

# Assessment of Self-Reliant Village Extension Networks



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# 1 Introduction

## 1.1 Background

The formal extension system from central to district level has been established since the issuance of Decree 13/CP in 1993. However, the development of local extension organisations varied greatly among different provinces. Many lowland provinces have already funded the extension services down to the commune level, while a majority of provinces in the uplands have very weak extension networks below the district levels. Hoa Binh is a mountainous province located approximately 90 kilometers north-west of the Hanoi capital. Although the province established the commune extension network in 2001, many farmers currently have very limited access to the extension services (DARD, 2003). This can be attributed to the limited manpower and funds of the formal extension system, while there is a great diversity of agro-ecological conditions in upland areas. Thus, interaction between extension worker and farmer has often been insufficient. As a result, many extension activities have had limited impact on farmers' livelihoods.

At the same time, a rich base of formal and non-formal local organizations, which provide extension services in the rural areas and amongst different ethnic minority groups, existed. There is, therefore, a need to find innovative ways of drawing on these local organisational capacities for the delivery of extension services in upland areas.

The Extension and Training Support Project for Agriculture and Forestry in Uplands (ETSP) has the mandate to develop and propose options for financially and institutionally sustainable extension services to provincial authorities. One of the activities is to initiate organisational solutions to the delivery of extension services in upland areas and amongst different ethnic groups. The ETSP project in 2003 introduced Village and Commune Development Planning (VDP/CDP)<sup>1</sup> in Ngo Luong commune of Tan Lac district. VDP/CDP revealed that households have difficulties (among many others) to access to extension services at district level and therefore proposed to set up a village extension network with the aim to bridge the gap between households, commune and respectively district extension service providers.

Until now, there has not been any research on the village extension networks in Hoa Binh. Thus, this research aims to collect views and opinions from stakeholders who are directly involved in the village extension networks. The overall goal is to better understand how the village-based extension networks operate and function in Hoa Binh province, and understand the opportunities and challenges for the development of a sustainable self-reliant village extension network in upland areas of Vietnam.

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<sup>1</sup> Village /Commune Development Planning, an adapted version of GTZ Son La, was introduced in three provinces by ETSP in 2003. VDP/CDP is a participatory planning approach at grass-root levels, in which the villagers discuss the situation of their community, analyze problems, and define priority activities for the development of their village and commune.

## 1.2 Objectives of the study

The specific objectives of the study were to:

- Document the process and development of (two) self-reliant extension networks at village level in Hoa Binh province.
- Assess if village-based extension networks are able to provide relevant extension services to households and communities in rural uplands of Vietnam.

## 1.3 Concept of self-reliant village extension network

The concept of self-reliant extension network is not clearly defined in Vietnam. The definition of self-reliant village extension network in this report is defined as a local extension network organised by the farmers themselves. It tries to identify the needs/problems of farmers and implement actions to respond to the farmers' needs. The network exists without financial support from the government and projects. The concept will be used as the base to select case studies, which was developed based on the two following concepts:

The Netherlands Development organization (SNV) defined self-managed extension village (SEV) is a “voluntary farmer’s organisation at community level aimed at creating favourable conditions for the implementation of agricultural and forestry extension activities. They are created to improve the self-reliance and self-confidence of farmers; help villages develop realistic plans for improving agricultural productivity; and strengthen community solidarity”<sup>2</sup>

Village Extension System (VES) in Laos is defined as ‘a village based development approach that includes all local efforts to ensure food security and economic progress for the villagers’ (LEAP and CETDU, 2004). The main principles of VES include: (i) a Village Extension Worker whose task is to ensure innovations spread throughout the village; (ii) the production groups who learn and exchange new techniques; (iii) the extension generalist; and (iv) all the resources for VES are organized and managed by the village.

## 1.4 Study sites in Hoa Binh

The above-mentioned concept was used as the base to select two cases for the study. The first case was the Hop Thanh Piggery Cooperative in Coi village, Tan Vinh commune, Luong Son district. This cooperative was selected for the study because the Hoa Binh Extension Centre considered it as a successful self-help and producer organisation operating at a local level. Given the cooperative’s special operating mode it was considered important to document and analyse this specialised newly formed network from the perspective of producers. The second case was the Village Extension Network in Ngo Luong commune, Tan Lac district. During establishment, the network was

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<sup>2</sup> Source: Netherlands Development organization. Agricultural Extension. [http://www.snv.org.vn/Agricultural\\_Extension.htm](http://www.snv.org.vn/Agricultural_Extension.htm). SNV has been supporting the self-managed extension villages in Thai Nguyen province Vietnam since 1996.

technically supported by ETSP and the district. The village extension network was considered as one of the first Village Extension Networks in the Northern upland provinces of Vietnam. Therefore, initial experiences and lessons learned from setting up this network have to be documented and to share knowledge and experience with others.

The following table 1 presents general features of the Hoa Binh province and the two study sites:

**Table 1:** General features of Hoa Binh province and the two study sites

	<b>Hoa Binh province</b>	<b>Tan Vinh commune<sup>3</sup></b>	<b>Ngo Luong commune<sup>4</sup></b>
<b>Total area</b>	466'250 ha <sup>5</sup>	1'920 ha	3'825 ha
<b>Forestry land</b>	200'170 ha	550 ha	3'090 ha
<b>Agricultural land</b>	66'759 ha	492 ha	287.7 ha
<b>Units</b>	11 districts	11 villages	6 villages
<b>Population</b>	782'600	4100	1461
<b>No of households</b>	-	860	260
<b>Ethnic Groups</b>	63 % Muong, 27% Kinh, 3.8% Thai and Tay, Dao, H'Mong <sup>6</sup>	70% Muong, 23% Kinh	100% Muong
<b>Income sources</b>	-	Agriculture, husbandry, handicrafts and production of building materials	Agriculture and husbandry Forest and non-timber forest products
<b>Access to city and town</b>	2 hour from Hanoi, highway	1 hour from Hanoi, highway 30 minutes from Hoa Binh town, easy to access	2 hours from Tan Lac, 1 hour from the next commune, difficult to access

The table shows clear differences between the two study sites. Total area of Ngo Luong commune is much bigger than that of Tan Vinh, 3'825ha and 1'920ha respectively. However, the population of Ngo Luong is only one third of the Tan Vinh commune's. The Ngo Luong commune is more dependent on agricultural and forestry products, while the sources of income for Tan Vinh farmers are more diverse ranging from agricultural products to handicrafts and production of building materials. It is quite easy to get access to city and town from Tan Vinh commune, whereas it takes almost two hours to get to Ngo Luong from Tan Lac township by car, just about 40-50 km away.

<sup>3</sup> Source: Meeting with vice-chairman of the commune people's committee, on 10<sup>th</sup> Dec 2004

<sup>4</sup> Nghiem Hong Son.(2002): Baseline survey report: Survey of communes in Mai Chau, Tan Lac and Lac Son Districts of Hoa Binh Province. Pu Luong – Cuc Phuong Limestone Landscape Conservation Project, Project Report 02, Hanoi

<sup>5</sup> Bui Van Chuc. (2003): The allocation of land, contracting of forest and management of community forests in Hoa Binh province. In: Department of Forestry, National Working Group on Community Forest Management (eds.): National workshop on allocation and management of natural forest in community forestry. Workshop proceedings, 22 May 2003, Hanoi.

