planning of family expenditure and production, and common diseases and illnesses are significant challenges to socio-economic development. However, each commune has its own diverse and plentiful natural resources waiting for scientific and efficient exploitation.

1. INTRODUCTION

1.1 Background

The purpose of this livelihoods study is to help us understand and assess the real situation of local social life and use the information obtained as a basis for planning for assistance, so that the livelihoods of poor people can be sustained and continually improved. The two communes selected for this livelihoods study are two extremely disadvantaged communes in Quang Tri Province. These two communes are involved in Vietnam Government Program 135.

1.2 Overview of the current situation in Ta Long and A Tuc Communes

1.2.1 Ta Long Commune

Geographical location

Ta Long is a mountainous commune of Dakrong District, Quang Tri Province. It borders Hai Phuc Commune and Phong Dien District of Thua Thien Hue Province to the east, Banang Commune and Lao PDR to the West, Dakrong Commune to the North, and Avo Commune to the south.

Topographical features and distribution of population

The commune has many cuts and crosses created by hills, mountains, streams and rivers and this makes travel difficult. The population is small and scattered along National Highway 14, 40 km from the district town.

Natural conditions

Ta Long has a large area of natural forest covering 18,570 ha. The area for agriculture comprises 422.3 ha, accounting for nearly 2.3% of the total land; forestry land comprises 5,539 ha, or nearly 30% of the land area; garden land comprises 42.5 ha, equal to 0.2% of the land area; and the upland rice area is 211.3 ha, just over 1% of the land area. The per capita farming land area is 1.800 m².

Rivers and streams

Rivers and streams are plentiful in this area, but the Dakrong River is the biggest of these. Smaller rivers include the Ba Ngay, Xi Pa, Ta Lao and Ta

Long, and the Lang Chai (fishing village) and Lang An (An Village) streams. The rivers and streams are all endowed with high-value species of fish and shrimp.

Social conditions

Ta Long commune has nine villages: Ke, Trai Ca, Ly Ton, A Du, Ta, Ba Ngay, Ta Lao, Ba Hy and Xi Pa.

Ethnic groups

There are three main ethnic groups: Ba Hy, Van Kieu and Kinh. The biggest of these communities is the Van Kieu community which represents 80% of the commune population.

Labor force

In the commune as a whole, there are 2,398 people living in 399 households. The labor force is as much as 27% of the population (691 people). The commune has 245 poor families of 1,539 people (69%), 53 political beneficiary households¹ (17%), and 91 'hungry' households (23%).

Economy

The commune produce is largely agricultural. The only other income is from self-sufficiency cassava, potato, rice and maize. The annual per capita income is only 185.8 kg of unhusked rice. The infrastructure facilities are poor: the national network has not provided an electricity supply to the commune so it has to use mini hydro-power motors. Only ten households (in Ba Hy Village) are able to benefit from these. Farming practices are based on traditional experiences and are quite 'old-fashioned'. There have not been major changes in people's lifestyles, and many 'old-fashioned' rituals still exist.

Transport

The commune land is divided by 21 km of National Highway 14 and 4 km of the inter-village road from Ba Hy to Ta Lao.

¹ These are households that contributed to the revolutionary cause, or who are war invalids or martyrs.

Education

More than 80% of the commune members are illiterate.

Health care

There is only one health care station and this is run down.

1.2.2 A Tuc Commune

Geographical location

A Tuc is a mountainous commune of Huong Hoa District, Quang Tri Province. On its eastern border is Dakrong Commune; to the west lies Xy Commune and the Lao PDR. It borders A Doi Commune to the south and A Xinh Commune to the north.

Topographical features and distribution of population

The topography of A Tuc is less complicated than Ta Long with fewer hills and mountains, so travel is easier. Most families live along the main road of the commune, and the remaining families live in hamlets.

Natural conditions

The agricultural land is large, covering 3,030,900 ha, while natural forest area is just 1,200 ha. There is a short-period crop area of 38,714 ha and an upland rice area which covers 168 ha. The Xe Pon River and many streams run through the commune.

Population and social structure

The population of the commune (1,646 people in 297 households) is distributed among the nine villages of A Soi, Ra Hang, Tang Co, Ky Noi, A Sau, Ba Linh, Huc, Pa Lu and Lia.

Ethnic groups

The three ethnic groups living in the commune are Pa Ko, Van Kieu (majority) and Kinh.

Labor force

The labor force is as much as 27.5% of the population, or 454 people. There are 168 poor households (56.6%), 121 political beneficiary households (40.8%) and ten 'hungry' households.

