



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

Tackling Household Food Insecurity: The Experience of Vietnam

Trang Thi Huy Nhat

Nong Lam University, Vietnam

Email: tthnhat@hcmuaf.edu.vn

ABSTRACT

This paper is a systematic review of the facts and figures related to the issues of food security in Vietnam. Based on a comprehensive definition of food security as “access by all people at all times to enough, nutritionally adequate, and safe food for an active and health life” (Kennedy 2002), it describes and analyzes food security in connection with poverty or macro policies, in order to identify and understand thoroughly the problems related to food security. It shows that poor households are, per se, food-insecure, and that policies which target rapid economic growth using a socioeconomic approach help alleviate poverty and food insecurity. Its findings mainly confirm that household food security—specifically issues concerning food safety, availability, access, adequacy, and vulnerability — is still a vital concern in Vietnam.

INTRODUCTION

The concern for food security is as old as human history but as a concept, food security is relatively new. Food security is a concern of any country, especially of developing countries, because it is considered as an essential element of overall well-being (Kennedy 2002), and a key issue in development (Busch 1997).

To date, roughly 800 million people in the world are under-nourished (Food and Agriculture Organization [FAO] 2005b). Some 75 percent of the under-nourished people live in the rural areas of the developing world, particularly in sub-Sahara Africa, South Asia, and the Pacific (FAO 2005b). This huge number of nearly-starving people has led to numerous policy initiatives, of which the most current and global are the Millennium Development Goals (MDGs), themselves a product of the

Millennium Summit of 2000. The elimination of poverty and hunger counts among the primary MDGs (FAO 2005b).

In Asia and the Pacific, where 510 million of the world’s undernourished people live (FAO 2005a), the annual Gross Domestic Product (GDP) of 6.6 percent is relatively high compared to the average GDP of developing countries (in the period 1992–2003). This strong growth has contributed to enhancing food security in many countries. The Millennium Development Goal of decreasing to half the number of people who have incomes below 1 USD PPP (purchasing power parity) per day is being attained in a number of countries with large populations, including Vietnam. Vietnam has shown impressive achievements in reducing poverty and food insecurity during the last decades. Attaining the target of halving the number of the poor and hungry by 2015 may thus be within reach (Balisacan 2004; Meade et al. 2006).

The main assumption of Millennium Goal number 1, which is to eliminate poverty, is a precondition for the elimination of hunger and starvation. Vietnam is one of the few countries where this assumption can be put to test. Vietnam ranks as the second fastest-growing economy in Asia, after China, and a country on its way to achieving the MDGs. Vietnam has enjoyed rapid economic growth since the early 1990s as evident in the annual GDP growth rate which has averaged 7.5 percent between 1990 and 2004 (Government of the Vietnam Socialist Republic 2005). Only two percent of the Vietnamese population are said to be below 1 USD PPP per day (FAO 2005b). The national poverty rate has decreased from 58.1 percent (1993) to 37.4 percent (1998) and further down to 24.1 percent (2004), and the population under the food poverty line has gone down from 24.9 percent to 15 and 7.8 percent, respectively (Government of Vietnam Socialist Republic 2005). By the most recent criteria, in 2006, these rates were 16 percent and 6.7 percent in turn¹. In addition, the FAO estimates that groups vulnerable to food insecurity involve around 23 percent of the national population (FAO 2004). Like this, with a dense population over 80 million, even though the general poverty and food poverty have gone down in term of relative number, they were still remarkable in term of absolute. Moreover, Vietnam is considered one of the countries whose under or 5-year-old children are the most malnutritional in the world, with one-third of them being stunted², as Vietnam Institute of Nutrition informed at the Conference on National Nutrition on 17 February 2009.

These developments raise a number of academic and policy-relevant questions, to wit:

- (i) *What is the nature of household food security in Vietnam?*
- (ii) *Why are households food-insecure?*
- (iii) *Is household food insecurity a concern of the Vietnamese government?*

Aim of the Paper

This paper describes and analyzes household food security in connection with poverty or macro policies. It intends to answer the foregoing questions, in a bid to identify and understand thoroughly the food security problems in Vietnam. Moreover, this review of the facts and figures will provide policymakers and researchers with a more comprehensive picture of the country's experiences in addressing food security issues. New evidences and fresh insights that will be engendered will certainly contribute to the formulation of new policies and the enrichment of academic pursuits on food security or poverty reduction.

Structure of the Paper

The following three main sections comprise the bulk of the discussion. The first section explores the socioeconomic context of the issue of food security. The second section presents the conceptualization of the issue and the methods used to gather data on it. The third section dwells on the specific experiences of Vietnam on household food security. The summary and conclusions are contained in the final section.

¹ Dr.Hung Tran Manh, Food security and sustainable agriculture in Vietnam 2009.pdf, submitted to Fourth Session of the Technical Committee of APCAEM, 10-12 February 2009, Changmai, Thailand.

² Tổng quan về suy dinh dưỡng Trẻ Em ở VN (2009), <http://www.dinhduong.com.vn>

THE SOCIOECONOMIC CONTEXT OF THE PROBLEM

Economic Features and Food Availability in Vietnam

A shift from an agricultural-based economy to a diversified economy. Since the start of the economic reform policies in 1986, Vietnam has changed from central planning to a market-based economy (Adams 2002). The economic structure has been transformed remarkably during the last 20 years. Today, agriculture contributes 21 percent of the GDP share while industry and the services sectors contribute 41 and 38 percent, respectively³. Ten years ago, the picture was significantly different with agriculture being a major contributor to GDP with a 38 percent share, followed by industry (29%) and the services sector (33%)⁴.

