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The Rice Situation in Viet Nam

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for the Asian Development Bank

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ABBREVIATIONS

ASEAN	Association of Southeast Asian Nations
FAO	Food and Agriculture Organization of the United Nations
GSO	General Statistics Office (Viet Nam)
ha	hectare
IPSARD	Institute of Policy and Strategy for Agriculture and Rural Development
kcal	kilocalories
kg	kilogram
km ²	square kilometers
MARD	Ministry of Agriculture and Rural Development (Viet Nam)
MOF	Ministry of Finance (Viet Nam)
MOH	Ministry of Health (Viet Nam)
MOIT	Ministry of Industry and Trade (Viet Nam)
MOLISA	Ministry of Labor, War Invalids, and Social Welfare (Viet Nam)
MONRE	Ministry of Natural Resources and Environment (Viet Nam)
R&D	research and development
UNICEF	United Nations Children's Fund
VFA	Vietnam Food Association
Vinafood1	Viet Nam Northern Food Corporation
Vinafood2	Viet Nam Southern Food Corporation

Note: In this report, "\$" refers to US dollars.

ABSTRACT

Rice plays a crucial role in Viet Nam's food security and overall political, economic, and social stability. It is the country's main crop, consumed by nearly 89 million of the total population and an important source of income for more than 60 million people living in agricultural and rural areas. Since the 1990s, the volume of rice exports has risen dramatically, making Viet Nam the second largest rice exporter in the world. But despite rapid progress in this direction, serious food security concerns remain in the country such as unstable prices, persisting poverty, climatic changes, and land use conversion. This report gives an overview of the rice industry in Viet Nam, the key actors and the policy environment, and the priority issues that need to be addressed to ensure sustainable development and food security.

This paper was prepared for the Asian Development Bank by Le Trong Hai, National Rice Economist for Viet Nam, under TA 7495-REG: Support for the Association of Southeast Asian Nations Plus Three Integrated Food Security Framework. The paper is part of the TA's diagnostic study on the food security of five ASEAN member countries—Cambodia, Indonesia, the Philippines, Thailand, and Viet Nam—with a special focus on rice. The paper is an abridged version of a full country report on Viet Nam, which is available upon request. The paper is being published to disseminate the findings of work in progress to encourage the exchange of ideas. The emphasis is on getting findings out quickly even if the presentation of the work is less than fully polished.

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The Rice Situation in Viet Nam

1. INTRODUCTION

In Viet Nam, rice plays an important role in national food security and political stability. Rice also has a direct effect on social security because it is consumed by nearly 89 million of the total population and an important source of income for more than 60 million people living in agricultural and rural areas (N. V. Hai 2010). Rice is the country's main crop, accounting for more than 90% of total cereal production. Rice production in 2009 reached 38.89 million tons, about 14 million tons higher than in 1995 (General Statistics Office 2009). Since the 1990s, the volume of rice exports has risen dramatically, making Viet Nam the second largest rice exporter in the world.

Nevertheless, serious food security concerns in the country remain. Pockets of poverty and malnutrition persist in the more remote areas and among ethnic tribes. Viet Nam is one of the top 5 countries that studies reveal will be severely impacted by climate change (Ministry of Natural Resources and Environment 2009). A rise in sea level of 1 meter will inundate about 5,000 square kilometers (km²) of the Red River Delta and 15,000–20,000 km² of the Mekong River Delta, reducing Viet Nam's total rice production by about 5 million tons. Bad harvests, natural calamities, floods, and pests and diseases will also occur more often. Ensuring domestic food security has thus become a national objective that requires long-term strategies and policies, especially for the protection of the agricultural land area.

After intensive discussion in Viet Nam during the 2008 food price crisis, the government promulgated Resolution No. 63/2009/NQ-CP on national food security. The resolution seeks (1) to ensure adequate food supply sources by 2020 until 2030, with an output higher than the population growth rate; (2) to put an end to food shortage and hunger and raise meal quality; and (3) to ensure that rice producers earn profits averaging more than 30% of production costs.

Viet Nam does not only seek to achieve domestic food security but it also plays an important role in the international rice market, and consequently, in the food security of the international community. At present, Viet Nam actively participates in the food security program of the Association of Southeast Asian Nations (ASEAN) Plus Three, which consists of the 10 ASEAN member states plus the People's Republic of China, Japan, and the Republic of Korea.

This report gives an overview of the rice sector and the food security situation in Viet Nam based on information gathered from Viet Nam's General Statistics Office (GSO), Ministry of Agriculture and Rural Development (MARD), Ministry of Natural Resources and Environment (MONRE), Ministry of Industry and Trade (MOIT), Ministry of Finance (MOF), and other national and international agencies.

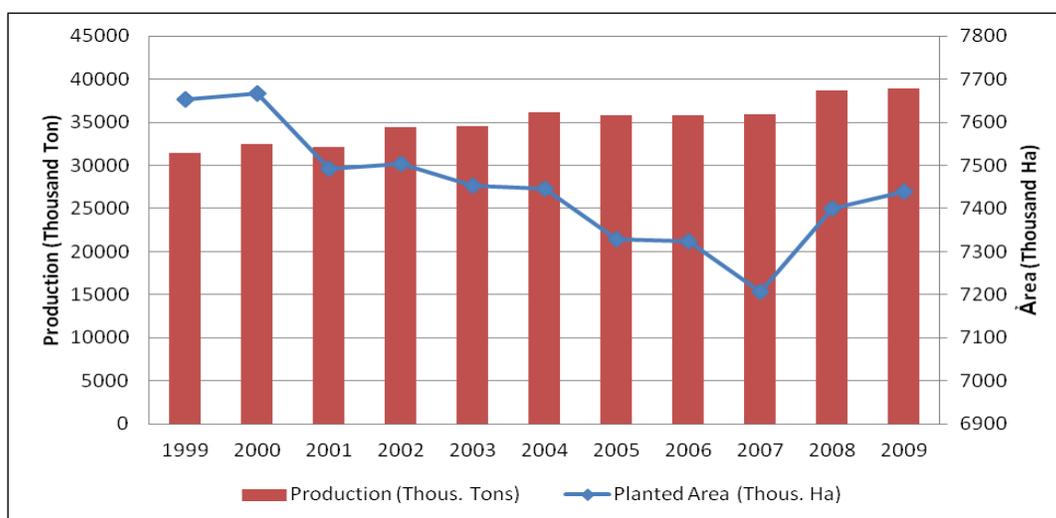
2. RICE SITUATION

Despite a decrease in land area planted to rice, rice production has been rising due to rapid yield growth. This in turn has been driven by irrigation and land development, together with technological change.

