



# Centralized planning and agricultural policy: The role of the State in the agrarian dynamics of *Duc Van Commune, Ngan Son District,* *Bac Kan Province, Viet Nam*

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## Abstract

This monographic study of *Duc Van Commune* contributes to an understanding of the diversity of agrarian systems in the mountainous regions of northern *Viet Nam*, as part of the Mountain Agrarian Systems Program. By examining over 100 small family farms, we identified the major changes in production systems that have occurred over the last 50 years. Access to land, population migration, and individual initiative were the three major factors driving household differentiation. State policies had substantial impacts on all three factors, making the State the key driving force of differentiation. A war with China, a large irrigation project, and the creation of State farms all led to large population migrations. State initiatives to help particular households affected by the migrations created further inequalities. State decisions also regularly reshaped the social relationships of production.

After the latest series of land and market reforms, farmers are faced with increasingly complex communication networks and decision-making processes. After years of central planning, farmers are now free to make their own choices as they interact with their new environment: the market economy. However, many groups that had relied on State initiatives for guidance in the past now lack the enterprising mindset required to participate in the market. Instead, they passively accept State payouts and pensions, waiting to see what project will be placed at their feet next.

In this chapter, we propose institutions that would redefine the relationships among farmers, the State, and the national and international markets. Effective farmers' organizations need to be established to provide farmers with the information and decision-making tools they need to adjust their production to fit the market. Somewhere between

State control and total independence, community-based natural resource management schemes are needed to ensure that small family farms in the isolated mountainous areas are sustainable in the face of ineluctable macroeconomic changes.

**Keywords:** mountain agriculture, State intervention, rural development, farming systems, household typology, *Bac Kan, Viet Nam*

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## 1. Introduction

The landscapes of *Duc Van* Commune, like a large part of the *Ngan Son* District to which it belongs, stand out markedly from the rest of *Bac Kan* Province by virtue of their grass-covered hills. This geographic asset clearly has influenced the development of the region, particularly by drawing the attention of the major shaper of regional development: the State. The grassy hills were virtually calling out for State policy to develop them as pastures for animal husbandry.

Since the establishment of the first cooperatives in 1960, the region has witnessed one State intervention after another - State farms, enforced migrations, and remigrations - all intended to maximize the output from this landscape. However, despite all the changes wrought by the State, success has been illusory.

By looking at examples of several different development approaches, we have tried to identify the influence of changing Government policies on production systems and social differentiation. To this end, we selected two villages with very different histories of State intervention. In the first village, production systems have been largely determined by frequently-changing State policies. Farmers' lack of practice in decision-making resulted in an absence of private initiative. In the second village, local farmers largely have been left to reap the costs and benefits of their own decisions, resulting in more initiative and thus more capacity to participate in the future market economy.

## 2. Methods

### 2.1. Selection of study areas

The selection of the study areas was based on a stepwise process descending from the level of the entire district down to the individually studied villages (Figure 1). We began by acquiring a wide-angle view of the district by identifying major geographical features (lowland types, landforms, watersheds, etc.) and their associated land-use systems through landscape analysis and short interviews with authorities and resource persons in diverse communes. This, together with an analysis of secondary data, allowed us to divide the district into distinct zones based on landscape features, ethnic composition, and crop and livestock production systems. We then tried to identify the commune that would best

represent the whole of the district. In our choice of villages within that commune, we similarly sought to identify a set that would best capture the diversity of systems extant on the scale of the district.

### Commune selection

Located in the northeastern corner of *Bac Kan* Province, *Ngan Son* District has a wide diversity of ethnicity, ecology, and production systems. The *Tây*, traditional lowland rice farmers, are the dominant ethnic group in the district, followed by the *Nùng*, and then in much smaller numbers, the *Dao*, the *H'mong*, the *Hoa* and the *Kinh*. The district is characterized by secondary

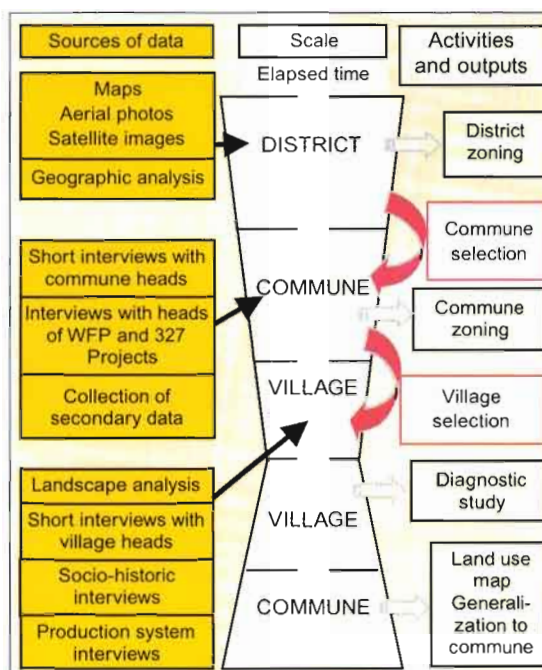


Figure 1: Study methodology

forest, mostly deteriorated after years of slash-and-burn agriculture, and rolling hills covered with savannah (Figure 2). Linked to this ecological diversity, three distinct production systems allowed us to subdivide the district into three zones with common features. The three production systems all share an emphasis on animal husbandry (primarily the fattening of local or mixed-breed pigs) in association with upland crops of maize, cassava, and sweet potatoes. We divided the district as follows:

- 1) **The mid-western part** of *Ngan Son* District is characterized by secondary forest and one-cycle rice. Rice monoculture occupies the lowlands, and is complemented by upland feed crops (mainly maize and cassava). In addition to the pig raising that occurs throughout the district, farmers in the mid-west region raise buffaloes for animal traction and cattle to be sold for cash.
- 2) **The western part** of the district is characterized by secondary forest and two-cycle rice. Thanks to a dense hydrographic network, this part of the district has moved to rice double-cropping in the lowlands, complemented by an animal husbandry system associated with upland crops. In this area the proportion of the *H'mong* ethnic group is notably higher, although the *Tây* still form the majority.
- 3) **The eastern part** of the district is characterized by grass-covered hills and tobacco cultivation. The abundance of natural grasses leads this region's

mountains to be widely used as pasture lands, giving the area a comparative advantage for animal husbandry.