Although agriculture's share in total GDP is declining, agriculture and fishery are still considered the backbone of the economy (www.gso.gos.vn). This is because these sectors continue to significantly provide income for the rural people and raw materials for food processing for a good number of other industries.

A change in role from food importer to food exporter. In the early 1980s, Vietnam was one of the poorest countries in the world with a stagnant economic growth and a high prevalence of poverty and hunger due to the insufficiency of food production, especially of rice (Adams 2002). But, since 1989, Vietnam has become an important rice exporter in the world.

Rice is still the most important crop, accounting for 87 percent of cultivated areas,

and 89 percent of cereal production (GSO 2008). It is produced mainly in the Mekong River Delta and Red River Delta, two granaries of Vietnam, characterized by their high productivity and crop intensification (GSO 2004). Together with the yield remained at more than 2 % increase per year, paddy production has nearly doubled for 17 years (from 1990 to 2007, Figure 1).

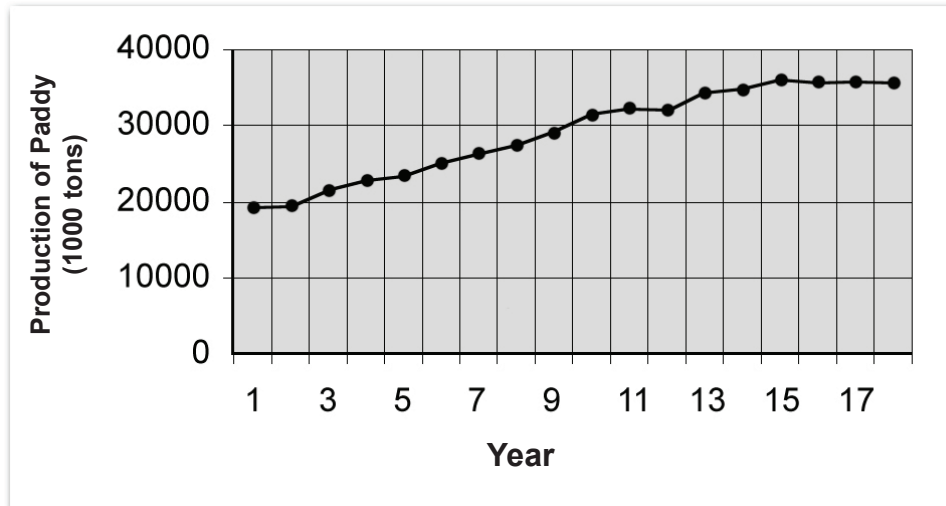
Population, Migration, and Welfare

Population. In 2005 the population of Vietnam was 83.2 million (Government of Vietnam Socialist Republic 2005) and it has risen by around 40 percent during the last 20 years (1986–2005) (www.gso.gos.vn). The population density is 252 persons/km² (Government of Vietnam Socialist Republic 2005), similar to that of the Philippines, but higher than those of Indonesia, Thailand, and Malaysia (United Nations Country Team 2004). The population at working age is around 43.6 million people (Government of Vietnam Socialist Republic 2005). Around 74 percent of the population are rural; in 2004, around 66 percent of the total labor force was working in agriculture (FAO 2005a). This translates into an agricultural area per capita of 0.12 ha compared to 0.32 in Thailand and 0.16 in the Philippines, in 2002 (FAO 2005a). The annual population increase is around 1 million people (MARD 2003a; Phong 2006).

Migration. Migration can be considered as a mechanism of livelihood and leads to changes in the population/labor distribution in the country. In Vietnam, there have been waves of migration characterized, as follows: 1.13 million people who moved between urban

³ These figures are based on 2005 data.

⁴ Source: www.gso.gov.vn downloaded on 22 June 2006.



Source: GSO, 2008

Figure 1. Evolution of paddy production, Vietnam 1990-2007

centers; 1.6 million migrants who moved within rural areas (from the poorest provinces with high population pressures to other rural areas); 1.18 million people who moved from rural settlements to urban centers; and the over 400,000 migrants who moved in the opposite direction (Anh et al. 2003).

Economic and social gaps. In 2005, average Vietnam's Gross Domestic Product (GDP) per capita was only 643 USD (Hung 2009), which was very low as compared with the average (1351 USD) for developing countries (FAO 2005a). Seventy-five percent of Vietnamese labor-force working in the sectors of agriculture, forestry and fisheries contributed only around 20 percent of the GDP (Hung 2009). The gaps between farm and non-farm incomes, as well as urban and rural incomes, were big and growing (Dapice 2002). Roughly 67 percent of the population reached only lower secondary school level. Although adequate access to clean water and sanitation are important factors affecting the nutritional status of the people, about 35 percent of the rural population gets

water from untreated surface sources (United Nations Country Team 2004).

CONCEPT AND METHODS

Defining Food Security

Food security has been defined as the "access by all people at all times to enough, nutritionally adequate, and safe food for an active and healthy life" (Kennedy 2002). This definition breaks down food security into three components, namely: food availability, adequacy, and access (Busch 1997). As stated, food security applies to all individuals and the clause "at all times" highlights the stability of these issues over time (Stamoulis and Zezza 2003). Taking off from this definition, food insecurity—the situation opposite to that of food security—exists, therefore, when households or individuals, for various reasons, experience food unavailability, inadequacy (including the consumption of unsafe food), and inaccessibility. Food insecurity can also be classified as

transitory or chronic. The transitory type of food insecurity can recover from shocks/risks, while the chronic type cannot (FAO 2004). Besides, there are vulnerable people who are “living on the edge” of food security (FAO 2004), or who have potential risks to become food-insecure.

