

QUANG NGAI RURAL DEVELOPMENT
PROGRAM (RUDEP) - PHASE 2

Participatory Rural Appraisal (PRA) Report:
Hanh Phuoc Commune; Nghia Hahn District



VIETNAM-AUSTRALIA

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AusAID

Australian Embassy
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Hanoi, VIET NAM

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URS Sustainable Development
in association with Kellogg Brown & Root and
World Wide Project Management Services
Project Managers and Consultants
Adelaide Australia

DONOR AGENCY

AusAID

Australian Embassy

8 Dao Tan Street, Ba Dinh District, Hanoi, Viet Nam

Ph: +84 4 8317754/Ext 175 (Project Officer), Fax: +84 4 8317711

LEAD COUNTERPART AGENCY

Department of Planning and Investment

96 Nguyen Nghiem Street, Quang Ngai Town

Quang Ngai Province, Viet Nam

Ph: +84 55 825701

PROGRAM MANAGEMENT UNIT

No 4 Pham Van Dong Street, Quang Ngai Town

Quang Ngai Province, Viet Nam

Ph: +84 55 816261-6, Fax: +84 55 816260

AUSTRALIAN MANAGING CONTRACTOR

URS Sustainable Development

25 North Terrace

Hackney SA 5069

Ph: +61 8 8366 1000, Fax: +61 8 8366 1001

Program URS Australia Pty Ltd
Manager: Dee Hartvigsen 25 North Terrace, Hackney
International Projects Manager South Australia 5069 Australia
Tel: 61 8 8366 1000
Program
Director: Ted A' Bear
Vice President
Sustainable Development
Fax: 61 8 8366 1001

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Executive Summary

PRA exercises were conducted in late 2003 in Hanh Phuoc Commune. These exercises were undertaken to assist RUDEP to gain a better understanding of household resources and farming systems and is used as a tool to support participatory planning processes. Seven PRA exercises were conducted in the Commune: village mapping exercises; Venn diagram; transect walks; seasonal calendars; linkage diagrams; matrix scoring and ranking exercises; and wealth ranking. The exercises identified opportunities and problems and revealed:

- Transect walks and seasonal calendars highlighted problems with paddy production. These were either due to floods associated with the typhoon season or the cultivation of low yield or traditional crop varieties. Opportunities have been identified to increase crop production and reduce vulnerability to natural disasters through the introduction of new high yield varieties with short duration crop periods.
- Matrix scoring and ranking demonstrated that cattle and pigs are the preferred livestock variety because of low labour inputs, few diseases and high potential profit. Livestock diseases were identified through seasonal calendar exercises and commonly affect households. RUDEP has therefore designed and initiated animal health training activities households to reduce the occurrence of these diseases.
- Transect walks revealed 'hill' or potential forestry land available in the Commune. This land is currently not being utilised to its maximum potential with opportunities identified to develop forestry activities. RUDEP can support forestry activities and utilise this available land and is investigating opportunities to allocate forest land to households.
- Cassava and maize are the most preferred crops because they require little labour, obtain a reasonable profit, have few diseases/pests and are easy to sell. The exercise revealed that 6 crop varieties are most commonly cultivated. RUDEP has identified through seasonal calendars and Home Garden surveys to diversify crop varieties to contribute to increasing household income.
- Linkage diagrams identified strong utilisation of agricultural and livestock by-products in local farming systems. With increased intensity of livestock and crop production systems, more effective utilisation of available resources and by-products will be required.
- Venn diagrams revealed no major conflicts between different groups of households, Mass Movement organisations and Commune Government authorities. The CPC is an important local executing and administrative authority with Mass Movement authorities implementing programs and activities to support households in the Commune.
- Wealth ranking exercises were conducted in 9 Villages in Hanh Phuoc Commune. Household participants identified 3 general class of wealth: rich; medium and poor. Of the 1,385 households ranked, 31% were considered 'poor', 49% were medium, and 20% were rich. The proportion of households considered poor in wealth ranking exercises was higher than the DOLISA poor household figure (23%).
- Poor households were considered those that:
 - Live in poor housing conditions;
 - Have few productive/household assets;
 - Typically lack available household labour;

- Have low income levels or rely on Government support;
 - Have children with low education levels;
 - Have little ability to afford higher quality health services; and
 - Frequently ill or burdened with a disabled or mentally handicapped family member.
- These results reveal that activities targeted towards poor households will need to take into account the resource constraints of poor households. These results will be used identify poor households to participate in RUDEP activities and ensure active pro-poor targeting in the Commune.

The PRA exercises have provided a foundation for RUDEP to facilitate the application of participatory planning activities in Hanh Phuoc Commune. The analysed results of these exercises were fed back to households through Village Planning Meetings. These PRA exercises will provide a foundation for RUDEP activities to respond to needs of the poor. PRA will continue to be a tool used to involve households in planning, monitoring and evaluating RUDEP activities.

