

# QUANG NGAI RURAL DEVELOPMENT PROGRAM (RUDEP) - PHASE 2

## Evaluation Report on the Technical Adoption from Demonstrations: 2005



**VIETNAM-AUSTRALIA**

*Prepared for*

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## ANNEXES

Annex 1: Content of evaluation

## Acronyms

AG	Activity Group
AMEGO	Monitoring and Evaluation Assistant
AusAID	Australia Agency for International Development
CPC	Commune People Committee
RUDEP	Quang Ngai Rural Development Program
O & M	Operation and Maintenance

## Summary

### 1) Background of the demonstration

Identify the needs: the Planning meeting in 2003-2004 identified people's demand for techniques on animal husbandry. Thus, RUDEP organized demonstrations in the communes where people had a demand on learning techniques for raising livestock.

Main activities: the demonstrations on animal husbandry aimed to provide people with technical knowledge on animal husbandry or cultivating plants. The demo also aimed at helping people adopt demonstrated techniques into their income generation activities.

### 2) Rationale for conducting evaluation

Some demonstrations of the year 2003-2004 did not finish at the end of program year (June 2004). Thus, evaluation on the adoption of the demo technology in Dec 2004 excluded them. Now, these demos have been completed and we continue the evaluation on them.

The evaluation was conducted to collect information regarding people's awareness on RUDEP support for the road as well as people's knowledge and attitude on the demo. Besides, the evaluation is expected to provide information on the adoption of techniques demonstrated.

### 3) Results of evaluation

The results will be summarized by the type of demonstration

#### **Lean and breeding pig demonstration:**

Appropriateness of demo: The demo was evaluated to be useful for people to learn and partly adopt. People could not adopt the demo fully because:

- + Ration was expensive especially premix and concentrate (50.000 VND/5 kg). Fish concentrate or dry bean was not available locally. People could spend about 3.000 VND per day on ration and they wanted to use locally available agricultural products such as cassava, rice bran etc.

- + Low education level: Due to illiteracy, people could not write or read. Thus, they could not estimate the benefit and costs of the demo. People didn't wish to invest on the activity implementing demo techniques until they are sure of the benefits.

- + Not the main income generation activity: In many places, raising pigs is not the main income generation activity. Thus, people do not want to spend much money on this activity. To them, raising pig is one of the ways to save family money during the year.

- + For breeding pig demonstration,

Benefit of the demo: Estimated return from the demo was 250,000 VND/per pig/per 4 months. The other benefits were saving wood from cooking ration, and reducing time for raising pig.

#### **Goat demonstration and cattle fattening demonstration:**

Appropriateness of demo: The demo was evaluated to be appropriate in An Chi Dong hamlet, Hanh Phuoc commune because grass and labour were available. Household economic conditions could afford for the activity cost. However, in Tan Loc hamlet, Pho Chau commune, the demo was seen as not appropriate for several reasons:

- + Main labour in the area was elderly due to the young people migrated to other cities in search of work.

- + People did not have enough money to invest money on the activity

- + The demo was not successful because the she-goat did not get pregnant

Adoption and modification:

Full adoption:

Selecting breeding goats and growing grass techniques were fully adopted by people because they were appropriate to the demand of people and inexpensive.

Part adoption:

People modified the techniques on making sheds and feed rationing to make it appropriate to their economic conditions. According to them, they could spend about 1.000VND per day on ration for goat. Thus, they had to use their products to feed goat such as rice grain, cassava, maize powder, cooked rice etc.

**Mushroom demonstration:**

Appropriateness of the demo: the demo was seen as not appropriate to the weather and market of local area.

The oyster grew well but local market did not have demand on this kind of mushroom. People did not want to buy oyster because to them, oyster was unfamiliar.

Rice straw mushroom did not grow well due to temperature changes affected by unstable weather.

There was no mushroom spore supplier in Quang Ngai. People had to buy spore from HCM or Quang Nam province. People became impatient when waiting for spore from suppliers outside Quang Ngai.

# 1 Introduction

## 1.1 RUDEP

RUDEP is a ten-year program funded by AusAID and the GOV. It is to help eradicate hunger and alleviate poverty in rural area of Quang Ngai province. The program is now working in 19 communes belonging to 12 districts.