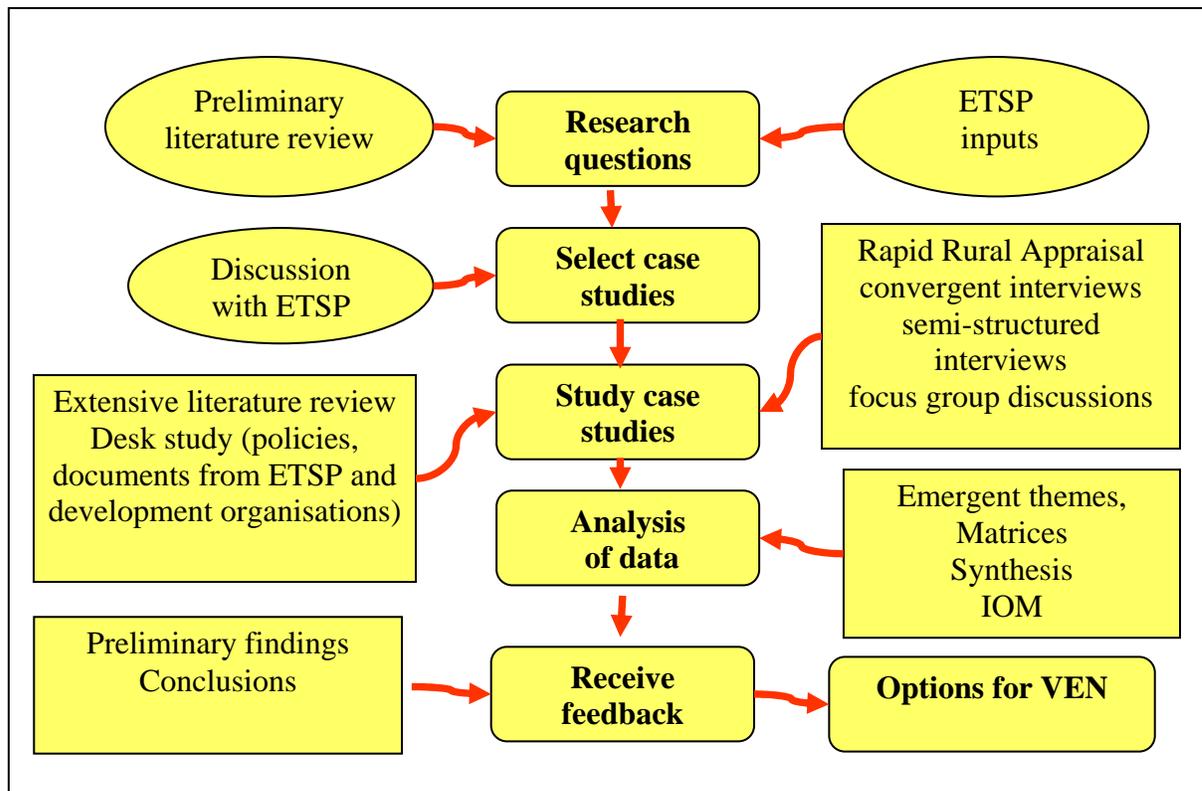
<sup>6</sup> General Statistics Office (2003): Statistical Yearbook 2002. Socialist Republic of Vietnam, Statistical Publishing House, Hanoi.

## 1.5 Methodology

The framework (figure 1) for the study was developed based on the inputs from the Extension and Training Support Project and preliminary literature review. After discussing with ETSP, the researcher consulted the Hoa Binh Extension Centre to identify some possible village-based extension networks for the study. The two cases were then selected for in-depth study. Each case was studied separately using a combination of different methods.



**Figure 1:** Research methodology and process



Hop Thanh Pig Production Network: A group discussion was initially conducted at district level. This was to collect views and opinions of district and provincial extension staff on the pig production network including identifying the advantages and disadvantages of the pig production cooperative.

With the help of a provincial extension officer (co-interviewer), 14 members (out of 23 members of the cooperative) were randomly selected for semi-structured interviews.

After which a VENN diagram was drawn by six members of the cooperative to analyse the relationship between the pig production cooperative and local stakeholders. Finally, an adapted participatory system assessment (Herweg and Steiner, 2002) was applied to identify critical elements of the cooperative and possible interventions for future extension networks.



Participatory System Analysis

Village Extension Network in Ngo Luong commune: The procedure for gathering data was slightly different. With the help of a district extension officer, semi-structured interviews were conducted with (4) commune authorities first to understand the current situation of the extension network in the commune and get their perceptions on the network. Then, 20 farmers in two villages (Luong Duoi and Luong Tren) were randomly selected for interviews to seek their views on the development of the network and benefits that they received from the network. Semi-structured interviews were also carried out with all village extensionists and a commune extensionist. A workshop was organised at commune level to analyse strengths, weaknesses, opportunities and threats of the village extension network. Participants of the workshop included representatives of the Commune People's Committee, People's Council and mass organisations (farmer's union, women's union etc.). Finally, with the help of the ETSP Project Coordinator, a focus group was conducted at district level to analyse the process of setting up the village extension network and propose actions for development of VEN. The participants comprised of the vice-chairman of the District People's Committee, staff from the District Extension Station, staff from District Agriculture and Land Administration Office and staff from District Veterinary Station.

All the participants involved in this study referred to as farmers, extensionists or authorities throughout the report to maintain their anonymity.

## 2 Results and discussions

### 2.1 Case 1: Hop Thanh Pig Production Cooperative

#### 2.1.1 Establishment of the Hop Thanh Pig Production Cooperative

The Hop Thanh Pig Production Cooperative was formed in 2003 following the new Cooperative Law issued in January 1997. The aim of the cooperative is to efficiently and effectively raise pigs, thus improve income of farmers. The cooperative originated from an informal group of farmers who were interested in raising pigs to improve their income. The cooperative began with 6 interested members and had 23 farmers by November 2004. The interviewed farmers stated that in 2001 they had raised pigs as individual households with a small quantity (maximum 3-4 pigs/household). The farmers faced many difficulties including lack of knowledge on husbandry, severe diseases, and fluctuating market prices. In addition, farmers recognised that as small isolated entrepreneurs they had not received any support from the extension services such as training in animal husbandry nor had money to expand their business. The concept of farmers producing collectively was considered when a young farmer (the current manager) read the article about '*Searching the export markets for pig industry*' in the Vietnam Agriculture Newspaper. He thought it would be easier to access to different services as a group and realised a need to set up the cooperative. As a result, the first planning meeting was held, in which the young farmer acted as the facilitator. A few farmers with shared interests came to talk about their goals and strategies. A budget plan and regulations of the cooperative were developed with the guidance and advice from the commune authorities and district agriculture and land administration office. The regulations clearly explained the goal of the cooperative, rights and responsibilities of the members, and rights and responsibilities of the management board. The budget plan estimated the expected profits for the whole cooperative.

#### **Highlights:**

Common interest and vision were the motor to organizational innovations. The strong leadership/promoter was an essential factor to make the cooperative operating effectively .

#### 2.1.2 Main characteristics and elements of the cooperative

The cooperative had 23 members by November 2004, of which only six are women-headed households (accounted for 26%). Farmers belong to Muong ethnic group and make up the majority of the cooperative (82.6%), and the rest are Kinh. All the members are now regarded as better-off households<sup>7</sup>. Ages of the members range from 25 years old to more than 60 years old, thus having members had varying experience in animal

<sup>7</sup> Better-off households are defined by the farmers themselves. The criteria for 'better-off' include having a motorbike, at least 15 pigs or 3 cows/buffaloes, a television, self-subsistence and a concrete house.

husbandry production. The farmers reported that on average each farmer household grew 60-70 pigs per cycle (3.5 cycles per year).

The members have been carefully selected. They must meet the strictly regulated criteria, for example having at least 10 pigs or 3 dairy cows or 500 poultry fowl. In addition, the member must pay 300'000 VND as the capital to set up the cooperative. The current members acknowledged that now many other farmers outside the cooperative meet the set criteria and want to join the group as they saw benefits from it. But, the members are afraid that 'larger group is more difficult to manage, especially market issues'. Therefore, the current number of farmers in the cooperative remains at 23. However, a management member mentions that the cooperative still provides support and services to others.

The working principles of the cooperative comprise of self-help, self-control and self-responsibility. This means that the farmers voluntarily join forces or withdraw from the cooperative and provide mutual help for each other. All members have equal rights and are responsible for the foundation and progressing of the cooperative.

**Highlights:**

The assessment seems to reveal that the selection criteria were there to ensure the motivated members to be included in the cooperative. It also reveals that better-off farmers are able to join the cooperative, while poorer farmers might be excluded from it. However, poorer farmers may receive services from the cooperative.