1 Introduction

RUDEP is a 10-year poverty reduction and rural development initiative funded by the Australian and Vietnamese Governments that aims to generate income for poor households in Quang Ngai Province. Participatory planning processes are key to implementing RUDEP activities and involve the active participation of poor households. Ultimately, PPP activities implemented by RUDEP identify problems faced by poor rural households and involve these households in developing and implementing activities to overcome these problems.

PRA exercises are considered an important PPP tool that encourages households to identify, plan, implement and evaluate activities. Competency profile assessments identified PRA as being an important skill that staff, particularly RUDEP DDOs, should possess and would improve ability of the Program to respond to the needs of households and facilitate PPP. Consequently, training on PRA that included facilitation skills, conducting different exercises and analysing results was undertaken.

The improved skill levels of RUDEP staff allowed the Program to conduct PRA exercises in all Communes. A range of PRA exercises were conducted with different groups of households in Hanh Phuoc Commune (Nghia Hahn District) in 2003. These exercises were facilitated by Nghia Hahn District Development Officer and Commune Officials to develop a greater understanding of household resources, farming systems, production problems and opportunities.

This report highlights the results of seven PRA exercises conducted in Hanh Phuoc Commune:

- Village mapping exercises;
- Venn diagrams;
- Transect walks;
- Seasonal cropping and activity charts;
- Linkage Diagrams;
- Matrix Scoring and Ranking exercises; and
- Wealth ranking.

The report highlights the main findings and the implications of the results to RUDEP. The analysed PRA results were importantly fed back to households while conducting RUDEP's Village Planning Meetings and provided a foundation for identifying problems and activities at these meetings. PRA exercises will continue to be used by RUDEP in Hanh Phuoc Commune as a planning, monitoring and evaluation tool to support households and facilitate participatory planning processes.

2 PRA Tools

This report highlights seven PRA tools that have different uses and applications.

2.1 Historical Calendars

Historical timeline exercises are conducted to highlight *trends* and *key points* in the history of the Commune or Village that households considered had an impact on their livelihoods – either positively or negatively.

2.2 Transect Walks

Transect walks are a PRA tool used to develop familiarity with local farming systems, local geography, natural resources, production problems and opportunities to overcome such problems. Transect walks facilitate the opportunity and households to view, discuss and compare local resources between areas and between the past, present and different seasons.

2.3 Village Mapping

Village mapping is a PRA tool used to facilitate understanding and discussion on local farming systems, physical resources/features and infrastructure considered important by households.

2.4 Venn Diagrams

Venn diagrams are a tool used to investigate linkages, relationships and interactions between differing groups of households, institutions or community groups. The Venn Diagram exercise allows participants to raise any conflicts, their causes and discuss options on how to resolve these issues.

2.5 Seasonal Calendars

Seasonal calendars are conducted to illustrate important activities, problems or resource changes throughout a calendar year or production cycle. They can investigate community-based activities, livestock production, cropping and cultivation, weather and climatic conditions, and expenditure and borrowing.

2.6 Matrix Scoring and Ranking

Matrix scoring and ranking is a PRA tool that allows households to identify activities most preferred by households and *why* particular activities are preferred. This particular exercise is also used as a planning tool (e.g. to identify crops or livestock that households wish to cultivate and why). In addition, matrix scoring and ranking is also used effectively to evaluate household perceptions on a technology or activity.

2.7 Wealth Ranking

Wealth ranking is conducted to allow households to define differing levels of wealth in a Commune and the households that belong to a particular class of wealth. The characteristics of each class of wealth are defined. The results of wealth ranking exercises facilitate an understanding of the characteristics and resources of households of a particular wealth class, particularly the poor.

3 Results of PRA Exercises in Hanh Phuoc Commune

This PRA Report compiles the results from the PRA exercises conducted in Hanh Phuoc Commune. The Report importantly highlights the main findings and the implications of the results to RUDEP. Diagrams, figures and tables are attached as Annexes and present the results of the PRA exercises. Seven PRA exercises were conducted in Hanh Phuoc Commune:

- Village mapping;
- Transect walks;
- Seasonal calendars;
- Matrix score and ranking;
- Venn diagrams;
- Linkage diagrams; and
- Wealth ranking.

All PRA exercises were conducted during the formation of Activity Groups or VSCFs and were held in the CPC Meeting Room or in local households. Village transect walks were held in Hoa Vinh Village where households lived.