Economy

The major economic activities are agriculture and upland farming. The main sources of income are from potato, cassava, rice and maize. The per capita income is 181.5 kg of unhusked rice per year.

2. METHODOLOGY

2.1 Livelihoods study team

The Livelihoods study team included:

- Trinh Quang Tu, staff of Research Institute for Aquaculture No 1
- Mai Huong, staff of Research Institute for Aquaculture No 1
- Vo Van Phung, official of Quang Tri Fisheries Department
- Nguyen Thi Ha, Women's Union of Dakrong District
- Ho Thi Nhung, Women's Union of Huong Hoa District

The livelihoods study was conducted using PRA methods, mainly village transects, and data collection at the headquarters of Commune People's Committees. The major tools used were Venn diagrams, priority matrices, seasonal calendars, and resources and social mapping.

2.2 Livelihoods study process

The study started on 10 October 2001 and concluded on 22 October 2001. The schedule for activities ran as follows:

- 10 October 2001: Meet with Quang Tri Provincial Department of Fisheries, to discuss the workplan and steps
- 11 October 2001: Work with People's Committees of Dakrong District and of Ta Long Commune, informing people about the plan for the livelihoods analysis in Ta Long
- 12 October 2001: Transect and interview a number of households situated along the main road; afterwards visit a group of families from Ta Lao, Pa Hy and Ba Nga
- 13 October 2001: Meet with households representing different villages; data collection and mapping are carried out; finish the work in Ta Long Commune, Dakrong District
- 14 October 2001: Work with People's Committees of Huong Hoa District and of A Tuc Commune, informing about the plans for the livelihoods study
- 15 October 2001: Transect, observation, mapping, interviews with several people on the road; meet with a group of families living in the villages of Ba Linh, Ky Noi, and A Sau
- 16 October 2001: Visit a number of families, synthesize and edit the data collected; finish the work in Huong Hoa District
- 17 October 2001: Meet at Department of Fisheries on the data collection in the two communes
- From 18–22 October 2001: Write the report.

3. RESULTS OF THE QUANG TRI LIVELIHOODS STUDY

3.1 Labor force

3.1.1 Labor force in Ta Long Commune

The population of Ta Long Commune is 2,398, of which 691 or 27% are of laboring age. This figure shows that children make up a high proportion of the population.

Major economic activities are in agriculture. Traditional practices and experience are important in the daily work of wet rice cultivation, upland rice farming, gardening and husbandry. Table 1 shows that the commune farmers prefer upland crops. This is mainly because of their low production costs.

Table 1 Traditional income-generating practices in Ta Long Commune

| Indicator | Wet rice | Upland rice | Pig raising | Duck raising | Fish |
|------------------------|-----------|-------------|-------------|--------------|----------|
| Major source of income | 4 | 5 | 3 | 2 | 1 |
| Labor-intensity | 4 | 5 | 3 | 2 | 1 |
| High investment | 4 | 1 | 5 | 3 | 2 |
| Effectiveness | 3 | 4 | 2 | 1 | 5 |
| Total mark | 15 | 15 | 13 | 8 | 9 |
| Rank | 2 | 1 | 3 | 5 | 4 |

The majority of people are in good health and capable of performing agricultural activities, but their levels of education are low. The illiteracy rate is 80%, and the 20% of commune members who have some literacy skills left school after primary or lower-secondary education.

Table 2 shows busy and idle times of the year. The idle time of the year falls in July, August and September.

Table 2 Busy and idle periods in Ta Long Commune

| Month | Jan | Feb | Mar | April | May | Jun | Jul | Aug | Sept | Oct | Nov | Dec |
|-------------|-----|-----|-----|-------|-----|-----|-----|-----|------|-----|-----|-----|
| Cassava | | | | | | | | | | | | |
| Potato | | | | | | | | | | | | |
| Upland rice | | | | | | | | | | | | |
| Maize | | | | | | | | | | | | |
| Wet rice | | | | | | | | | | | | |
| Beans | | | | | | | | | | | | |

There is usually a planting-harvesting cycle from January to April. The rainy season is from July to September and this makes labor redundant. From July to September, local people do supplementary work such as collecting bamboo shoots or firewood, hunting and fishing. Rice crops are often meager, so cassava is planted and served as food throughout the year.

Box 1

A family from Ba Hy Village

Ms Py-lai is 26 and lives in Ba Hy Village. There are nine people in her family. Of her seven children, the oldest is ten and the youngest is two. They eat cassava for six months a year, and rice mixed with cassava in the other months. They have to go out to do the very heavy work of pond excavation or rattan collection to earn their living.