**2.1.3 Cooperative activities and extension services: benefits of farmers**

All activities and services offered to the members and non-members are discussed in the general meeting. Before the cooperative was established, the majority of the services and activities had not been offered elsewhere or they had been more costly. The cooperative, therefore, has an essential role in organising the services for farmers. The farmers and management board considered the most important activities and services, which support them directly, are as follows:

- **Organisation of inputs supply:** This was highlighted by the farmers as one of the most important services offered by the cooperative. Collective purchase of piglets is one example of the farmers taking advantage of price discounts and transportation. The management board usually rent a truck to purchase the piglets from Thai Binh province (about 100 km from the village). The market price of a piglet (15-20 kg) in Luong Son district is 23'000 VND, while the price purchased in Thai Binh is only 16'000- 17'000 VND (including transportation costs). Thus, the farmers save 6'000 - 7'000 per piglet. Another critical service offered through the cooperative is supply of feed. The cooperative management board signed contracts with the Chau Vang Feed Company to supply the feed for the farmers. The price is 3'500 VND per kg delivered at farm gate, while the farmers have to pay the same amount at local market without delivery. In addition, the farmers can defer their feed payments until they sell their pigs. This increases the opportunities for poor farmers to be involved in the raising of pigs.

- **Training and transfer of technology:** The farmers mentioned they had attended two valuable training sessions since joining the cooperative including the training in animal husbandry and animal health. The former training focused on growing and fattening pigs such as housing, feeding, nursing and hygiene requirements, while the latter concentrated on common diseases in pigs, and how to prevent and treat them. The farmers found these practical trainings useful as their knowledge and skills in animal husbandry improved. It is interesting to note the trainings were conducted free of charge by the Chau Vang Feed Company. Previously the district extension system had also provided the training in animal husbandry. However, the farmers stated that the training was too theoretical, thus it was not very effective.
- **Veterinary services:** although the farmers had acquired the basic knowledge in animal health, at the moment the cooperative has a contract with a private veterinarian in the district. The farmers explained that they really wanted to work with the district veterinary services, however, when they needed urgent services, the district people were often too busy. In the future, they plan to send two members to trainings specialised in animal health and veterinary medicine. These farmers will become para-veterinarians to serve for the cooperative and the whole village. They will provide services on a contract basis and earn money for services provided.
- **Market and market information:** Previously the cooperative attempted to contract with outsiders (slaughters in Luong Son and Xuan Mai) to buy pigs for the farmers. However, this proved to be ineffective due to fluctuating market prices. The demand for pork meat is very high because at the moment the chicken industry is in the crisis (bird flu) so the farmers can easily sell their pigs at inflated prices. Collectors and slaughters from Xuan Mai and Luong Son come to buy the pigs at farm gate and pay cash in hand. One issue was that the farmers were not able to sell their pigs to the Hanoi market because the market required a high quality of pork meat. Leaner carcass was required to enter this big market.

The farmers acknowledged that the local extension system has made an effort to provide market information about the prices and market demand-supply conditions through media and newspapers. However, information has been scant and irregular. Instead, the farmers received market information from television and radio. In addition, the Chau Vang Feed Company also provided farmers bi-weekly bulletin to keep them updated with market information. The interviewed farmers reported that farmer to farmer communication also played a crucial role in exchanging market information. Market information based on experiences and observations was shared between farmers through informal meetings.

- **Processing of by-products:** The Provincial Extension Centre and district extension station supported each household 1 million VND to install biodigesters for more than sixty percent of the farmers in the cooperative. The pig manure is used to produce gas (methane) for cooking. Fifty percent of these households use it as the primary source of fuel for their cooking. Some farmers have already sold the gas to their neighbours. The effluent from the biogas digesters is used by the farmers themselves as fertilisers to produce organic vegetables or sold to other farmers.

- **Organisation of meeting:** a meeting is organised once per month. According to farmers, this appears to be a necessary activity especially at early stage of establishment. The meeting facilitated by the management board, is to exchange information on technical and market issues. Sometimes district extensionists are also invited to the meeting if the farmers have technical problems. The farmers mentioned that ‘the meeting has been useful in the way that they have learned a great deal from each other’. In addition, it was an opportunity for them to initiate new ideas and discuss how to implement them. Special meetings are also organised when necessary.

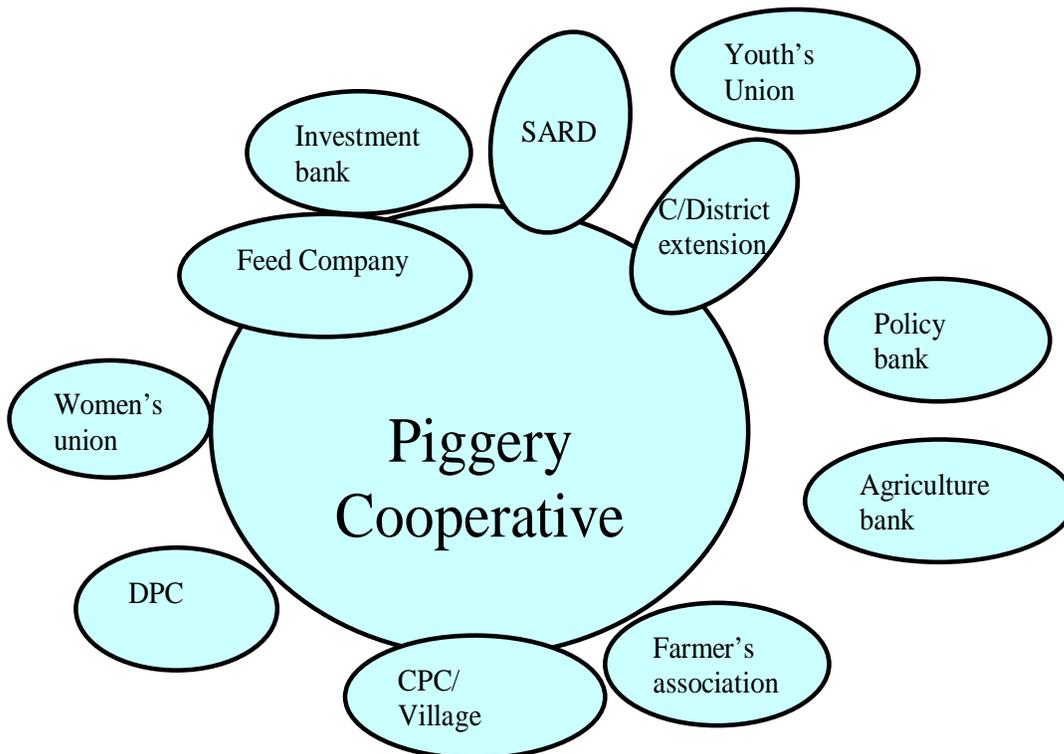
**Highlights:**

The private service provider played the essential role in the delivery of extension services for the piggery cooperative. It clearly had its own interest in a well functioning producers group. The private service provider responded and flexibly meeting the local farmers’ needs. To establish similar models in other areas collaboration is required between the formal extension system and the private enterprises.

**2.1.4 Roles of the cooperative and its relationship with local organisations**

The farmers all understood the important roles that the cooperative had in coordinating activities and services. There are three areas the cooperative promotes to its members: (i) coordination with others to provide services to the members, that are not otherwise available; (ii) accessing cheaper services and discounts; (iii) quality of services is of higher standard than those otherwise available.

The relationship of the cooperative with local stakeholders is presented in the following diagram:



It can be seen from the diagram that the cooperative has a very close relationship with the Feed Company. As previously mentioned, the company provided feed, training sessions, market information and a telephone to farmers. In this model, the private company plays the supportive role. The management board replaced the role of the commune extensionist. The reason raised by the farmers was that the commune extensionist lacked appropriate knowledge and skills.

The Coi Village Management Board, Commune People's Committee (CPC), District People's Committee (DPC), and District Agriculture and Land Administration Officer helped the cooperative become a legal entity so that it can participate in economic life (cooperative enterprise). In addition, the Commune People's Committee is now considering providing an area for the cooperative to build its office. Other mass organisations such as Farmer's Association, Women's Union and Youth's Union have had little influence.

