INTRODUCTION

Food production especially rice, is very important for Vietnam. In general, Vietnam has favorable conditions for rice production with tropical weather, available land, significant water resources and experiences in rice cultivation. Therefore, the supply and export of rice have been increasing since 1989. The Government pays attention to the food security of the country. Vietnam has 33 million ha of land, of which rice occupies about 4 million ha. Rice is the main food of the Vietnamese people providing 80% of the carbohydrates and 40% of the protein intake in the diet. It is the predominant crop in many regions of the country, especially in the Red River Delta in the north (where nearly 85% of the area is irrigated), and in the Mekong River Delta in the south. Upland rice is grown on about 100,000 hectares in the south-eastern, central, and northern highlands regions. Rice production has increased rapidly in response to economic reform and high economic growth. Total rice area has increased steadily (from 6.04 million ha to 7.6 million ha) and the total output has increased to nearly 20 million tons since 1990. Rice production not only provides enough for domestic demand but also surpluses for export. Rice exports reached their peak in 2012 with about 8 million tons.

Vietnam produces food for domestic demand and export. Domestic demands consist of demand for seeds for reproduction, human consumption, animal feeds, processing for food, and reserves to stabilize the market fluctuation as needed. Seeds, human consumption and animal feeds are considered as necessary demands that cannot be missed. The foreign demand refers to exports to the world markets for foreign exchange earnings. A country just exports food as there is food surplus after meeting domestic demands. In Vietnam, human consumption and animal feeds are two main sources of rice consumption, 66% and 24%, respectively (Nguyen, 2010).
Rice consumption in Vietnam depends on population and components of the daily diet. Population growth in Vietnam was about 1.2% per year, average in 2010-2015 (GSO, 2014), thus, rice consumption must be increased by the same percentage if there is no change in the components of the daily diet. Population growth imposes the pressure on human rice consumption and thus, on food security. However, Vietnam is a low income country, an increase in incomes leads to changes in components of the daily diet that shift to consume more food stuffs and less staple food, rice in particular. Rice consumption per head reduced from 156 kg/person/year in 1992 to 166 kg/person/year in 2011 (FAO, 2011). On average, the rice consumption decreases about 1.7% yearly as a result of increase in incomes that eases the pressure on food demand due to population growth. People will consume more food stuff, meat in particular. According to Anh et al. (2009), meat consumption per head increased 5 times over the 1985-2005 period or about 24% increase per year and 4.5% over the period of 2000-2005. If the demand for meat continues to increase, the supply of meat must also increase to meet its increasing meat demand, and therefore, as a consequence the demand for rice to produce animal feeds must be higher unless increased demand for meat is achieved through imports.

During the last decades, Vietnam has shown impressive achievements in reducing poverty and food insecurity. 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, the reforms in 1986 have helped transform Vietnam from a chronic rice importer in the 1980s to the world’s second largest rice exporter after Thailand in 1997 (Nielsen, 2002). According to the Global Food Security Index (GFSI 2015), Vietnam has achieved a status of moderate food security.

The relationship between food insecurity and poverty depends first on the thresholds used to classify the poor or the food insecure. 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 farms, or have large family size (FAO 2004). However, ethnic minority households and the rural people are reported to be at high risk of belonging to the group with food insecurity or vulnerability. In Vietnam, 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 increase in the abundance of food (Trang, 2006). These had directly impacted on food prices and household incomes, 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.
NATIONAL FOOD SECURITY POLICIES IN VIETNAM

In Vietnam, food security policies include two different objectives (i) to secure sufficient rice in the domestic market and (ii) to improve farmers’ incomes and the trade balance by enhancing rice exports. Depending on global rice prices, it may be difficult for market mechanisms to realize these two goals at the same time (Tsukada, 2008). So far, Vietnam has issued many policies for ensuring food security. Three main food security policies groups are categorized as follows: policies affecting the availability (food availability); policies relating to affordability (food accessibility and affordability); and policies relating to safety and product quality (food nutrition).

As for food availability, there are several direct or indirect policies set to ensure the objective on foods such as Decision 432/QĐ-TTg Approving the strategy for sustainable development of Vietnam in period 2011 – 2020; Resolution 26-NQ/TW about agriculture, farmers and rural areas; Decision 124/QĐ-TTg Approving the master plan on the development of agricultural production to 2020 and vision for 2030; Resolution; Decree 35/2015/NĐ-CP about management and use of land for rice cultivation. Of which, one of the most important policies is the Resolution No. 63/NQ-CP.