3.1.2 Labor force in A Tuc Commune

The main activity is manual farming, based on traditional experience. Again, the old practices in wet and upland rice cultivation, plantation of vegetables and husbandry are common. Table 3 shows that people place greater focus on the upland crop because of its low cost. Husbandry ranks second because it is more costly.

Table 3 Traditional income-generating practices in A Tuc Commune

| Activity \ Indicator | Upland crop | Lowland rice crop | Gardening | Husbandry |
|-----------------------|-------------|-------------------|-----------|-----------|
| Labor-intensive | 2 | 3 | 4 | 1 |
| Main source of income | 4 | 2 | 1 | 3 |
| High investment | 1 | 2 | 3 | 4 |
| Cost-effectiveness | 4 | 2 | 1 | 3 |
| Total marks | 11 | 10 | 9 | 11 |
| Rank | 1 | 3 | 1 | 2 |

The illiteracy rate is 60%, and those who do have literacy skills have only completed primary education. Idle time is from August to November. Table 4 shows busy and idle periods in A Tuc Commune.

Table 4 Busy and idle periods in A Tuc Commune

| Month | Jan | Feb | Mar | April | May | Jun | Jul | Aug | Sept | Oct | Nov | Dec |
|-------------|-----|-----|-----|-------|-----|-----|-----|-----|------|-----|-----|-----|
| Maize | | | | | | | | | | | | |
| Potato | | | | | | | | | | | | |
| Cassava | | | | | | | | | | | | |
| Upland rice | | | | | | | | | | | | |
| Summer rice | | | | | | | | | | | | |

Table 4 shows that A Tuc Commune has less idle time than Ta Long (August and October). Rice is often grown together with cassava and cassava is the main source of family income.

Generally speaking, the two communes have a small labor force. The level of education in Ta Long is higher than in A Tuc.

Box 2

Mr Con Huon's family

There are eight people in Mr Con Huon's family: he and his wife, his five children and his mother. Most of his income derives from upland crops. He sows four vessels of rice seeds, with the average coverage of 3,000 m² per vessel. He harvests only about 60 kg of unhusked rice annually. This yields enough rice to feed the family for three months, so cassava is consumed for the rest of the year. Mr Con Huon has to go fishing to get more food and cash.

3.2 Production inputs

3.2.1 Production inputs in Ta Long Commune

Agricultural production tools

Production tools are quite simple: hoe, shovel, thick knife, axe and fishing net.

Artificial water bodies

In addition to the natural water sources, there are 40 ponds, 20 of which are used to culture fish, some of which are left unused, and the rest used for

irrigation purposes. As an irrigation system does not exist and the commune is not yet connected to the national power network, ten mini-turbines have been installed. These supply power for ten households in the two villages of Ba Hy and Ly Ton. The absence of electricity means many people have little opportunity to keep track of news on TV and radio. In reality the commune has been granted 11 TV sets, but few of them are used and frequency is low. Seventy percent of commune members prefer to use radios.

Transport

The complicated geographical location and difficulties in economic life mean that the transport infrastructure is underdeveloped. Sixteen motorbikes are used to provide services in transporting passengers and commodities on the main roads. At village level, people have to carry agro-products in baskets on their backs.

Pens

Pens are normally made of bamboo, and grazing is a common practice in husbandry.

Housing

Houses are constructed to be simple and temporary: 85% have thatched roofs and bamboo walls. The others are more stable as they are made of wood. There is one brick house.

Animals

Ta Long Commune has 1,300 ducks and chickens, 304 buffaloes, 106 of which are used as draft animals, 164 cows, 34 of which are used as draft animals, and 452 pigs.

Agricultural by-products

Besides rice and some other key products, the commune members grow cassava, potato, maize and vegetables, the by-products of which are used to feed poultry and cattle. There is no processing plant in the commune.

3.2.2 Production inputs in A Tuc Commune

Agricultural production tools

Production tools used include shovels, thick knives, axes, hoes and fishing forks (Table 5). The main fishing tools used are hooks, *do*² and cast nets.

Table 5 Commonly used production tools in A Tuc Commune

| Tools | Hoe | Axe | Thick knife | Shovel | Fishing fork |
|------------------------|------------|------------|--------------------|---------------|---------------------|
| Activities | | | | | |
| Upland crop | | X | X | | |
| Water-fed rice crop | X | | | X | |
| Cassava growing | | | | | X |
| Potato growing | X | | | | X |
| Maize growing | | | | | X |
| Beans of various kinds | | | | | X |

Production materials in A Tuc Commune are more plentiful and diversified than in Ta Long Commune. Its many lakes, ponds and dams are potential advantages in aquaculture development.