The farmers stated that the loan policy was a crucial issue for their business expansion. However, the banks have played less visible roles. The farmers explained that although the Bank for Investment and Development set high interest rate for loan, the farmers had to borrow money from it because the procedure was quite simple and quick (e.g collateral was simple). The loan is often over a period from 6 months to 1 year. On the other hand, the Vietnamese Bank for Agriculture and Rural Development (VBARD) set lower interest rate, but the farmers were not able to borrow from it as the loan procedure was complicated, and the loan term was shorter, according to the farmers. In addition, the cooperative has not established any relation to the Policy Bank in the district.

**Highlights:**

This market-oriented cooperative has a stronger relation with private service provider than with the state ones. In order to expand the business for farmers, the banks, especially the VBARD and the Policy Bank will have a more important role. The cooperative also needs the support from the government in setting up the cooperative's legal status to participate in economic life.

### 2.1.5 Assessment of success factors of the cooperative

Participatory System Analysis (PSA) was carried out to identify success factors of the cooperative. Herweg and Steiner (2002) considered a context was a living system, and the elements within the context were highly inter-related.

The group consisting of farmers, management board and extension officers identified a list of different factors that affected the establishment and development of the piggery cooperative. Twelve factors were selected by ranking according to their importance on the success/failure of the cooperative. After that the twelve factors were written on cards and put into a flow chart for analysis. The flow chart is presented in the following figure. The flow chart was used to determine the important and less important factors that make the cooperative successful/failure. Based on the chart, the farmers selected followings as success factors: (1) the cooperative brings benefits to everyone involved; (2) all households are interested in pig raising and willing to join forces; (3) the capacity of the

management board is exceptional; (4) the farmers acquired knowledge on husbandry from trainings and peer learning; (5) there are markets for their products.

There was a debate among the key informants on whether the policy on bank loan would also be one of the key factors for the success of the cooperative. The participants agreed that if the cooperative was to expand, it would be a crucial factor. Another factor that the farmers also regarded important was veterinary services. The farmers are now able to prevent and treat some simple pig diseases as well as having a service contract with the private veterinarian.

Highlights: The cooperative is working well because it has a competent and motivated manager. The manager is an enthusiastic and responsible person. He is not only a pig producer himself but also acts as an intermediate between farmers and service providers. He is now attending a course in business management at the Ha Noi Open University.

### **2.1.6 Challenges of the cooperative**

Through analysis of the flow chart, the farmers also identified five main challenges that the cooperative may encounter. Firstly, there would be a strong price competition in the future. The demand of pork meat the local market was significantly high due to the current problem of the poultry industry. Thus, the price was high, for example the price in Luong Son was 15'000 VND/kg live weight (Nov, 2004). However, other farmers might shift from growing chicken to pigs, which would result in an increase in the number of pigs in the near future. Therefore, the price of pork meat may decrease.

Secondly, there might be a problem of market share. At the moment, this is not an issue. However, in the future, if the cooperative is about to enlarge its members, and the households are about to increase the number of pigs, or other local farmers invest in the pig industry, the Luong Son and Xuan Mai markets will be too small to absorb all the production.

Thirdly, the cooperative struggles in marketing its products. The farmers stated that they have not concentrated on this issue yet, but also admitted that marketing was crucial, while they still lacked marketing skills and knowledge.

Another challenge mentioned by the farmers was the quality of carcass. At the moment, the carcass has a high percentage of fat. This is also a reason for having not been able to enter the Hanoi market. Therefore, breeding of high quality piglets for leaner carcass will be crucial.

In addition, there is low level of working funds and limited access to credit. As analysed above, most farmers complained that they were short of investment budgets to increase production. The farmers acknowledged the need for building a feed processing unit (technically supported by the Food Science Institute), but they have not been able to construct it due to lack of funds. They needed more than a billion VND but are unable to borrow the money from the banks.

In summary increasing quality of input supplies through better breeding and feed processing facility will be vital for the existence and development of the cooperative.

### 2.1.7 Critical factors and recommendations for planning of future similar cooperatives from the farmer's perspective

The Participatory System Analysis (PSA) adapted from Herweg and Steiner (2002) was conducted to understand the critical factors for the cooperative. Herweg and Steiner (2002) suggested that a systems analysis was more appropriate than a simple cause-effect analysis. A variety of stakeholders with different backgrounds, knowledge and experience, in this case including farmers, management of the cooperative and commune and district extensionists, defined important factors of the cooperative context and analysed their relationships.

The 12 elements were selected and put into the PSA matrix and rated the influence of each element on the others. To do the ratings, it was assumed that all elements in a system have at least a weak or indirect influence on each other.

#### Rating

Strong influence =	2.0
Moderate influence =	1.0
Weak influence =	0.5
Very weak influence =	0.1

The rating started with line No.1 (not a column). The question to ask was 'what is the 'influence' of element No.1 (e.g. income) on element No.2 column 2 (e.g. loan policies), No.3 column 3 (inputs) etc.? After the rating is completed, each line would reflect the influence of that element has on others in the system. This is called **active** character of the element. At the same time, each column reflects the influence of all other elements on the element. This is called **passive** character.

Adding all values of one line results in active sum of this element, while adding all values of one column results in passive sum of the element (Herweg and Steiner, 2002).

Multiplying the active sum by passive sum of each element gives its **degree of interrelation** within the system. This reflects how strongly or weakly the element is 'networking' within the context.

Dividing active sum by passive sum of each element gives its **active ratio**. This indicates whether the element plays rather an active role ( $>1$ ) or rather a passive role ( $<1$ ).

The complete rating scores matrix can be seen from appendix 1. The rating scores were then processed through an excel software to get the coordination chart below.

Figure two below presents the results of PSA

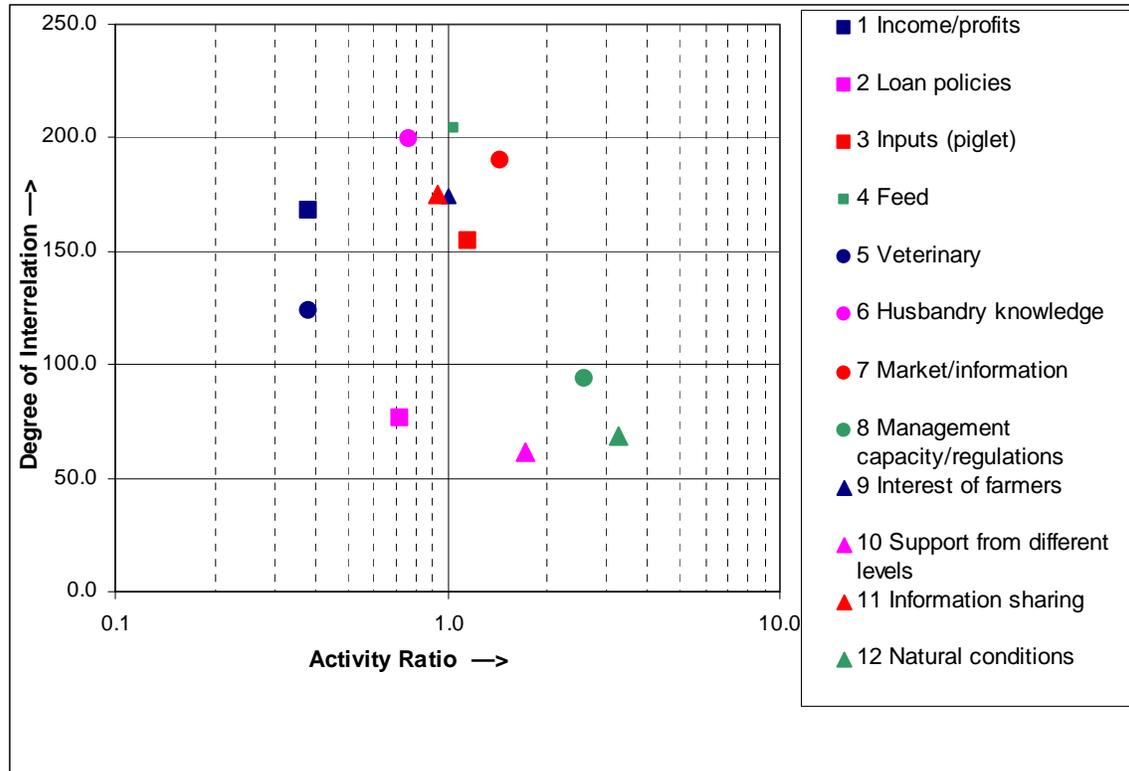


Figure 2: Results of participatory system analysis from farmer's perspective

### Intepretation of the PSA:

#### Motor/lever elements

Motor/lever elements are active elements. They influence other elements more than they are influenced. They seem to be promising points for development projects' interventions.