The officials of the district were most interested in supporting agricultural development based on animal husbandry. Their interest made the eastern region, with its comparative advantage for livestock pasturing and raising, most appropriate for our study. Within the eastern region, we chose to work in *Duc Van* Commune. Firstly, *Duc Van* Commune encompasses most of the district's major landscape types (Figure 3). In addition, the ethnic composition of this commune reflects that of the district as a whole, as do the crop and livestock production systems. Lastly, *Duc Van* Commune was of particular interest because of the presence of tobacco production. Although tobacco production is not found everywhere in the district, it is one of the unique elements of *Ngan Son* District in *Bac Kan* Province.

### **Selection of research villages within *Duc Van* Commune**

Through surveys and interviews at various scales (Figure 1), we identified the driving forces of land use changes, as well as the current production systems and cropping techniques of each village in the commune, including rice and maize yields and types of livestock. From this information, we selected two villages for our study as exemplifying diverse agricultural and decision-making systems.

*Ban Trang: the heart of the grass-covered hills.* *Ban Trang* village is surrounded by grassy hills, and populated primarily by the *Tày* and *Nùng* ethnic groups. The cropping systems of *Ban Trang* are representative of both the commune and district as a whole, with (i) one-cycle rice in the lowlands; (ii) maize, cassava and sweet potatoes in the uplands, to feed pigs; (iii) in some households, specialization in production of perennial fruit trees. *Ban Trang* farmers do not cultivate tobacco, probably because the soil quality is not sufficient. *Ban Trang* serves as a case study of the impact of State intervention on a village. By establishing a cooperative, mandating migrations and remigrations, and centrally planning income generation activities, the State has been a major player in local production systems.

*Phieng Nhuong: a tobacco-based system.* Populated by the *Dao* ethnic group, the upland village of *Phieng Nhuong* has a cropping system based on tobacco, a cash crop. *Phieng Nhuong* provides a sharp contrast to *Ban Trang* as far as State intervention is concerned: this village has seen little direct State intervention, evading even the nation-wide collectivization. Farmers have been the decision-makers for their own production systems, developing private initiatives in response to the perceived market factors of the region.

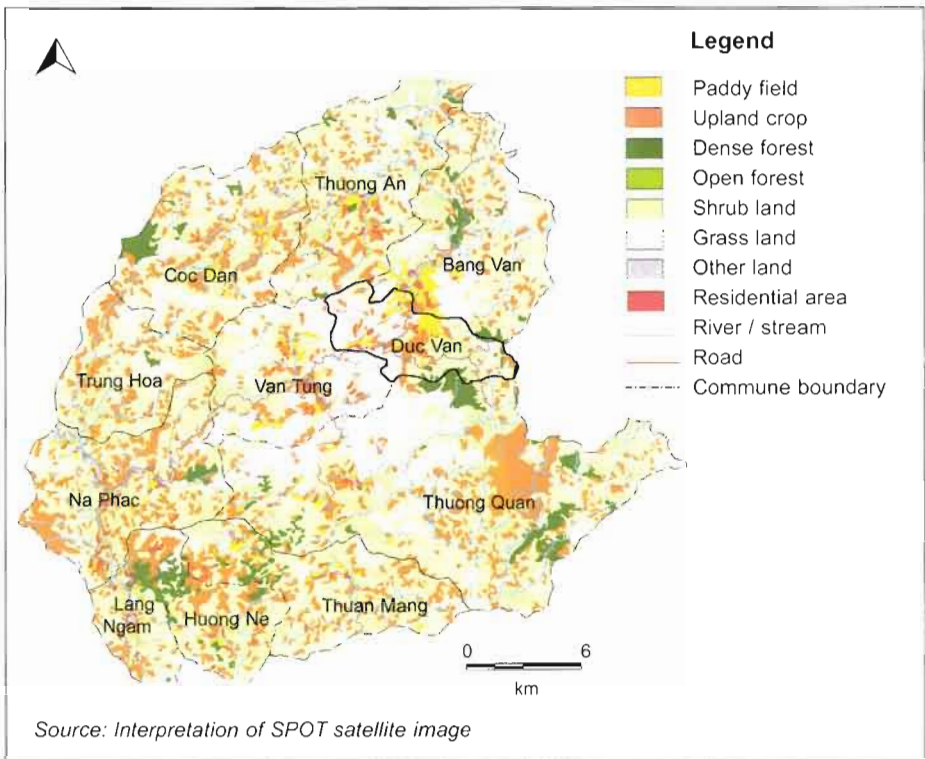


Figure 2: Land use map of Ngan Son District in 1998.

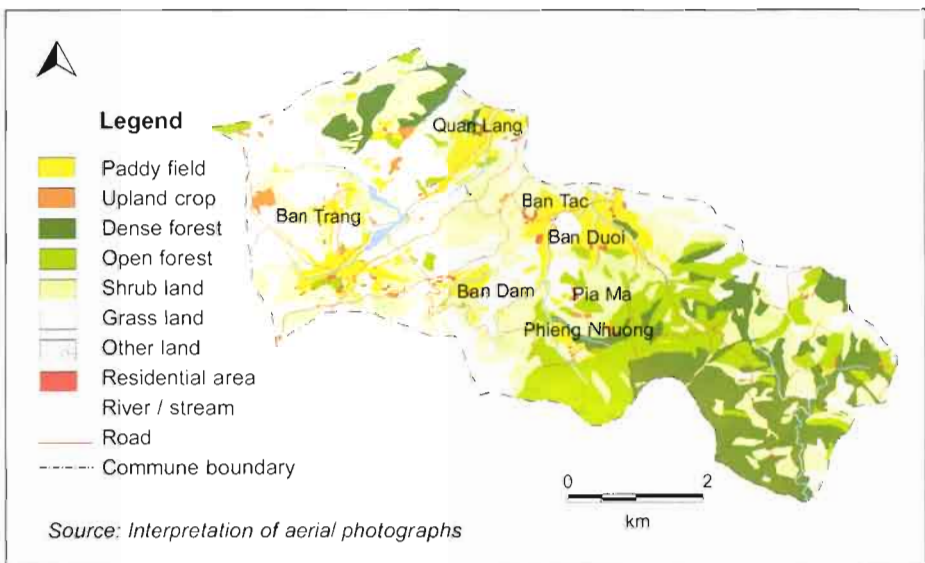


Figure 3: Land use of Duc Van Commune in 1998.

