Promoting Export of Cambodia's White Gold[1]

Introduction

Cambodia grew very rapidly over the last decade; GDP grew 9.1 percent per year during 1998–2008. There is a consensus that the high growth was largely driven by garments, construction and tourism. Nevertheless, Cambodia's economy still remains predominantly agricultural in the rural sector. Although agriculture's share of GDP has declined gradually over time, in 2008 it still accounted for 26 percent of GDP and employed over 56 percent of the total labour force. Approximately 80 percent of Cambodians live in rural areas and depend on agriculture.

On average, agricultural growth is lower than that of industry and services. Its growth rate between 1998 and 2008 was about 4.2 percent per year, that of services was 9.9 percent and industry 14.2 percent. Agriculture experienced large year-on-year fluctuations in the 2000s and sometimes registered negative growth in the first half of the decade. However, the performance of the sector has been consistently positive since 2005. In 2009, agricultural growth was around 5 percent while GDP growth was estimated between -2.2 and +0.1 percent.

Given the tropical climate, ample unused arable land and large unskilled labour force, Cambodia has comparative advantages in agriculture. Promoting agriculture (agro-industry) is widely recognised as the best strategy for broadening the economic base to offset macroeconomic shocks, ensure food security, improve the livelihoods of rural people and reduce poverty.

Crops take the largest share of agriculture, followed by fishing, livestock and forestry. In 2008,

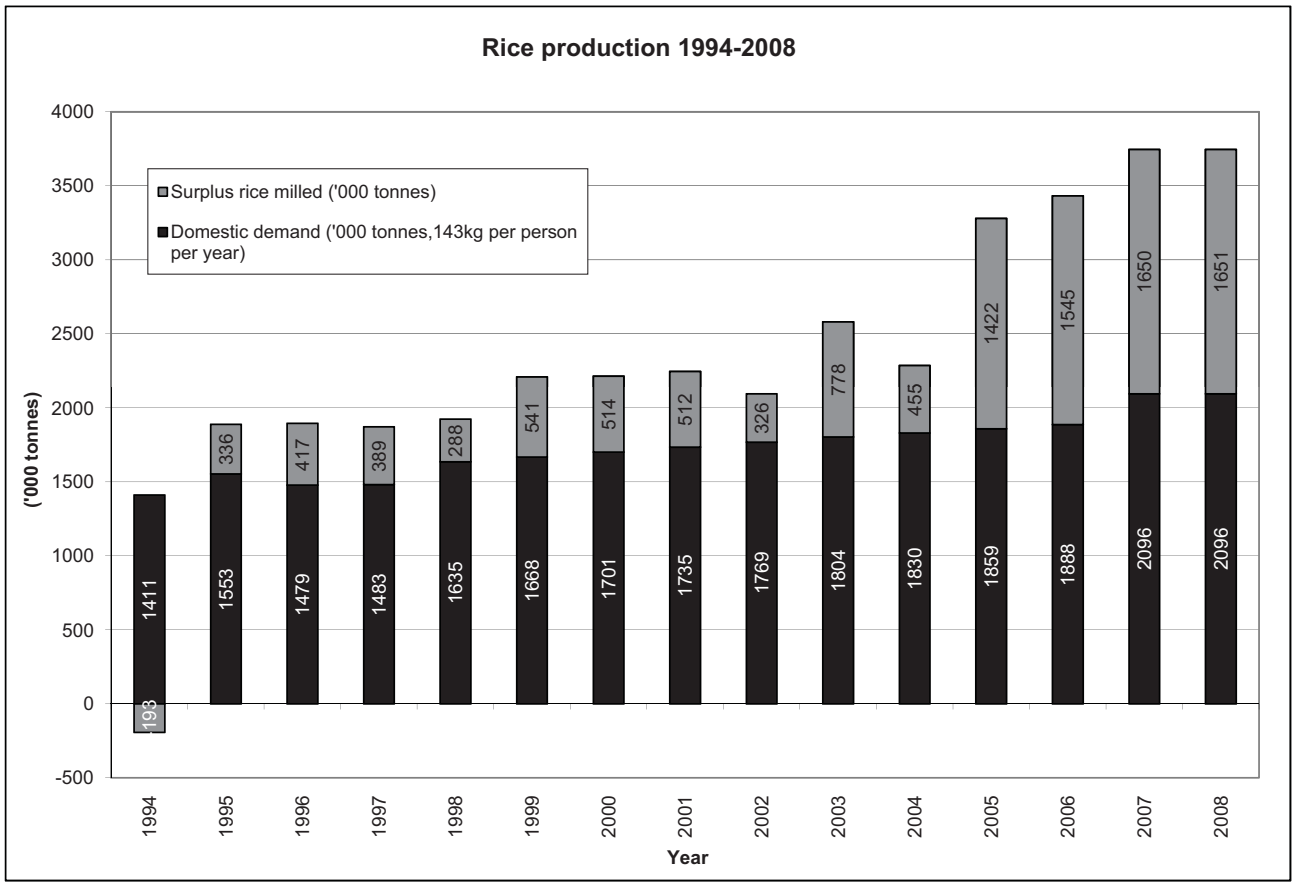
1 Mr Tong Kimsun, coordinator of CDRI's Economy, Trade and Regional Cooperation Programme, reviews the development of Cambodia's agriculture with a focus on rice production and export. Mr Oknha Phou Puy, president of the Federation of Cambodian Rice Millers Associations, offers suggestions for realising the substantial potential for Cambodia to mill and export rice.