Artificial water bodies

The commune has two dams and some lakes. The dams, A Sau and Ky Noi, are irrigation works that feed water into paddy fields.

Some lakes are used for cultivating fish, mostly for household consumption. Lia is the biggest lake (30 ha) and is surrounded by 40 households which catch fish for their own consumption. Fishing activities mainly happen in summer, from February to July.

Water weeds are also collected to feed pigs and ducks, and lake water is used to irrigate paddy fields.

Irrigation system

A 1-km long channel has been dug for irrigation purposes. Twenty-eight hectares of fish ponds belong to Ba Linh and A Xau villages. There is no national power supply and only six households of Ba Linh Village have a mini-turbine.

² A kind of fish trap

Transport

Thirty-five motorbikes are used to transport passengers and goods. Local people usually use back-baskets to carry agro-products.

Pens

Pens are made from bamboo.

Houses

Five houses in the commune are stable, 50% are semi-solid, and the rest are made from bamboo and thatch. Additionally, the commune has 14 TV sets and seventy percent of households are reported to own a radio.

Husbandry

The commune has 47 buffaloes, 321 cows, 312 pigs, and 2,790 chickens and ducks.

Secondary crops

While rice is the primary crop, there are plenty of secondary crops such as vegetables, maize, potato, cassava and mustard. Cattle manure can serve fish culture and agriculture. There is no processing plant.

3.3 Natural resources

3.3.1 Natural resources in Ta Long Commune

Ta Long Commune covers a total land area of 18,572 ha. Of this, 424.3 ha (2.3%) is agricultural land; 5,448 ha (29.5%) is natural forest; 51 ha (0.27%) is reforested land; 42.5 ha (0.23%) is garden land; and 47 ha (0.25%) constitutes an area for the cultivation of perennial plants.

Natural water sources

Twenty kilometers of river flowing across the commune and a total of 8 km of three small rivers are used as water sources for drinking, agricultural production and fishing.

Aquatic resources

Rivers and streams create an abundant aquatic resource supply that both families and markets need. The most important wild species are *mat*, true eel, *trau*, common carp, *roi*, hemicultur (*Hemiculture leucisculus*) and shrimp. Table 6 shows commonly caught species.

Table 6 Commonly captured wild fish and aquatic animal species

| Species Indicator | Mat | True eel | Trau | Common carp | Roi | Hemicultur |
|------------------------------|------------|-----------------|-------------|------------------------|------------|-------------------|
| Tastiness | 3 | 6 | 2 | 4 | 5 | 1 |
| Easy to sell | 2 | 3 | 5 | 4 | 3 | 1 |
| Easy to capture | 6 | 1 | 3 | 2 | 5 | 4 |
| Cost-effectiveness | 2 | 4 | 6 | 5 | 2 | 1 |
| Total marks | 13 | 17 | 16 | 15 | 15 | 7 |
| Rank | 5 | 1 | 2 | 3 | 4 | 6 |

Generally, wild fish are caught to be consumed by families. The reason why common carp has higher value than *roi* is that common carp is easier to sell.

Animal feed

Cattle often graze the hillsides and pasture. Cassava and maize are grown and processed as feed for chicken, ducks and pigs.

Fuel

No fuel resource is found in the commune apart from the firewood which is used for cooking.

3.3.2 Natural resources in A Tuc Commune

Land

The agricultural land is large (3,030,900 ha). This is good for developing agriculture, specifically plant cultivation and husbandry. However, only a small area of forest is available (12,000 ha). In many gardens in A Tuc Commune, various plants are grown simultaneously (Table 7).

Table 7 Plant cultivation in A Tuc Commune

| Indicator \ Plant | Green pepper | Jack-fruit coffee | Mango | Jack-fruit |
|----------------------------|--------------|-------------------|-----------|------------|
| Labor-intensive | 4 | 3 | 2 | 2 |
| High investment | 4 | 3 | 2 | 1 |
| Technical skill needed | 4 | 3 | 2 | 2 |
| Fewer risks of pest damage | 1 | 2 | 3 | 4 |
| Effectiveness | 4 | 3 | 2 | 1 |
| Total marks | 17 | 15 | 11 | 10 |
| Rank | 1 | 2 | 3 | 4 |

The main difficulties faced by commune members are that people lack production investment capital, and that cultivated plants are usually threatened by disease.