Food availability or food supply is conditioned by food production, exchanges inside or outside the country (through import or export activities), and food aid. They depend much on the agricultural and geographical environment as well as the human capacity to apply technology (Brigham 2004). Food adequacy relates to food quality including both food nutrients and food safety. Access to food deals with assets linked to the ability of households to earn income from jobs/employment, from aid and external relations, and networks outside the household and infrastructure/market conditions to get food (Windfuhr and Jonsen 2005). Poverty is an important constraining factor for access to food. Access is also related to the access of food producers to the market, and the access of consumers to food.

Individual or household food (in)security is measured by various indicators such as: a) calorie intake or dietary diversity (Hoddinott 1999; Hoddinott and Yohannes 2002; Smith 2003), b) income (Boudreau 1998; Foster 1999); c) food expenditure per capita (Maxwell and Frankenberger 1992; Smith 2003); d) under-nutrition (Maxwell and Frankenberger 1992; Smith 2003); and e) probability of being food-insecure (Lovendal and Knowles 2005).

Method of Review

This paper is mainly grounded on gathering existing documents about food security, poverty, and the relevant macro policies. Three sources of information have been utilized. One is the literature review based on the papers or reports published on food security (in Vietnam), specifically information relating to hunger,

poverty, economic growth, environment, agriculture, rural development, and population. Another source consists of secondary data or databases used to describe the economic structure, growth/ development trends, the socioeconomic picture (in the preceding section), and to analyze the relationship between food insecurity and poverty (in the next section). The last source of information used is the experts’ opinions as culled from Vietnamese newspapers which have published the lively exchange of views on the issue of food security.

ISSUES ON FOOD SECURITY IN VIETNAM

This section describes household food security in Vietnam in the context of rapid economic growth; analyzes the relationship between food insecurity and poverty, as well as the relationship between macro policies and food insecurity reduction; and gives an overview of the challenges confronting household food security in the country.

What is the nature of household food security in Vietnam?

In order to learn about the nature of household food insecurity, it is necessary to understand how to determine thresholds of food insecurity and poverty. They can help us see the linkage between household food insecurity and poverty as well as to identify who are the food-insecure households.

Relationship between food insecurity and poverty. The relationship between food insecurity and poverty depends first on the thresholds used to classify the poor or the food-insecure. Since 1997 income per capita has become an indicator to determine the thresholds, instead of rice quantity. Between 2001 and early 2005, poverty lines had been determined by two methods, one of which identified food poverty lines. The first method was based on

the consumption or cost-of-basic-needs (CBN) approach, and determined the food poverty lines by the energy intake target (2100 kcal/capita per day), equal to around 70 percent of the general poverty line. They were the international standards used by the World Bank (WB) and the Vietnamese General Statistics Office (GSO). On the other hand, the national poverty line generated from the second method was based on the income approach and determined by the provincial leaders' choosing the poverty line by a majority (Vie02/001project 2004), and applied by the Hunger Eradication and Poverty Reduction (HEPR) boards and the Ministry of Labor, Invalids and Social Affairs (MOLISA) to establish the list of poor households.

Table 1 shows that in 2001 the national poverty threshold was even lower than the international food poverty thresholds in mountainous or rural areas. But this line was used to assess poverty at the household level in the period from 2001 to early 2005, not taking account of the consumer price index. As a result, a poor household was also regarded as

food-insecure. In reality, though, the number of food-insecure households must be higher than the number of poor households reported by local authorities.

Which households are food-insecure or vulnerable to food insecurity? And where are they living?

Reports on food security differ in how food-insecure or vulnerable households are identified. Food-insecure households may be poor, illiterate, have many children, have limited off-farm employment, and weak production or business capacities (ActionAid, et al. 1999). They can be malnourished or undernourished (Luttrell 2003; MARD 2003b); unemployed or underemployed (Luttrell 2003); have insufficient rice to eat (Vinh 2006); have unstable jobs and incomes, be landless or have small farms⁷, or have large family size (FAO 2004). However, all reports claim that the ethnic minority households and the rural people are at high risk of food insecurity or vulnerability.

Table 1. Poverty lines in 2001 (Unit: USD⁵/capita/month).

	Mountainous	Rural	Urban
International poverty lines			
- Food Poverty line	6.16	6.75	8.44
- General poverty line	8.53	9.4	11.7
National poverty line	5.2	6.5	9.7

Source: MOLISA 2004⁶

⁵ Conversion rates: 13.163 VND/USD (1997-2000); 15419 VND/USD (2001-2005); 16070 VND/USD (after 2005).

⁶ • International Poverty line for 2001 = Poverty line for 1998, adjusted for price changes in the period of 1998-2000.
• Poverty line is adjusted to regional coefficients.
• Food poverty was 90.17 USD /capita/year and general poverty line was 136 USD /capita/year in 1998.

⁷ Landholdings in the Red River measured 0.25 ha and less per family, while those in the Mekong Delta measured 1ha and less per family.

In 2004, the food poverty rate was higher in rural than in urban areas (3.5%) and about seven times higher for ethnic minorities (41.5%) than for Kinh (6.5%) (Government of Vietnam Socialist Republic 2005). The North Central Coast and the Central Highlands are regions with the highest rates of child malnutrition (MARD 2003a). However, in terms of absolute numbers, the majority of food-insecure people live in the Mekong Delta and Red River Delta (World Bank 2005), accounting for 8.7 million people. For the rest of the regions, the food-insecure or vulnerable people are estimated to be around 6.2 million in the Northern Region, 3 million in the urban areas, and 0.4 million in the Central Coastal Regions (FAO 2004).

