COPING MECHANISMS OF THREE ETHNIC MINORITY GROUPS IN RESPONSE TO FOOD SHORTAGES: A STUDY IN THE UPLANDS OF VIETNAM

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1. INTRODUCTION

The uplands of Vietnam encompass 37 provinces and cover three-quarters of the country's total natural area. These areas are home to approximately 24 million people who belong to 50 of the 54 ethnic groups. Among these groups, forest resources play a very important role in their livelihood.

In terms of culture, uplands residents and their way of life are very diverse. This is reflected through various aspects from language to customs and habits (such as food habits, clothing, housing and traveling) to the ways of procuring food. Based on geographical conditions, ethnic minority people, especially those in the Northern Highlands, can be categorized into three main groups. The first group, comprised of the Tay, Nung, Muong and Tai, resides in valleys and is familiar with wet rice cultivation. The second group, made up of the Dao, the Kho Mu occupying the middle of the mountain range and swidden cultivation is usually their main source of income economic activity. The third group included Hmongs, who live at the highest elevation and whose livelihood largely rely on swidden cultivation.

In the last several decades, the uplands have experienced many significant changes in possession relations, particularly the mechanisms that local people employ to procure food. In the Northern Highlands before the 1960s and the uplands in South Vietnam before 1975, communal ownership was very common among ethnic minorities, except ownership of some wet rice areas. Traditional cultivation techniques are still employed. During that time, food were largely obtained from agricultural methods in combination with hunting and gathering. From the 1960s and 1975 to 1986 (since the start of the Innovation policy "Doi Moi"), ethnic minority people were influenced by the centrally planned and subsidized economy, in which private ownership was eradicated and the policy of collectivization in agriculture was strictly carried out with particular attention paid to food subsistence. This policy restricted productive development, and promoted forest clearance for swidden cultivation; as a result, food shortage increased and grew into a larger problem. From 1986 to present, Vietnam has followed the market economy, in which the development of the private economic sector is encouraged. Land, the most important productive means of the farmer, has been allocated to individual households. Such basic changes have promoted the improvement of living standards for many ethnic groups.

However, along with many positive aspects, the Innovation process conversely had a negative impact on development, including food security in the uplands of Vietnam. According to the formal statistics based on a household living standards survey, the high poverty rates were largely concentrated in the uplands, such as Northwestern Region of the North (46.1%), Northern Region of the Center (29.4%) and the Central Highlands (29.2%). It is noteworthy that these areas also have the highest concentration of ethnic minority populations in Vietnam (General Statistics Office of Viet Nam. 2006: 19). According to Rob Swinkels and Carrie Turk (2004), there were 69.3% households under the national poverty line in 2002.

First of all, poverty among ethnic minorities in the uplands of Vietnam is reflected in the degree of food shortages. Similarly, according to the surveys conducted about household living standards by the General Statistics Office of Viet Nam in both 2003 and 2004, the rate of the households who lack food constitutes one-half of the total poor and very poor households. For example, the Northwestern Region of the North has 21.1% of the households who lack food, Northern Region of the Center has 12.2% and the Central Highlands has 12.3% (General Statistics Office of Viet Nam. 2006: 18).

The problem of food hunger mentioned above indicates a general incidence at region level, but not at the more specific areas were poverty may be more concentrated among ethnic minorities. According to a study by Vuong Xuan Tinh (2002), some Hmong villages reported having more than 60% of poor households, where one-half of these households lack food for more than six months. According to the Report on Development of Vietnam (2002, pg. 26), the rate of households suffering from food shortages among ethnic minorities is as follows: Ethnic Chinese – 4%, the Kinh (Viet) – 7%, Tay – 20%, Khmer – 22%, Nung – 22%, Tai – 48%, Dao – 30%, Muong – 48%, Co ho – 50.5%, Ede – 70%, Gia rai – 73%, Hmong – 68% and Ba na – 87%.

Fundamentally, there are three main categories that can be attributed to the problem of hunger.. The first category includes socio-economic factors, such as population growth (about 2.1% per year on average), lack of productive land, poor infrastructure and educational conditions, degraded natural resources and adverse impacts of the market economy. The second category includes natural calamities, such as flooding, constant widespread epidemics and disease. The third category includes seasonality factors, such as unstable price of agricultural products (such as coffee, sugar and bamboo shoot) and imbalance of supply exceeding demand.