3.1 Village Mapping

Village mapping exercises were conducted in 2003 and the exercise was conducted in Hoa Vinh Village. Six households participated in the mapping exercises; all participants were males. Hoa Vinh Village is situated in the centre of Hanh Phuoc Commune with CPC Office and Commune Health Centre situated in the middle of the Village. Agricultural production (mainly rice) is abundant in the Village and fields were connected with extensive irrigation networks. The irrigation network was clearly drawn and labelled by participants indicating that it is important aspect of the local economy and production system. Some off-farm enterprises at the household scale exist and largely consisted of brick kilns and rice husking machines.

3.2 Transect Walks

A transect walk exercise was conducted in Hoa Vinh Village in 2003 and is presented in Annex 1. Four households participated in the transect walks; all participants were males. Six land types and uses were identified: hills, brick kilns, houses or office buildings, cropping systems (rice, maize and sugar cane), rice paddy, and roads. Throughout the exercise, participants discussed land conditions, water sources, current uses, constraints and problems, solutions and potential for each land type/use.

- The hills in the Village are 'bare' and industrial forest trees are cultivated (e.g. eucalypts). Potential exists to improve the productivity of these hills through the cultivation of improved forest varieties and cropping systems. Fruit trees (mangoes, rambutan) were identified as possible fruit crops that could be cultivated.
- Brick kilns are currently abundant in the Village. However, environmental problems and pollution are associated with brick production (mainly smoke and poor disposal of

waste products). Despite these problems, potential was considered to exist to expand brick production in the Village.

- Rice, maize and sugar cane are the main crops produced in the Village. Fields are irrigated by the extensive 'Thach Nham' Irrigation Scheme. Crops are highly susceptible to flooding from September to November during the typhoon season and are occasionally destroyed when floods occur before crops are harvested. Based on this problem, households consider that slight changes to the cropping season are required and would be supported by the introduction of new varieties with shorter duration cropping times.
- Houses and roads are also susceptible to flooding during the typhoon season. This results in damage or loss of households or production assets. Households identified that raising the height of houses and livestock sheds are raised in as a possible solution to solve this problem.

3.3 Seasonal Calendars

Seasonal calendar exercises were conducted for rice cultivation, livestock production and weather in Hoa Vinh Village. Diagrammatic representations of the results of these exercises are attached in Annex 2 of this report.

3.3.1 Rice Cropping

The seasonal calendar for rice production revealed:

- Three rice crops per year are produced in Hoa Vinh Village. Crops are harvested in February/March and September and rice seeds are sown in March, June and September.
- The rice crop harvested in September is vulnerable to being destroyed due to heavy rains and flooding associated with the typhoon season.
- Pests and diseases are most common in November and December and are largely caused by insects and rats.

This exercise demonstrates that rice producing households in Hoa Vinh Village have yet to adopt the Provincial Department of Agriculture and Rural Development's development plans and policies. These policies discourage households from producing three crops of rice per year. This policy was developed to reduce diseases associated with intensified cropping patterns (3 crop rice systems have much higher prevalence of pest and disease damage) and reduce vulnerability to crops being destroyed by flooding associated with the typhoon season.

3.3.2 Livestock

The seasonal calendar for livestock production revealed:

- Most intensive livestock production occurs at the beginning of the calendar year when the temperature starts to increase.
- Pigs are vaccinated for classical swine fever (CSF) demonstrating that households are possibly aware of the benefits of vaccinating animals to prevent diseases.
- Pasteurellosis and typhoid fever are common diseases of cattle in summer.

- Fowl cholera appears to be a serious disease in poultry with many chickens dying due to the disease.

This exercise demonstrated that epidemic diseases of livestock occur annually. It is probable that these epidemics would impact heavily on household income. Opportunities exist for RUDEP to support these livestock producing households through awareness raising campaigns on the benefits of vaccinating animals. Vaccines exist in Quang Ngai Province for the diseases raised. It is likely that RUDEP, with support from the Sub-Department of Animal Health, could support training activities to support vaccination of animals and training activities to prevent livestock diseases.

3.3.3 Weather

The seasonal weather calendar revealed:

- Rain occurs throughout most of the calendar year and is particularly heavy during September, October and November each year in association with the typhoon season. The heavy rains result in flooding.
- Summer (May, June and July) is associated with hot weather and droughts. These droughts consequently cause problems with crop production.

This exercise demonstrated that serious flooding occurs each year in Hanh Phuoc Commune and particularly An Chi Dong Village. The Commune borders the Song Ve River and is highly prone to flash flooding associated tropical depressions and typhoons. Conversely, in May, June and July the weather is extremely hot (up to 40 C) and often limits water availability for irrigation purposes. These annual droughts consequently affect crop production. Livelihood Projects and AGITs provide the opportunity for RUDEP to reduce the vulnerability of households through implementing flood mitigation activities or the trial of drought resistant crop varieties.

3.4 Matrix Scoring and Ranking

The Matrix Scoring and Ranking exercises was conducted in An Chi Dong Village with 8 households; all participants were female. Scoring and ranking exercises were conducted for crops and livestock. A diagrammatic representation of the results is presented in Annex 3 of this report.