The Government of Vietnam has issued Resolution No. 63/NQ-CP on 23 December 2009 regulating the national food security. The policy aims to terminate foot shortages and hunger by 2012, and to increase food production by 2.5 times by 2020. It is to guarantee the availability of sufficient land for growing rice until 2020 of 3.8 million hectares, of which 3.2 million hectares is to be used for two crops of irrigated rice per year. This area is strictly protected for rice production and is mapped for each household to use. The resolution also aims to strengthen the capacity for scientific research and extension, with a 10 – 15% increased budget for this use. Improved training and scientific knowledge and management of farmers are also goals of the resolution to improve efficiency of food production and income generation.

As stated in Vietnam’s National Food Security strategy, rice land is important for national food security and rice export. Effective land use and rice land fixing can ensure national food security. The Government has issued Decree No. 42/2012/ND-CP to affirm the role of rice land, on May 11th 2012 on the management and use of rice land. The purpose of rice land protection policy is to ensure National Food Security. The policy become important in the context of the agricultural land which is captured by industrialization and urbanization leading to conversion of agricultural land and rice land for other purposes.

Some food security policies are considered to have great impact on food availability including: Resolution 26/NQ-TW on agriculture and rural areas, Resolution 63/NQ-CP on ensuring national food security; Decree 35/2015/ND-CP on the management and use of land for rice cultivation (previously called Decree 42); Decision 606/QD-BCT about roadmap for building material area or performing production linkage and consumption of rice, rice traders with rice exports during 2015-2020.
Supply support policies aim to ensure stable paddy supply for domestic demand and surplus for export. Given its strong impact to both national food security and domestic market stability, rice export management policy has been situated at the first rank among important policies. Another important supply related policy consists of monitoring the minimum land reserved for rice production, by which a minimum 3.8 million ha of rice land has been set aside for paddy cultivation to ensure national food security and export to the world market, and also the strict transfer of agricultural land, especially the paddy land used for other purposes. This policy group further stimulates land exchange and land accumulation in order to promote the larger scale production. The other important policies in supply promotion side includes: Building the paddy storage in Mekong river delta (MRD)$^2$; Conditionality on rice export enterprises$^3$; Direct support to paddy farmers$^4$; Policy to fix floor price to ensure a minimum profit of 30% production costs for farmers; and Other general support to paddy farmers.

As for food affordability policies, the number of policies impact on Food affordability including Decision No 565-TTg on the management of the food reserve fund, Decision No 551-TTg approval of Program 135 on supporting investments in infrastructure, support for production development of difficult and border communes, particularly difficult villages, or Program 134 on policies supporting production land, residential land, housing and clean water for households of ethnic minorities, who are living in difficult conditions (134/2004/QD-TTg), and Decision No 3242/QD-BNN-CB for Approval of reserve system planning of 4 million tons of rice in the Mekong delta.

Liberalization in domestic trade helped reduce food shortages in some difficult areas and enhance food access for people. Poor households that are involved in forestation and forest protection as well as households in border areas receive 15 kg of rice per capita per month during the period when they are not able to provide themselves with staple food. This policy of direct support still needs some improvement to ensure food provision flows to the right people who are in actual need of food (CAP 2012). Furthermore, companies can access subsidized loans to procure paddy rice from farmers for temporary stock, the National Food reserve, consumption and export (about 2 million tons in total for each year) at the peak of harvest season.