Rice supply

The land area devoted to rice cultivation has decreased gradually due to the open-door policy adopted by the government, especially during the period of industrialization and urbanization (Figure 1). In 1999, Viet Nam had nearly 4.5 million hectares (ha) of rice lands, which declined to 4 million ha in 2010. However, in 2009, the rice planted area reached 7.43 million ha because local farmers that own large tracts of land planted three rice crops. As a result, rice production increased from 32 million tons in 1999 to more than 38 million tons in 2009. This was a remarkable achievement due to the application of advanced science and technology such as the introduction of different rice varieties, new production models, and an efficient irrigation system. Postharvest losses have also been greatly reduced due to the mechanization of rice harvesting and drying, and soil improvement.

Figure 1: Paddy Production ('000 t) and Area Planted to Rice ('000 ha), 1999–2009



Source: GSO 2009.

At present, the average rice yield in Viet Nam is 5.2 tons/ha. Rice production is divided into three cropping seasons: winter–spring, summer–autumn, and autumn–winter. Weather, pest infestation, and the level of irrigation affect crop quality, especially the winter–spring crop. According to GSO statistics, the yields of the three crops have increased gradually from 1995 to 2009. In 2009, the yields of the summer–autumn and autumn–winter crops were about 4.3–4.7 tons/ha, while the yield of the winter–spring crop was more than 6.1 tons/ha.

In the past years, Viet Nam has significantly increased its rice yield due to the shift from low-yield (1.5–2 tons/ha) to high-yield rice varieties (6.8 tons/ha), which can be grown in a shorter time (85–100 days/crop) and produce 2–3 crops/year. The rice cultivation area has also widened because of investments in irrigation¹ and drainage, and aluminum and salt removal. Modern mechanized farming methods and new rice varieties are becoming popular. There are now more than 1,000 rice varieties grown in Viet Nam. In 2008, five main rice varieties were

¹ The state budget invested for irrigation system development in 1986–2004 reached VND21,000 billion (\$1=VND21,000). The rice planted area increased from 5.65 million ha in 1986 to 7.44 million ha in 2009. In the Red River Delta, the coefficient of land use increased from 1.4 to 2.3 times per year.

cultivated in the Red River Delta—Q5 (173,571 ha), Khang Dan 18 (155,857 ha), Bac Thom No.7 (66,373 ha), Duu 527 (34,765 ha), and sticky rice (20,754 ha); five other rice varieties were grown in the Cuu Long River Delta—IR50404 (660,746 ha), OM2517 (194,193 ha), VND95-20 (161,902 ha), OM1490 (119,521 ha), and OM2514 (117,991 ha) (Institute of Policy and Strategy for Agriculture and Rural Development [IPSARD] 2010). Almost all of the main rice varieties (based on cultivated area) are new.

Rice consumption

Per capita consumption of rice is relatively high but has been leveling off over the past decade.

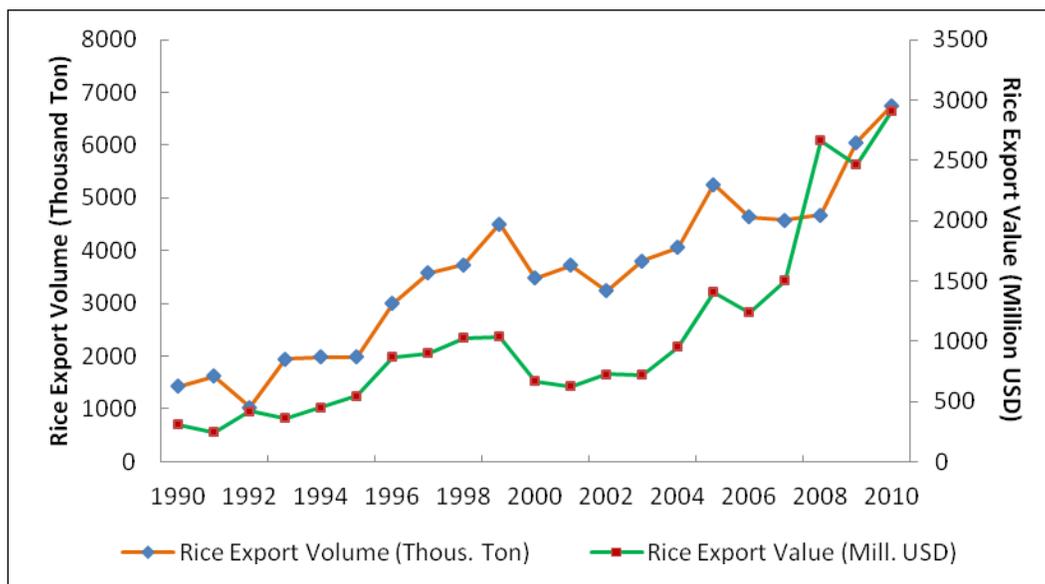
Compared to other countries in Southeast Asia, the Vietnamese consume most of the rice that they produce, or about 90%. Thais consume only about 55% of their rice production. According to the survey of Viet Nam's Ministry of Health (MOH) in 2004, the total daily food consumption was 388 grams/person. About 376 grams of rice are equivalent to 135 kilograms (kg)/person/year. The Vietnamese need about 2,400 kilocalories (kcal)/person/day, of which 1,400 kcal is sourced from rice. By 2020, caloric intake from rice is expected to decrease to 1,254 kcal (MOH 2007). Total domestic demand or utilization of rice consists of food (75%), processing (13%), cattle feed (8%), and seed (4%). Food consumption gradually increased from about 9.8 million tons in 1995 to 11.7 million tons in 2009. According to the GSO survey on people's living standards, the average per capita rice consumption in 2002 was 12 kg/month, which went down to 11 kg/month in 2008. The survey also found a difference in rice consumption patterns between the rural and urban populations.