Natural resources

One river and four streams provide the commune with water for drinking and production.

Aquatic resources

As Table 8 shows, many aquatic species are found in this area. These include fish, shrimp, soft-shell turtle, *lau* fish, tilapia and common carp.

Table 8 Commonly captured wild fish and aquatic animal species

| Species \ Indicator | Grass carp | Common carp | Tilapia | <i>Lau</i> | Soft-shell turtle |
|---------------------|------------|-------------|----------|------------|-------------------|
| Easy to capture | 4 | 2 | 3 | 5 | 1 |
| Easy to sell | 4 | 3 | 1 | 2 | 5 |
| Tastiness | 3 | 4 | 1 | 2 | 5 |
| Effectiveness | 5 | 4 | 1 | 2 | 3 |
| Total marks | 16 | 13 | 6 | 11 | 14 |
| Rank | 1 | 3 | 5 | 4 | 2 |

Animal feed

Animal feed is abundant: forest leaves, and a number of aquatic plants and animals such as water-weeds, snails and fish.

Fuel

Mostly wood collected in the forest is used to make fires for cooking.

A Tuc has diverse natural resources, making it easy to develop and diversify farming activities.

3.4 Social resources

3.4.1 Social resources in Ta Long Commune

In Ta Long there are six mass organizations and institutions:

1. Fatherland Front (FF)
2. Veterans' Association (CA)
3. Youth Union (YU)
4. Farmers' Association (FA)
5. Women's Union (WU)
6. Schools (SC)

These organizations and institutions work in close partnership to bring benefits to people. In the last few years, income-generation programs under the Women's Union and Farmers' Association have contributed to poverty reduction work in some ways, although efficiency is not always good and the scope of projects is small. Due to limited education, farmers' cooperatives do not apparently exist.

Figure 1 is a Venn diagram showing the commune members' relationships to the various organizations. (CPC is the Commune People's Committee.)

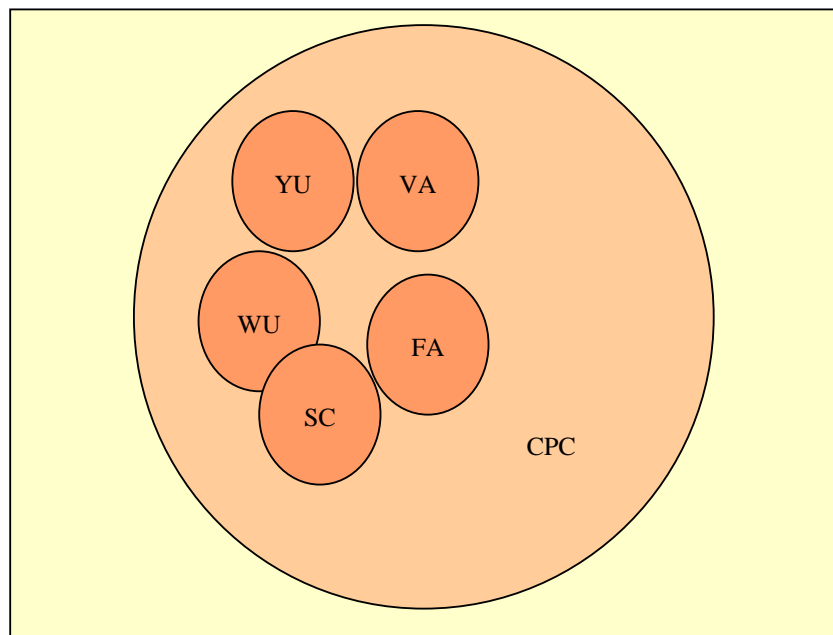


Figure 1 Venn diagram of organizations in Ta Long Commune

Education system

Of four primary schools, only one in the central quarter is in the form of a 4th class building³. The other three are makeshift classrooms built of bamboo and thatch. There are 20 teachers at these schools.

Health care

The commune has a central health care station, a 2nd class building furnished with four patient beds and run by three nurses and a midwife.

Roads

The commune land is bisected by a 19-km section of National Highway 14. There is also a broad inter-village road, but only a 2-km length of this is asphalted. In general, people access their villages on tracks.

Clean water

The Capacity Building for Poverty Reduction (VIE/96/026) project has helped build seven clean water tanks. Four tanks are used by 73 households, and construction of the others is on-going. These will supply water to 18 households.