How did household food insecurity decrease so rapidly?

Economic policies. After the unification of the North and the South in 1975, the Vietnamese economic policies focused on the nationalization and centralization of the national economy, and prioritized heavy industry (Thang 2001). However, the wars waged against Kampuchea (1978) and China (1979) have led to the shortage of foreign exchange, falling production, and rising inflation (Adams 2002). In the late 1980s, the de-collectivization of farm lands and the liberalization of input and output markets became key reforms (Meade et al. 2006; United Nations Country Team 2004). In agriculture, the collective system and administrative pricing were abandoned. In 1993, land tenure arrangements were concretized and agricultural markets further liberalized (Gosh and Whalley 2002). The government had used export quota to regulate the rice price in the domestic market (Gosh and Whalley 2002). In

1997, the barriers on rice trade were removed, and private rice export was allowed. Exchange rates were regulated by the market price (Thanh 2005). Private sector trade in agricultural goods was promoted (Gosh and Whalley 2002).

Agricultural research policies. Together with applying new crop varieties, extension services were improved. Particularly, high-yielding and drought-resistant varieties of rice and corn were introduced in the Northwestern uplands regions (the poorest regions of Vietnam) with positive effects on food security and poverty reduction (Meade et al. 2006).

Social policies. Since the 1980s, the Vietnamese government has promulgated a population planning policy to limit the family size to two children, born 3–5 years apart, and recommended a minimum age of 19 for the mother of a first child (Johansson et al. 1996). Education and health are considered as the major promoters of the human capital of the poor. Those who get the “poor household certificate” can own “health insurance cards” (free medical treatment in public hospitals), and be provided partial or full exemption to school fees. The education fee exemption program benefited one-seventh of all the poor and a fifth of the food-poor (Klump and Bonschab 2004). In addition, the poor ethnic groups could also get public extension services from the 133 or 135 programs implementing infrastructure building, resettlement, and credit for ethnic households in 1,658 poor communes belonging to the uplands and 147 poor communes in the Mekong Delta (Klump and Bonschab 2004). The Bank for the Poor lent the poor nearly 400 million USD⁸, of which, around 5 million USD were for nearly 90,000 households to serve production with zero interest rate (WB 2004). Besides, to mitigate the damage caused by natural calamities, the

⁸ Conversion rate is 14 500 VND/ USD.

government was distributing rice, trucking water, vaccinating livestock, and improving irrigation water supply, though the coverage was inadequate (ActionAid et al. 1999).

In addition, the Vietnamese government also promulgated national programs to improve the nutritional status of the people. The iron deficiency anemia control programs included two activities: supplementing women with iron and folic acid tablets, and providing them education on nutrition and the prevention of intestinal parasites. However, the program was implemented in only 1,282 of about 10,000 communes in the country. In the Vitamin A deficiency control program, about 80 percent of children aged 6–36 months in the whole country received high doses of Vitamin A capsules twice a year. In the national program for controlling Iodine Deficiency Disorders (IDD), a nationwide program has provided iodized salt for the whole population. A high 80 percent of the households are currently using the iodized salt (MARD 2003b).

To oversee food safety control, the Vietnam Food Administration agency has been founded at the Ministry of Health. A “Food Safety Month” is launched every year (from April 15 to May 15). Nevertheless, food safety remains limited. The system created to manage food quality and safety through the Hazard Analysis and Critical Control Point (HACCP) and the Goods Manufacture Product (GMP) in food production, processing, handling and preservation, has been implemented only on a small scale. Food regulations have not yet been completed.

Effects on food availability, food access and adequacy. In the period 1975–1985, food production was not sufficient to feed the people. Famines occurred even though the government imported thousands of tons of food annually

(Thang 2001). Indeed, the mean value per capita of rice and food grain availability was 160 kg and 197 kg respectively (GSO 2004). The poverty rate was between 74 and 78 percent before 1986 (Klump and Bonschab 2004). Rice production output has doubled between 1989 and 2004 (GSO 2004; Meade et al. 2006). Rice production per capita has increased from 260 kg (1986) to 430 kg (2005) (GSO 2004)⁹. Food production has risen to 64 percent per capita. Agricultural production increased by 71 percent during the period 1990–2004, and per capita income growth was around 6 percent annually during the period 1990–2003 (Meade et al. 2006). Rice prices had gone down compared to micronutrient-rich items, and as a result, poor households could buy more rice to increase the calorie intake in their diets (Molini 2006). In general, food adequacy has improved in several directions during the 1990s. Average calorie intake per capita increased from 2,149 in 1990 to 2556 by 2002, and the ratio of undernourished children was reduced from about 50 percent to roughly 25 percent during the period 1993–2003 (Meade et al. 2006).

Is household food security a concern of the Vietnamese government?

Looking ahead, household food security is facing a number of obstacles in relation to food availability, food access, and food adequacy. The challenges come mainly from the natural environment (including natural calamities or the degradation and pollution of the environment), from macro policies including many weaknesses in the early warning system, from some shortcomings in economic and agricultural research policies, and a lack of experience in international marketing.

⁹ Source: www.gso.gov.vn downloaded on 22 June 2006.

Which challenges does household food security face?

Natural calamities. Influenced by the geographical features, natural calamities such as typhoons or storms, saline water infections or intrusions, floods, and droughts occur annually in Vietnam, causing injury and loss of lives, as well as damage to property. During the 20-year period from 1975 to 1995, there were 207 storms and 54 tropical low pressures between June and December every year. The damage to property caused by these natural calamities amounted to roughly 2 percent of GDP in the last decade (WB 2005).