## 2.2. Data collection at village level

Once the research villages were selected, we examined the agrarian histories through interviews with resource persons in each village (village heads, the elderly, etc.). Finally, after a rapid survey of all households in the selected villages we conducted a more-detailed survey of 50 representative households evenly divided between the 2 villages, assessing the following elements:

- household history
- access to land and family organization
- crop and livestock systems (work calendar, equipment, animal and plant production, and other value-adding activities)
- perceptions of the future

The household interviews formed the basis of the agrarian diagnostic study and our typology of production systems.

## 3. Major production systems in *Duc Van Commune*

### 3.1. Animal husbandry

The grass-covered hills of *Duc Van Commune* have been used as pasture land for years, making animal husbandry the foundation of the area's production systems. Buffaloes are raised primarily for work in the ricefields, while cows are raised to be sold for cash.

Local farmers have acquired an expertise in managing livestock through years of experience and several State farm projects. The greatest impediment to livestock raising in the area is the winter, when temperatures can drop as low as 5°C. Forage becomes scarce, and the cold alone can result in animal deaths.

Figure 4 shows the changing numbers of buffaloes and cows since 1991. Both buffalo and cow numbers increased until 1993, after which herd sizes stagnated and even decreased. These changes, wrought by epizootics in recent years, could be indicative of a saturation of available pasture space.

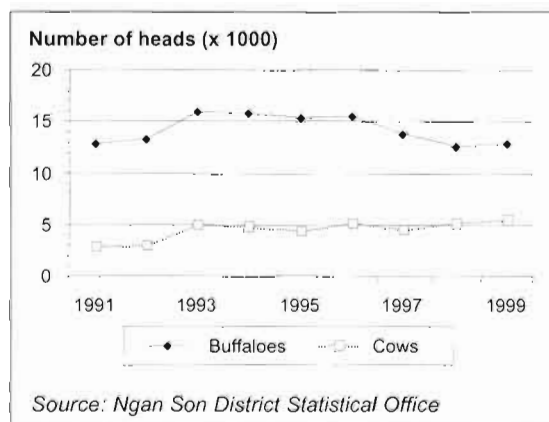


Figure 4: Recent trends in cow and buffalo numbers in Ngan Son District

### **3.2. Tobacco**

Tobacco growing is the second distinctive characteristic of *Duc Van* Commune. Tobacco is a paddyland crop, grown in the spring before summer rice. It was first cultivated in the district in 1971 by farmers in *Ban Khau* village, and is a major reason for the relative wealth of that village today. In the following years, tobacco production spread throughout the entire eastern part of the district.

In the collective era, cooperatives managed tobacco production, supplying chemical inputs and paying for output in cash. The crop expanded rapidly across the communes because of its high marketability and low opportunity cost, planted as it was on ricefields that would otherwise have been idle at that time of year.

At present, tobacco growing is heavily influenced by the State company Vinataba, which manages all levels of the production process. Vinataba also supplies a package of production recommendations and inputs, including fertilizer, to tobacco producers. To ensure that producers use these inputs for growing tobacco, the company reimburses the cost of the fertilizer to producers only at harvest time. Vinataba's role benefits producers by providing them a guaranteed market for their production, but it also makes them dependent on a company that can fix prices as it wishes. Indeed, price changes caused tensions between Vinataba and the producers during the harvest period of 1999. Total production had grown, but the company classified the 1999 crop as being of a far inferior quality than previous years and therefore paid a considerably lower unit price - average prices were cut almost in half. Farmers reacted strongly - across all communes, the number of households growing tobacco dropped from 80% to 10%.

## **4. Land use changes and effects of State interventions on the landscape**

Our research identified the role of the State as being a major determinant in production system selection, landscape transformation, and social differentiation. Government activities in the region have led to population migrations (and through them, changes in land access) and external revenues for certain households (salaries, pensions). Large State projects in forestry and agriculture also have had substantial impacts on agrarian dynamics in the region. Nonetheless, impacts of State policies have been more intense in some villages than in others, as shown by the following two case studies.

### **4.1. *Ban Trang*: agrarian dynamics driven by State policy**

#### **A series of external influences**

In 1960, the State established a cooperative system in *Ban Trang* village, along with much of *Duc Van* Commune (Figure 5 1960-1980). Ownership of all

ricefields and uplands was collectivized, and harvests from these lands were distributed to workers according to a labor point system. Cows and buffaloes were collectivized, while pigs remained individually owned. Households focused almost all of their labor on collective activities, and private initiatives were discouraged.

In 1979, China declared war against *Viet Nam*, which caused the emigration of the Chinese population of *Ban Khau*, a village not far from *Ban Trang*. The *Ban Khau* cooperative was replaced by a State farm that cultivated the abandoned ricefields and raised animals on the grassy slopes of *Ban Trang*. To better irrigate the ricefields at the *Ban Khau* State farm, the District Agricultural Service built a reservoir at *Ban Trang*, flooding many of the village ricefields. Twenty-six families were dispossessed of collectively-managed ricefields, and had to move their households and work at *Ban Khau* State farm (Figure 5 1980-1987). It was in this context that the decollectivization process began. Land was first distributed to individual households in 1985 in proportion to the number of mouths to feed in each family, and then again in 1988 according to households' land possessions during the pre-cooperative period. Of course, this was of little benefit to those whose ricefields now were underwater. In 1987, after the end of the Sino-Vietnamese conflict, the Chinese returned to *Ban Khau* to reclaim the ricefields now being farmed by the State farm workers and the immigrants from *Ban Trang* (Figure 5 1987-1991). With