According to MARD, the current average per capita rice consumption is about 136.8 kg/person/year. MARD uses the average per capita rice consumption to forecast rice supply and demand. However, based on the Ministry of Labor, War Invalids, and Social Welfare's survey of the people's living standard, the amount of rice used for average per capita consumption has decreased because of the availability of many other food sources. The average per capita rice consumption per month in urban areas is lower than that in the rural areas. Rice consumption also registered a faster decline in urban areas.

Foreign trade

Despite being the second largest rice exporter in the world, Viet Nam still has to import rice because domestic consumers have a high demand for good quality rice. Moreover, Viet Nam sometimes needs to import rice from Cambodia to reduce the rice deficiency in the Cuu Long River Delta region. Rice from Cambodia is usually imported through the southwest border. According to the United States Department of Agriculture, Viet Nam imported about 350,000–500,000 tons of rice in 2005–2009.

Viet Nam exports 5% broken rice polished once; 5% broken rice polished twice; and 10%, 15%, 20%, and 100% broken rice. It also exports glutinous and sticky rice, ordinary rice, parboiled rice, and fragrant rice. The quality of Vietnamese rice for export has been improving, but high quality rice, including 5% or less percentage broken rice, accounts for just 40% of total rice exports. An important development for Viet Nam's rice exports in 2000–2010 was its sustained growth in the fiercely competitive world market. Rice exports in this period averaged 4.24 million tons per year. From 1990 to 2010, rice exports increased 4.73 times while export value grew 9.3 times (Figure 2). Increased rice production and exports raised the income of rice farmers although domestic rice prices also went up.

Figure 2: Rice Export Value and Volume, 1990–2010

Sources: GSO, VFA, and MARD.

Rice stocks

Despite the absence of statistics on official rice reserves, various estimates suggest there are adequate rice stocks in the country.

The Food and Agriculture Organization of the United Nations (FAO) recommends that a country's food reserve should amount to at least 17% of the total national consumption needs. In Viet Nam, the total food crop reserve, including those of households and state and private enterprises, was about 13% of the total national consumption. The central northern region accounted for the biggest share (32.6%), and the southeastern region and the Mekong River Delta, the lowest share (6%–7%) (IPSARD 2009). According to the national reserve strategy until 2010, the country strives to achieve a rice reserve equivalent to 5 kg/person/year, or 450,000 tons/year. However, in anticipation of unusual climatic changes, natural disasters, and plant pests and diseases in the next decade, the country needs to increase the national reserve to 1 million tons/year until 2020.

State agencies do not have yet the official national food reserve data on the beginning stock and ending stock for 2011. After the food price crisis in 2008, MARD established a short-term forecast agency to estimate rice supply and demand. According to MARD, the inventory level of rice exporters was 1 million tons in 2007 and 2009, and 1.1 million tons in 2010. The current estimate of average per capita monthly consumption of rice based on the overlapping crop consumption (i.e., 4 months in the northern region and 2 months in the southern region) is approximately 11 kg. The beginning stock in 1999 was about 2.5 million tons and the ending stock, 2.6 million tons. By 2009, the beginning stock increased to 2.86 million tons while the ending stock was 2.89 million tons. If the calculations of the inventory levels of the exporters in 2007, 2008, and 2009 are correct, the beginning and ending stocks in 2010 were higher than 1 million tons.

Price trends

Domestic prices of milled rice appear closely linked to export prices but not paddy rice prices, suggesting fragmentation in the marketing system.

Unstable prices remain the biggest concern of government agencies engaged in the rice market. Before the food price crisis in 2008, domestic rice prices were relatively low, fluctuating from VND3,000 to VND5,000 per kg. Because of this, farmers did not pay more attention to rice cultivation. In 2008, the domestic price of rice rose to more than VND10,000 per kg, which was very close to the export price. But although rice prices surged in 2008, the increase in the price of paddy rice was gradual from 2001 to 2009, ranging from VND1,800 to VND4,000 per kg. Even during the crisis, the paddy rice price did not increase to levels as high as that of milled rice.

The problems stem from the management of domestic rice distribution as well as the lack of market information for consumers. Before the food price crisis, state food companies such as the Viet Nam Northern Food Corporation (Vinafood1) and Viet Nam Southern Food Corporation (Vinafood2) did not participate in the domestic market and focused only on the export market. After the crisis, Vinafood1 and Vinafood2 had to get involved in the domestic market and to comply as well with Decree 109/2010/ND-CP requiring exporters to reserve 10% of their rice for the domestic market in case of price increases. During 1990–2010, the export price of rice in Viet Nam surged twice, jumping to \$400/ton in 1992 and about \$600/ton in 2008. In 2009, the average export rice price decreased to \$400/ton. However, by the end of 2010 and the beginning of 2011, both domestic and export rice prices increased because of the thinning world food supply, high inflation, and the depreciation of the US dollar.

Profitability

Net returns from rice farming average around the government target to increase rice farmers' income. There is, however, a wide variation in net returns across seasons and regions.

Rice production cost and net returns vary considerably across regions, but rice production generally gives a net return of 20%–30%. The highest cost of rice production is labor, which makes up about 50% of the total direct production cost. Fertilizers and pesticides account for about 25%–30% of the total cost (IPSARD 2005). According to the MOF,² the net return of the summer–autumn crop in 2009 in the provinces was as follows: Bac Lieu, 29.09%; An Giang, 23.55%; Dong Thap, 31.36%; Long An, 33.63%; Vinh Long, 31.66%; Tien Giang, 25.53%; Kien Giang, 21.19%; Soc Trang, 50.39%; Hau Giang, 46.14%; and Tra Vinh, 25.94%. The net return of the winter–spring crop is usually higher than that of the other crops because of favorable weather. The net return in the Cuu Long River Delta region also tends to be higher compared to the northern regions.