Program has 4 main components. They are:

- +Income generation
- +Infrastructure
- +Capacity Building
- +Monitoring and Evaluation

Under the income generation component, there are many activities that have been done. Demonstrations on animal husbandry is one of them.

## 1.2 Overview of demonstration 2003-2004

### 1.2.1 Identification of the need for demonstration

Problem Census - Problem Analysis - Problem Solving (PC/PA/PS) meetings are components of the broader Participatory Planning Process used by RUDEP to allow households in the program communes to identify, prioritise and propose options to solve their priority household and community problems. The PC/PA/PS meetings provide a baseline for the implementation of activities, which are designed according to the needs and desires of households as expressed at the PC/PA/PS meetings.

The PC/PA/PS meeting in 2003-2004 identified people's demand for techniques relating to animal husbandry. Thus, RUDEP organized demonstrations in the communes where people wanted to learn techniques for raising livestock.

### 1.2.2 Main activities

The demonstration on animal husbandry aimed at providing people with technical knowledge on animal husbandry (livestock). The demo also aimed at helping people adopt techniques from the demo into their income generation activities.

## 1.3 Rationale for conducting evaluation

Some demonstrations of the year 2003-2004 did not finish at the end of program year (June 2004). Thus, evaluation on the adoption of the demo technology in Dec 2004 excluded them. Now, these demos have been completed and we continue the evaluation on them.

The evaluation was conducted to collect information regarding people awareness on RUDEP support for the road as well as people's knowledge and attitude on the demo. Beside, the evaluation is expected to provide information on the adoption of techniques demonstrated.

## 1.4 Evaluation method

We used focus group discuss method in the evaluation

One member was a facilitator for each group and AMEGO recorded people's opinions.

## 1.5 Evaluation site, time and participants

AG	Date formed	AGs' name	Hamlet	Evaluation date	Total participants
<b>Phổ Châu commune-Đức Phổ District</b>					
Lean pig	10/06/2003	Lean pig- Vĩnh Tuy	Vĩnh Tuy	Mon 11/07/2005, AM	8 (7 AG + 1 non AG member)
Lean pig	09/03/2004	Raising lean pig Hưng Long	Hưng Long	Mon 11/07/2005, PM	30 (15 AG + 15 non AG member)
Breeding pig	25/05/2004	Breeding pig - Châu Me	Châu Me	Wed 13/07/2005, AM	
Goat	09/03/2004	Raising goat- Tân Lộc	Tân Lộc	Wed 13/07/2005, PM	25 (10 AG + 15 non AG members)
<b>Hành Phước commune-Nghĩa Hành District</b>					
Goat	07/05/2004	Raising goat- ACD	An Chỉ Đông	Fri 15/07/2005, AM	16 (AG)
Cattle fatten	09/05/2004	Cattle fattening- ACT	An Chỉ Tây	Fri 15/07/2005, PM	13 AG members
<b>Đức Phong commune-Mộ Đức District</b>					
Breeding pig	14/05/2004	Breeding pig Lâm Hạ	Lâm Hạ	Mon 18/07/2005, AM	
Cattle fatten	08/05/2004	Cattle fatten Thạch Thang	Thạch Thang	Mon 18/07/2005, PM	30 AG members
Mushroom	13/02/2004	Mushroom Châu Me	Châu Me	Tue 19/07/2005, AM	.....
Mushroom	29/11/2003	Mushroom Văn Hà	Văn Hà	Tue 19/07/2005, PM	.....

The participants at all evaluation meetings belonged to two type. One was AG member. The other was non-AG member. Non AG members were selected randomly based on the list of household in that hamlet excluding AG members.

## 2 Evaluation Results

The evaluation results in this report will be presented by the type of demo. In each type the results will be presented separately by two group: AG and non AG group. Because there is a difference between these two group in terms of receiving training on demo, understanding and adoption of practices.

### 2.1 Lean pig demonstration

The evaluation was conducted at two sites in Pho Chau commune (Vinh Tuy and Hung Long hamlet). In the former hamlet, there was a total of 8 participants, of which 7 came from lean pig AG and 1 was non-AG. In the latter hamlet, there was a total of 30 people at the meeting, of which 15 were AG members and 15 were non-AG members.