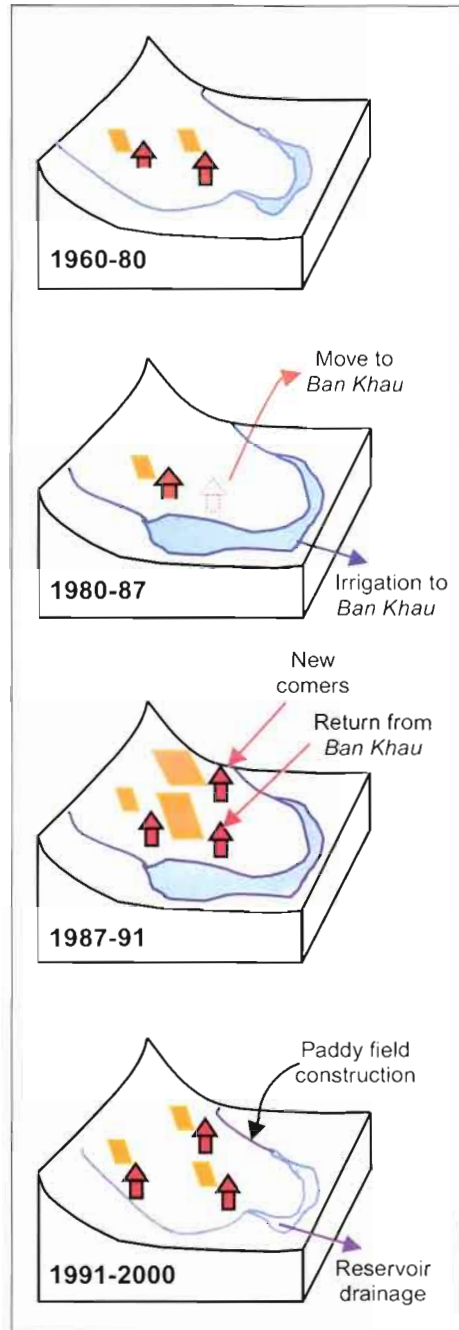


Figure 5: Diagrammatic representation of landscape transformation in *Ban Trang* village



the return of the Chinese, the State farm could no longer operate in *Ban Khau*, so it was moved to *Ban Trang*, where it focused exclusively on animal husbandry. Upon returning, the families that had inhabited *Ban Trang* before reservoir construction reclaimed their former land (though without ricefields), while the workers from the State farm settled in a new area farther upstream. The State assisted the families with the relocation process, supplying a third of the capital required to build a house, labor to build stables, and tax exemptions. But the problem of insufficient ricefields remained.

### **Consequences to the landscape**

There was not enough montane paddyland rice in the region to feed the new population, so the people turned to the uplands. The original inhabitants of *Ban Trang* intensified their upland fields, and the newly arrived farm workers burned and cleared new upland fields. During the next few years, decreasing upland yields and progressive distancing of upland fields from the village were indicators of a system that could not survive long. Under growing pressure from the original inhabitants of *Ban Trang*, the Agricultural Service decided in 1991 to drain the reservoir to increase the availability of lowland ricefields (Figure 5 1991-2000). The draining of the reservoir reduced the pressure on the uplands, and swidden cultivation decreased during the subsequent six years.

While the original inhabitants of the village reclaimed their old ricefields, the new arrivals could acquire ricefields either by building new terraces in the lowlands or purchasing ricefields with their salaries from the State farm. Purchasing was the more common of these two options; buying and selling land had been permitted since 1985, but in *Ban Trang*, few ricefields were purchased until the reservoir was drained in 1991. At the time of writing, in *Ban Trang* it is almost impossible either to find land to develop or to purchase.

Figure 6 shows a hypothetical example of how a *Ban Trang* household could have covered its food needs during the historic periods discussed above. The increase in the relative importance of paddyland production from 1961 to 1970 is explained by the introduction of high-yielding rice varieties and chemical fertilizers by the cooperative (1). A lack of incentives for increased production during the cooperative period led to stagnation of production rates over the next period (2). The first land distribution resulted in an increase in production as farmers gained motivation to intensify production on their own ricefields (3). The pressure caused by the 1987 migration from *Ban Khau* resulted in increased upland use, subsequently dampened by the draining of the reservoir followed by terrace construction and ricefield purchases (4). By 1997, all families owned ricefields and could engage in intensification of rice production through new varieties introduced by the district Agricultural Service (5).

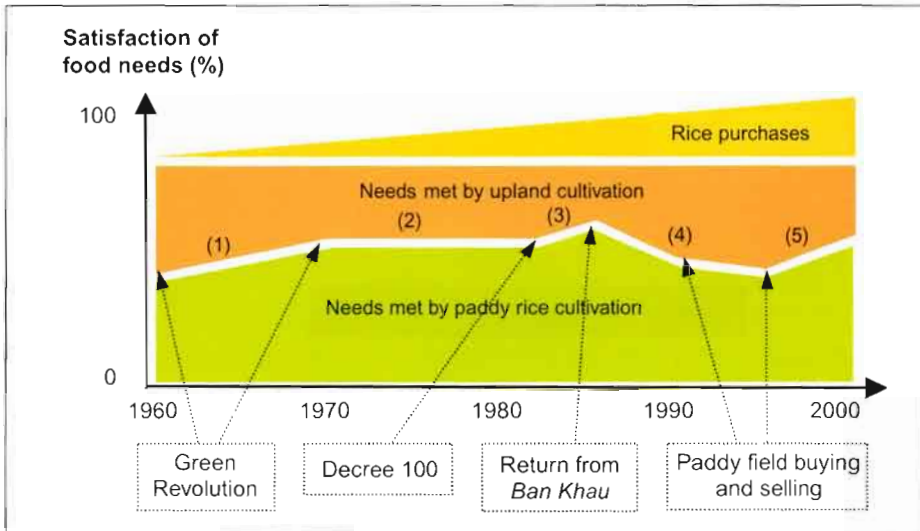


Figure 6: Changes in land pressure (1960 – 2000)

*N.B. The vertical axis shows a variation between qualitative values, as no ratio can accurately measure this information. Most families achieved 100% of their needs only after (4); during (1) - (3) some of them were going hungry.*

### Consequences on livestock ownership

The State farm workers were able to develop cattle production faster than the other inhabitants of *Ban Trang*. As payment for their job of taking care of specific herds, they were given half of each year's newborn animals. In addition, the pensions they received allowed them to purchase even more animals.

### Forest replanting projects

In 1993, the Government sought to stimulate a more rational use of sloping lands by distributing forestlands to individual households (Castella et al., 2002). The distributions were accompanied by a new profusion of State and foreign projects. The first was Program 327, a part of the 1993 land law. In the case of distributed lands already covered in natural forest, the household to which the land had been distributed received 42,000 VND/ha/year for maintaining the forest. In the case of deteriorated shrub lands, the household received 1,100,000 VND/ha for the first year, in which they would begin reforestation. In the second and third years they would receive 300,000 VND/ha/year, and then 47,000 VND/ha/year from the fourth to eighth year of forest protection.

The forestlands remained the property of the State, but were allocated to farmers for periods of 50 years, with the provincial forest service deciding which areas needed to be replanted. An official from the district forest service would implement the plan in collaboration with the commune authorities. He would

typically suggest which species to plant and then sign an agreement with each farmer who would replant or maintain the land. Farmers filled out application forms for the areas that they wished to protect or replant, motivated by the sums mentioned above.