Besides the factors mentioned above, other factors related to structures and processes directly influence food security of the household. Structures refer to the patterns of organizations, including both private and public entities that provide commodities and services to local people. Processes are based on policies, laws and the relationships among people in local areas. Processes are mediated through structures. In the uplands of Vietnam, structures include

various government agencies such as institutions of agriculture promotion, banking agencies and healthcare systems. Processes include (i) government policies related to land, healthcare and monetary issues; (ii) cultural factors that include cultivation methods, funeral, wedding, traditional ceremonies and festivals; (iii) institutions which include both formal and informal ones (family and clan); and (iv) social relationships in the local vicinity based on age, gender and relations in accessing administrative system.

Structures and processes directly affect the households and shape the ways foods are acquired. Somewhere, structures and processes may not support households to acquire food. Malfunction of structures and improper processes would negatively affect households in their attempts to obtain food.

In those context, it is needed to study the mechanism to deal with the food shortage of ethnic minorities in the highlands of Vietnam. More specific questions can include:

- What is the reality of available food resources for ethnic minorities in the uplands?
- What are coping mechanisms that different ethnic minorities have used in order to cope with food shortage situation?
- Are there any similarities and differences in these coping mechanisms among different ethnic minorities? If there are some, how similar and different are they?
- Are coping mechanisms of different groups of people (e.g. rich/poor, young/old) of the same ethnic group the same or different? How similar and different are they?
- What factors cause differences or similarities within an ethnic group and between different ethnic groups?

This study focuses on answering the questions mentioned above. The same for this study comprised of three ethnic minority groups living in different geographical areas in the Northern Highlands and Central Vietnam.

2. OBJECTIVES

The general goal of this study is to help poor local villagers to sustain their food security and improve their well-being in the future. The specific objectives are:

1. To understand the factors that cause food shortages among different ethnic minority groups living in three geographical areas in Vietnam.

2. To identify the impact of food shortages on households' assets.

3. To gain a better understanding of coping mechanisms employed to address food shortages within different households of the same ethnic group and between ethnic groups.

4. To recognize the patterns and dynamics of the differences and similarities of coping mechanisms among different households and ethnic groups.

5. To gain more research skills and experience about food security for junior researchers at the Institute of Anthropology and other institutions who are involved in the study.

6. To provide recommendations to policymakers about improving food security and well-being of poor local villagers.

3. METHODOLOGY OF THE STUDY

The project focuses on understanding coping mechanisms as responses to food shortages at the household level within a local community context. At the household level, the study examined five types of assets (hereafter will be referred to as variables). Food shortages, directly and indirectly, affect household assets and the converse is true.

The first type is natural capital, such as land and forest resources. Due to food shortages, people may have to sell or lease their land to earn income. They may have to change land use patterns or farming practice in order to reduce input requirements for agricultural production. They may have to go to the forest to exploit timber and non-timber forest products (NTFPs) to sell for cash. Some of them may use some NTFPs as an alternative for food for their families. Changes in ways of using natural capital may result in various consequences for households. Selling cultivation land means that people may not have cultivation land in the future, and this seriously threatens livelihoods of their families. People are violating the law if they go to forest to obtain timber and NTFPs since such activities are deemed illegal.

The second type is social capital, which can occur when there is a food shortage and people may have to ask for help from friends and relatives. Assistance can be in the form of food or cash. After receiving help from relatives and friends, people may migrate to other areas or go to the city to find alternative means of livings. The problem is that the people may be put in a worse off situation, such as not being able to pay off their debt and fall further into poverty.

The third type is human capital. In situations of food shortages, people may have to use their knowledge to acquire alternative sources of income by performing various kinds of jobs, such as a carpenter, seamstress, or laborer within or outside the village. Some people may have to reduce the number of meals per day, or consume foods of lower quality. These types of changes could have a major detrimental impact in their health and nutritional status. Laborious work may be too demanding for people since the types of jobs offered often are highly –labor-intensive. Thus, workers may have be at a higher risk of engaging in social crimes or social evils in the areas where they work. Reducing the number of meals per day or quality of the meals may result in lowering labor capacity and increasing micronutrient deficiencies, such as vitamin A, iodine and iron. These types of deficiencies may leads to serious negative consequences in a child's development and result in being underweight, having stunted growth, suffering from wasting and doing poorly in school. Reducing meals or quality of meals may also result in unforeseen diseases.

The fourth type is financial capital. People may try to find alternative sources of income during times of food shortages.