#### 2.1.1 AG group

At the two sites, there was 22 participants in total. The percentage in this part is calculated on the total AG participants at the meeting (22 persons).

##### 2.1.1.1 Experience regarding raising pig

Before the demo, 21 out of 22 participants raised pigs. After the demo's completion, these persons continued raising pigs. Thus, they have experience on selecting pig, making shedding and veterinary procedures.

##### 2.1.1.2 Knowledge and adoption of demo techniques

The evaluation focus on four main points: making shedding, selection of pig breed, veterinary procedures and feeding requirements.

**Selection of breed:** all participants thought that what was provided at the training course regarding method of selecting breed was already familiar with people. They knew and had already adopted into practice before the demo came.

**Veterinary:** 100 % of AG participants at the meeting knew the veterinary lessons provided at the training course but none of them remembered exactly the name of the medicine used for each type of disease. They said that they wrote it in a notebook. Whenever it was required, they checked in the notebook. They remembered generally what they had to do when beginning to raise the pig. Most of them depended on a para-vet when treatment is required. Knowledge gained from the training course helped them know and check the name of medicine used by para-vet.

**Making shed:** 100% of AG participants knew the standard of one shed introduced in the training course. However, none of them adopted this fully.

100% of participants only adopted the main points and modified to make it appropriate to the household's economic conditions. The average money spent on one sty was about 1 million VND per two pigs. People used cement to make floor but the height of the floor was lower than standard because people want to saved money on cement. Other materials for making pillar or tile were from locally available material.

**Feeding:** all participants at the meeting understood that the ration suggested by RUDEP was a beneficial mix of feed because the pig would gain weight regularly and quickly if people followed the formula, and the time of raising would be reduced down to 3 months instead of 6-8 months in comparison with traditional method. However, only 4 out of 22 participants (18%) adopted fully. The remaining adopted partly.

### 2.1.2.3 Appropriateness to household's economic conditions

The overall score for the appropriateness of the demo is 6.5 (scale ladder is 10)

Score	1	2	3	4	5	6	7	8	9	10
No of vote	0	0	0	0	2	7	9	2	0	0

For the participants who gave 7 marks, they raised the pig in 6 months

For the participants who gave 6 marks, they raised the pig in 7 months because their household's economic status was more limited than the other, thus they had to extend the period to 7 months.

People thought that the lean pig demo was useful for learning and adopting partly but not really appropriate to adopt fully. The reasons are as followed:

- In general, high cost for ration.

People can spend about 3.000 VND per day per pig and they want to use the locally available products such as cassava, maize, rice grain...

Premix and concentrate is too expensive for them to buy (50,000 VND per 5 kgs). Fish concentrate or dry bean or fresh fish is not always available in the market.

- Low education level

In one hamlet (Hung Long) of Pho Chau, according to the participants, the education level of women here is not high. Thus, these women cannot estimate the cost and benefit of the activity. Whenever they don't know the real benefit of the activity, they dare not invest money on the activity due to being afraid of potential money loss

- Not the main income generation activity

In Hung Long hamlet, raising lean pig is seen as only the sub-activity just to save money during the year. Thus, people don't want to invest a large amount of money on this activity as it is not the main source of income.

#### 2.1.1.4 Benefit from demo adoption

Estimated financial benefit of the techniques adopted from the demo and modified when raising pig was 250,000 VND/per pig/per 4 months

The other benefits were saving wood for cooking feed, reduced time for raising pig.

### 2.1.2 Non-AG group.

At the two sites, there was 16 participants in total. The percentage in this part is calculated on the total non AG participants at the meeting (16 persons).

#### 2.1.2.1 Awareness of the demonstration

Only 1 out of 16 non-AG participants did not know about the demo, because this person lived too far from the demo site. The other knew the existing of the demo.