Market

There is no village or commune market and farmers find it hard to sell their produce. This compels farmers to be self-sustaining in their farming methods, so that when produce is grown it is consumed by the family itself. This imposes a greater burden when people are disadvantaged in their lives.

3.4.2 Social resources in A Tuc Commune

The commune has nine organizations:

1. Fatherland Front (FF)
2. Veterans' Association (VA)
3. Farmers' Association (FA)
4. Women's Union (WU)
5. Youth Union (YU)
6. Elderly Association (EA)

³ A 4th class building is part of a classifying system of houses, which includes five classes. Class 1 is the most solid, and class 5 the least solid.

7. Committee for Caretaking of Mothers and Children (CCMC)
8. Red Cross Association (RA)
9. Schools (SC)

Figure 2 shows the commune members' relationships to the various organizations.

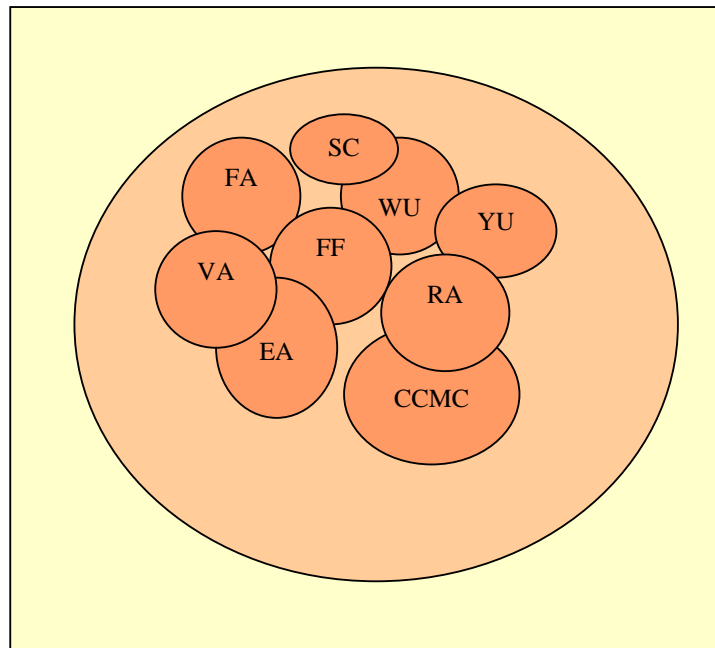


Figure 2 Venn diagram of organizations in A Tuc Commune

The organizations and institutions work in close partnership to bring benefits to people in many ways. Government programs have improved people's livelihoods. Under the guidance of the Standing Committee of the District Communist Party, and with the strong support of the District Women's Union, a project aimed at providing assistance to extremely poor communes has set up effective implementation models, in coordination with the VIE/96/026 project, Agriculture and Forestry Extension Station and the education system.

Education system

The commune has one primary school and one lower secondary school operated by 32 teachers. Pupils attend class in shifts.

Health care

There is one regional-level health care station, a 4th class building with ten beds, one doctor, four nurses, one physician-assistant and two midwives.

Transport

A road connecting Tan Long and Pa Tang communes cuts across the commune. Trails and a 40-km inter-village road are components of the commune transport system.

Clean water

Fifteen tanks have been built for 297 households. These were funded by UNICEF.

Markets

Most agricultural produce has no consumption market.

Generally, the two communes are given consideration by mass organizations, governments and NGOs. However, the low levels of awareness of local people have led to poor utilization and maintenance of their crops.

3.5 Financial resources

3.5.1 Financial resources in Ta Long Commune

Members of Ta Long Commune have hardly any private financial sources. Three hundred and seventy-five households have taken out loans with the Bank for the Poor with a total loan value of 1,249,500,000 VND. This is mainly guaranteed by a trust mechanism between the Bank and District Women's Union.

3.5.2 Financial resources in A Tuc Commune

As in Ta Long Commune, people have hardly any private financial sources. Families borrow loans in cash from the Bank for the Poor, Bank for Agriculture, and the VIE/96/026 project, for the purpose of growing pepper or coffee. Each of 122 loan-receiving households has been allocated 2,000,000 VND.

In addition, non-cash loans⁴ have been delivered with these total values:

- 40 chicken-raising households: 16,180,000 VND
- 57 pig-raising households: 57,000,000 VND
- 17 fish-raising households: 17,000,000 VND
- 16 duck-raising households: 7,000,000 VND

In both of these communes, capital comes from banks or other organizations rather than from commune members' own savings.