3.4.1 Crops

The results of the Matrix Scoring and Ranking exercise for crops revealed that:

- Cassava and maize are the most preferred crops because they require little labour, have a reasonable profit, have few diseases and pests and are easy to sell.
- Cucumber and chili are the least preferred crops because of their high susceptibility to diseases and pests, high labour inputs, low profit and are considered difficult to plant and cultivate.
- Green peas and rice are considered to have an average profit and require relatively high labour inputs; though they are still considered easy to sell.

This exercise revealed that 6 crop varieties are most commonly cultivated in An Chi Dong Village. Opportunities exist for RUDEP to work with households to diversify crop varieties whilst at the same time introduce cultivation technologies that will reduce susceptibility to diseases and pests. Home gardens and cropping demonstrations will provide a foundation for RUDEP to provide this support.

3.4.2 Livestock

The results of the Matrix Scoring and Ranking exercise for livestock revealed that:

- Cattle are the most preferred livestock variety because they are considered easy to buy and raise, have few diseases, obtain a high profit and utilise agricultural by-products.
- Pigs are the second most preferred livestock variety because they are easy to buy and raise, have few diseases and can utilise agricultural by-products for feed. However, the profit obtained pig raising is less than cattle and goats.
- Goats are considered to be high profit, have few diseases and utilise agricultural by-products for feed. However, buying goats for raising is difficult, are rather difficult to raise (high labour inputs) and can be difficult to sell.
- Chickens and ducks are the least preferred livestock variety. They obtain a low profit and are difficult to raise and sell.

This exercise revealed that there is a strong preference for households to raise cattle. Goats and pigs are also favoured by households though the profit is considered lower than cattle. RUDEP is currently supporting households in Hanh Phuoc Commune through implementing a range of livestock demonstration activities that are complemented with training. It is evident that these training activities will also need to focus attention on marketing issues and assist households to identify markets for the sale of finished animals in order to increase potential profit.

3.5 Linkage Diagram

A linkage diagram exercise was conducted in An Chi Dong Village with 5 households (2 females and 3 males). This exercise was conducted to identify resource flows in common household farming systems in the Village. This linkage diagram exercise revealed:

- Most households raise cattle, chickens and pigs and purchase these from various suppliers – both household and semi-commercial operations.
- Households commonly cultivate rice, vegetables and some cash crops. By-products are commonly utilised for pig, cattle and chicken feeds (sweet potato leaves and tubers, rice straw for cattle feed).
- Rice and vegetables are either sold locally in markets or used for household consumption.
- Manure from cattle and pigs is used as fertiliser for vegetable and rice crops.
- Cattle, chickens and pigs are sold to generate household income. Chicken and their eggs are commonly used from household consumption.
- Sugar cane and cotton are commonly cultivated and are sold to the Quang Ngai Sugar Factory and the Nha Trang Cotton Company for processing and export.

This exercise demonstrated that farming systems in the Village are diverse and households raise a range of crop and livestock varieties. By-products are commonly re-used for livestock and crop production. It is evident that opportunities exist for RUDEP to further add value to agricultural products and increase the use of un-used and under-utilised agricultural by-products.

3.6 Venn Diagram

A Venn Diagram exercise was conducted in Hoa My Village with 5 female and 4 male participants. A diagrammatic representation of this exercise is presented in Annex 4. The results of this exercise revealed:

- The Commune People’s Committee and the Commune People’s Council are the Commune level authorities that have the main responsibility to execute and administer policies of the National and Provincial Governments.
- Mass Movement organisations link with local households and encourage income generating activities through providing information on livestock and crop cultivation technologies. They also report to higher Government levels and the CPC on the needs and desires of local households.
- Institutional credit is available from VBARD with the Mass Movement organisations (Women’s Union) offering additional credit from alternative sources.

The Venn Diagram exercise revealed no conflicts existing between Commune authorities and Mass Movements and households in the Commune. It was clear that the CPC is largest influencing institution playing an important executing and administering role in the Commune.

3.7 Wealth Ranking

Wealth ranking exercises were conducted in each of the nine Villages in Hanh Phuoc Commune. Three classes of wealth/well-being were identified by households involved in the wealth ranking activities: rich/well-off; average; and poor and are presented in Table 1.