#### 2.1.2.2 Visit to demonstration

None of the non-AG participants visited the demo. The reasons they explained were as followed:

- Due to superstition: People were afraid that if they visited the demo and by chance the pig got sick soon after their visit, the demo farmer would be blame the sickness on their visit.
- Lack of self-confidence: peoples said that because they were not the AG members, they didn't feel confident when coming to the demo site. They thought that non-AG members had no right to be part of the demo.
- Long distance: Some other members were living too far from the demo (1 km away). Long distance prevent them from communication each other and visiting demo frequently.
- Local characteristic: In Hung Long hamlet, if people did not receive the invitation letter, even if they were not formal AG members they would not go to the meeting or demo. For them the invitation letter was important, as it showed that they were a formal member and necessary for the meeting. They felt that otherwise they felt that other people would question them if they came to the meeting

### **2.1.2.3 Adoption of demo techniques**

None of the non-AG members adopted the demo techniques because they did not came to the demo and did not know the demo techniques.

## 2.2 Breeding pig demonstration

The evaluation was conducted at two sites. One was in Lam Ha hamlet, Duc Phong commune. The other was in Chau Me hamlet, Pho Chau commune. At the two sites, there was of total of 27 AG members (10 in Chau Me + 17 in Lam Ha) and 19 non-AG members (11 in Chau Me + 8 in Lam Ha).

### 2.2.1 AG group

#### 2.2.1 Adoption of demo techniques

A total of 27 AG members (100%) adopted the techniques package partly. They mainly adopted vet, making the pigsty, feeding and selection of breed.

Breeding pig is one of the main livestock in the rural area. Thus people there are familiar with traditional method of raising breeding pig and experienced with selection of breed.

People only adopted some parts of the demo, which they thought that they were new and more economic than the traditional method. They are as followed:

- Selection of Mong Cai breed:

Before the demo, people already knew how to select good pig breed and after the demo they understood more about this area and adopted into their household. However, not all members select the Mong Cai breed. According to them, the Mong Cai breed was easy to raise but not easy to sell and the selling-price was lower than F1 breed because Mong Cai breed had more fat than F1. The market preferred lean F1 over Mong Cai. In Pho Chau, it was not easy to buy the Mong Cai breed. People had to travel long distance from Pho Chau to Hoai Nhon commune, Binh Dinh district to find the breed.

- Making pigsty:

People recognized that the pigsty standards demonstrated was really good. In local area, people could spend only about 1 million VNDs per pigsty including one main pigsty for mother and one large sty for children.

The material they used was different from the one introduced in demo. What they adopted from the demo was making a cement floor to keep the pigsty clean everyday. However, the height of the floor was reduced to lower the cost. Locally available materials were used such as bamboo, straw tile to save money.

- Vet care:

All 27 members (100%) said at the meeting that they did not have deep knowledge on the vet care for animal but after the training all of them understood that they needed to vaccinate for animal before raising and thank to the training course, people knew how to recognized the symptom of sick pigs (only with simple diseases).

People got progress on vaccination for pig but they wanted to save money, thus they only vaccinations for piglet.

According to people, on average, one mother pig gave birth 1,6 times per year. If it was vaccinated, the mother only gave birth 1 time per year. This was also one of the reason that people did not want to use vaccines for the breeding pig.

- Ration for pig:

100% of members adopted the ingredients from demo and modified the weight of feed to make it appropriate to their money. People did not or rarely used dry soybean, dry fish, premix. According to them, these stuffs were too expensive for them and not always be available at the local area. They only used maize, cassava, rice brain, salt. They did not follow the quantity of the ingredients as in demo.

People could spend only from 4.000-5.000 VND per day.

Thank to the training, people knew and started to feed the pig on time and adopted different ration for the pig in each growth phase.

Before the training, people used to feed their pigs with cassava powder because it was their home products. After the training course, people knew that they need to replace cassava with other feed for piglet and pregnant pig.

### 2.2.2 Benefit when adopting the demo partly.

The benefit is the same for AG and non AG groups

Beside money saved, people saved labour, wood for burning feed

The benefit from raising breeding pig is from 200.000-300.000 VND per breeding pig with about 10 piglets.

<b>Investment</b>	
Breeding pig	300.000 VND
Feed	1.500.000/10 months (5.000 VND/per day)
<b>Total</b>	<b>1.800.000 VND / 10 months</b>
<b>Return</b>	
Selling 10 piglets	1.200.000/10 piglets (120.000 VND/per piglet)
Value of breeding pig	800.000 VND
<b>Total</b>	<b>2.000.000 VND</b>

The interest is 200.000VND. But people have the breeding pig for next time and the growth time is reduced.

### 2.2.3 Non AG group.

There was a total of 19 non AG members in the meeting.