Weakness in early warning systems. Early warning systems on natural calamities reveal weaknesses. The observation network is of low density and very few automatic hydro-meteorological stations exist. The quantitative rainfall measurement and forecasting are also limited, and hampered by the slow rate of data collection. Because of this state of affairs, flash floods and local rainstorms cannot be accurately predicted (Thanh and Mai 2006). The main cause of these shortcomings is that the weather forecast technologies and methods used in Vietnam are out of date and not suitable for the complex changing trends of the climate (Xuan 2006)¹⁰.

Environmental degradation and pollution. Deforestation and soil erosion are a constant threat to watersheds and the sustainability of mid-slope and lowland agriculture. Water pollution from both domestic and industrial sources represents an increasing

risk to the natural environment (United Nations Country Team 2004).

In intensive agriculture, the excessive use of agro-chemicals has had a bad impact on Vietnam's ecosystem as well as on field laborers. A high 17 percent of insecticides used are classified by the World Health Organization (WHO) as extremely hazardous, especially due to methyl parathion. Its contaminants remain in the soil, affecting future rice crop yields (Quang 2001).

Lack of effective family planning policy/implementation. Population policy has strongly focused on contraception and abortion rather than paying attention to the connection between fertility and women's opportunities for education and employment (Johansson et al. 1996). In addition, there are factors hampering the effectiveness of the family planning policy such as the perception of the population, the lack of consideration of sex issues and cultural differences and social support for elderly people¹¹ (Hoa et al. 1996), and early marriages especially in mountainous areas (Nam 2006). Although the population growth ratio has decreased, the population shows an annual increase of one million (Phong 2006).

Shortcomings in economic and agricultural research policies. Public spending on agriculture comprises around six percent of total public expenditure (WB 2005). The funding of agricultural research is low and patchy, and extension services are weak (WB 2005). In fact, the investment in agricultural research and extension comes up to only 611 USD per year per researcher in Vietnam. This is very low

¹⁰ The interviewee is Professor Le Ngoc Ly, who is a researcher working in the Ministry of American Navy and in the Spatial Center of NASA. His name appears in the list of Who's Who in the world, Who's Who in America, International Who's Who of Intellectuals and Dictionary of International Biography.

¹¹ Research has been carried out in the Tien Hai district (Thai Binh province), where the population density is one of the highest in Vietnam, as noted by the authors.

compared to the average index of developing countries (31,315 USD per year) in the period 1991–1995 (Son 2002). Administration costs are high at 60 percent of the total expenditure (Son 2002). Scientific information is still sparse, and advanced technology has not been transferred to producers in a timely and adequate fashion (Son 2002).

Mistakes in industrial development policies have inhibited the industrial sector from attaining its full development. One major problem is the disconnection between trade and industrial policies. The state has invested in sugar production for export without considering the competitiveness in the world market. The import-substituting investments cost billions of US dollars and generate little or negative value added at world price. They are both anti-growth and anti-employment and not good for the economy. Undoubtedly, these do not promote a healthy financial system (Dapice 2002).

Lack of experience in international marketing. After long and tough negotiations, Vietnam became an official member of the World Trade Organization (WTO) on 7 November 2006. This achievement has been among the significant developments in Vietnam in recent years. It however requires that the country gain familiarity with the “rules of the game” and acquire increasing competitiveness of production to benefit from its WTO membership. Currently, the State has not made the necessary actions to support farmers or firms, and to respond to market demand (Xuan Vo 2006; WB 2005). Hence, there are big challenges to food insecurity and poverty reduction in Vietnam in the coming years (Minh 2006).

Vietnamese firms have limited knowledge on foreign markets and new technology, and they have missed many opportunities due to their slow decision-making process (Dapice 2002). The lack of experience in international commodity trading and the absence of a risk minimization strategy have led to the signing of

contracts which had sometimes resulted in the sale of products at less than their value (Goletti 2004).

Competitiveness of commodity production is still low (Quynh 2006) Vietnam needs a substantive strategy shift towards the diversification of exports into “high value” markets by instituting changes in production,; improving their processing technology, marketing, and branding; and strengthening linkages along the value chain (Goletti 2004).

What are the problems and evidences of vulnerability to household food security?

Problems of household food security.

In 2003, the percentage of children under five years, who were underweight, was 28.4 percent (while it was 45% in 1994); moreover, 32 percent were stunted, and 7.2 percent were wasted. The National Institute of Nutrition has estimated that 27 percent of pregnant mothers suffer from chronic energy deficiency, and that over 30 percent are anemic (United Nations 2005). Micronutrient deficiencies also affect a large part of the population.

As to vitamin A deficiency, the prevalence of sub-clinical vitamin A deficiency is still high: 12.4 percent of children and 53.8 percent of lactating mothers (in 2000), caused mainly by the lack of vitamin A-rich food and the low fat/oil intake. Iron deficiency is a major public health problem in Vietnam, which is caused mainly by the lack of iron in the diet. The high-risk groups are women of childbearing age, and children. Over 35 percent of all cancers found are diet-related and particularly associated with high fat intake, nitrites and contaminants (e.g., pesticides) in the diet, and food additives (e.g., colorants and preservatives). A lack of hygienic conditions and knowledge/understanding in food preparation leads to food contamination (especially in ready-to eat-food), and the threat of food poisoning.

Box 1. Paddy diseases can cause a shortfall in output and a rise in price

The spread of the brown plant hopper on paddy has been a catastrophe for many farmers in the Mekong Delta. In 2006, over 50 percent of planted paddy surface was infested with brown plant hoppers (Dai and Phong 2006). As a result, paddy output was reduced to around half a million ton (Phien 2006). This raised the price of rice, which became a big concern of poor consumers (Hung 2006).