Marketing and postharvest

Domestic marketing and postharvest systems have modernized in pace with export growth, although investment gaps remain such as in milling.

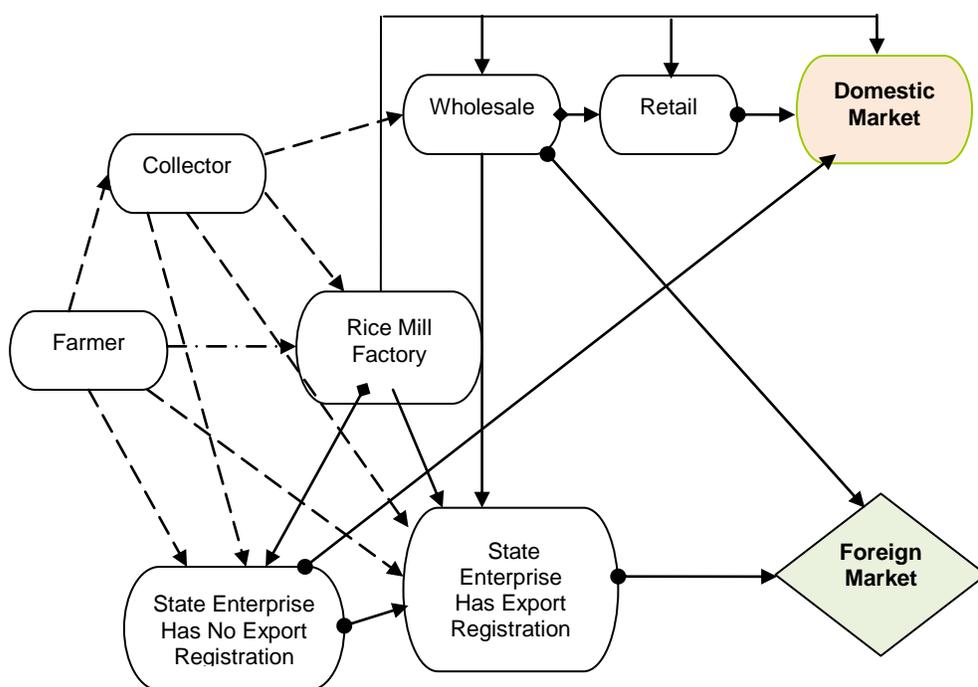
Paddy rice is mostly sold to agents based in the rice-producing regions or directly sold to

² Based on the draft of the project policy support on rice market stabilization in Viet Nam issued by the Ministry of Finance.

private rice-husking factories. Only a small quantity of paddy rice, about 0.9%, is sold directly to export enterprises. In 2008, the Vietnam Food Association (VFA)³ held about 96% of the market share in rice export, which went down to 86% in 2009. In the past years, state enterprises have held the biggest share in rice export. Vinafood2, for example, accounted for 43.5% of the market share in 2004, 49.2% in 2005, and 52.6% in 2006.

Before 2008, VFA members paid more attention to rice export and shied away from the domestic market. This was largely because of the 5%–10% value-added tax imposed on them for distributing rice locally although small private companies only had to pay lump sum tax. Following the food price crisis in 2008, VFA members, including Vinafood1 and Vinafood2 and the local food companies, have become more involved in the domestic market to help ensure national food security. Rice is supplied to domestic consumers through different distribution channels (Figure 3). Farmers sell directly to rice mills or through agents and vendors that distribute the rice to markets, retailers, private grocery stores, and supermarkets all over the country. The supermarkets supply about 10% of domestic rice consumption; other distribution channels supply the remaining 90%.

Figure 3: Marketing Channels for Rice in Viet Nam



As of March 2009, MARD reported that more than 15% of the area harvested used a combination of different postharvest methods. In Long An province, for example, preliminary estimates of harvest until September 2009 showed the following methods: (1) semi-mechanized and manual cutting combined with thresher machine, 25%; (2) cutting by machine combined with thresher machine, 30%; (3) fully mechanized, 40%; and (4) by hand, 5%. In 14 offices of

³ The VFA has about 200 members, 30 of which are big enterprises specializing on rice export. Almost all of these enterprises are involved in paddy rice processing.

MARD, the rate of combine harvesters used to harvest the winter–spring and summer–autumn crops in 2009 fluctuated from 18% to 55%.

Vietnamese farmers traditionally rely on the natural energy of the sun for drying their paddy rice. The rice grains are laid out on a concrete yard or a bamboo or wooden floor, or on canvas under direct sunlight. The need for rice dryers at the Cuu Long River Delta is very high because the summer–autumn crop is usually harvested during the rainy season. The Cuu Long River Delta had 6,431 different kinds of dryers that were used for more than 60% of the rice yield in the region (N. V. Hai 2010). At present, rice farmers need dryers only for their summer–autumn crop, so only a few people invest in drying machines. There is also a very low need for dryers during other cropping seasons.

There are more than 70 state and local rice processing companies in the Cuu Long River Delta, with a production capacity of more than 30 tons per day. Four of the biggest companies have a production capacity of 60 tons/day. About 112 small processing companies are managed at the district level. There are also more than 6,000 privately-owned processors and nearly 20,000 households that can process paddy rice. Modern processing technologies, however, can improve the quality of milled rice and reduce the rate of broken rice. With quality processing equipment, the output of milled rice can be increased from 65% to 67%, which means an additional 20 kg of milled rice for every ton of paddy. The price of broken rice accounts for about 60%–65% of the price of milled rice. Thus, if the rate of broken rice is reduced, the quality of milled rice and the level of processing efficiency will also improve.

Prospects

The range of projections varies for Viet Nam's rice sector. Based on MARD studies, the paddy land area is projected to decline from 4 million ha in 2010 to 3.6 million ha in 2020 (Table 1). Paddy planted area will also decrease from 7.1 million ha in 2010 to 6.8 million ha in 2020. (The actual figure for paddy planted area in 2010 was over 7.4 million ha). Meanwhile, the country's population is projected to increase by about 1.2% per year until 2010, reaching approximately 100 million people.