It is interesting to note that the group identified *capacity of the management board*, *support from different levels* and *natural conditions* as motor/lever elements that are potential to influence on other factors. The results are quite relevant in this particular case from the researcher's point of view. Clearly, *capacity of the management board* is an important point for an intervention of any project/programs on extension network/interested groups. *Support from different levels* is also of concern when considering the establishment of a cooperative/network because it has the potential to influence the overall system. *Natural conditions* such as weather, land and human resources are important when selecting a product for the cooperative/network.

#### Critical elements

Critical elements are unpredictable. They may change things quickly and may also create undesired effects.

The unpredictable factors identified by the group comprised of *market/market information*, *supply of feed*, *purchasing of piglets* and *interests of farmers*. These are

critical factors that change many things quickly and may also create unexpected side effects.

It is suggested that these critical elements/factors are required carefully analysis before setting up the network/cooperative because:

- It is clear the market and market prices are unpredictable. It can have great impact on many different things including the farmers' profit.
- Supply of feed is another factor that might not be predicted. For example, the company might stop supplying feed for the cooperative.
- Purchasing of piglets from another province is also unpredictable. It is sometimes difficult to buy the piglets because the farmers depend on the breeders (in this case the farmers in Thai Binh province).
- Another critical factor is interests of farmers. It is understandable that the farmers are interested in raising pigs if it brings about profits. On the contrary, they may leave the pig industry if they experience a loss.

### **Symptoms**

Symptom elements are greatly influenced by others but may not have the power to influence others within the system.

The group considered *income/profits*, *information sharing* and *knowledge on animal husbandry* (figure 1) as symptom elements.

From the researcher's point of view, it is clear that the elements such as income and knowledge on animal husbandry are greatly influenced by many other elements in the system. However, the surprising result was the 'information sharing' element as a symptom. It was expected to be critical element as it might influence on other elements and be influenced by others.

### **Buffer**

The surprising factor, which characterises a low importance in the pig cooperative, is loan policies. It can be explained that at the moment few farmers have thought of expanding their business, thus there is no need to borrow money from the bank. However, in the future it will be critical if they want to produce the feed locally or increase number of pigs raised per household.

## 2.2 Case 2: Village Extension Network in Ngo Luong

### 2.2.1. Establishment of the village extension network

In the Village and Commune Development Plans (VDP/CDP)<sup>8</sup> approved by the Commune/District People's Committee in 2003, the farmers in Ngo Luong commune expressed a need for a network of village extensionists because they were not been able to access most of services provided by the District Extension Station/District Agriculture and Land Administration Office. Thus, it was necessary to establish a village extensionist who is able to respond to the needs of farmers in a more timely and effective manner. Responding to this need, the Extension and Training Support Project facilitated the establishment of the village-based extension network. The commune needed the facilitation support from outsiders to set up the village extension network because according the district officers, the commune officers are not proactive enough to take initiative and all the tasks and activities from the formal system are now still assigned by the superior level (top-down approach). The procedure of establishing the network and building capacity for the extensionists is described in the table below:

**Table 2:** Capacity building of extensionists at district and commune /village

Step	Content	Main Actors
1	Carry out a Training Need Assessment based on the Village and Commune Development Plans	Consultant (Xuan Mai) and district extensionist, project
2	Formulate Training plan	Consultant/ district extensionist
3	Produce lesson plans and training materials	District extensionists/consultant
4	Organise 6 village meetings to select 2 village extensionist per village	District extensionists/ households
5	Organise training on Lerner Centred Teaching Methods (LCTM) and facilitation	District extensionist Consultant
6	Coaching and provision of 3 training modules (3 x 7 days)	District extensionists (trainers) and consultant (coaching) and village extension learners
7	Reflection among trainers	Consultant and district extensionists

<sup>8</sup> ETSP has supported the village/commune development planning process in Ngo Luong since July 2003

**Table 3:** Establishment of a formal village based extension network (VEN)

<b>Step</b>	<b>Content</b>	<b>Main Actors</b>
1	Organise a internal workshop with district leaders and extensionists Elaborate concept and principles of VEN	District PC, extensionists and project
2	Organise a consultation workshop to elaborate outline, vision, functions and tasks, responsibilities and benefits, working and financing mechanisms of the VEN	District extensionists (facilitation) / project (co facilitation), commune, village leaders, commune and village extensionists, households
3	Issue a decision on the establishment of a village based extension network	District and Commune Peoples Committee
4	Elaborate supporting mechanism such as revolving fund for input supply and innovation fund for village extensionists	Project/district extensionist
5	Issue a decision on the fund management	Commune Peoples Committee

#### **(a) Training Need Assessment and preparation of training plan**

The first step was Training Need Assessment (TNA) which was conducted by the district extensionists based on the results from VDP/CDP. The process was facilitated and coached by a consultant from Vietnam University of Forestry. Through TNA, target trainees, number of trainings required and the process of training were identified. The training outlines were then formulated by the district extensionists based on the training needs. The lesson plans and training materials for each topic were produced and improved by the district extensionists.

Highlights: The TNA and training process also aimed at improving capacity of the district extensionists, thus the process had or has dual objectives.

#### **(b) Selection of village extensionists**

The second step was to select two extensionists per village, one person in charge of agriculture activities and one in charge of animal health. A meeting in each village was organised for this selection. The district extensionists supported the villages to organise the meeting. The guided criteria for selection were developed at district level including voluntary, young, education level, good communication and facilitation skills and respected by farmers. The criteria were presented in the village meeting for discussion. Then, the villagers nominated the candidates and selected them by 'secret voting'.

Assessments:

A strength of the selection process was that the village meeting was organised in the democratic way. Through the meeting, farmers understood well the importance of having extensionists in their village. However, the interviewed farmers and authorities indicated several weaknesses relating to the selection. Firstly, at the beginning the farmers did not understand well the roles and responsibilities of the village extensionist. Therefore, the selection was difficult for many farmers. As a result, in two villages, 2 extensionists have already moved to other jobs. Another difficulty encountered during the selection of village extensionists was that the farmers in remote area were shy, especially women, thus they easily accepted what was proposed. Thirdly, there was an imbalanced representation between the genders. All 12 extensionists were men.

The interviewed farmers said that they did not vote for young female extensionists because they fear the women would later marry in other villages. However, the experience from the Tan Lac Extension Station proved that female extensionists might do better extension job than their male counterpart. This is also confirmed by Thanh et al. (2004). Fourthly, the extensionists pointed out that number of extensionists (2 per village) might be an issue. Some villages such as Bo village have only 24 households. The two extensionists will get a total allowance of 24'000 VND/month, or 12'000 VND/month each. This will be too little for an extensionist to perform his tasks well. Finally, the farmers in upland areas have limited education level. Therefore, it would be difficult to find a farmer in Ngo Luong, who meets all the set criteria.

**Suggestions by the stakeholders:**

- The concerned stakeholders emphasized that selection of the village extensionists was an extremely important step in the whole process. Therefore, it is necessary to clearly explain the roles and responsibilities of the village extensionists in the village meeting so that the villagers understand well before selecting the extensionists.
- Gender issue should be considered when selecting village extensionists. For example, women should be encouraged to take the village extension roles. One criterion could be 'someone who is already married'. This may prevent the extensionist from moving to elsewhere.
- The number of extensionists per village should be flexibly applied. In some small villages, one extensionist may be enough.
- Criteria for selection should be thought out carefully. It is suggested to pre-select only 2-3 key criteria as example, and then the farmers will propose the criteria in the village meeting. It is important to stress that the selected extensionist should contribute to the development of the village after trainings.