When doing so, some of them may have to accept every job offered, regardless of if it can negatively affect their health. People may have to reduce and/or change their household's expenditures for different items, which can play a negative impact on some sectors of the household. Shortage of income, for example, may lead to low investment in children's schooling, or even contribute to children dropping out of school. Households may find it difficult to seek care and treatment when a family member becomes ill.

The fifth type is physical capital. In food shortage situation, people may have to lease or sell their houses, means of productions and home facilities in exchange for cash. The negative consequences are great. In the future, they may not be able to find a place as good as the previous one to live. Selling means of productions may lead to a situation where the household's capacity is reduced, or the opportunity cost is lost.

This study looked at changes in household assets as a response to food shortages, however, there are both positive and negative consequences from such changes for a household's future and its development.

The study aims at learning how different ethnic groups respond and cope with food shortages. Assessment of the differences and similarities in coping mechanisms was conducted at various levels with different groups (such as rich and poor, powerful and powerless, men and women, etc.) .

At the community level, the study selected three different ethnic minority groups residing in different geographical areas (also taking into consideration varying elevations). The study used matrices with the same indicators (e.g., diversification of income, migration, etc.) to compare three different ethnic communities in order to understand the patterns and dynamics of differences and similarities found between the groups.

This study also examined the differences and adjustments made in the household at the intra-group and inter-group level when coping with food shortages. Three case studies were examined to gain a more in-depth understanding of people's abilities to cope and endure food shortages.

Food security is a very important topic in Viet Nam, however, it is still quite new to many Vietnamese researchers. Up to now, there is a dearth of information and only some studies carried out by development agencies, such as FAO and IFPRI. Therefore, this study was a new field of research for many Vietnamese researchers in this project.

This study uses an interdisciplinary approach using the sustainable livelihood framework developed by Department for International Development (DFID) (1998) and focusing on five types of household assets. Expertise within the research team involved researchers from various fields, such as agronomy, socio-cultural anthropology, health, nutrition and economics.

In carrying out this project, the main approaches used are as follows:

- In-depth interviews: Interviewees were from various groups, including local authorities at different levels (e.g., district, commune, village and hamlet), staff members of mass social organizations (such as Farmer's Associations, Women's Unions, Veteran's Associations and Associations of Aging People), local expertise staff in the field of healthcare, agriculture and land monitoring, representatives of varying socio-economic class (e.g., rich, middle-class and poor), both genders and different age groups.

- Group discussions: Discussions were carried out in order to address out important issues related to local food security, such as the criteria for classifying into socio-economic categories, advantages and disadvantages in agriculture and frequent risks faced by local residents. The groups for discussions were organized by individual groups of local cadre, different socio-economic status and mixed groups.

- Questionnaires: Questionnaires were conducted to gather basic information at each research site (some categories include information about the population, labor force, ethnicity, land and degree of differentiation between the rich and poor). Data also was collected about the economic situation, labor, health and nutrition within households.

- Participant mapping in a focus group setting: Local people were organized to draw village maps. This was done in order to collect information related identify local natural resources.

- Secondary data analysis: This type of data was collected at the provincial, district, commune and village levels in order to obtain demographic information about the three research sites. The secondary data included formal reports, available statistics and locally published articles.

4. INTRODUCTION OF RESEARCH SITES

4.1. Research sites selection

Three research sites were selected using the following criteria:

- The research sites for the in-depth study are individual villages in rural and mountainous areas in Vietnam. A village is a social unit that reflects the most typical socio-cultural characteristics of a given population.

- Three selected villages were of three different ethnic minority groups situated in different ecological conditions in the Northern Highlands.

- All three selected villages were poor, and are under the Program 135 of the government. This program was established in 1998 to assist especially poor communes in mountainous, remote and islands areas).

Basing on the criteria mentioned above, research sites were selected as follows:

- The Dao: Lu village, Tan Son commune, Cho Moi district, Bac Kan province.

- The Muong: Chien village, Nam Son commune, Tan Lac district, Hoa Binh province.

- The Tho: Ke Mui village, Giai Xuan commune, Tan Ky district, Nghe An province.

- The three selected villages are located in three different ecological conditions: The village of the Tho is in the midland region,

village of the Muong within limestone mountain range and village of the Dao in a hilly area.

- In the three villages, only the Tho people are located in the low lands, while the other two are located in the uplands (about 1000 meters above sea level).