The World Food Program (WFP) has also had a role in the region's forest development since 1997. Instead of paying farmers with money as Project 327 did, the WFP offers in-kind payments of rice subsidies in return for pine forest replanting and protection. In the first year, farmers receive 300 kg of polished (white) rice (equivalent to approximately 960,000 VND) for each replanted hectare. In the second and third years they receive 100 kg/ha (equivalent to approximately 320,000 VND). Farmers may doubly benefit from these reforestation projects, as they may later be able to gain profits from these forests through sap or timber production.

The shortcoming of the plantation projects lies in their competition with upland crops and pastures. The village and household heads all were consulted before the projects began, but the plantations nonetheless contribute to the saturation of sloping lands. As mentioned earlier, there are no more ricefields to purchase or flatlands to convert to rice terraces, and the lack of pasture land may soon become a constraint on livestock development.

The allocation of pasture areas for reforestation has temporarily eased the pressure on common pasture lands but has not satisfied everybody. There is still a need to preserve common access to pastures that can provide sufficient forage resources in the long term. Buffaloes and cows can graze amidst the perennial plantations that are more than 2 years old, but once the trees have attained their full height, they will block so much sunlight that there will be nothing left to graze. Farmers have shown little initiative in preparing for this eventuality, but they are not concerned. Their expectation is that whatever problems arise, the State will arrive with some new project or plan telling farmers what action to take.

#### *4.2. Phieng Nhuong: a system of relative independence*

The inhabitants of *Phieng Nhuong* have not markedly changed their use of the natural ecosystem since their arrival at the beginning of the 19<sup>th</sup> century. Heritage remains the primary factor in social differentiation. The wealthiest families are those who historically have held large tracts of land and have not had to divide their land among descendants. Of the sons who will inherit no land, some have chosen to migrate. Others have stayed, relying on private initiatives to gain income.

#### **Land access through inheritance**

Having known neither cooperatives nor a land market because they resisted collectivization, the inhabitants of *Phieng Nhuong* have only one means to access land: inheritance. The village land area is limited and all arable flatlands already

have been transformed into ricefields. In response to the tight land situation, the inhabitants have developed an inheritance system designed to prevent excessive division of family land.

In *Phieng Nhuong*'s traditional system, daughters leave to join the families of their husbands, whereas sons divide the family land among themselves. In cases where this would result in sons receiving land parcels that were too small to support a family, the eldest son inherits all of the land. The younger sons then can either emigrate from the village or marry into a family that has only daughters, thus gaining access to that family's land. In the latter case, the children (male and female) will take the surname of the mother, thereby keeping the land in the same lineage.

### **Migration**

Sons of *Phieng Nhuong* families who can find no means of accessing land can undertake the long journey to the Government-supported New Economic Zones in the southern part of the country. Three families have made the journey south since the paddyland allocations.

Historically, the other option has been to relocate to the nearby lowlands. Since 1959, it has occasionally become possible for *Phieng Nhuong* families (who are nearly all of *Dao* ethnicity) to purchase lowland fields from the *Tày* ethnic group in the valley bottom. During the cooperative period, faced with the tight land situation in *Phieng Nhuong*, several *Dao* families descended from the hills to farm the lowlands alongside the *Tày*. Though the land was collectively managed, newly arrived farmers had to purchase a plot as a kind of entry ticket into the cooperative. The *Dao* families who farmed valley fields formed a new hamlet, *Pia Ma*, in *Phieng Nhuong* village. They did not resettle their household in the valley. They continued to farm valley fields after the *Tày* cooperative was dismantled. In addition, they bought land from *Tày* families leaving for the South, or who found themselves inheriting or receiving either too much land or land that was too far from their homes.

### **The rewards of individual initiative**

Migration alone has not compensated for the land saturation in *Phieng Nhuong* village, and many enterprising individuals with the right set of attributes (initiative, available labor) have found alternative ways to generate incomes:

- Buyers of lowland fields: we must include the *Dao* described above in this section. The prices they paid for lowland fields are low in comparison with prices at the time of our study, showing the wisdom of their decisions years ago. It is true that the Government provided incentives to make the descent to the lowlands, primarily in the form of large State investment in the cooperatives. Nonetheless, the shifting of households and production systems required considerable initiative.

- Volunteers for upland allocation: upland allocations were based on farmers filling out request forms for specific tracts of forestland. In the early years of this new policy, farmers tended to be uninterested in acquiring this land, for fear of future taxation. Government officials finally put pressure on certain influential families to take the initiative and claim large tracts of land as an example to their neighbors. This resulted in a few of *Phieng Nhuong* families each being allocated nearly fifty hectares of forestland, on which they now make large profits with a minimal labor investment.
- Tobacco cultivators: farmers who responded to the double call of the market and the State have intensified production on their ricefields with a spring tobacco crop, resulting in additional income. Profiting from tobacco requires farmers to acquire a new set of technical knowledge, from the use of chemical fertilizers to various steps in the drying process.
- Fruit tree planters: acting only on private initiative, the first farmers to plant fruit trees had the benefit of being the first to the market and have profited from large market demand. At present, all households have planted fruit trees, and the market grows tighter each year.

State policies affected the differentiation process, but not the range of possible outcomes. Although State policies affected the differentiation process more intensely in *Ban Trang* than in *Phieng Nhuong*, households in all villages within *Duc Van* tended to differentiate into the same 5 household types described in the following section.

## 5. Current diversity in household livelihood strategies

### 5.1. Determinants of household differentiation

In studying the historical trajectories and current production systems in *Phieng Nhuong* and *Ban Trang*, we identified five different types of household livelihood systems. This categorization of households brought to light potential trajectories for each household type, as well as the various blockages that exist in the current evolution of livelihood systems. Figure 7 presents the differentiation patterns and livelihood systems typology. In developing the household typology, we identified two major determinants of household differentiation: access to paddylands and capacity to seize upon opportunities. Box 1 provides a detailed explanation of each household type based on its strategic orientations (Rousseau and Gevraise, 2000).

#### Access to paddylands

The main determinant of differentiation among households is access to flatlands suitable for flooded ricefields. Paddy rice remains the cornerstone of all

production systems, and the first priority of all families who are not rice self-sufficient is to purchase or develop paddy fields (Castella and Erout, 2002).