### **(c) Trainings for village extensionists**

The district extensionists recognised that the newly nominated village extensionists lacked essential knowledge and skills to provide effective services and support to farmers and communities. Therefore, three blocks of training (one week each) were provided to

all village extensionists by the district extensionists<sup>9</sup>. The trainings focused not only on technical aspects such as cultivation and animal husbandry but also on facilitation skills. The district trainers considered the trainings as success in following areas: (i) training needs were identified based on VDP/CDP results. (ii) the trainers applied participatory training methods, thus every participant was given opportunities to participate in group learning and discussion. However, the trainers reflected that this was the first time the district extensionists coordinated and conducted trainings on technical and methodological topics. To improve the trainings the emphasis needs to shift from a theory focus to practical application. The participants had few opportunities to practice during the trainings. In addition, many of the topics were technically rather than methodologically oriented. For example, the trainings covered on crops cultivation techniques, animal husbandry and veterinary, forestry plantation techniques. whilst little coverage on extension methods and identification of farmers' needs. As a result, after the training had been completed the village extensionists still lacked practical skills.

**Suggestions by the stakeholders:**

- The village extensionists should learn how to identify the needs of farmers by contacting the farmers directly or through village meetings
- A training in extension methods and skills is necessary for the village extensionists so that they are able to recognise the needs and problems of villagers
- For a similar network, trainings in extension methods and skills should be conducted before technical topics. Technical trainings may be more specialised for some extensionists so that they can become experts in that field.
- It is suggested by the district officers that trainings should be collaborated with different organisations such as the District Veterinary Station so that the trainees can learn by doing in the field.
- As most village extensionists are still young, they should be given opportunities to carry out some tasks in the village so that they will be more confident in near future.

**(d) Development of the regulations and mechanisms for village extensionists**

A consultation workshop was organised at district level and then commune level with participation of district extensionists (facilitation) / project (co-facilitation), commune and village leaders, commune and village extensionists and households to elaborate outline, vision, functions and tasks, responsibilities and benefits, working and financing mechanisms of the village extension network. The workshop's outputs were a locally agreed framework (mechanisms and regulations) to run a village based and self reliant extension network. The framework was then submitted to Commune and District People's Committee for approval as a legal document. The process was considered as 'open discussions' with participation of key concerned stakeholders. However, it was assessed that the regulations were still at 'macro level' with a lot of 'technical terms'. The farmers, even the village extensionists, could not understand all parts of the regulations.

<sup>9</sup> Training plans and lesson plans on technical topics can be obtained from the Tan Lac Extension Station

Moreover, finalisation of the regulations took a lot of time, thus the disbursement of revolving funds and innovation funds has been delayed. In addition, the activities for village extensionists have not been defined clearly. How to implement activities? How to effectively use innovation fund?

Suggestions by the stakeholders:

- The regulations for village extensionists should be adapted to local conditions. Simple language should be used so that the farmers understand the roles and functions of village extensionists.
- A simple guideline on the village's roles in monitoring the tasks and activities of the extensionists and also a simple guideline on how to carry out the extension tasks in the village needs to be developed by all stakeholders involved.

### **2.2.2. The inputs supply fund and innovation fund**

The purpose of input supply fund is to purchase inputs in bulk (one truckload) in order to maximise discounts and access to available subsidy schemes for transportation to remote areas. Likewise farmers in Ngo Luong receive inputs at prices close to or cheaper than in the lowlands. The fund (VND 12 million) will be owned by the Commune Peoples Committee and managed by the commune extensionist who will organise production inputs in close collaboration with village extensionists.

The purpose of innovation fund is to make available a limited capital to innovate micro activities at household level. The fund (1 million per village) will be owned by the village community but managed by the village extensionist. He/she will be responsible and accountable toward the farmers that investments are beneficial. The size of the fund is purposely kept low in order to come up with affordable innovations (accessible to poor) and to reduce risks. Depending upon the results of such funding mechanism, capital volumes can be adapted.

### **2.2.3. Activities of the village extension network: from perceptions of different stakeholders**

More than 90% of interviewed farmers stated that they know there are an extensionist and a veterinarian in the village. The farmers perceived two roles of the extensionists. The first role is to transfer of technology for example training in maize cultivation methods, while another role is to collectively purchase inputs namely, maize seeds, rice seed and fertilisers for the farmers. They were also happy with the selection of the village extensionists and willing to pay 1000 VND per month if the extensionists work effectively. The extensionists also had the same perceptions of their roles as the farmers did. The extensionists perceived their jobs as provision of inputs supply and training for farmers. However, they barely mentioned their roles in the outputs such as market information. The concept of 'middleman' or intermediary was poorly understood by the village extensionists.

The extensionists and authorities appreciated the revolving fund and innovation fund because the funds responded to the need of farmers. The revolving fund clearly brings benefits for farmers because the farmers can collectively purchase inputs such as seeds

and fertilisers, and take full advantage of the district subsidies<sup>10</sup> on prices and transportation. The farmers have already registered through village extensionists to buy hybrid maize seeds (about 800 kg) and hybrid rice seed (200 kg). The amount of revolving fund is considered as 'satisfactory'. Most of the extensionists mentioned to use innovation fund to develop a demonstration model on maize.

**Suggestions by the stakeholders:**

- It is suggested to clearly explain to the village extensionists their roles in the village. It is important to make them understand that their role is to bridge the gap between the households and communities and the services providers such as district extension station and or research institutes.
- It is suggested that the village extensionist should be part of the village management board so that he/she will be better able to carry out their tasks.

**Assessments:**

No assessment can be made at this stage, because the network has been very recently established. However, it must be noted that the network seems promising in providing extension services for upland farmers.

**2.2.4. Vision of the village extension network in 5-10 years**

The five to ten year vision of the village extension network was posed to farmers, extensionists and authorities during the field work. It is interesting to note that there seems an agreement on the development of the village extension network. In 5-10 years, the farmers will buy the services from the extension network. The farmers will work with the village extensionist more than with the village head.

**2.2.5. Opportunities and threats for development of the village extension network**

The focus group identified some opportunities for the development of the village extension network. The need of farmers for extension services is increasing because their production capacity will be boosted. The government policies need to pay more attention on the development of an extension system, especially the grass root extension network. Moreover, this network is technically supported by the project and district.

However, there are some challenges that may threaten the existence and development of the village extension network. Firstly, the capacity of the extensionists is still weak. The question is how fast the extensionists can improve themselves to meet the increasing demand from farmers. Secondly, the education level of farmers in Ngo Luong is quite low. They lack of market knowledge, while the agricultural sector faces a quite high risk. The farmers are used to heavy subsidies from the government on different services. Thus, the question is how willing are they to pay for the services provided by the extensionists.

<sup>10</sup> The Decision of the District People's Committee to subsidize the price of hybrid seeds (5'000 VND per kg) and transportation (150'000VND per tone)

Another threat to the establishment of viable extension networks is the variable prices received for agricultural products.

### 2.2.6. What support does the network need from the district for further sustainable development?

The district/commune need to support following areas so that the village extension network will be further developed:

- Training in extension skills and methods
- Presenting roles and functions of village extensionists in village meetings
- Creating income opportunities for the village extensionists by involving them in other projects/program such as 135 program or Poverty Reduction Program which are being implemented in the local. This has already been initiated by the district.
- Supporting allowances from the district budget and collaborating with other programs and projects in the district.
- Improving capacities and confidence for the extensionists by involving them in different activities.
- Developing a monitoring system to record activities in the village extensionists and regularly evaluating for adjustment.
- Developing a rewarding mechanism for village extensionists

## 2.3 Comparison between the case studies

The Integrated Organisational Model (IOM)<sup>11</sup> was applied to compare the two case studies. Figures 3 and 4 below present the similarities and differences between the cases.