3.6 Risks

3.6.1 Risks facing Ta Long Commune

Seasonality

The dry season is from April to July. The Lao monsoon and long-lasting hot weather are the main reason for droughts and subsequently for bad crops (Table 9). The rainy season lasts from August to November and is characterized by heavy rains. This is the season when flash floods most often occur.

Table 9 Seasonality in Ta Long Commune

| Month | Jan | Feb | Mar | April | May | Jun | Jul | Aug | Sept | Oct | Nov | Dec |
|-------|-----|-----|-----|-------|-----|-----|-----|-----|------|-----|-----|-----|
| Rainy | | | | | | | | | | | | |
| Dry | | | | | | | | | | | | |

Natural disasters

The environment has been contaminated by stone exploitation and gold mining. Annual droughts and floods (Table 10) cause serious loss of rice, vegetables and property.

⁴ For example, fish seed can be provided as such loan. People can repay in money, or in the products out of the inputs they were given.

Table 10 History of natural disasters in Ta Long Commune

| Year | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|
| Drought | | | | | | | | | | | | |
| Typhoon | | | | | | | | | | | | |

In 1991, a typhoon heavily damaged vegetables and plants. In 1997, drought resulted in 50-60% of crop loss.

Diseases

The most dangerous and common human diseases are malaria and diarrhea (Table 11).

Table 11 Calendar of human diseases in Ta Long Commune

| Month | Jan | Feb | Mar | April | May | Jun | Jul | Aug | Sept | Oct | Nov | Dec |
|----------|-----|-----|-----|-------|-----|-----|-----|-----|------|-----|-----|-----|
| Malaria | | | | | | | | | | | | |
| Flu | | | | | | | | | | | | |
| Diarrhea | | | | | | | | | | | | |

In the past, epidemic outbreaks of disease among farm animals such as buffaloes, cows, pigs, chickens and ducks happened regularly. Ten years ago a serious outbreak killed large numbers of cattle and poultry, but since then there has been a decline in this trend thanks to the application of vaccines. Table 12 shows typical animal diseases for this area.

Table 12 Animal diseases in Ta Long Commune

| Animal \ Disease | Pigs | Chicken | Duck | Buffaloes and cows |
|------------------------|------|---------|------|--------------------|
| Congestion | X | X | X | X |
| White-excreta | X | X | | |
| Food and mouth disease | | | | X |

Impacts of war

Agent Orange and undiscovered mines and bombs are still underground. The remnants of war are still threats to the lives of people here.

Land use conflict

There is no conflict, since land zoning and distribution have been done reasonably.

3.6.2 Risks facing A Tuc Commune

Seasonality

The rainy season runs from August through to mid-October, while the dry season runs from April through to July (Table 13).

Table 13 Seasonality in A Tuc Commune

| Month | Jan | Feb | Mar | April | May | Jun | Jul | Aug | Sept | Oct | Nov | Dec |
|-------|-----|-----|-----|-------|-----|-----|-----|-----|------|-----|-----|-----|
| Rainy | | | | | | | | | | | | |
| Dry | | | | | | | | | | | | |

Natural disasters

Floods and droughts are annual natural disasters. In 1991, a typhoon damaged cassava and banana. In 1994, a typhoon and flash flood devastated rice and vegetables. Some people were killed and a house was knocked down. In 1997, a six-month drought killed rice, vegetables and other plants. Table 14 shows natural disasters over a period of ten years.

Table 14 History of natural disasters in A Tuc Commune

| Year | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|-------------------------|------|------|------|------|------|------|------|------|------|------|
| Drought | | | | | | | | | | |
| Typhoon and flash flood | | | | | | | | | | |
| Typhoon | | | | | | | | | | |

Diseases

In recent years two significant outbreaks of disease have affected the members of A Tuc Commune: cholera and hemorrhagic fever. Table 15 shows the occurrence of these outbreaks.

Table 15 History of human diseases in A Tuc Commune

| Year | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|-------------------|------|------|------|------|------|------|------|------|------|------|
| Cholera | | | | | | | | | | |
| Hemorrhagic Fever | | | | | | | | | | |

In 1998, there was an epidemic of hemorrhagic fever. In 1999, the commune suffered from cholera. Since 1999, better health care has improved the situation significantly.

Among raised animals, disease occurs mainly in March (chickens, ducks, pigs) and July (cows and buffaloes).