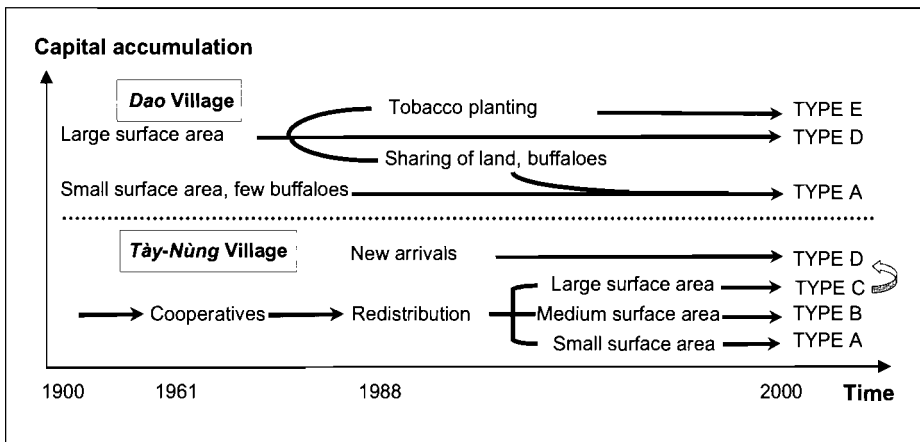
Households who are not rice self-sufficient cannot generate the capital needed to invest in diversifying their production systems. They often must sell labor for several months of the year to make enough money to buy rice. Households with the smallest paddy fields may sometimes directly consume upland crops that most households use only as animal feed.

Lack of access to paddy fields is doubly crippling, as it can hamper access to credit. As a pre-requisite for granting a loan, the Bank for the Poor requires borrowers to pledge a certain sum of assets or paddy land as collateral. Thus the poorest of the poor often cannot qualify for credit.

**Capacity to seize opportunity**

Once families have become self-sufficient in rice, they can begin to diversify their production and seek out other income generation activities. Livestock offers a means of capital accumulation, primarily in the form of pigs and buffaloes. This highlights the second major determinant of differentiation: individual capacity to seek out and seize opportunities for income generation. A household's capacity to seize opportunities depends on its structural attributes (e.g., relative availability of labor and capital) and on factors that influence decisions (e.g., access to information, level of integration to market, level of individual initiatives, etc.).

Individuals who seized upon State initiatives (State farms, tobacco, forestland allocations, sales of paddyland as part of the policy to settle swidden farmers, etc.) were often able to make substantial profits. Those households that made the first move on fruit plantations were able to benefit the most from the new market.



**Figure 7:** Production systems, social differentiation and household typology

**Box 1: Farm household typology in Duc Van Commune**

**Type A: survivors.** The defining element of the Type A household is the possession of very little land, both paddyland and upland. Households cannot attain rice self-sufficiency. The average period of rice deficit is five months, but in some households can last up to nine months. In many such households, the husband leaves to work off the farm for several months of the year, gaining enough income to buy rice for the family. The primary external employment in *Duc Van* commune is found at the gold mine. In other cases, upland crops (which other household types use only to feed livestock) are directly consumed.

The barriers to capital accumulation are many. The lack of buffaloes translates to an absence of capital. Despite its name, at the Bank for the Poor access to credit is conditional on owning a certain amount of fixed assets, which means that these poorest of the poor cannot borrow money to finance income-generating activities. Some farmers have begun to plant fruit trees, but with a rapidly saturating market, the potential for profit is questionable.

**Type B: agroforesters.** This type comprises households in *Ban Trang* village who have inherited medium-sized ricefields. Owning one or two buffaloes, they have begun the process of accumulation. Owning more sloping upland than Type A households, these families can begin to raise mixed-breed pigs and grow soybeans either for consumption or sale. Revenues from forest replanting projects allows the purchasing of rice to fill the deficit period (two and a half months, on average). This household type tends not to earn any off-farm income.

The future for Type B likely holds intensification of paddyland productivity and increased use of sloping land crops to raise pigs. Of all the types, these households have the lowest rice yields and use sloping lands the least, which means they potentially have the most to gain in these areas. Fruit trees also offer potential gains in the future, though the market demand is unreliable.

**Type C: diversifiers.** This type consists of *Ban Trang* natives who inherited large paddyland and sloping land areas, as well as new arrivals from the State farm who were able to purchase or develop large paddyland areas. Such purchases were made possible by State farm salaries and pensions. This household type generally possesses a number of buffaloes, acquired in the same manner as the paddyland. Pigs continue to provide the largest agricultural income for this group. Pensions make up a substantial part of family income for both *Ban Trang* natives and the new arrivals. Type C households are likely to diversify their production as they accumulate capital, continuing to raise pigs but complementing this investment with cows and perennial plantations.

**Type D: cattle breeders.** This type comprises two kinds of households: (i) *Dao* families who have preserved capital (land and buffaloes) through inheritance; and (ii) new arrivals to *Ban Trang*, who were able to use their salaries and benefits to invest in livestock. These were primarily State farm workers who accumulated cattle from their State farm service. These households have similar amounts of land and labor as Type C, but are distinguished by their capacity to seize opportunity. Experience gained on the State farm and an enterprising disposition are two likely factors explaining the success of farmers in this category. These were the first households to take part in perennial plantations, and they currently are profiting from a wide-open market for their production. This type also sells vegetables from private gardens, primarily cabbage and cauliflower. As Type D accumulates capital, we expect to see continued investment in the livestock and fruit tree initiatives described above, particularly investment in cows.

**Type E: paddyland intensifiers.** This type comprises those farmers from *Phiang Nhung* and *Pia Ma* with large paddyland areas, a large labor force, and a number of buffaloes. This group already has intensified production on their paddyland, adding gains from a spring tobacco crop to increased summer rice yields. These households have reached the limits of paddyland intensification, so their only future possibility is to extend their range of activities, likely through the raising of cattle and buffalo. The variability of tobacco yields and market prices make this kind of diversification important for income stability.

## 5.2. The effects of State intervention

The major determinants of social differentiation within and between *Ban Trang* and *Phieng Nhuong* were land access and individual capacity to seize upon opportunities. However, we also discovered that the State, through frequent interventions, was and remains a major driving force behind both of these determining factors.