#### 2.2.3.1 Awareness of the existing of the demo

17 out of 19 participants (89%) knew the demonstration but only 8 persons (42%) visited the demo. The reasons for not visiting the demo were the same as in part 2.1.2.2

#### 2.2.3.2 Adoption of demo techniques

- Adoption rate:

8 out of 19 participants (42%) adopted the techniques partly. Of which, 7 (40%) persons adopted the feeding techniques, 1 (5.2%) person adopted techniques for selecting breeding pig and no one (0%) adopted the techniques for making pigsty.

The way people adopted the feeding techniques was the same as in the AG group.

No one adopted the pigsty techniques because they were using the available pigsty. Thus, no one constructed new pigsty.

There is difference in the adoption of techniques between the non-AG members in Pho Chau and in Duc Phong. The adoption rate of people in Duc Phong is higher than in Pho Chau. Duc Phong occupies 88% (7 out of 8 persons)

- Important factors

Women are the mainly responsible for raising pig. The education level, confidence level and motivation of them are the important factors, which affects to the adoption of techniques in demo.

Those women who have low education level cannot estimate the cost and benefit of the activity. Thus, they dare not to invest money and time on the activity. Low education level makes women become less confident when participating in the training course, especially when they are non-AG members. They are afraid of being laughed by the other persons (the man) who has higher education level.

## 2.3 Goat demonstration

The evaluation was conducted at two sites. They are Tan Loc hamlet, Phoc Chau commune and An Chi Dong hamlet, Hanh Phuoc commune.

Total participant at the meeting was 41. Of which, 26 people were AG members (10 in Tan Loc and 16 in An Chi Dong) and 15 people were non AG members (15 in Tan Loc)

### 2.3.1 Adoption of demo techniques

- 12 out of 25 (48 %) AG members adopted the demo techniques partly.
- None of non-AG members adopted the demo techniques.
- According to participants in An Chi Dong hamlet, 13 households outside the AG in An Chi Dong hamlet partly adopted the demo techniques.

#### Goat shed:

12 out of 25 AG members (48%) adopted the demo techniques regarding making shed.

People did not make the shed exactly like demo shed. According to them, they did not have enough money, thus they had to make the smaller shed without play ground for young goat.

A demo standard goat shed cost about 8 millions VND. To people, the cost was high.

On average, one household could spend about 3 millions per shed with 4 rooms for two goat.

They used cheap materials such as bamboo or wood instead of concrete pillars. The tile was made with tole.

#### Cross breeding:

All participants said that after the training course provided at the demo, they understood that cross-breeding between close relationship goats might cause the death in future. Thus people would avoid it.

#### Growing grass:

17 out of 25 members of AG (68 %) growing grass for goat as showed in the demo. People thought that growing grass for goat was one of the new things they learnt from the demo. It helped save people's time on kicking up grass on field and help avoid some possible diseases for goat because the grass in their garden was cleaner than the wild grass on the field.

#### Feed ration:

13 persons (52 % of AG participants) modified the feed ration

People were unable to feed their goat following the ration by demo. According to their calculation, the ration suggested in the demo costs them on average 3-5.000 VND /per goat/per day.

Within their economic conditions, they could spend about 1.000 VND per day.

People used rice grain, cassava and maize powder or cooked rice to feed the goat. People had never fed their goat with these types of feed before.

People did not weigh the feed before feeding the goat. They just feed the goat based on the availability of feed available.

#### Veterinary techniques:

The training course of the demo provided people with information regarding disease prevention for goat. People thought that this point was new and appropriate for them.

### **2.3.2 Benefit of adopting demo techniques**

In An Chi Dong, the estimated benefit from the demo was 10 million per year (4 she and 1 he breeding goat) if the she goat gave birth after 1 year.

### **2.3.3 Appropriateness of demo**

In An Chi Dong hamlet, people thought that the demo was appropriate for them. The grass and labour were available. Economic for raising goat was not high but affordable.

In Tan Loc hamlet, people thought that the goat demo was not appropriate for them for several reasons:

- Main labour was elderly. The young people migrated to other cities for in search of work.
- People did not have enough money to invest into the activity.
- The demo was not successful because the mother goat did give birth.