However, even with the decreasing land area for rice cultivation, rice yield is expected to increase to 5.6 tons/ha in 2020 with the application of advanced technology such as new seeds, irrigation systems, and mechanization. The rice export forecast for 2010 was about 3.5 million tons and only 2.1 million tons by 2020. This forecast is significantly different from actual rice exports in 2010 that reached more than 6.7 million tons, nearly two times higher than predicted. According to the VFA, Viet Nam will maintain over 6 million tons of rice export in 2011.

Table 1: MARD Projection on Rice Supply and Demand in Viet Nam, 2010–2020 (Selected Years)

No.	Indicators/Criteria	Year		
		2010	2015	2020
1	Population (million person)	88.5	93.6	98.6
2	Rice production area (million ha)	4.0	3.8	3.5
3	Total annual rice production area (million ha)	7.1	6.9	6.8
4	Rice productivity (ton/ha/crop)	5.1	5.4	5.6
5	Total rice production per year (million ton of rice)	36.5	37.2	38.5
6	Domestic rice demand (million ton of rice)	31.1	32.1	35.2
-	<i>Rice for seedlings</i>	1.1	1.0	1.0
-	<i>Rice for animal feeds and postharvest losses</i>	7.0	7.5	8.5
-	<i>Processing</i>	0.3	0.5	1.0
-	<i>Consumption and national storage</i>	22.7	23.1	24.7
-	<i>Food consumption</i>	17.9	17.5	16.9
7	Balance of rice production and consumption	+ 5.4	+5.1	+3.3
8	Prediction on rice for export (tons of processed rice)	3.5	3.3	2.1

Source: MARD 2009.

The foregoing government estimates are conservative when compared to the results of the projection using the country model developed for Table 2. The results in Table 2 show that food supply will continue to increase from 2010 to 2019. The rice planted area will decrease slightly, but the yield will jump to 6.12 tons/ha by 2019, causing the total rice output in 2019 to reach 45 million tons. Along with increased output, total demand for rice will also go up due to growing population, higher demand for processing, and improved animal husbandry. Demand for seeds will not increase due to the reduced planted area. Rice exports are also forecast to increase significantly, from 5.7 million tons in 2011 to nearly 7.4 million tons in 2019. Rice imports, on the other hand, are forecast to increase from 441,000 tons in 2011 to 652,000 tons in 2019.

Table 2: Rice Balance Sheet Projections for Viet Nam, 2010–2019

Item	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Beginning Stock	2,893	2,937	2,972	3,007	3,044	3,080	3,117	3,154	3,192	3,231
Area ('000 has.)	7,440	7,439	7,439	7,438	7,438	7,437	7,436	7,435	7,434	7,433
Yield (tons per ha.)	5.30	5.38	5.45	5.53	5.62	5.70	5.80	5.90	6.00	6.12
Paddy Output	39,438	40,009	40,570	41,152	41,762	42,413	43,107	43,849	44,642	45,491
Rice Output	25,716	26,088	26,454	26,833	27,231	27,656	28,108	28,592	29,109	29,663
Rice Import	420	441	463	486	511	536	563	591	621	652
Export	5,529	5,734	5,939	6,145	6,350	6,555	6,760	6,965	7,171	7,376
Feed & Waste	1,674	1,698	1,722	1,746	1,772	1,800	1,829	1,861	1,895	1,931
Seed	580	580	580	580	580	580	580	580	580	580
Food	11,909	12,052	12,197	12,343	12,491	12,641	12,793	12,947	13,102	13,259
Processing	2,057	2,087	2,116	2,147	2,179	2,212	2,249	2,287	2,329	2,373
Ending Stock	2,937	2,972	3,007	3,044	3,080	3,117	3,154	3,192	3,231	3,265
Supply	28,476	28,893	29,295	29,713	30,151	30,617	31,113	31,641	32,205	32,807
Demand	24,686	25,124	25,562	26,005	26,452	26,906	27,366	27,832	28,306	28,784
Statistical Discrepancy	4,343	4,343	4,327	4,323	4,334	4,366	4,423	4,505	4,616	4,761

Source: Author's estimates based on data from GSO, MARD, MONRE, etc.

3. POLICY ENVIRONMENT

Key actors

On the side of the government, the following are the key actors:

1. Ministry of Agriculture and Rural Development: provides funds for rice lands; oversees infrastructure development, research and development (R&D) and its application, and human resource training; encourages farmers to keep their rice lands; develops production and food security information systems, among others.
2. Ministry of National Resources and Environment: supervises land use management.
3. Ministry of Trade and Industry: consolidates food distribution and export systems.
4. Ministry of Health: carries out social policies on food security.
5. Ministry of Finance: encourages the local people to keep their rice lands.
6. Provincial-level People's Committees: coordinate with the central government on food security issues.

In the private sector, the following are the key actors:

1. Vietnam Food Association: the social and occupational organization of local enterprises engaged in production, processing, and trading of food, agricultural produce, and other processed foods.
2. Vietnam Farmers' Union: gathers, mobilizes, and educates members; represents the farmers in building the political system and national unity block; defends the legal and legitimate rights and benefits of farmers; and provides advice and other services to farmers.

Key policies

In pursuit of food security, the government maintains a supportive and inward-oriented policy stance toward the domestic rice sector.

The investment policies and priority infrastructure of the government focus on irrigation systems, rural roads, and electricity to help increase production and ensure food security, particularly in the main paddy production regions. In addition, the government has adopted policies supporting permanent inland canals in rice cultivation areas and developing rural roads in 2001–2010 through the investment credit capital program. However, the current irrigation and infrastructure systems still do not satisfy the requirements for increased rice production. To meet these requirements, MARD has boosted its storage system policy that targets for 2009–2012 a storage capacity of 4 million tons of rice, which consists of 360,000 tons for Vinafood1, 1 million tons for Vinafood2, 1 million tons for provincial food companies, and the rest for other agencies and enterprises.