4.2. Information about the research sites

4.2.1. Lu village (Tan Son commune, Cho Moi district, Bac Kan province)

Lu village is one of six villages of Tan Son commune in Cho Moi district. The village shares the border with Quang Phong commune to the north, Con Minh commune (Na Ri district) to the south, Hoa Muc commune (Cho Moi district) and Cao Son commune (Bach Thong district) to the west. Lu village is about 20 km away from the commune center, and 2 km away from the National Road 3B (Cho Moi district, Thai Nguyen province).

Ban Lu is at the elevation of about 1000 m above sea level. The geological landscape is formed by the combination of mountains and low hills, and about 60 to 90% of the area is covered by forests. Climatically, there are two typical seasons: hot season and cold season, where temperatures can reach up to 35 to 36 ºC during the hot season, and fall below 0 ºC during the cold season. In the village, there are five streams that provide water for everyday living and cultivation. Lu village has 15.7 ha of paddy fields (one crop), 8.3 ha of uplands cultivation and over 600 ha of forestland.

Lu in Tay language means a long time. Lu village used to be occupied by the Tay. After the Tay retreated to the lower area (Con Minh commune), the Dao moved to the Lu village. According to the elderly in the village, there were only four households of the Dao residing there in the 1940s. The four households cultivated both wet rice and dry rice as well as other fruit of the crops. In 1950, several Dao people from other locations married Tay people and moved to the Lu village; thus, increasing the number of households by 2.5 fold. In 1968, following the governmental policy of resettlement, nine of 14 households in the village moved to Khuoi Deng (Tan Son commune). However, they could not adapt well there, so most of these households returned to the village. In 2005, the village had 59 households with 354 people. People in Lu village reside along the main stream (Khuoi Lu), which is about three kilometers long, and the residential area is divided into two sections, Khu Trong (inside section) and Khu Ngoai (outside section).

In the 1960s, a co-operative was established in the village. As required, all the land of villagers was collectivilized into the co-operative. In 1988, the product contract in agriculture took place in the village. In 1991, the co-operative collapsed and co-operative resources were allocated to individual households. From 1990 to 1993, three households, which had moved to Khuoi Den, returned to the village and reclaimed their ancestor land (about 20 bung ~ 20,000 m²). At the time, the households that were living on the land voluntarily returned the land to its original owners, and ended up having to seek new land for cultivation.

Since 1999, Tan Son was listed as a poor commune under the Program 135. In 2000 and 2001, wet rice fields of individual households in Lu village were formally recognized through the Red Certificate; forestland was allocated to households for permanent protection and management for forestry goals.

4.2.2. Chien village (Nam Son commune, Tan Lac district, Hoa Binh province)

Chien village is one of seven villages in Nam Son commune, located at the elevation of about 1000 m above sea level. Compared to other villages in Tan Lac district, the village has different weather conditions at this elevation. There are two distinct seasons, a rainy season from May to October and a dry season from November to April. The average temperature is 20 degrees Celsius, with a wide range between night and day. In dry season, it is often very cold with hoarfrost, which makes it a challenge for cultivation and animal husbandry. Chien village is about one km away from the commune center and about two km away from the inter-commune market. The road from Chien village to the district is about 20 km. Before 2005, it was undeveloped and consisted only of a stone-paved dirt road, which made it difficult to travel. However, now it has been upgraded to an asphalt road and only 30 minutes by motorbike to travel from the village to the district center.

The villagers live mainly on two low hills, which are surrounded by wet rice fields. There is a forest-covered limestone mountain further out from their homes. The village has a total natural area 214 ha, including 86.5 ha agricultural land, 1.9 residential land, and the rest of the land is covered by forests and is unused. In 2006, the total population of the village was 337 people and 71 households, where 98% were Muong people, and the rest were Tai and Kinh people. The Thai moved to the village after marrying a villager, while the Kinh mainly arrived due to work as small traders and teachers.

Similar to other Muong people, the Muong in Chien village has a long tradition of wet rice cultivation. In addition, they practice uplands cultivation to generate additional food since the main source is insufficient. Dry rice and maniocs are the main crops of uplands cultivation. Raising cattle and domestic fowl are important income-generating activities for households. Most households raise buffaloes, cows, pigs, chickens and ducks, but not goats and horses.