Table 1: Common Classes and Characteristics of Wealth/Well-Being in Hanh Phuoc Commune

| Criteria | Rich/Better-Off | Average/Medium | Poor |
|-------------------------|---|--|---|
| Housing | House with a flat roof 2 storey house Grade 4 house | House sometimes with a tiled roof Sometimes unsettled house or in bad condition | House is unsettled Some HHs do not use electricity Some elderly people may not have a house |
| Household Assets | 1-2 Motorbikes TV Multi rice cooker Water pump | TV Motorbike (sometimes) Bicycle Own a tractor Multi rice cooker Sofa and table in poor condition | TV Bicycle HH furniture in poor condition |

| Criteria | Rich/Better-Off | Average/Medium | Poor |
|--|---|--|--|
| Productive Assets | Own a business Rice husking machine Have large land or rice paddy for rent Lorry Own some Ha of coffee Own a brick kiln 3-4 cows 2-4 pigs Orchard Floriculture | 2-3 pigs 0-2 cows Sometimes own a brick kiln Rice damaged by field mice Own little agricultural land | Very few, if any, livestock Rice crops damaged by field mice or poor weather Lack HH labour |
| Number of Children | 2-3 Children Some households >3 children | Large family (>3 children) | Large family (>3 Children) Commonly elderly HHs living alone |
| Education | University | Senior Secondary School or Junior Secondary School High proportion of HH income for children's education | Junior Secondary School Sometimes no education |
| Income | Stable annual income Money from overseas relatives Salary from a job (e.g. teacher, worker) | Disposable household income not available Low income Often migrate to HCMC for employment Work as labour | Disposable HH income not available Very low income Lack the ability to work (e.g. elderly) Rely on Government welfare Commonly in debt Often migrate to HCMC for employment |
| Health Services | Use Government Health Services Do not have serious health problems | Local Health Workers Some household with children with agent orange poisoning Some HHs with disabled members | Local Health Workers (often unqualified) Disabled HH members Phrenology |
| General Proportion of HHs (per Village) | 284 HHs (20%) | 675 HHs (49%) | 426 HHs (31%) |

The results of the wealth ranking in Hanh Phuoc Commune revealed that of the 1,385 households ranked in the Commune:

- 284 households (20%) were considered being 'rich' or 'well-off';
- 675 households (49%) were considered being 'average' or 'medium'; and
- 426 households (31%) were considered being 'poor'.

Table 1 demonstrates that poor households were those that:

- Live in poor housing conditions;
- Have few productive/household assets;
- Typically lack available household labour
- Have low income levels or rely on Government support;
- Have children with low education levels;
- Have little ability to afford higher quality health services; and
- Frequently ill or burdened with a disabled or mentally handicapped family member.

The majority of households in Hanh Phuoc Commune were considered being of ‘average’ and ‘poor’ levels of wealth/well-being; very few households were considered being ‘well-off/medium’ or ‘rich’. Wealth ranking provided an estimate of 31% of households in the Commune being considered as poor. This result is higher than the official DOLISA figure of poor households in the Commune (23% poor households).

Wealth ranking exercises have been used effectively in Hanh Phuoc Commune to target poor households (according to both DOLISA criteria and wealth ranking results). The results also allow RUDEP to design activities for poor households that respond to their resource constraints. Wealth ranking will also be used to identify poor households to participate in VSCFs in order to support poor households to access credit.

4 Conclusion

The results of the PRA activities in Hanh Phuoc Commune revealed many opportunities for RUDEP to support households to generate income, improve their livelihoods and facilitate participatory planning processes.

- Households have a preference to raise cattle and pigs; however seasonal calendars reveal that serious livestock diseases occur and persist at common times throughout the year (October – December). Consequently, RUDEP is now supporting households with the provision of animal health and livestock disease training.
- Transect walks revealed available land that could be used to develop forestry systems. RUDEP is now supporting forestry demonstrations and is seeking to support allocation of available land to households.
- A range of crops are cultivated by households in the Commune; however problems were raised relating to low yields. RUDEP has therefore supported households with introducing new rice varieties with IPM and rice cultivation technologies. Opportunities exist to introduce new crops, particularly vegetables, which is now being investigated through home garden and cropping activities.
- Floods were identified as a significant problem in the Commune causing damage to crops and lead to transportation problems during the flood season. In response, RUDEP is currently supporting infrastructure identified by households that will improve their ability to generate income during the typhoon season.
- Seasonal Rice Cropping Calendars identified problems relating to floods during the typhoon season. It is evident that vulnerability to losing rice crops during the flood season can be reduced if shorter duration rice crops are introduced and activities aiming to support this activity are justified.
- Wealth ranking exercises revealed that 31% of households were considered poor. This figure is in contrast to the 23% DOLISA poor household figure in the Commune. It is evident that there are high proportion of households in the Commune with few household and productive assets and little income. RUDEP will continue to use these results to design activities appropriate to the resource constraints of poor households and target poor households to encourage their participation in Program activities.

Results of the PRA exercises in Hanh Phuoc Commune have provided a foundation for understanding local farming systems and resources in the Commune. These results have consequently been used to support the design of RUDEP activities in Hanh Phuoc. Efforts will be made to increase the use of PRA exercises to assist in the design, planning, implementation, monitoring and evaluation of all RUDEP activities.