To raise rice production, the government has implemented support policies on R&D and extension work for (1) the production and use of new rice varieties, hybrid rice, and seeds that can withstand drought and flooding; and (2) the training of farmers on rice production, distribution, and other services. This is part of the general policy to encourage the application of advanced techniques to improve the efficiency of rice production, to increase yield, and to enhance the quality of rice, thereby improving the lives of rice farmers.

However, support policies for knowledge skills and technology transfer to the rural poor and

ethnic minority farmers are still highly ineffective. These sectors tend to have lower levels of education and do not apply what they have learned from training. Loans that support the application of advanced technology are inappropriate to the practical needs of these farmers. Poor farmers have no sufficient capital and do not completely apply the required technology, causing low production efficiency (P. B. Duong 2009).

Regulatory policy attempts to maintain food quality and safety. In recent years, appropriate postharvest technologies have been identified, but these are not yet applied due to the absence of a coordinating and organizing institution to promote quality control. The application of good agricultural practices for improving rice quality also needs to be strengthened.

Credit policies to support rice producers are important to ensure the availability and access to capital, especially considering the low income derived from agricultural production. Farmers are given loans with preferential interest rates and longer terms of payment. For business enterprises, the government provides financial support by buying rice for reserves. In 2008 and 2009, the government fully covered the loan interest (about VND35 billion in 2008 alone) obtained by Vinafood2 to buy 500,000 tons of rice to beef up temporary reserves during the periods of 1 December 2008–8 February 2009 and 20 October 2009–20 January 2010. The government has adopted many other measures to support rice production and exportation. Business enterprises are given preferential loans as part of a wider solution package to stimulate the economy and preferential credit terms for investments in storage, drying machines, and wholesale markets.

Land policy is cited in this report because of its role in maintaining lands for rice production by limiting the risk of land use conversion for industrial and other purposes. Viet Nam has adopted measures to increase the efficacy of land use and has allocated agricultural lands to households and individuals for long-term stability in agricultural production. The government pursues land use planning to limit the area for agricultural land conversion, especially of rice lands. In addition, the government has adopted a policy to encourage parcel consolidation, concentration, and accumulation of agricultural lands to increase the scale of rice production.

Viet Nam must keep at least 3.8 million hectares of rice land for production by 2020, as mandated by Resolution No. 63/NQ-CP. During 2005–2007, rice cultivation area fell by an average of 59,500 hectares each year (MONRE 2009). In the plan proposed by MONRE, rice lands have to remain at 3.7 million hectares, and the loss of rice lands until 2020 has to be maintained at 500,000 hectares. This is the minimum scenario for the loss of rice lands. If the provinces do not take responsibility for ensuring food security as a local strategy and leave everything to the national government, protecting rice lands will be challenged.

The government has implemented various tax-related measures to encourage the growth of the rice sector and lower the cost of rice production: (1) tax exemptions on the income from irrigation service and drainage, plowed land inland canal dredging, pest control services for crops and the income of households and individuals directly engaged in agricultural production; (2) exemption from the value-added tax on certain goods such as those derived from rice products; (3) imposition of zero rice export tax ranging from 0%–15%; (4) imposition of 40% rice import tax (except for rice breeding) to ensure protection of domestic production; (5) tax exemption of agriculture land use for 2003–2010 and 2011–2020; (6) waiving of charges and fees to support the development of plant and animal varieties, inland canal dredging, etc.; (7) reduced import tariff rates ranging from 0%–5%, mainly 0%, for machinery and equipment for agricultural production and fertilizers and pesticides; and (8) free irrigation charges (to implement this measure, the government gave support to three companies under MARD and to

local authorities amounting to VND1,570 billion in 2008 and VND2,915.8 billion in 2009).

To stabilize rice prices, the government has introduced measures such as adjusting supply and demand by buying or selling rice to control the national inventory, and by prescribing price brackets (maximum or minimum). The price subsidy is less damaging to the rice market, although the government can still stipulate maximum and minimum prices for most agricultural inputs and products. State subsidies amounted to VND19.5 billion in 2007, VND21.8 billion in 2008, and VND24 billion in 2009.

At present, traders are allowed to export rice and rice-based commodities. The MOIT coordinates with MARD and provincial People's Committees that engage in commercial rice production as well as the VFA to uphold food security and ensure that consumption of commercial rice and wheat guarantees benefits for farmers and matches the prices of domestic goods. The MOIT also recommends measures to the Prime Minister when issues arise. For official export contracts entered by the Vietnamese government with foreign governments, the MOIT coordinates with the VFA to organize transactions and delivery. The MOIT regulation on step-by-step procurement ensures the performance of these contracts.

4. PROBLEM ANALYSIS

Food security situation

Despite remarkable progress since the late 1980s, pockets of poverty and vulnerability to hunger persist, particularly in underdeveloped and disaster-prone areas.

According to a household poverty survey in 2010 by the Ministry of Labor, War Invalids, and Social Welfare (MOLISA), the total number of poor households in 62 of the country's 63 provinces was approximately 3.3 million, accounting for about 15.25% of the total population. Households that are close to the poverty line⁴ comprise about 1.8 million or 8.58% of the population. The poor households are concentrated mostly in rural areas (90%), particularly in some mountainous districts in the north, central highland, central coast zone, and southwest where the ethnic minorities live. The poverty rate in these regions remains higher than 50%. Based on the international poverty line of per capita income of less than \$1.25 per day, the poverty rate or the proportion of poor households in Viet Nam would be higher because the poverty line in Viet Nam is much lower than the international standard.

Access to food by the Vietnamese people has remarkably improved after the government adopted the open-door policy and implemented the national program of hunger eradication and poverty alleviation. The average per capita income increased 78.6% in 2001–2006 (GSO 2006). Expenditures on food were about 38.2% of the total income in 2006, but the poor and nearly poor household groups spent an even higher amount on food—43% of their total income, 12% of which was for rice. The difference in the living standards between the lowest and the highest-income group is 800% (GSO 2006). The northwest area is still home to the poorest provinces in the country, with a poverty rate of 25.5% in 2009 (MOLISA 2010).