Today, most forestland has been allocated to households through the Red Certificate or contracts. The contract of forestland is for 50-years, and inheritance is allowed. Forestland allocation in Chien village started in 1993 under Program 32, which was established in September 1992 based on the "Policy on bare and unused land, forestland, silt and water space." Most of the areas used to be unused and bare land, but now are covered by natural and planted forests.

Chien village and Nam Son commune as a whole is under Program 135. Basing on the current criteria of living standard classification, 54.8 % households in the village are considered poor. According to local residents' classification based on the

degree of food subsistence, 16 households lack food for a period of five to six months, 23 households for three to five months and 25 households for one to two months, compared to only seven households that have enough food for the entire year.

4.2.3. Ke Mui village (Giai Xuan commune, Tan Ky district, Nghe An province)

Ke Mui village, formerly referred to as Ke Bui, is one km away from the commune center, 20 km from the district center and 140 km west from Vinh, capital city of Nghe An. Ke Mui is one of 10 villages in Giai Xuan commune. As of 2004, the commune has a total population made up of 1,443 households with 7,730 people, total natural area of 55.39 km² and population density if about 139 people per km².

Ke Mui is situated in the lowest area of Tan Ky district. Climate conditions in this area are often harsh: In the summer, temperatures can reach up to 40 degrees Celsius with frequent dry and hot winds (called "Lao wind") from Laos to Central Vietnam. These conditions often cause severe drought and crop damage. In 2005, the village has a total population of 171 households with 919 people, of which 430 (223 males and 207 females) participate in the labor force. Ke Mui is made up only of Tho people. In Giai Xuan commune, with the exception of Van Xuan village, all resident villagers are either of Tho or Kinh ancestry.

Since 1998, households of Ke Mui and three other villages have been able to grow new rice varieties due to the water dams. Several new varieties of drought-resistant rice also are grown on the uplands. The yield of rice continues to gradually increase, where the average yield was three tons per ha in 2004. New varieties of corn varieties such as VN50, and peanut L14 are used as substitutes for local ones. However within the past two years, the most important income-generating activity for Ke Mui villagers is from sugarcane cultivation. Because Giai Xuan commune is located in the material producing area of Song Con Sugar Company, the area for growing sugarcane continues to expand. For instance, sugarcane was only grown on a small area of six ha. By 2000, the land area increased to 130 ha, and eventually to 508 ha by 2004.

In terms of services and trading, there are only four shops in the village despite its close proximity to the inter-district road. Among these shops, only one is considered large and conducts most of the business. It has a total capital of 40 million VND by operating as a general store that supplies and sells various items (including but not limited to daily necessities, agricultural supplies, construction material, clothing and telephone service). The other three shops specialized in trading small miscellaneous items. Trading activities are predominated conducted by Kinh people.

Based on new terms of the living standard classification by the Ministry of Labor, Invalids and Social Affairs, a household is considered poor if the average income is under 200,000 VND per month. In Ke Mui, there are 48.6% poor households, 41.4% average income households, and 10% households considered better-off. However,

according to the village management board, if other factors are included in with the criteria definition such as debt, illiteracy and lack of cultivated land, then households in Ke Mui can be reclassified as follows:

- Poor households: 51.45% (n=89), which can be further broken down with 20 ultra poor households (i.e., hungry all yearlong), while 69 households lack food for at least three months.

- Average households: 35.26% (n=61)

-Better-off households: 10.40 % (n=18)

Comparing the village to the commune level, the rate of poor households in Ke Mui village is 1.7 times higher than that of the whole commune (35.6%), and 2.7 times higher than that of the district (18.9%).

5. MAIN FINDINGS

Based on three research sites representing different minority groups in Vietnam's highland region, some conclusions have been drawn about the importance, extent and solutions to cope with the food shortage situation in the region. This problem applies to not only to poor households, which make up 40-60% in each community, and to the average income households. The severity of food shortages differs from community to community, and surprisingly, the highest rate is reported among the Tho. This community live in valley areas, have a better social infrastructure (e.g., electricity, road, school and clinic) and better access to the market. However, this rate also can vary among various groups in the community. Aside from rich households, both average and poor households cannot produce enough food based only on what they plant. Food shortages can last from one to six moths within one year; some even experience up to six months. Food shortages occur most when crops' productivity is low, or after some special events (e.g., sickness, construction of a new house, wedding and/or funeral). Households affected most severely with food shortages are often the ones who just moved out on their own, ones who have to care for ill family members and ones without enough productive land.