## **2.4 Cattle fattening demonstration**

The evaluation was conducted at two sites: An Chi Tay hamlet, Hanh Phuoc commune and Thach Thang hamlet, Duc Phong commune.

There were a total of 43 AG-member participants at the meeting.

### **2.4.1 Adoption of demo techniques**

- 15 out of 43 AG members (38 %) adopted the demo partly.
- According to people at the meeting, no one outside the AG group adopted the demo techniques because they preferred raising breeding cattle.

#### Selection of skinny cattle:

13 persons (28 %) adopted the techniques of selecting skinny cattle.

In practice, the farmers have to depend on a private trader/middle man to buy the good cattle. After each time, the middle man receives about 100,000 VND per head cattle bought.

#### Making cattle shed:

No one adopted the cattle shed of the demo because they already had a shed and continued using it.

#### Feed:

People modified the feed to make it appropriate to their conditions. In the feed, there were dry soybean, premix, fish bone powder, and urea. But people did not use these ingredients because they did not have enough money. These ingredients were not sold in the local area because local demand was low.

People only feed their cattle with grass, concentrate (Lai Thieu branch), and cassava powder. These ingredients were home made thus people did not have to spend money to buying from the market.

#### Veterinary techniques:

In Lam Thuong people understood the important of vaccination. In An Chi Tay people were not clear about veterinary techniques.

In the two areas, people mainly depended on para-vet. In Duc Phong, every year, the commune organized an annual vaccination campaign for livestock.

### **2.4.2 Benefit from the adoption**

In An Chi Dong, no one adopt the techniques, thus they did not know the financial return.

In Lam Thuong, people gave an estimated amount of return.

In 6 months, they benefitted about 1.200.000-1.500.000 VND. This return did not include labour or home feed.

The time was reduced down to 6 months instead of 9-12 months if following traditional methods.

### **2.4.3 Appropriateness to the conditions of farmers**

People thought that the demo was not appropriate to their budget. They were unable to afford the feed. Some ingredients were difficult to buy.

## 2.5 Mushroom demonstration

The evaluation on mushrooms was conducted at two demonstration sites: Van Ha hamlet and Chau Me.

There was a total of 50 AG-member participants at the meeting, including 6 non-AG members. At each demo, farmers were supported to grow two kinds of rice-straw mushroom and oyster mushroom.

### 2.5.1 Adoption of demo techniques

- No household in the two hamlets (including AG members) adopted the demo techniques.
- The reasons for not adopting the demo techniques were an unsuccessful demo, rainy weather, low market demand for oyster mushroom, lack of mushroom spore, inexperienced trainers.

#### Market:

Oyster mushroom grew well and the demo was successful but in the local market, consumers did not have demand for this kind of mushroom. Thus, farmers did not want to cultivate it.

#### Bad weather:

At the time of the mushroom demo, the weather changed suddenly. Rainy weather made the atmosphere become too wet and this affected the development of rice straw mushroom.

Normally, people lay rice straw on the ground when cultivating rice straw mushroom. When heavy rain came, the spores could not develop as normal and this directly affected the development of mushroom. People make financial losses under such weather circumstances like that.

Heavy rain often comes in the summer. In this condition, people are afraid they will incur losses if growing rice straw mushroom.

#### Lack of spore:

The spore for growing mushroom was not sold in Quang Ngai. Thus, people have to buy it from Danang or HCM city. This is one of the difficulties people encounter when cultivating mushrooms.

#### Trainer:

According to the demo farmers, the trainers were not very experienced with the demo techniques, especially growing rice straw mushrooms. Therefore, his guidance on watering for rice straw was not clear, and people did not know exactly how much water they should use when making the rice straw wet.

#### Failure of demo:

Due to the reasons mentioned above, the demo was not really successful in total. The first part of the demo was successful with the oyster but the second part was not successful

because rice straw mushroom did not grow well. When looking at the results of demo, people did not feel encouraged to adopt demo techniques.

### **2.5.2 Benefit from the adoption**

No one knew the real financial benefit of demo because no one adopted the demo techniques into their household farming.

### **2.5.3 Appropriateness to the conditions of farmers**

The demo was evaluated as not very appropriate to the weather condition of local people (rice straw mushroom) and not appropriate to the consumer demand (oyster).