Table 16 Calendar of diseases among raised animals

| Month | Jan | Feb | Mar | April | May | Jun | Jul | Aug | Sept | Oct | Nov | Dec |
|---------|-----|-----|-----|-------|-----|-----|-----|-----|------|-----|-----|-----|
| Cow | | | | | | | | | | | | |
| Buffalo | | | | | | | | | | | | |
| Chicken | | | | | | | | | | | | |
| Duck | | | | | | | | | | | | |
| Pig | | | | | | | | | | | | |

In 1994, all the buffaloes and cows died of rapid disease breakout. Since then, the problem has been relieved by use of vaccination.

Impacts of war

Forty-seven children were affected by Agent Orange. Seven of them are helped by an American organization called the American Peace Tree Organization.

3.7 Influences and impacts

3.7.1 Influences and impacts on Ta Long Commune

In the last few years, state policies, typically the Fisheries Protection Ordinance, environment laws, tax laws and irrigation policies have helped people to bring into play their strengths to more efficiently utilize natural resources in their livelihoods.

Besides government support, the commune has received donations from both domestic and international organizations and projects. As a result, people have been given opportunities to access credit, and technical and entrepreneurial knowledge, to improve their lives. However, people's low levels of awareness, tiny investment capital, and lack of demonstration sites, are major constraints. Post-project monitoring and evaluation have frequently not been carried out.

Development trend

As the commune is bisected by National Highway 14 (previously known as the Ho Chi Minh Trail), it has the potential to foster commodity trading and open an agro-product consumption market. When the inter-village road system is completed, people will be able to travel and the central quarter of the commune will become a convenient market place for commune inhabitants.

Population

The population is set to continue to grow, and reproductive health and family planning programs have been established to control the population growth rate.

Environment

Hygiene and environmental protection are both being managed at local government level. In future zoning plans, residential quarters and farmland areas will be specified for reasonable use. The plans will reinforce the prohibition of wild animal hunting and tree-cutting, as well as fishing activities that are harmful to the environment, such as the use of dynamite. Additionally, gardening of perennial plants and hygienic pens of cattle and poultry could be further developed.

3.7.2 Influences and impacts on A Tuc Commune

Government policies such as tax laws, environment laws, land laws and irrigation laws have regulated farming practices and the lives of commune members. Some positive impacts can be seen in all aspects, but these are few. People's levels of awareness and conformation to laws and policies have not reached satisfactory levels.

In addition, both government and non-governmental organizations have introduced programs in the fields of clean water supply, inter-village roads, and upgrading of the education system for the commune. These programs

are meaningful in terms of health protection, traffic improvement and awareness-building for people. Nonetheless, their spontaneous nature and short-term features have lowered efficiency. People's awareness of sustainability is also a problem.

Markets

There is a need to develop and upgrade the transport system, especially the inter-village road network, to facilitate commodity trading and expand consumption markets. Diverse varieties of plants will be grown, including mango, longan, rambutan and other fruits.

Population

Population campaigns need to be reinforced to reduce the population growth rate from 1.2% to 0.9% by 2005.

Environment

The main needs in terms of the environment include the reforestation of barren hills to prevent land erosion, the improvement of environmental conditions, the zoning of animal grazing areas and the stabilization of production.

Fisheries

Reasonable fishing practices need to be implemented and these should be linked with aquatic resources protection.

4. CONCLUSION

Ta Long and A Tuc are disadvantaged communes which have plenty of labor force, but poor technical capacity. These factors make it difficult for the communes to apply advanced technologies in production. Economic effectiveness was found to be low, and a large proportion of land area was not being utilized in efficient ways. Many places are being left unclaimed. Credit loans were also not being used effectively. Basic infrastructure has not been fully set up, and production development areas were not reflected in commune plans. Low education levels, lack of planning of family expenditure and production, and common diseases and illnesses are significant challenges to socio-economic development. However, each commune has its own diverse and plentiful natural resources waiting for scientific and efficient exploitation.

5. RECOMMENDATIONS FOR THE LIVELIHOODS STUDY PROCESS

The livelihoods study in Ta Long and A Tuc Communes has been a complex and challenging process. The study team found several advantages and difficulties:

Advantages

- The five members of the team were all enthusiastic and had experience with survey methods.
- The district and commune governments took an interest in the livelihoods study and smoothed its progress according to the initial plan.
- The commune people were keen and aware of the purposes for the study.

Difficulties

- Many days of continuous rain blocked the section of National Highway 14 which was under construction and led to Ta Long Commune.
- A language barrier was experienced in interviews.
- The information provided by the people and Commune People's Committees was sometimes incorrect or inadequate.