### State effects on land access

In the 1960s, the State created the cooperatives, reorganizing land access rules throughout the country. Later State interventions took such forms as policies for settling swidden farmers, the creation of State farms, and large infrastructure projects such as the flooding of the *Ban Trang* ricefields. These successive changes resulted in several migrations, land dispossessions, and land reacquisitions for the inhabitants of *Ban Trang*.

The current diversity in land access that now appears in *Ban Trang* is due primarily to the effects of local implementation of the land distribution policy. Those farmers who received the largest paddy areas following decollectivization were transformed into those with the greatest potential for income generation and accumulation. Farmers who were allocated large plots of forestland also have benefited from higher incomes in the form of their annual maintenance salaries. In addition, State farm workers have been able to grow wealthier than their neighbors because of the subsidies and help that they received.

### State effects on capacity to seize opportunity

The differences between *Ban Trang* and *Phieng Nhuong* in individual capacity for seizing opportunities is directly related to the levels of State intervention in each village. In *Ban Trang*, the establishment of the cooperatives removed all decision-making power from individual farmers. The capacity to seize upon opportunities had little value in a system that methodically sought to eliminate any gain that might be made from private initiatives. During and after the collective period, both frequent changes in land policy and external circumstances (migrations, State projects) made private initiative unlikely; farmers could hardly make long-term plans in a system that so regularly restructured all of its most basic elements.

The recent forest replanting projects were developed both to protect the forest resource base and provide opportunities for agricultural production (Castella et al., 2002) but they have done little to stimulate individual initiative. As long as farmers are being paid annual sums, they are content to, “sit back and watch the forest grow,” in the words of one. Farmers’ motivation to maintain forests is not motivated by any long-term perspective of the market economy and the future demand for forest products. Rather, farmers are waiting for the next State intervention; waiting to be told what to do with the forest that they have been maintaining. These results, derived from farmers’ surveys, were confirmed by a



participatory analysis of local livelihood systems that we applied in *Duc Van* in 2001 (Bousquet et al., 2001).

*Phieng Nhuong* offers the contrasting example of a village that has seen relatively little State intervention. The village never became a cooperative and the few State interventions that reached the village (the tobacco company and forest plantations) were offered as opportunities rather than as obligatory policies. In fact, it was often those farmers who seized upon these opportunities who attained the greatest potential for accumulation. Other farmers have improved their lot through privately initiated fruit tree plantations. In either case, the individual profits made by *Phieng Nhuong* farmers have arisen only from their own production decisions and strategies.

## 6. Recommendations for an effective institutional setting

At the beginning of the 1980s, the State responded to nationwide crises in the cooperatives with mass deregulation and encouragement of the market economy. The crucial elements of the new system were land allocation to individual households and the freedom of choice over production systems. After twenty years of directed production, farmers were subjected to a new set of rules, initially defined by the national economy but yearly becoming more influenced by the international economy. Figure 8 provides a schematic representation of the changes in the institutional environment within which farmers have developed their livelihood strategies.

Thrown again into a new context, farmers do not have the knowledge or experience, or even a reference point, for making decisions about their production systems. This is evident in *Ban Trang*, where individuals have initiated fruit tree plantations because of having seen their neighbors' successes. The new plantations will not begin to produce for several years, and the market for fruit production already is narrowing rapidly. These farmers certainly will not reap the same benefits as their pioneering neighbors, and might not reap any benefits at all.

Having depended for years on instructions from the State regarding their production decisions, *Ban Trang* farmers have not developed an effective communication network for the diffusion of innovations and effective production strategies. *Phieng Nhuong* village has a better community-based information dissemination system (Hoang Lan Anh et al., 2002), but nonetheless suffers from a lack of access to market information.

Farmers cannot be expected to know intuitively the national market demand for their production. During the transition to a market economy, remote villages that were producing agricultural products were obliged to organize by themselves the first components of the marketing channels that would link them to the bigger traders and processors. Some farmers became informal middlemen during the short harvest period. They began to build information networks among producers,

starting with relatives, then neighbors and then expanding outwards. But these very limited and poorly structured communication channels could not prevent production “crazes” in which many farmers switched to producing some fashionable product (e.g., apricots or cinnamon) that subsequently saturated the market after a few years. Today, all stakeholders involved in these emerging producers’ networks see a clear need to develop a new system to better integrate farmers with an increasingly complex market.