In terms of nutrition, the Prime Minister’s Decision No. 226/QD-TTg dated 22 February 2012, is the national strategy on nutrition for the period 2011 – 2020 with vision to 2030. The main content of this decision is that by 2020, people’s meals will be improved in terms of quantity and balance in quality and would ensure safety and hygiene. Childhood malnutrition, especially stunted malnutrition, will be significantly reduced, enhancing the stature and habitus of the Vietnamese people. Obesity and limiting chronic untransmutable diseases related to nutrition will also be controlled. According to the National Institute of Nutrition, the proportion of underweight or malnourished children under age 5 decreased by 7% from 1990 - 2000 (from

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2 Decision No.3242/QD-BNN-CB (December, 2nd 2010) on building storage system of 4 million tons
3 Decree No.109/2010/ND-CP dated November 4th, 2010 of Government on rice export enterprises
4 Decree No. 42/2012/ND-CP (May, 11th 2012) on management and use of rice land
41% to 34%) and decreased by 16% from 2000 - 2010 (from 34% to 18%). By 2013, the proportion of underweight or malnourished children under age 5 fell to 15%. Given this number, Vietnam has currently reached and exceeded the objective of the National Strategy of Nutrition. Vietnam has achieved the goal of reducing the incidence of under-weight birth in the No.1 Millennium Development Goals of Poverty Reduction. This achievement reflects not only the strong commitment of the Government but also the incessant efforts in implementing nutrition program. However, the proportion of underweight or malnourished children under age 5 in some regions (especially amongst ethnic minorities) remains over 25%. These efforts around the country need to continue in order to improve nutrition for children under age 5 in a sustainable and equitable way.

To improve the nutrition problems, Vietnam pays much attention on food safety policies. Policies which have big impact on the product safety and quality including the Food Safety Act (No 55/2010/QH12), policies to accelerate the application of good agricultural practices (GAP) in crop production (No 1311/CT-BNN-TT), regulations on quality management of agricultural products (No 362/QD-BNN-QM). These policies have huge impact on the quality and safety of agricultural products. However, in Vietnam, it seems that success of the policies on the quality and safety of products was lower than expected due to many reasons such as: ineffectiveness in the decision making process; lack of monitoring/assessment indicators & poor monitoring/assessment; late issuance of guidance documents; complicated procedures, etc.

**FUTURE CHALLENGES FOR FOOD SECURITY IN VIETNAM**

Vietnamese household food security faces many challenges in the context of globalization and potential economic crises arising from any of several causes — natural resource scarcity, environmental degradation, climate change, epidemics, etc. Vietnam’ economy is growing with remarkable progress in food production, but there are still challenges to maintain a path of sustainable and socially equitable growth.

**For food availability**

Food availability is threatened by paddy or animal diseases and natural disasters at the national level. According to Trang (2006), food adequacy is badly impacted by a loose food chain (including weak controls in food production, preserving and processing), low infrastructure, post-harvest losses or a deteriorating environment. 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.

Over the past few years, the structure of agriculture has changed significantly. The share of animal production, aquaculture and forestry has increased remarkably while the share of crop sector declined remarkably compared with that of industrial, fruit and vegetables (CAP 2012). The development of animal production requires a certain amount of staple food for feed production. Additionally, a part of paddy land will be replaced by other food crops for bio-fuel
production (maize, cassava). If total rice production is reduced, the question on balance between domestic consumption and export will need to be answered properly.

**For food affordability**
Because Vietnam is a net exporter of food, particularly rice, it might be expected that the country would benefit from higher international prices. However, this does not apply to the entire population as less than half of Vietnamese households are net sellers of food, and many net buyers of food have not seen their incomes increase in the same proportion as food prices (Tran, 2009). The impact of higher food prices throughout the country is complex as individual households differ in their production and consumption patterns, as well as in their sources of income.

Rice plays an important role in the “commodity basket” for the consumer price index (CPI) in Vietnam. Therefore, a low rice price also means the inflation is controlled. Moreover, with the majority of people living around the poverty line, staple food, especially rice, still occupies a large part of household expenditure (CAP 2012). The domestic market stabilization is, therefore, a vital issue as it ensures the access of the poor to food, contributes to hunger elimination and poverty reduction, maintains low labor costs, creates the relative competitiveness of Vietnam labor market and contributes to stabilizing the food price (CAP 2012).

**For nutrition and safety**
Nutrition and food safety are also very important concern of Vietnam. The problem of food unsafety is becoming a priority of both the central and local Vietnam government. While the food poverty rate is higher in rural rather than in urban areas in terms of income per capita, poor food hygiene is a concern in both rural and urban areas. 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.