Coping mechanisms help ensure food sufficiency by using the five capital resources of each household. Below is a summary of the differences and similarities between households at the three research sites.

1. Natural capital is considered very important to the household economy for farmers in highland regions. For example, the rate of food shortages among the Tho is 20% higher than the Muong and Dao who live in the uplands, despite Tho people live in the valleys. Even at a higher elevation and less access to the market and transportation for the Muong and Dao, the problem with valley areas for the Tho is that they still lack available land that can be used for cultivation. Furthermore, the type of land plays a role in agricultural work. For instance, the Muong and Dao focus on wet fields in the uplands, while the Tho are more concerned with sugarcane cultivation for income. However, there are more opportunities to gain revenue due to the type of agricultural land and forests in areas populated by Muong and Dao people. All three communities rely on animal husbandry, especially cattle (e.g., buffaloes

and oxen), where each household has on average about one to three animals. Animal husbandry is an important resource and guarantee as food supply for households. However, the poor have less access to this method due to shortage of capital and labor.

2. Social capital has both positive and negative impacts on the household economy for farmers. On the positive side, it is a safety net for households in general and particularly regarding ensuring food security. When there are financial constraints occur due to monetary commitments for important events (e.g., building house, wedding and funeral), relationships within the family, kinship and community are the most crucial resources. On the negative side, social capital can create and promote a type of growing dependence when households take out loans. There often are limited options for the Tho when expenses for various ceremonies can cost them 24% of their annual spending budget, in addition to expenses for meals.

3. Human capital is considered a determining factor of food security only when it is supported by natural capital. Among the three research sites, none of the non-farming households have a stable economy. Human capital works only: Given similar land conditions, people who are more experienced, healthier and more hard-working will become richer than others. It is necessary to differentiate between human capital and natural capital, where the former is influenced and malleable based on various factors (e.g., health, educational level, social status and crop experience). All three sites have reported that human capital has improved due to some development projects restricted to the area of agriculture and forest promotion.

4. Financial capital is accumulated mainly from animal husbandry (e.g., pick, buffaloes, oxen and goats). During previous years, ethnic minorities and uplands residents were lent low-interest loans from Government Banks. Besides, it needs to know that other households also seek personal credit sources even though the interest rate is higher that credit borrowed from governmental agencies, which was seek among the Tho in Nghe An and Dao in Bac Kan. Folk unions of the Tho in Nghe An also provide financial capital to some households. Family, kinship and friends also are other resources for financial support.

5. Physical capital is closely tied to maintaining household food security, especially in terms of housing and cattle. In the three communities, cattle are important for labor, and they are types of property, and may be sold. Besides accumulation, people also could get special loans from the government, or from other development projects so the money is used to buy cattle such as in the Muong community. Additionally, people also cooperate to raise, or lend cattle to each other, which was reported among the Muong and Tho. For housing, the most popular forms of support given among the Muong was people helping each other in various ways through loans or donation of free labor or other necessary items. The support helps to reduce the risk for food shortages among low-income households.

6. Coping mechanisms to handle food shortages also are varied among communities and households within a community. On-debt purchase often is employed among the Tho and Muong. However, the difference is that only the Tho have to pay interest to the sellers. The Dao, similar to the Tho, also take out loans that have interest. This comes from the fact that a market-type of economy in Muong areas is not as developed as the other two places, and there are less Kinh people in the region. The Tho, on the other hand, live in sugarcane areas, close to the Kinh, who are familiar with giving "on-debt purchase" and receiving interest on this type of loan. Though the Dao live far from commune center and the Kinh, but interest loans have been reported upon increased wood exploitation in Lu village and ginger crops.

Selling agricultural products mainly from animal husbandry and gathering forest products to sell also are common coping mechanisms for the Muong and Dao, however, not for the Tho.. However, only the richer households could practice this since the poor ones never have enough food to store as reserves. Some of the poor even have to sell their un-harvested crops. Part-time jobs for additional income is popular among the Muong and Dao, but not for the Tho. People seek part-time jobs not only in their own community, but also in other places.

Borrowing food or being given food (no interest) from family members, relatives and friends also have been observed in all three communities. However, there are no available statistics reported on other coping mechanisms.

In brief, coping mechanisms for food shortages are more diversified in the Muong and Dao than in the Tho, where the latter use interest on-debt purchase, mainly upon their close location to the Kinh. This is helpful sometimes, but it may also drive people into debt in other time. This is a common issue found not only in the Tho, but also in many other minority groups in Vietnam's uplands region.