Annex 1

**Transect Walk; Hoa
Vinh Village; Hanh
Phuoc Commune**

Annex 1: Transect Walk; Hoa Vinh Village; Hanh Phuoc Commune

Table 1: Village Transect Walk in Hoa Vinh Village

| Discussion Points | Land Type and Land Use | | | | | |
|---------------------------------|---|---|---|--|--|--|
| | Hills | Brick Kilns | Houses and Office Buildings | Paddy, Maize and Sugar Cane | Rice Paddy | Roads |
| Land Structure | Hill soil | Clay Gravel | Gravel Heavy soil | Rich soil or paddy land | Paddy land | Gravel, bitumen, or houses |
| Water Source | Natural water | N/A | Underground water Wells | Irrigation Natural water | Thach Nham irrigation network | Wells Bores |
| Current Uses | Various industrial forest trees (e.g. eucalypts and acacia) | Use soil to make bricks | Cemetery Office buildings Some rice husking households | Maize and sugar cane growing | Rice cultivation (Nhi Vu 838 and Trang Nong varieties) | |
| Problems and Constraints | Poor quality trees Poor forestry systems | Environment problems | Some land is not used | Floods (heavy annual rains from September to November) | Floods (heavy annual rains from September to November) | Floods |
| Solutions | Improve forestry systems and tree varieties | Expand brick production | | | Harvest before the flood season | Raise the height of houses and livestock sheds |
| Potential | Fruit trees (rambutan, mango, etc.) | Develop alternative off-farm activities | Scheme focus residential areas Build parks School buildings | Sugar cane Maize | Farm produce Rice Maize | |

Annex 2

Seasonal Calendars; Hoa Vinh Village; Hanh Phuoc Commune

Annex 2: Seasonal Calendars; Hoa Vinh Village; Hanh Phuoc Commune

Figure 1: Seasonal Rice Cropping Chart; Hoa Vinh Village; Hanh Phuoc Commune

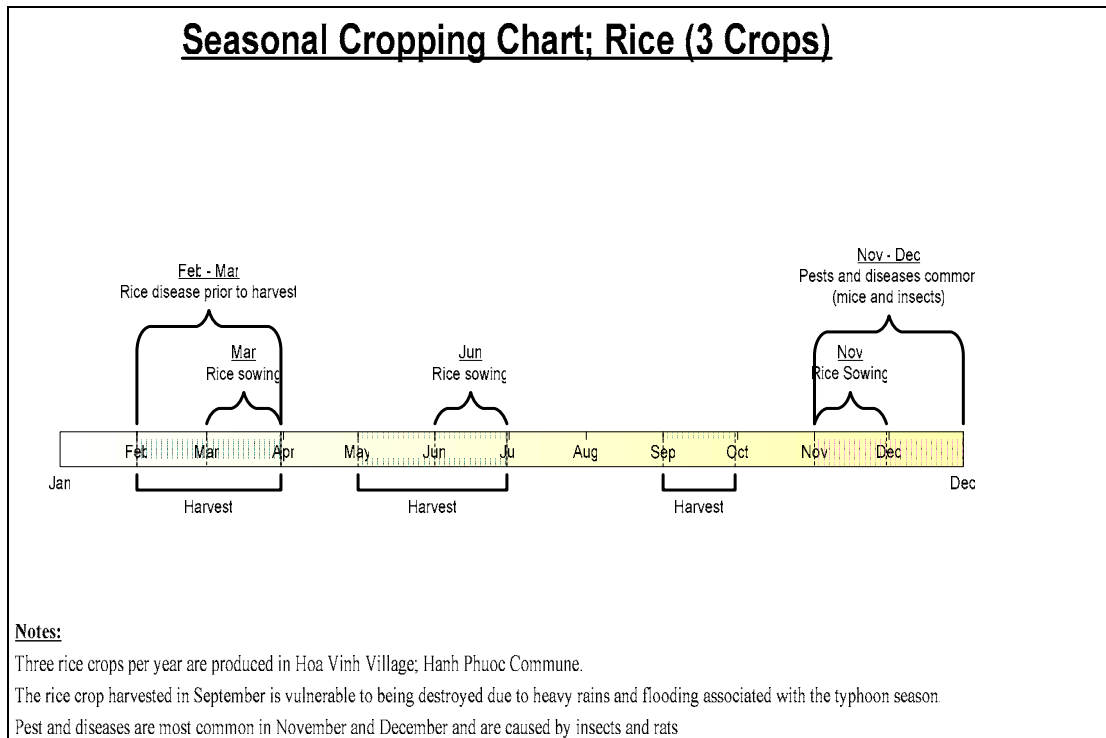


Figure 2: Seasonal Livestock Production Chart; Hoa Vinh Village; Hanh Phuoc Commune