The subsequent reduction in the purchasing power of Vietnamese households, especially poorer ones, presents a substantial risk that households have risen above the poverty line and will fall back below it, as well as an important challenge to ensuring food security in Vietnam and the appropriate level of nutritional intakes by the Vietnamese people (CAP, 2012). Poorer women and children are particularly at risk since higher food prices can worsen their already precarious nutrition status. There is also a regional dimension to these concerns, with patterns of vulnerability often overlapping in certain regions which are characterized by high poverty rates, poor nutrition, and which are most affected by natural disasters resulting in crop failure. These regions have relatively high concentrations of ethnic minority populations.

**Impact of climate change**
At present, Vietnam is predicted to be one of the countries that could be most affected by climate change, especially the Mekong river delta, the biggest rice production region of Vietnam (CAP 2012). According to a UNDP forecast, Vietnam is one of five countries faced with significant
potential sea level rises due to global warming. Declines in agricultural yields (e.g. rice) due to the decrease in mean minimum temperatures have the potential to increase crop destruction/losses due to flooding. Unless the latest achievements of science and technology are applied, Vietnam’s commercial rice production for export is forecast to decline. There are forecasts for the same trends in rice production in the Red River Delta and other rice production areas as the area of rice land declines due to urbanization and industrialization. In addition, the decrease in the agricultural labor force and increases in prices of fertilizers, pesticides and insecticides will make the cost price of rice production higher in the future (CAP 2012).

Vietnam is regularly affected by 6-7 natural disasters (typhoons and floods) annually, which destroy crops and food resources, as well as seeds, fertilizers and other resources in vulnerable areas. These climatic events, and their impact on food production in Vietnam, are likely to gain intensity with the advent of global warming and the specific threats that climate change poses for Vietnam’s rural economy in the mid to long term.

CHANGE OF POLICY STRATEGY FOR VIETNAM FOOD SECURITY

A large share of land is now used for rice cultivation. However, income from rice production is very low and farmers cannot get rich basing on paddy. While the experts forecast that in the worst case, Vietnam will still meet domestic demand and even have surplus of rice to export with 3.0 million ha. Converting these areas to other annual crop land can allow farmers to obtain higher incomes, thus contributing to increased food security. One of the four elements to ensure food security is accessibility to food sources. So, instead of food aid to farmers, the government should create an environment for economic growth and job creation for them to improve their income (such as facilitating well-functioning markets and investing in research, development, extension and infrastructure). When incomes grow, households can promote their self-reliance in food accessibility. By clearly diversifying paddy land, it will be easier for land protection and management, for using land more effectively and giving opportunities for farmers to improve their income by diversifying their production.

It needs to have a change from the dominant role of Vietnam Food Administration (the government agency responsible for managing food hygiene, safety and quality) and state owned enterprises to “equal ground for all actors” which will help other stakeholders to have more chances to participate in export activities, and create fair competition of domestic export companies and redistributing the benefit to all stakeholders in the value chain. Policies on rice business should be made to let all stakeholders fairly operate in the rice value chain under the market mechanism with less dependence on state owned big companies.

Priority of investment should be made in research on new and better varieties, especially diseases and flood resistant varieties. Research should be carried out to find out effective crop structure for different ecological region and to ensure production sustainability..

The government should set a priority on facilitating increased rice productivity rather than regulating land area. If the paddy yield is not increased, the food security may not be achievable
in the medium to long term basis. Increasing paddy yield is not simple. It requires a lot of investments. Improving technology must be considered as a decisive strategy, biotechnology in particular.

It is also important to strengthen the evidence base for an improved policy response. The specific patterns of vulnerability and the impact of higher food prices on vulnerable groups will have to be further researched and documented. Moreover, it is important to strengthen national information systems including nutritional surveillance, early warning response to periods of food insecurity, and market information.

Advanced planning for responding to anticipated climate change risks puts emphasis on the need to adapt to the changes, such as using appropriate means and technologies in all sectors, especially crops that need less water or varieties of existing crops resistant to heat and water stress.

In the longer term, it is necessary to ensure that Vietnamese agriculture and food systems are capable of meeting Vietnam’s basic food security requirements in the coming decades. This can only be achieved through a policy approach that takes into consideration the various dimensions that intervene in assuring food security along with the food supply chain. It also includes the incorporation of policy interventions in the spheres of agricultural production, agricultural marketing and distribution, food safety and quality control, land policy, international trade, or competition policy, in a consistent and sustainable way.

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