Colour codes:



<sup>11</sup> IOP adapted from MDF is a model that can be applied to describe, analyse and diagnose organisations

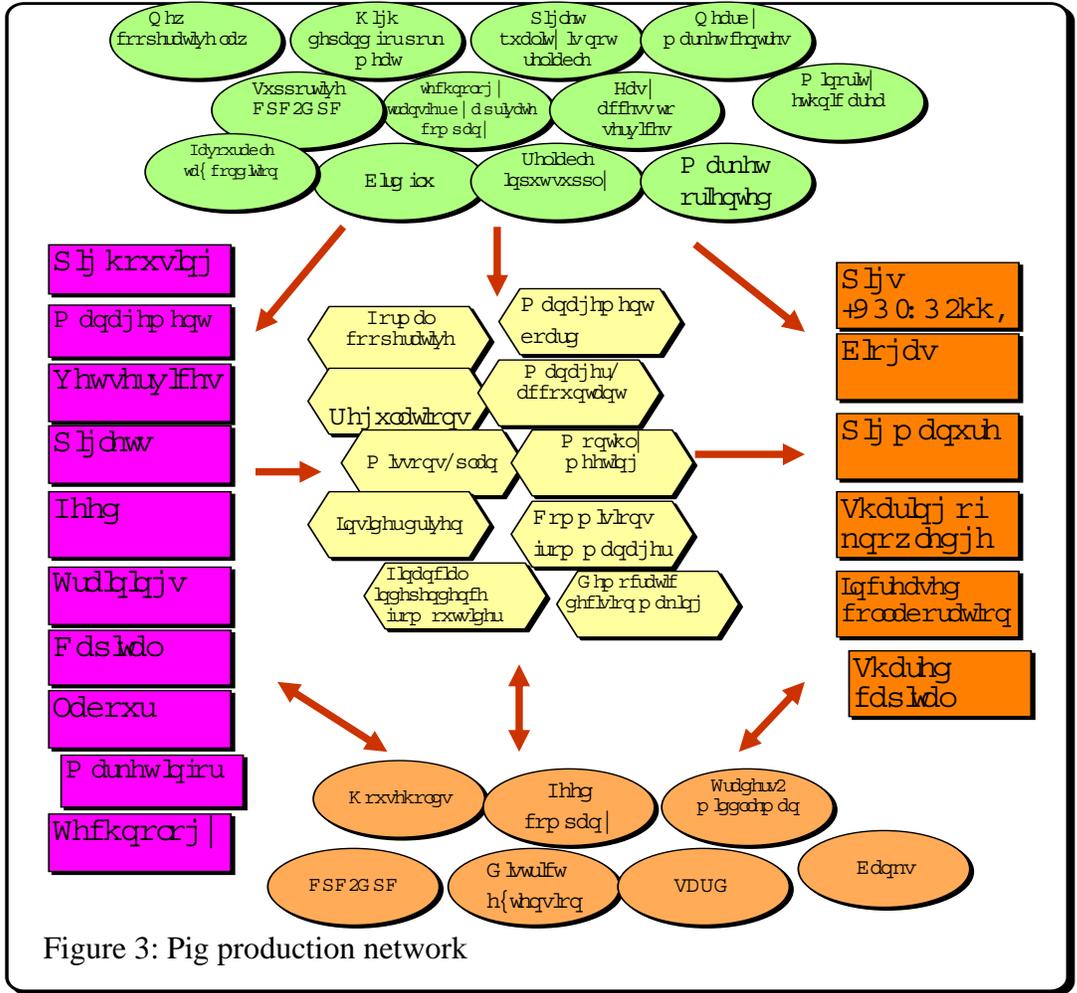


Figure 3: Pig production network

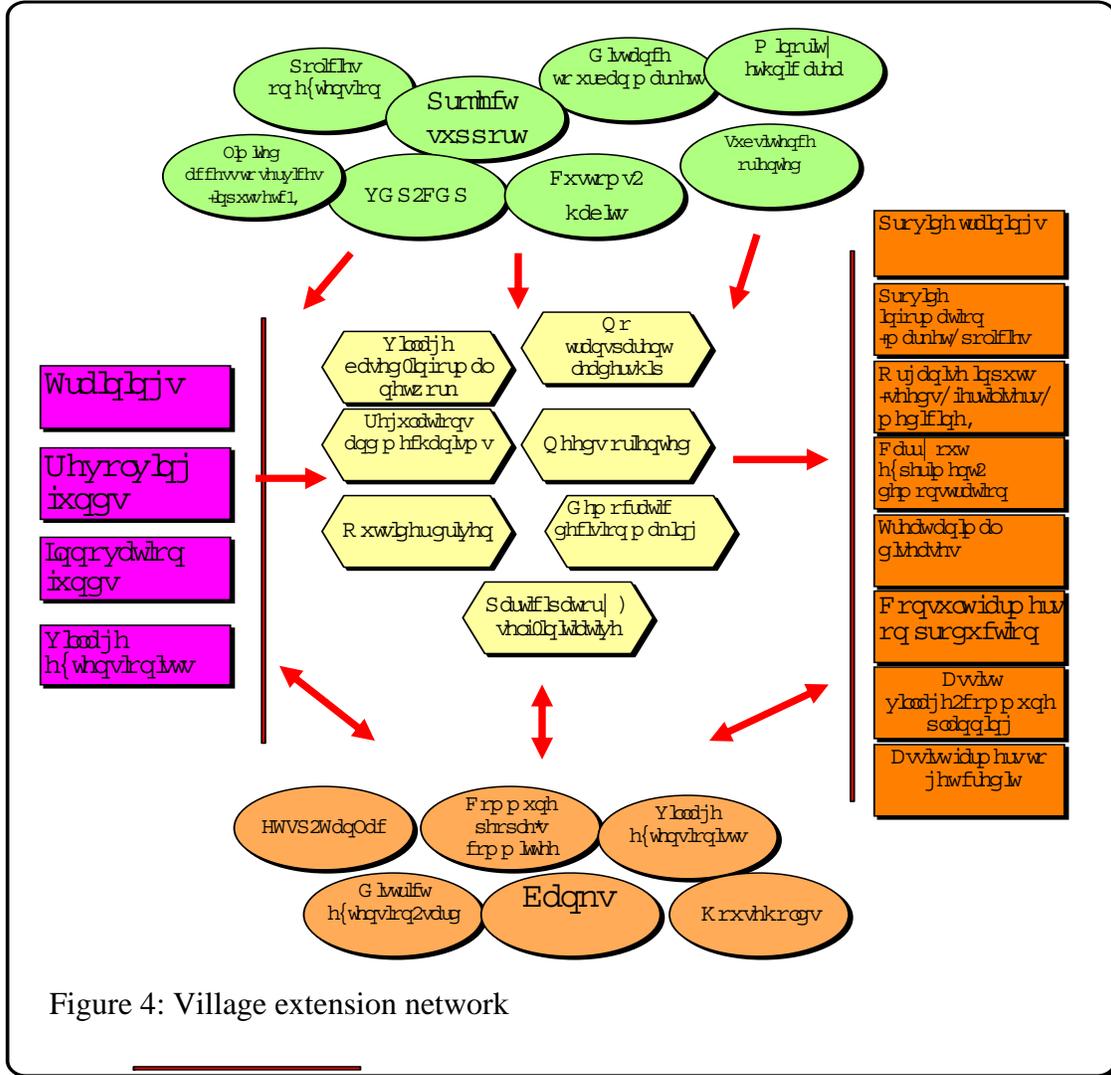


Figure 4: Village extension network

**a. Context**

**Similarities:**

The similarity between the cases is that the population consisted of mainly Muong people. In addition, the cooperative and VEN have support from policies including cooperative law and grass root extension policies respectively.

**Differences:**

There are a number of major differences between the two cases. While the pig production cooperative is located closely to township and nearby centres, the Ngo Luong commune is situated far away from markets and service providers. Therefore, it is very difficult for farmers in Ngo Luong to access different services such as inputs. On the other hand, it is quite easy for the farmers in Tan Vinh commune to access to the market. Another difference is that the farmers in Ngo Luong commune are more subsistence oriented, whereas the farmers in the cooperative are more market oriented. The farmers in Ngo

Luong rely heavily on subsidies from the government, while the farmers in Tan Vinh are more independent from these. In short, the cooperative in Tan Vinh have more enabling conditions to develop lucrative production activities , while there is the absence of service providers in Ngo Luong.