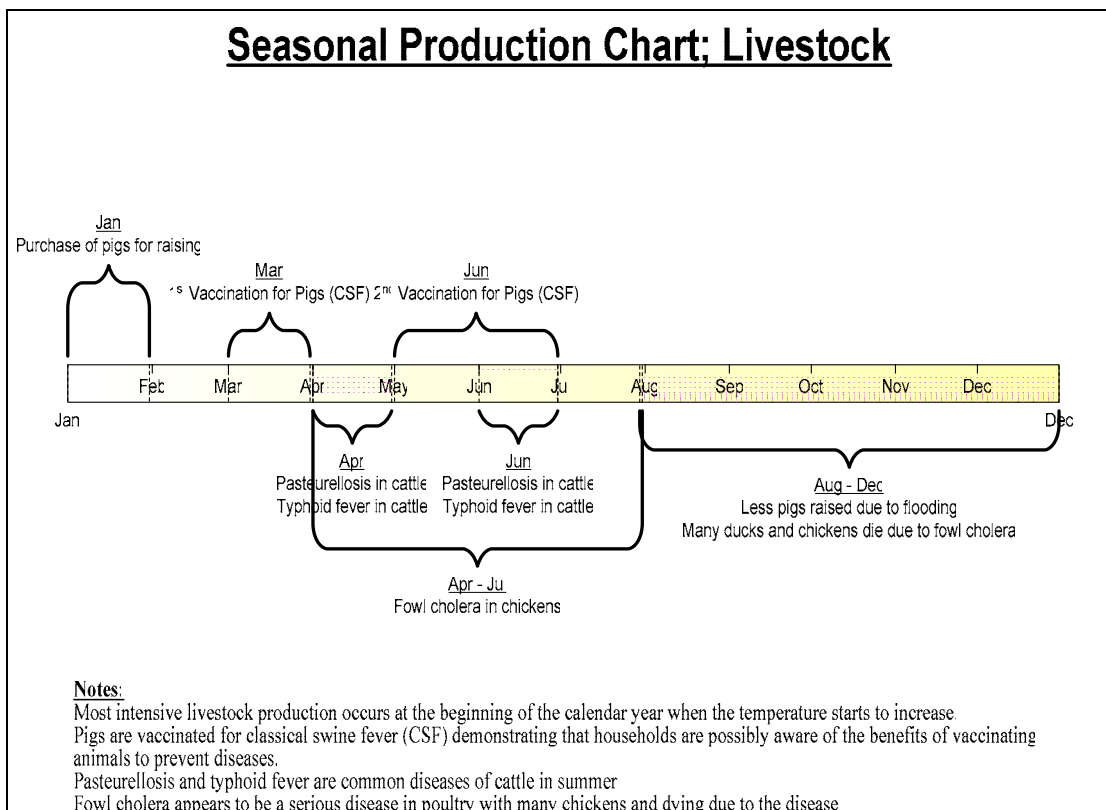
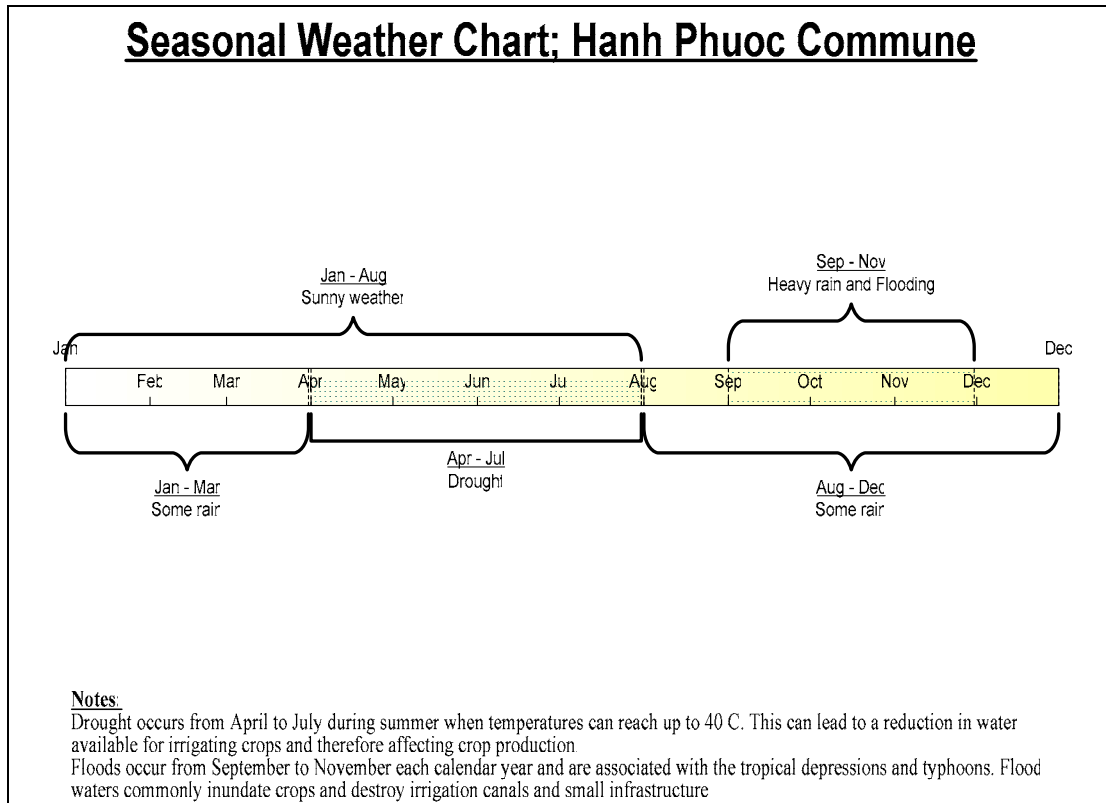