According to the United Nations Development Programme, the population rate, which is below the hunger line, was 6.7% in 2008, 8.7% of which is from the rural areas. The ethnic

⁴ A new poverty line is expected to be used in 2011.

minority people have a high poverty rate of 52.3%, while the food deficiency rate is 29.2%. The National Institute of Nutrition reported that the rate of underfed children under 5 years of age was 21.2% in 2007. According to the United Nations Children's Fund (UNICEF), the rate of undernourished children in Viet Nam in 2007 was rather high while the rate of stunting was 33.9% and the undersize rate (height and weight) was 10% (UNICEF 2010).

Unstable food prices influence access to food. Food prices in the whole country increased by 14.6% in 2007 and surged in 2008 (IPSARD 2007). Paddy rice price increased 15.9% in 2007, 51.5% in 2008, and 1.6% in 2009 (GSO 2010). Hunger is likely to happen, especially during natural disasters, bad harvests, or food price crises. At the macro level, food production in Viet Nam is able to meet food security requirements; however, at the micro level, this might not be the case.

Viet Nam suffers from many kinds of disasters such as floods, rainstorm, storm surge, riverbank and coastline erosion, hail, drought, landslide, forest fire, etc. One reason why water-related disasters are so serious is because most of the population live in areas susceptible to flooding. As a result, over 70% of Viet Nam's population is at risk from water-related disasters. According to the National Committee for Flood and Storm Control, the areas affected by rainstorms and floods every year are very large—from 50,000 ha to more than 900,000 ha of paddy. Due to the heavy amount of rainfall and windstorm, total damage was estimated at about \$1.19 billion in 2006 and 1.39 billion in 2009.

Priority issues in the rice sector

Viet Nam confronts a policy dilemma of liberalizing its rice market in pursuit of rapid export growth, while promoting national and long-term food security.

Human activities, exacerbated by poverty and population growth, contribute indirectly to land degradation and reduction of land area per capita. This is considered a key issue in Viet Nam. Due to the two simultaneous pressures of explosive population growth and reduction of farmlands, cultivated land area per capita is considered an indicator of land degradation. Compared to international and regional standards, this indicator has a low level in Viet Nam and is likely to continue decreasing. Cultivated land area per capita was 0.20 ha per capita in 1940, 0.13 in 1970, and 0.10 ha per capita in 2000. The most fertile agricultural lands are being lost very rapidly due to urbanization, industrialization, and the effects of climatic changes such as flood, drought, sea level rise, etc. In 2008, the country had over 200 centralized industrial zones with a total land area of 60,000 ha.

The conversion of agricultural areas to industrial use has caused losses in agricultural production, damaged irrigation and drainage systems, and polluted land resources. This has impacted on the yield and quality of rice, and also increased the input costs for agricultural lands. Farmers are becoming less interested in agricultural production as they become attracted by the higher incomes from urban employment. Agricultural land protection and land use planning are huge challenges in ensuring food security.

Conversion of rice lands is a main problem. There is a lot of pressure to shift from rice cultivation to other agricultural production activities that have a higher economic efficiency. The shift is usually spontaneous and unplanned, leading to the breakdown of irrigation systems.

Access to credit is limited to rice products. The government has fixed a low price for paddy lands that are used as bank collateral or are mortgaged to a bank, so farmers cannot obtain

huge loans from banks.

In the face of climate change, a strategy for achieving food security, which is linked with government control of rice prices, is very difficult to maintain. This is specially the case in the Mekong River Delta where rice for commodity export is mainly cultivated but where the rice cultivation area is seriously diminishing. If the policy on food security is closely linked with government control of rice prices, the government will meet difficulty in achieving the objectives of economic growth, hunger eradication and poverty alleviation, industrialization, modernization, environmental stability, and social equality.

One of the major reasons that delay the modernization of processing technology is the shortage of investment funds. The government, through its international integration policy, allows foreign enterprises to take part in the rice business in Viet Nam, spurring a lot of changes in the rice market. However, Decree No. 109/2010/ND-CP and Circular No.44/2010/TT-BCT limit the participation of private companies in the rice export market by requiring infrastructures such as storehouses with a minimum capacity of 5,000 tons of rice and husking factories. In addition, rice exporters must sign contracts specifying that they have at least 50% of the total contract volume in their storehouses. This is a big barrier for private enterprises that want to participate in the rice export market (VFA 2011).

After heated discussion in Viet Nam during the 2008 food crisis, the government promulgated Resolution No. 63/NQ-CP (23/12/2009) in relation to national food security. More concretely, this resolution focuses on ensuring food supply sources (including rice and other staple food and foodstuffs), meeting nutrition needs, and ensuring people's access to food. The resolution bats for the adoption of intensive rice farming, particularly in the Cuu Long and Red River deltas, to create a stable supply of rice for immediate and long-term national food security. It seeks to ensure that by 2020, food producers' incomes will be 2.5 times higher than the current level. The protected rice land area of 3.8 million ha should presently be maintained to enable an output of 41–43 million tons of paddy rice to meet total domestic consumption, plus an export demand of around 4 million tons of rice per year. This policy is expected to put an end to food shortage and hunger by 2012.

Following are the main thrusts of Resolution No. 63/NQ-CP:

1. agricultural planning and rice land planning at the provincial, district, and commune levels;
2. increased investment for infrastructure, particularly irrigation and storage for rice, and 10%–15% increase of the annual budget for agricultural R&D, with substantial focus on good agricultural practices and standards and food safety;
3. human resource training, which targets 50% of food producers trained by 2020;
4. favorable policies for peasants and incentives for local people to keep their rice lands and for enterprises that produce and trade rice;
5. consolidation of the food distribution system to allow consumers to have convenient access to food at all times, and the consolidation of export systems by formulating mechanisms to flexibly administer food and foodstuff exports, raise export competitiveness and efficiency, and combine the market stabilization reserve and the state reserve for food and foodstuff relief in case of emergency;
6. reforming producer organizations by mobilizing peasant households (1) to form cooperatives based on geographical area or products to facilitate the link between producers and traders; (2) to develop the farm economy and food enterprises, with peasants contributing their land use rights as shares for membership; and (3) to develop

- agricultural service networks;
7. development of food security information systems, which includes consolidating, enhancing, supervising, and monitoring production development; forecasting the food output of the whole country and each locality down to the district level; and taking effective response measures on adverse weather conditions affecting food security; and
 8. supporting Viet Nam's commitment on international cooperation in order to make active contributions toward ensuring world food security.