Box 2. Animal diseases have threatened food safety and product sales

In recent years, epidemics of animal diseases have broken out in many areas. The bird flu which had affected chickens and ducks has not been put out completely and may yet stage a recurrence¹². The foot-and-mouth disease has affected 126 communes of 12 provinces (until the middle of August 2006) (Hieu and Hau 2006). In addition, there is concern about food access to the aquaculture exports. There is a risk of losing the Japanese market, which accounts for nearly 30 percent of the aquaculture export turnover due to low quality (Phong and Dai 2006b).

Box 3. Animal diseases have increased farmers' indebtedness and reduced workers' income

In the Mekong Delta, where there are about 80 percent of national shrimp production (GSO 2006), and shrimps that have been infected by diseases are causing loss and indebtedness to farmers (Phong and Dai 2006a).

The problems affecting the shrimp crops not only make the farmers poorer, but also affects the shrimp processing industry and export. With raw shrimp becoming rare, its price increases rapidly.

Consequently, many processing firms run at only 50 percent of capacity; the workers' working hours have to be reduced, and their salaries decreased (Thuan et al. 2006).

According to a 2002 report from the Ministry of Health, 218 outbreaks of food poisoning affected 4,984 people and resulted in 71 deaths. The food poisoning causes were 42.2 percent by microbial agents, 25.2 percent related to

chemical substance, 25.2 percent due to natural poisons, and 7.4 percent with unknown origin. More than 60 percent of street food samples are found contaminated with microbial agents (MARD 2003b).

¹² www.laodong.com.vn, (downloaded on 12 Sep.2006).

Evidences of vulnerability.

The boxes show a close relationship between food availability and food access (as seen in Boxes 1, and 3), and between food adequacy and food access (as seen in Box 2).

CONCLUSIONS

In brief, with household food security defined in terms of the related components of availability-adequacy-access, as well as sustainability, this paper's discussion on food insecurity in Vietnam focused not only on the (real) income level, or the micronutrient deficiencies or the malnutrition of children under 5 years, but also on food safety (or the lack of it), and on the vulnerability of the population.

Along with rapid economic growth, food insecurity has been remarkably reduced since 1986. Food availability has improved, largely brought about by important changes in land and trade liberalization policies, associated with price policies, which have released productive forces, and led to diversified livelihoods as well as the increase in the abundance of food. These had directly impacted on food price and household income, thus widening food access. In addition, the matter of food adequacy has been addressed by social policies supporting the poor or hungry, as well as by family planning and national nutritional programs, which have also contributed to improving calorie intake, or the intake of some micro-vitamins per capita. Hence, we could say that Vietnam provides a clear proof of household food insecurity reduction based on economic growth and social (especially pro-poor) policies.

Nonetheless, there are still a lot of food-insecure households and undernourished people. Poor households or malnourished children involve millions. Poor households are, per se, food-insecure because the number of food-insecure households was determined

based on the poor households reported by local authorities during the period from 2001 to early 2005, as analysed above. Thus, this number must be much higher in reality. And the diets of poor households, although they have been improved by calorie intake coming mainly from rice, were still deficient in vitamins or micronutrient items (Molini 2006).

The problem of food safety is widespread. While the food poverty rate is higher in rural than in urban areas in terms of income per capita, the matter of food hygiene concerns everybody. Given its important role in human nutrition and health, neglecting the problem of food safety will render food security unsustainable, both at the national and household levels.

Food availability is threatened by paddy or animal diseases at the national level. Food adequacy is badly impacted by a loose food chain (including weak controls in food production, preserving and processing), or a deteriorating environment. All these then influence roughly the household's real income (food access) through food consumption or food price.

These facts prove that household food security in Vietnam remains a vital concern and is facing many challenges, and suggest that a comprehensive concept and a reasonable threshold should be considered as the bases for assessing household food security which relates closely to economic growth associated with social policies. In the context of globalization and an economic crisis arising from any of several causes— natural resources scarcity, environmental degradation, climate change, epidemics—the focus should be on strengthening early warning systems, population growth and food hygiene/safety controls, applied research in food production, and knowledge of “rules of the game”. Besides, further analysis on factors inside households and on food chain will be needed to completely understand household food security.