Figure 3: Seasonal Weather Chart; Hanh Phuoc Commune



Annex 3

Matrix Scoring and Ranking

Annex 3: Matrix Scoring and Ranking

Table 1: Crop Variety Matrix Scoring and Ranking Exercise; An Chi Dong Village; Hanh Phuoc Commune

| Crop | Easy to Purchase Inputs | Easy to Sow | Low Labour Inputs | Less Pests and Diseases | Easy to Sell | High Profit | Total | Ranking |
|------------|-------------------------|-------------|-------------------|-------------------------|--------------|-------------|-------|---------|
| Rice | 6 | 4 | 4 | 4 | 6 | 3 | 27 | 3 |
| Maize | 6 | 5 | 5 | 5 | 6 | 6 | 33 | 2 |
| Green peas | 6 | 3 | 3 | 3 | 5 | 4 | 23 | 4 |
| Chilli | 5 | 2 | 2 | 2 | 5 | 3 | 20 | 5 |
| Cucumber | 5 | 2 | 2 | 1 | 4 | 2 | 16 | 6 |
| Cassava | 6 | 6 | 6 | 6 | 5 | 5 | 34 | 1 |

Table 2: Livestock Variety Matrix Scoring and Ranking Exercise; An Chi Dong Village; Hanh Phuoc Commune

| Livestock Variety | Easy to Purchase Breeds | Easy to Raise | Easy to Sell | Less Diseases | High Profit | Utilise Ag. By-Products | Total | Ranking |
|-------------------|-------------------------|---------------|--------------|---------------|-------------|-------------------------|-------|---------|
| Cattle | 5 | 5 | 4 | 5 | 5 | 5 | 39 | 1 |
| Goat | 2 | 3 | 2 | 5 | 4 | 5 | 21 | 3 |
| Duck | 3 | 1 | 1 | 3 | 1 | 2 | 11 | 5 |
| Chicken | 4 | 2 | 3 | 3 | 2 | 3 | 14 | 4 |
| Pig | 5 | 4 | 5 | 4 | 3 | 4 | 25 | 2 |

Note to Tables 1-2:

Yellow represents the highest ranked activities, red the lower ranked activities

'6' is the most preferred activity, '1' the least preferred activity.

Annex 4

Venn Diagram Results

Annex 4: Venn Diagram Results

Table 1: Venn Diagram Results; Hanh Phuoc Commune; Hoa My Village

| Name of Organizations | Functions and Responsibilities | Importance | Influence on Households in Hoa My village |
|--|--|--------------------------|--|
| Commune People's Committee (CPC) | Control and lead all activities of the people Execute all duties from superior Government levels Manage and distribute land-use certificates for households | Control and leading role | Encourage households to participate in all activities |
| Commune People's Council | Conduct, supervise and execute policies of the Government | Control and leading role | Encourage households to participate in all activities |
| Commune Party Executive Committee | Lead general activities for all villages in commune | Very important | Encourage Mass Movement organisations and Village Leaders in the Commune to propagate activities to households |
| Commune National Front | Lead religions and Mass Movements | Very important | Improve conditions for farmers to produce |
| Commune Farmer Union | Organization close to community Encourage people to participate in production and work activities Collect people's ideas to report superior Government levels | Important role | Develop and promote activities to help households generate income |
| Commune Women Union Commune Youth Union | Link closely to the community Help people to work (especially women) to generate income Assist households to access credit Organize production and local police | Important role | Activities to help households generate income (e.g. credit, livestock raising, cropping) |
| Health and Education Services | It's the organization help community about the health, study of people and children | Very important | |
| VBARD | Support loans for farmers | Very important | Support loan for farmers |

Limitations

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