Policy measures that have been proposed in 2010–2011 include (1) the establishment of detailed rice land planning for localities (by MARD and MONRE); (2) a decree on rice land management policy (by MARD); (3) a program for farmers' training (by MARD and related ministries); (4) a decree supporting rice trading companies to promote rice buying for farmers (by MOF); (5) defining the required paddy volume of the national reserve and regulation reserve with an agricultural insurance project (by MOF); (6) the establishment of a market regulation fund (by MOF with VFA); and (7) state regulation for the management of rice export issued in 2010 (by MOIT).

Under Decree 109/2010/ND-CP, eligible rice traders must have legal trading certification, one warehouse to store at least 5,000 tons of rice, and one rice mill that can process at least 10 tons of rice per hour. They will also have to follow additional standards that will be mandated by MARD. Rice traders who do not satisfy these conditions will be permitted to export rice during the first 9 months of 2012, but they will not be permitted to operate starting on the first day of October 2012. Trading firms with foreign ties can only engage in the rice export business consistent with this decree, relevant laws, and government commitments under international treaties.

These policy measures indicate the strong political will of the Vietnamese government to prioritize food security through major investments to ensure rice supply. But putting these policies in practice faces major challenges due to the lack of supporting decrees, regulations, and local and value chain institutions.

Rice production is not simply an economic objective but a means to guarantee national food security. However, fiscal measures to support the rice supply chain are inadequate. Currently, state-owned enterprises enjoy tax breaks, access to export quotas, as well as greater access to capital from state banks. But these enterprises have not actually served to regulate markets, and the domestic market remains highly volatile. The institution of the quota eliminates a part of the business dynamics of exporters due to price regulations of the VFA. To apply a less administrative and more market-based mechanism, the shift from quotas to export tax is being proposed. But due to the priority on food security in the aftermath of the food crisis, state export management now requires both quotas and progressively increasing export taxes.

In addition to rapidly increasing input prices, rising production costs and reduced profits threaten farmers with heavier indebtedness. At present, most farmers borrow before harvest time and pay back after. Since most farmers have to sell their paddy rice immediately after harvest due to inadequate storage facilities, they cannot seek a higher price. It is urgent to establish policy measures to stabilize the prices of input materials to encourage farmers to cultivate rice. Otherwise, the real income of farmers will decrease. The experience of other countries has shown that the food market needs to be regulated by the government to stabilize prices. In the absence of market regulation, there will be ever increasing price volatility. Regulation can also be achieved through good coordination among stakeholders and by building professional organizations in the rice supply chain.

Rice is mostly sold to local dealers or directly to private milling factories. The quantity of rice sold directly to state-owned enterprises accounts for a very small part. Rice farmers are often at a disadvantage as they have little capacity to store their harvest and to bargain for a better price. The profit accrues to private businesses that have storage facilities, which enable them to take advantage of market fluctuations. The distribution of profits is unfair and does not encourage farmers to continue producing in the long term. Fixing the floor price for rice purchased by a trading company is the prevailing practice because the state does not have the capacity to control prices. Strengthening the capacity of farmer organizations so that they are able to bargain is an effective long-term solution for rice farmers.

To resolve the problem of food insecurity in some localities and sectors, the involvement of civil society organizations is crucial. The failure of the liberalized market to improve the food distribution system and food production in certain localities necessitates a food security plan for each province. The government has issued many policies in support of the right to food by all people. However, Viet Nam has no national law specifically upholding the right to food and nutrition. Also, Viet Nam does not have a national program to regularly provide free or subsidized food for the food-insecure except during emergency cases.

5. CONCLUSION

Despite the decreasing land used for rice cultivation, rice yield and rice production in Viet Nam have increased consistently, thanks to the application of advanced science and technology such as the use of fast-growing and high quality seeds and efficient irrigation systems.

Domestic food consumption has increased significantly, but the abundant rice supply has allowed Viet Nam to raise its exports over time. From 1990 to 2010, the volume of rice export gained 1.4 million tons, bringing in nearly \$3 billion into the domestic economy. Policies and mechanisms conducive to agriculture development, particularly for the rice sector, have played an important role in this achievement.

At the national level, Viet Nam appears to have achieved food security, if this were to be based mainly on total rice production. However, this may not be the case at the regional level. Rice production varies by region and the poverty rate is high in remote areas, especially among the ethnic minority groups. Access to food by the poor and nearly poor is constrained by the increasing prices of food, especially that of rice.

At present, the volume of rice reserves by household and enterprise has not been specified, undermining the role of annual statistics in making projections of rice supply and demand. These projections are necessary to ensure that both domestic and export food needs are met.

Food prices have been unstable and low for a long time, causing considerable disincentives to farmers and leading many households to change their land use or to stop growing rice. At present, the winter–spring crop season produces good harvest, while the summer–autumn and autumn–winter crop seasons have low productivity.

Increasing competition with industrial and urban activities and rising sea water level due to climate change are expected to cause greater reduction in the rice supply.

The government has been implementing a specific action program to ensure the country's food security. Many policies have been carried out such as maintaining rice cultivation areas,

increasing rice yield and productivity, and improving production and market infrastructure.

Based on projections, the rice supply of Viet Nam will continue to increase until 2019. The domestic demand for rice will be lower than the supply, so exports are expected to increase. Viet Nam is still expected to enjoy a big rice surplus by 2019.

The government's current policy on rice export and some other factors will limit the participation of small and medium enterprises in the market.

In the years ahead, the government will focus on policies on rice land preservation, management of the distribution market, support for rice growers (i.e., ensuring that profit is at least 30% above production cost), infrastructure investment (e.g., building storehouses, processing companies, and irrigation canals), and the application of advanced science and technology.

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