6. RECOMMENDATIONS

Report recommendations are mainly aimed to promote and accentuate positive impacts of the five capital resources relating to food security and coping mechanisms of food shortages among minority people in Vietnam's upland region.

1. Expand paddy fields: Commodity production and market are still undergoing development, while households continue to struggle with achieving food security and food production to meet household self-sufficiency demands. More attempts should be made to convert some existing upland fields to paddy land, and from one-crop paddy field to two-crop field in order to deal with food shortages. It is, worth noting that implementation of such plans depend largely on the ability of community to improve their irrigation system.

2. Planting: Promotion should be donefor people to continue growing local plants, such as maize, cassava and peanut on current existing areas. To increase productivity, varieties must be carefully selected and tested, crop calendar must be scientific and investment capacity of local people must be measured. For *rice crops*, it is necessary to plant them in the same area, reduce the

number of varieties planted, increase the effectiveness of fertilizers, encourage manure use and provide enough water on the regular basis. For *maize crops*, in-time planting is important, where fertilizing are placed deep enough, use of more mechanic fertilizers, selecting certain varieties and diversification of crops with other short-day crops. For *industrial short-term crops*, sugarcane is considered a good crop, but only should be planted in areas where water is readily available. In order to reduce risks, problems and solutions to them must be thought out in advance when dealing with industrial short-term crops.

3. Animal husbandry: More development of suitable livestocks based on the conditions of the region. Poor households may rely more on local types of oxen, while better-off households may have Lai Sind oxen. Encouragement should come to raise local pick and chicken for as they adapt to local conditions and their low nutritional demand. The regulations of community in raising animals must be taken into consideration to avoid and prevent diseases, and also as a way to provide more manure for crops. The living environment must be well–cared for, and gazing land must be prepared for the cattle.

4. Forestry: More organization and development of allocated forestland, as well as development of forest products are needed. Conditions need to be installed for in gazing in the forest.

5. Community food security fund: This fund is based on people's contributions and should only be used during times of food insecurity. The fund may be in in the form of cash, and interests may be accrued by the lender.

6. Reduce household spending on social events: Households with (chronic) food shortage problems may consider reducing expenditures for social rituals and related activities. However, for this recommendation to be socially accepted, it would be important that this message is integrated into local campaigns against wasteful rituals and ceremonies.

7. Increase agricultual and forest promotion, as well as invest in financial management training and household economic strategies: Agricultual and forest promotion are available but have little positive impact on the poor. It is necessary to change the content and the mechanism of these activities. It would be advantageous to provide people with enough training about financial management and household economic strategies.

8. Improve access to social services: The lack of necessary services during times of need is one of the reasons contributing to the risks associated with farm production. To help farmer alleviate risks, it is important that they have access to necessary services, such as seed and farm input supply, veterinary services, market information and prices.

9. Reduce costs or make tax-exempt for disadvantaged households: Since poor households are already having to spend beyond their means in order to meet daily food expenses (except rice), any type of fee imposed or tax payment due can be a real financial burden for disadvantaged households. It is recommended that local

authorities consider reducing or exempting any fees/ tax for economically constrained households.

10. Provide rotational fund in parallel with technical training and fund management assistance: Many households are in need of capital for investment in farm production, but yet, they do not borrow money from official sources due to their risk-adverse feeling. Implementation of a provision of rotational fund to needy households may help improve their financial capability. To reduce risk associated with the loan, it is important to provide trainings in conjunction trainings in technological advancements and financial management.

11. Introduce income-generating activities: During the off-season period, efficient use of labor to reduce redundancy in labor for local farmers can help improve food security and increase income.

REFERENCES

General Statistics Office of Viet Nam. 2006. *Household Living Standard Survey of 2004*. Hanoi.

DFID. 1998. *Sustainable Rural Livelihoods*. Department for International Development.

Rob Swinkels and Carrie Turk. 2004. *Poverty and Remote areas: evidence from new data and questions for the future*. Background paper for the PAC conference, 24-26 November 2004.

Vietnam Development Report. 2004. *Poor*. Hanoi.

Vuong Xuan Tinh. 2002. *Looking for Food: The difficult journey of the Hmong in Vietnam*. Working paper, Land Tenure Center, Wisconsin-Madison University, USA.

Tending buffaloes of the Tho in Nghe An province

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