Table 1: Paddy Productivity, 1994–2008 (tonnes/hectare)

	Brunei Darussalam	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Thailand	Vietnam
1994	1.67	1.49	4.35	2.58	3.06	3.17	2.89	2.35	3.57
1995	1.64	1.79	4.35	2.53	3.16	2.98	2.80	2.42	3.69
1996	1.65	1.81	4.42	2.55	3.25	3.06	2.86	2.41	3.77
1997	1.65	1.77	4.43	2.76	3.07	3.08	2.93	2.38	3.88
1998	1.65	1.79	4.20	2.71	2.88	3.13	2.70	2.47	3.96
1999	0.53	1.94	4.25	2.93	2.94	3.24	2.95	2.42	4.10
2000	0.65	2.12	4.40	3.06	3.06	3.38	3.07	2.61	4.24
2001	0.73	2.07	4.39	3.13	3.11	3.42	3.19	2.62	4.29
2002	0.73	1.92	4.47	3.27	3.24	3.42	3.28	2.61	4.59
2003	0.79	2.10	4.54	3.14	3.36	3.55	3.37	2.65	4.64
2004	0.82	1.98	4.54	3.28	3.33	3.79	3.51	2.86	4.86
2005	0.87	2.48	4.57	3.49	3.42	3.75	3.59	2.96	4.89
2006	1.22	2.49	4.62	3.35	3.39	3.80	3.68	2.92	4.89
2007	1.20	2.62	4.71	3.47	3.53	3.84	3.80	3.01	4.99
2008	1.20	2.75	4.89	3.47	3.57	3.72	3.77	2.97	5.22
Average	1.13	2.07	4.47	3.05	3.23	3.42	3.23	2.64	4.37
Growth rate	1.67	4.84	0.88	2.21	1.16	1.20	2.00	1.73	2.78

Source: FAO

Figure 1: Domestic Demand for Rice, 1994–2008



Source: Authors' calculation based on NIS (2008)

crops were 53 percent of agricultural output—12 points more than in 1998, partly due to a decline in fishing and forestry. The main agricultural products are paddy, maize, cassava, soybeans, tobacco and rubber. Rice is the most important staple food in Cambodia, averaging 55 percent of total agricultural produce, or 9 percent of GDP, during 1994–2006.

Paddy Production

Paddy production doubled between 1994 and 2008 due to increases in both productivity and cultivated area. However, the annual growth rate of paddy production has fluctuated sharply since 2002 and it grew at a slower rate, averaging 1 percent, in the late 1990s. Paddy production is heavily reliant on weather. For example, total paddy production amounted to 4.1 million tonnes in 2004, a drop of 11 percent from 2003 due to severe drought in many provinces (NIS 2006, 2007). In 2005, paddy production hit a record 5.9 million tonnes, a jump of 44 percent from the previous year because of favourable weather conditions and the unusually low yields in 2004 due to drought.