REFERENCES

- Action Aid Fund, Save the Children (UK), Oxfam (GB) 1999. "A Synthesis of Participatory Assessments from Four Sites: Lao Cai, Ha Tinh, Tra Vinh & Ho Chi Minh City", Vol. 2006, World Bank.
- Adams, R.H., Jr. 2002. "Poverty Reduction in Vietnam 1988 to 1997/98". Technical report, NATHAN. <http://nathaninc.com>
- Anh D.N., C. Tacoli, and Thanh H.X. 2003. "Migration in Vietnam: A Review of Information on Current Trends and Patterns, and their Policy Implications". http://www.livelihoods.org/hot_topics/docs/Dhaka_CP_7.pdf
- Balisacan, A.M. 2004. "Averting Hunger and Food Insecurity in Asia", *Asian Journal of Agriculture and Development (AJAD)* 1(1): 39-60.
- Boudreau, T. 1998. "The Food Economy Approach: A Framework for Understanding Rural Livelihoods", *Relief and Rehabilitation Network* 26: 32. RRN.
- Brigham, A.M. 2004. "Just Hungry? Analyzing the Relationship between Land Concentration and Food Insecurity". Trondheim: Norwegian University of Science and Technology.
- Busch, L. 1997. *Biotechnology and Agricultural Productivity Changing the Rules of the Game?*. Cheltenham, U.K.: Edwin Elgar.
- Dai B. and C. Phong. 2006. "Winter-spring Rice Crop in 2006-2007: Alarm in Risk of Wide Epidemic Disease on Paddy" [Vụ lúa Đông Xuân 2006- 2007 ở ĐBSCL Báo động nguy cơ đại dịch], Vol. 68582, Sai Gon Giai Phong Newspaper, Ho Chi Minh City.
- Dapice, D. 2002. *Economic Policy for Vietnam in a Period of Economic Turbulence*, Vol. 2006: Fulbright.
- Food and Agriculture Organization (FAO). 2004. "Food Insecurity and Vulnerability in Vietnam: Profiles of Four Projects Analysis Service (ESAF)". FAO <http://www.fao.org/docrep/007/ae066e/ae066e00.htm>
- _____. 2005a. "The State of Food and Agriculture 2005". Rome: FAO.
- _____. 2005b. "The State of Food Insecurity in the World 2005". Rome: FAO.
- Foster, P. 1999. *The World Food Problem: Tackling the Causes of Undernutrition in the Third World*. Lynne Rienner Publishers.
- Goletti, F. 2004. "Adding Value to Vietnam's Rice Industry and Improving the Incomes of the Poor", *Market Development Bulletin* 4: Making Markets Work Better for the Poor. <http://www.markets4poor.org/?name=document&op=viewDetailNews&id=467&language=english&mid=&cmid=>
- Gosh, M. and J. Whalley. 2002. "Are Price Controls Necessarily Bad? A Case Study of Rice in Vietnam", *Journal of Development Economics* 18: 215-232.
- General Statistics Office (GSO). 2004. "Food Availability (1976-2004)", Vol. 2006.
- _____. 2006. "Shrimp Output Distributed by Local Areas" [Sản lượng tôm nuôi phân theo địa phương] (1995-2004).
- _____. 2008. "Cultivated area, production, yield of paddy (1990- 2007)", Vol.2009.
- Hieu T. and Hau H. 2006. "Foot and Mouth Disease Violently Broke Out Again [Dịch lo mom long mong tai bung phat du doi]", Vol. 2006, Lao Dong Newspaper, Ho Chi Minh City.
- Hoa, H.T., T. N. Van, A. Johansson, H. V. Thi, B. Hojer, and Lars Ake Persson. 1996. "Child Spacing and Two Policy in Rural Vietnam: Cross Sectional Survey", *British Medical Journal (BMJ)* 313: 1113-1116.
- Hoddinott, J. 1999. "Choosing Outcome Indicators of Household Food Security". International Food Policy Research Institute (IFPRI), [http://www.reliefweb.int/rw/rwt.nsf/db900SID/NVEA-5ULK83/\\$File/IFPR_HouseholdFoodSecurity.pdf?OpenElement](http://www.reliefweb.int/rw/rwt.nsf/db900SID/NVEA-5ULK83/$File/IFPR_HouseholdFoodSecurity.pdf?OpenElement)
- Hoddinott, J. and Y. Yohannes. 2002. "Dietary Diversity as a Household Food Security Indicator". Technical Note No. 4 : 4, FANTA. <http://www.fantaproject.org/downloads/pdfs/DietaryDiversity02.pdf>