## **b. Organisations**

It is clear that both networks were established basing on the needs of farmers. The farmers need to access collectively to different services. However, the cooperative network was based on commercial interests, while the village extension network was derived from rather public interests. In addition, the set up of the pig cooperative was insider-driven, whereas the VEN was outsider-driven. This means that the VEN was facilitated and supported by the outsiders such as project and district, while the cooperative was set up by its members. Although both networks defined regulations and mechanisms, the cooperative had a clear economic objective (estimated profit of 100'000 VND/pig). Even though the decision making process of both networks was participatory, the VEN had no transparent leadership. The commune extensionist was supposed to lead to network. The results from a workshop<sup>12</sup> in Tan Lac reveal that commune extensionists lacked of capacities such as communication and facilitation skills. On the other hand, the manager of the cooperative was a strong and motivated character. Another difference is that the cooperative is a formal and legal entity, whereas the VEN is a village-based informal network. To sum up, the organisations of the two networks were different in terms of structure, management and strategy. The organizational capacities of the pig production cooperative seem to be higher than the ones in Ngo Luong village extension network.

## **c. Actors**

Clearly, the actors involved in both networks are different due to distinctive interests. As explained above, the cooperative focused on commercial interests, while the VEN concentrated on private and public interests. Therefore, the private actors (such as feed company) were considered more important for the cooperative than the state organisations. In contrast, state organisations such as extension station, SARD, played a more important role in the village extension network because as foresaid there was the absence of private service providers. Therefore, it is critically important that the network becomes self-reliant and autonomous.

## **d. Inputs/Outputs**

It is obvious that the two networks need different inputs and produce different outputs. However, it is interesting to note that the inputs for the VEN were provided by the district and project (regarded as public extension), while the inputs for the cooperative were offered by the private enterprise (regarded as private extension). It is also interesting to

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<sup>12</sup> The 3-day workshop assessed grass root extension activities was organised in Dec 2004 in Lac Son district with participation from all commune and district extensionists. Facilitators of the workshop were Ms Hong Ly and Mr. Pham Van Luong. The workshop report can be obtained from PMU Lac Son.

note that the expected outputs of the VEN were mainly services, while the outputs of the cooperative were primarily foods and staple products.

### 3 Conclusions and Future Developments of grassroots extension

#### 3.1 Conclusions:

The village self-reliant extension networks existed in Hoa Binh province. The network either in the form of cooperative or an informal group of farmers working collectively plays an important part in delivery of extension services to farmers. This is especially true with the case of the pig production network which is market-oriented and based on commercial interests. The formation of such a network was driven by the needs of its members. They shared the goal and defined regulations and mechanisms together. However, the network requires a strong and determined leadership to operate well. It offered the farmers the services including organisation of inputs supply, transfer of technologies, sharing experiences and information, and market and market information. It is clearly indicated that the pig production cooperative has a strong link with private enterprises. However, to achieve more vertical integration (such as producing its own piglets or processing the feed) and increase its production capacity, state enterprises such as the Banks will play more important roles in the pig cooperative.

The village extension network (VEN) was established based on the request of farmers in Ngo Luong. It serves for public interests of Ngo Luong commune. The establishment of the VEN was facilitated and supported by ETSP and the district. The twelve village extensionists were selected by the villagers themselves. A series of trainings on methodological and technical topics were organised for the village extensionists. The regulations and mechanisms for VEN operations were defined by the village and commune extensionists and authorities. It is clear that the network has just been established, thus its activities have been a few. Organisation of inputs supply was considered as one of the most important tasks for the village/commune extensionists. It is suggested that communication and facilitation skills of these extensionists need to be improved so that they perform well their functions and tasks. It is suggested that further experience on the village extension network(s) should be documented before developing a manual on how to establish a village-based extension network.

#### 3.2 Future developments/recommendations

Apart from recommendations and suggestions above, following suggestions were made based on the analysis and field observation:

**(a) Assessment of extension clubs in Hoa Binh province:** it was recognised during the field trip that a number of extension clubs have been established in Hoa Binh province. It should be interesting to assess how these clubs have been established, their functions and roles, and more importantly to evaluate their effectiveness. Additionally, it is important to identify different modes for delivery of extension services to upland farmers.

**(b) Identification of local entrepreneurs:** If a network/production group is to succeed, there needs to be a quality natural leader/entrepreneur. This person(s) can be identified by working at local level or carried out a formal survey (for example innovation survey). These persons/groups have different business ideas in mind. The village/commune

extensionists should bring them together to exchange ideas for business development. The innovative idea(s) should be selected for further analysis and development.

**(c) Working with private enterprises:** There will be mutual benefits between the private enterprises (such as the feed company above) and the farmers. Identify the private enterprises that are interested and willing to have a development focus in rural areas - particularly suppliers that realise if they provide help to farmers they will expand and buy more products.

**(d) Identification of niche products and form interests group:** Niche, high value products which have natural competitive advantages (water, sunlight, labour, altitude etc) should be identified. The resources available should be analysed, and possible limitations should be defined. For remote rural areas in Hoa Binh, look at (i) non perishable, small area, high value, labour intensive crops/animals that have (ii) relatively stable market and (iii) the quality requirements can be met by smallholders. Interest groups are then formed to test the product (s) in a small scale along the value chain.

**(e) Implementation of extension activities through mass organisations:** the extension activities can be implemented through mass organisations, for instance through women's union, farmer's association etc. These organisations have functions and mandates to deliver the extension services to farmers. Thus, it may be effective to utilize the existing formal organisations to provide services for upland farmers rather than village extension networks.

**(f) Working with interested producer groups:** in each village, there will be some groups of farmers who are interested in developing products (for example raising pigs). It may be a good idea to bring these farmers together to exchange their experiences and form interested groups (similar to the pig production network). The village extensionists should act as facilitators of the process.

## 4 References

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## 5 Appendixes

### Appendix 1: PSA scores

	strong 2	moderate 1	weak 0.5	very weak 0.1	Income/profits	Loan policies	Inputs (piglet)	Feed	Veterinary	Husbandry knowledge	Market/information	Management capacity/regulations	Interest of farmers	Support from different levels	Information sharing	Natural conditions	Active Sum (AS)	Degree of Interrelat. (AS*PS)
	Elements / Issues				1	2	3	4	5	6	7	8	9	10	11	12		
1	Income/profits		0.5	1	2	1	0.1	0.1	0.1	2	0.1	1	0.1	0.1	0.1	0.1	8	168.0
2	Loan policies	2		0.5	1	1	1	0.1	0.5	0.1	1	0.1	1	0.1	0.1	0.1	7.4	76.2
3	Inputs (piglet)	2	1		2	2	2	2	0.1	1	0.1	1	0.1	1	0.1	0.1	13.3	154.3
4	Feed	2	0.5	2		2	2	2	0.1	1	0.5	2	0.5	2	0.5	0.5	14.6	204.4
5	Veterinary	2	0.1	1	0.5		1	0.1	0.5	1	0.1	0.1	0.1	0.1	0.5	0.5	6.9	124.2
6	Husbandry knowledge	2	0.1	2	1	2		0.1	0.1	1	0.1	2	2	2	2	2	12.4	199.6
7	Market/information	2	1	2	2	1	2		1	2	1	2	0.5	2	0.5	0.5	16.5	189.8
8	Management capacity/regulations	2	2	1	1	2	1	2		2	0.5	2	0.1	2	0.1	0.1	15.6	93.6
9	Interest of farmers	2	2	0.5	1	1	2	0.1	0.1		2	2	0.5	2	0.5	0.5	13.2	174.2
10	Support from different levels	1	2	0.1	0.5	2	1	1	2	0.1		0.5	0.1	2	0.1	0.1	10.3	61.8
11	Information sharing	2	0.1	0.5	1	2	2	2	1	2	0.1		0.1	2	0.1	0.1	12.8	175.4
12	Natural conditions	2	1	1	2	2	2	2	0.5	1	0.5	1		1	0.1	0.1	15	69.0
	Passive Sum (PS)	21	10.3	11.6	14	18	16.1	11.5	6	13.2	6	13.7	4.6					
	Activity Ratio (AS/PS)	0.4	0.7	1.1	1.0	0.4	0.8	1.4	2.6	1.0	1.7	0.9	3.3					