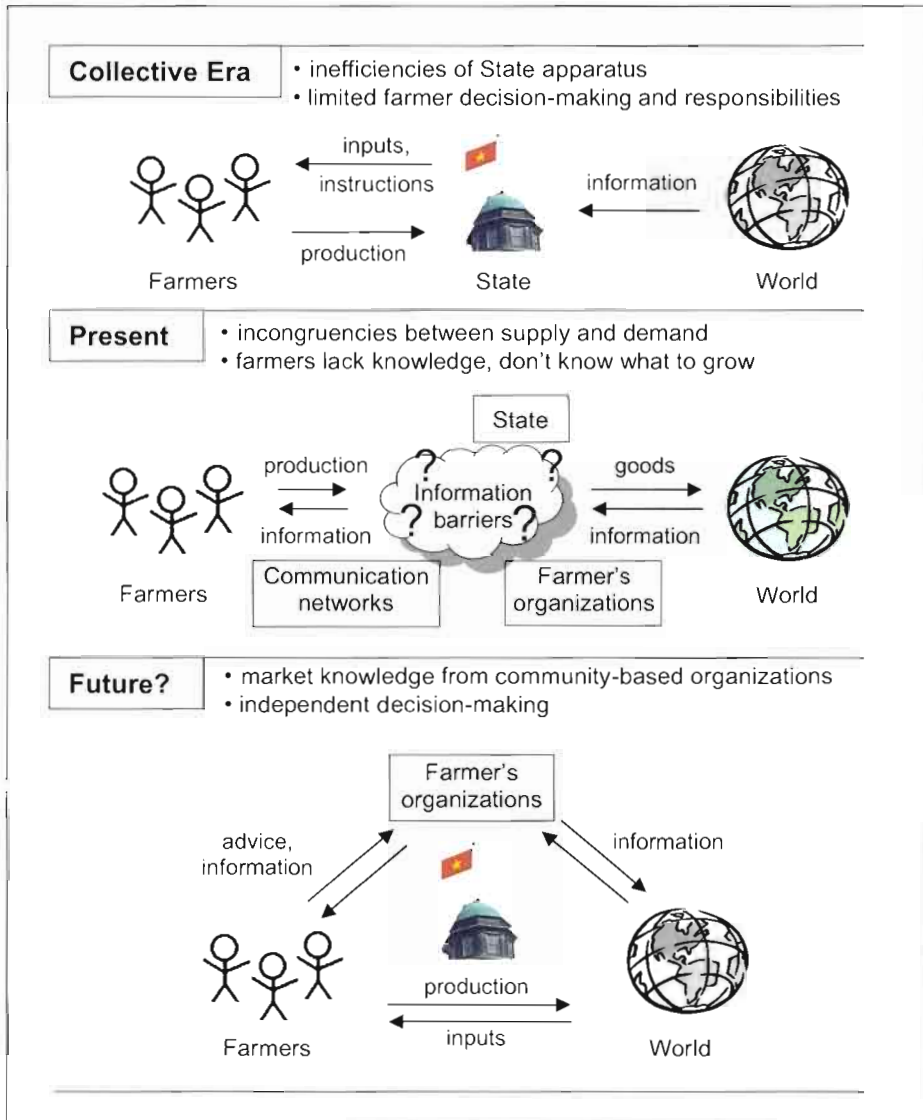


Figure 8: Changing decision-making spheres

The framework already exists for the kind of social organization that needs to be developed. Since the cooperative era and in some cases earlier, farmers have engaged in mutual help and exchanges of labor and equipment, both with and without reciprocity. In some villages of *Duc Van* other than those surveyed in detail, local communication networks have developed, resulting in a rapid dissemination of information and innovations. Our surveys have shown that in *Ban Tac* village, near *Ban Trang*, such a network exists, based upon long-established family networks. The village network allows all individuals to profit from each other's knowledge and experiences. The result is readily apparent: *Ban Tac* has a wealth and standard of life that is clearly higher than that of *Ban Trang*. The benefits of communication networks can also be seen by comparing the dissemination of the fruit tree idea in *Ban Trang* versus *Phieng Nhuong*. The latter village, not having undergone the frenzied changes of the former, has a more firmly established information network, which perhaps is responsible for the rapid introduction of perennial fruit tree plantations. *Phieng Nhuong* families are already making substantial profits from their plantations while *Ban Trang* inhabitants are only just beginning the planting process.

To scale up and institutionalize the promising trends outlined above, the State needs to change its role from that of a prescriber to that of a facilitator of economic and social transformations. Based on our empirical results, in our opinion there are three directions that the State should prioritize to enable family farms to integrate into the market economy, namely:

- (i) Increasing opportunities for improved marketing and off-farm income by improving local market structure and infrastructures; marketing channels; and local initiatives to create new jobs in agro-processing, trade, and micro-industries.
- (ii) Facilitating circulation of knowledge and innovations, and
- (iii) Enhancing not only individual, but also collective capacity to seize opportunity by reinforcing community-based management of resources, developing farmers' organizations, and empowering farmer groups in their negotiations with other stakeholders in the marketing process.

Alongside the existing State institutions that support farmers (e.g. Extension Centers, Farmers' Association, Bank for Agriculture, Bank for the Poor), a new kind of farmers' organization needs to play the role of a broker between individual farmers, State institutions, and the market (Figure 8). Today, the question remains how to build new community-based organizations on existing local social structures to revive farmers' initiative and their entrepreneurial spirit.

## 7. Conclusions

In the past, mountainous areas received less attention and benefits from government research and extension services than the lowland areas because of their remoteness and the complexity of their agricultural systems. Today, the State needs to give high priority to strengthening the capacity of agricultural support services to develop more holistic, integrated forms of research and extension. It is also widely recognized that members of small farm households need to increase their knowledge base and capacity to respond to both changing agricultural requirements and off-farm income opportunities. Between the research and extension system and the individual farmers there is a place for a new kind of institution that could strengthen the weak links among the farmers, the State, and the market as displayed in Figure 8. A number of projects have already shown that it is possible to support the emergence of efficient organizations of producers that can become a key driving force of local development (VASI-GRET, 2000). However, most of those projects were limited in their geographic and thematic scopes. Therefore, the next challenge is to scale up the best practices and lessons from projects and incorporate them into the official extension system to achieve a broader and more sustained impact on farmers' livelihoods.

## References

- Bousquet F., Castella J.C., Trébuil G., Boissau S. and Kam S.P. (2001) The use of multi-agent simulations in companionable modelling approach for agro-ecosystem management. *Contribution to the International Conference on Integrated Natural Resources Management, August 2001*. CIAT, Cali, Colombia.
- Castella J.C., Boissau S., Nguyen Hai Thanh and Novosad P. (2002) Impact of forestland allocation on agriculture and natural resources management in *Bac Kan Province, Viet Nam*. In: (J.C. Castella and Dang Dinh Quang eds.) *Doi Moi in the Mountains. Land Use Changes and Farmers' Livelihood Strategies in Bac Kan Province, Viet Nam*. The Agricultural Publishing House, Ha Noi, Viet Nam. 197 - 220.
- Castella J.C. and Erout A. (2002) Montane paddy rice: the cornerstone of agricultural production systems in *Bac Kan Province, Viet Nam*. In: (J.C. Castella and Dang Dinh Quang eds.) *Doi Moi in the Mountains. Land Use Changes and Farmers' Livelihood Strategies in Bac Kan Province, Viet Nam*. The Agricultural Publishing House, Ha Noi, Viet Nam. 175 - 195.
- Hoang Lan Anh, Castella J.C. and Novosad P. (2002) Analysis of village level communication network and implications for agricultural extension in the northern mountains of *Viet Nam*. A case study in *Ngoc Phai Commune, Cho Don District, Bac Kan Province, Viet Nam*. *SAM Paper Series 18*, Vietnam Agricultural Science Institute, Ha Noi, Viet Nam. 18 p.

- Rousseau E. and Gevraise V. (2000) L'Etat et le paysan dans le processus de différenciation des exploitations agricoles de deux communes de montagne du Nord Vietnam : *Duc Van* et *Nghien Loan*, districts de *Ngan Son* et *Ba Be*, province de *Bac Kan*. *Unpublished M.Sc. Dissertation*, IEDES-INA-PG, Université Paris I Panthéon-Sorbonne, Paris, France. 175 p.
- VASI-GRET (2000) Appui à l'Organisation de la Production Agricole dans le Nord du Vietnam. *Actes du Séminaire de Lancement du Projet FAC. 11 – 13 October 1999*. The Agricultural Publishing House, *Ha Noi, Viet Nam*. 388 p.

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