- Hung Ho. 2006. "Rice Price Galloping due to... Brown Plant Hopper" [Giá gạo tăng vọt vì... rầy nâu], Vol. 2006, Thanh Nien Newspaper, Ho Chi Minh City.
- Hung Tran Manh, 2009. "Food security and sustainable agriculture in Vietnam", Country report: Vietnam, submitted to Fourth session of the Technical Committee of APCAEM 10-12 February 2009, Chiangmai, Thailand.
- Johansson, A., Hoa Hoang Thi, Lap Nguyen The, Diwan Vinod, and Bo Eriksson. 1996. Population Policies and Reproductive Patterns in Vietnam, Vol. 347, No. 9014, Lancet.
- Kennedy, E. 2002. "Keynote: Qualitative Measures of Food Insecurity and Hunger", Vol. 2006: FIVIMS. <http://www.fao.org/DOCREP/005/Y4249E/y4249e0c.htm>
- Klump, R. and T. Bonschab. 2004. "Operationalising Pro-poor Growth", A Country Case Study on Vietnam. AFD, BMZ, DFID, World Bank. <http://siteresources.worldbank.org/INTPGI/Resources/342674-1115051237044/oppgvietnam.pdf>
- Lovendal, C.R. and M. Knowles. 2005. "Tomorrow's Hunger: A Framework for Analyzing Vulnerability to Food Insecurity". ESA Working Paper 05-07, FAO, Rome. <http://www.fao.org/docrep/008/af140e/af140e00.htm>
- Luttrell, C. 2003. "Food Security in Vietnam", Annex 6. Overseas Development Institute (ODI) Working Paper 231. <http://www.odi.org.uk/resources/odi-publications/working-papers/231-food-security-millennium-development-goal-on-hunger-asia.pdf>
- Ministry of Agriculture and Rural Development (MARD). 2003a. "Highlight".
- _____. 2003b. "Nutritional Security in Vietnam".
- Maxwell, S. and T.R. Frankenberger. 1992. "Household Food Security", Household Food Security: Concepts, Indicators, Measurements. UNICEF, IFAD.
- Meade, B., S. Rosen, and S. Shapouri. 2006. "Food Security Assessment, 2005", Agriculture and Trade Reports. United States Department of Agriculture. <http://www.ers.usda.gov/publications/GFA17/GFA17.pdf>
- Minh, T. 2006. "Poverty and Justice" [Đói nghèo và công lý], Vol. 2006, Sai Gon Giai Phong Newspaper, Ho Chi Minh City.
- Molini, V. 2006. "Food Security in Vietnam during the 1990s", WIDER research paper No. 2006/67, United Nations University–World Institute for Development Economics Research.
- Nam, T. H. 2006. "Getting Married...at Age 15" [Bát chong...tu thuò muoi lam], Vol. 2006, Sai Gon Giai Phong Newspaper, Ho Chi Minh City.
- Phien, C. 2006. "Mekong Delta: Still Having not Suppressed Brown Plant Hopper" [ĐBSCL: Vẫn chưa triệt được mầm bệnh vàng lùn, xoắn lá], Vol. 2006, Sai Gon Giai Phong Newspaper, Ho Chi Minh City.
- Phong, C. and Đại B. 2006a. "Cà Mau Shrimp Raising, being in Debt...73 billion VND" [Bán đảo Cà Mau-Nuôi tôm, ôm nợ... 73 tỷ đồng], Sai Gon Giai Phong Newspaper, Ho Chi Minh City.
- Phong, C. and Đại B. 2006b. "Risk Nearing" [Nguy cơ cận kề], Vol. 2006: Sai Gon Giai Phong Newspaper, Ho Chi Minh City .
- Phong, C. 2006. "Vietnam's Population Increasing Annually Equivalent to that of One Province" [Mỗi năm dân số Việt Nam tăng thêm một tỉnh], Vol. 2006, Tuoi Tre Newspaper, Ho Chi Minh City.
- Government of Vietnam Socialist Republic 2005. "Vietnam Achieving the Millenium Development Goals". Vol. 2006: Socialist Republic of Vietnam.
- Quang, M.N. 2001. "An Evaluation of the Chemical Pollution in Vietnam". Environment/health/nutrition research. [http://www.mekonginfo.org/mrc_en/doclib.nsf/0/1D952C500BE72DC587256B74000703C8/\\$FILE/FULLTEXT.pdf](http://www.mekonginfo.org/mrc_en/doclib.nsf/0/1D952C500BE72DC587256B74000703C8/$FILE/FULLTEXT.pdf)
- Quynh, V.H. 2006. "National Assembly's Debate on Law Draft of Goods Quality" [Quốc hội thảo luận dự luật chất lượng sản phẩm, hàng hóa], Tuoi Tre Newspaper, Ho Chi Minh City.
- Smith, L.C. 2003. "The Use of Household Expenditure Surveys for the Assessment of Food Insecurity". Keynote paper, International Food Policy Research Institute, USA, <http://www.fao.org/docrep/005/y4249e/y4249e08.htm>

- Son, D. K. 2002. "ICTs and National Agricultural Research Systems: The Case of Vietnam". ICT framework.
- Stamoulis, K. and A. Zezza. 2003. "A Conceptual Framework for National Agricultural, Rural Development, and Food Security Strategies and Policies"., ESA Working Paper No.03-17, FAO. <http://www.fao.org/docrep/007/ae050e/ae050e00.htm>
- Thang, B.T. 2001. "After the War: 25 Years of Economic Development in Vietnam". Commentary. <http://www.nira.or.jp/past/publ/review/2000spring/06thang.pdf>
- Thanh, H. H. 2005. "Impact of Socio-economic Changes on the Livelihoods of People Living in Vietnam", Institute of Developing Economies, Japan External Trade Organization.
- Thanh, N. T. T. and D.T. Mai. 2006. "Need for Flood Warning Systems in Vietnam. Paper presented at the IGWCO-CEOP joint workshop on actions contributing to GEOSS. Paris: UNESCO.
- Thuan, Q. et al. 2006. "Mekong Delta: Scarcity of Shrimp Breedings" [ĐBSCL: Khan hiếm tôm nguyên liệu], Vol. 2006, Thanh Nien Newspaper, Ho Chi Minh City.
- United Nations. 2005. "MDGs and Vietnam's Socio-economic Development Plan 2006-2010". United Nations country team Vietnam.
- United Nations Country Team 2004. "United Nations Common Country Assessment for Vietnam". http://www.undp.org/rbap/country_office/cca/cca-vietnam2004.pdf
- Vie02/001project. 2004. "Direction of Determining Poverty Lines and Proposing Poverty Line Options for Vietnam for the period of 2005-2010". Hanoi: MOLISA.
- Vinh, N. Q. 2006. "600 People Exhausted of Hunger in Quang Binh" [600 dân Quảng Bình kiệt lực vì đói], Vol. 2006, Lao Dong Newspaper, Ho Chi Minh City.
- World Bank. 2004. "Vietnam-The Comprehensive Poverty Reduction and Growth Strategy". World Bank.
- _____. 2005. "Accelerating Rural Development in Vietnam". Vol. 2006: World Bank.
- Windfuhr, M. and J. Jonsen. 2005. "Food Sovereignty Towards Democracy in Localized Food Systems". Food First Information and Action Network (FIAN). ITDG publishing-working paper. <http://www.ukabc.org/foodsovpaper.htm>
- Xuan, A. 2006. "'Chanchu Storm being Over, I am More Anxious'" [Sau bao Chanchu toi cang lo lang], Lao Dong Newspaper, Ho Chi Minh City.
- Xuan, V. T. 2006. "Vietnam's Adhesion on WTO: How Will Agriculture and Farmers be Impacted?" [Việt Nam gia nhập WTO: Nông nghiệp, nông dân sẽ chịu những tác động nào?], Vol. 2006, Thanh Nien Newspaper, Ho Chi Minh City.