On average, paddy yields per hectare grew at 4.8 percent per year—the highest rate among Cambodia's neighbouring countries. Paddy yield increased from 1.49 tonnes/ha in 1994 to 2.75 tonnes/ha in 2008 (Table 1). This largely reflects improved access to fertilisers and other inputs, rather than improved varieties of seeds (Agrifood Consulting International 2006, cited in Yu & Fan 2009). Despite this improvement, Cambodia is among the lowest in terms of paddy productivity in East, South-east and South Asia. The low yield is partially explained by low land productivity, implying a need for further improvement in production technology (Yu & Fan 2009). On the other hand, the current low yield suggests that the potential for production growth is high. Therefore, improvement in paddy yield should be defined as a key source of agricultural growth.

Table 2: Rice Export, 2000–08

	2001	2002	2003	2004	2005	2006	2007	2008	2000-2008
Rice export ('000 tonnes)	15.02	15.50	2.28	4.94	5.98	5.72	4.37	6.39	6.74
Rice export (paddy equivalent, '000 tonnes)	23.84	24.61	3.62	7.83	9.50	9.08	6.93	10.14	10.70
Surplus paddy ('000 tonnes)	812	518	1,234	723	2,257	2,453	2,618	2,620	1,561
Potential gains in export revenue (USD million)*	76	55	130	97	341	383	485	857	
Potential gains in export revenue (USD million)**	88	62	152	108	405	471	541	1,089	
Rice export to rice surplus ratio	0.029	0.048	0.003	0.011	0.004	0.004	0.003	0.004	0.01

*Note: * Export rice prices (Viet25-FOB) ** Export rice prices (Thai5-FOB)*
Source: Customs and Excise Department, Ministry of Economy and Finance; NIS(2008)

Domestic Demand for Rice and Rice Exports

Each Cambodian is estimated to consume about 143 kilograms of milled rice per year (MAFF 2009). Given the estimated population (NIS 2008), the total domestic demand for milled rice increased from 1.4 million tonnes in 1994 to 2.1 million tonnes in 2008, which is equivalent to 2.2 million tonnes and 3.3 million tonnes of paddy, respectively. Paddy production reached the level of self-sufficiency in 1995, and paddy surplus has expanded significantly in the last three years, topping 2.8 million tonnes in 2008, equivalent to 1.6 million tonnes of milled rice.

Cambodia resumed exporting rice in 1995 (Hing *et al.* 2007), following a 20-year break caused by war and political isolation. However, official rice export data for 2000–08 from the Customs and Excise Department shows little is exported, which does not reflect the rice production surplus. Official data states that Cambodia exported 450 tonnes of milled rice in 2000, about 15,000 tonnes per year in 2001–02, and 4,950 tonnes per year in 2003–08 (Table 2). This indicates that, on average, only 1 percent of surplus paddy was exported as milled rice between 2000 and 2008. A few studies note that a large proportion of surplus paddy was informally transported to Thailand and Vietnam for milling and re-export (Hing *et al.* 2007, Sin 2009).

The World Bank (2003) reported that Cambodia exported approximately 60,000 tonnes of rice in 2001—four times higher than the official figure. During the same year, about 450,000 tonnes of paddy, worth USD69.7 million (if traded through formal channels) were unofficially transported to Thailand and Vietnam (World Bank 2003). The combined rice and paddy export figures represent 67 percent of the surplus paddy (812,000 tonnes) in that year—implying that the remaining 33 percent remained somewhere within the country.[2]

2 Using a conversion rate of 0.63, some 60,000 tonnes of milled rice were converted from paddy. The conversion rate varies according to the mill size. For smaller commercial mills, the conversion rate tends to be less than 0.55 (World Bank 2003). Commercial milling capacity: 648,450 tonnes; village milling capacity: 663,129 tonnes (World Bank 2003).

Table 3: Rice Milling Capacity

	Paddy production ('000 tonnes)	Total milling capacity ('000 tonnes)	Deficit in milling capacity ('000 tonnes)	Domestic consumption ('000 tonnes, paddy)	Total milling capacity/domestic consumption	Potential loss in export revenue (USD million)
The World Bank (2003)	4120	1310	2810			731
2008 Scenario 1	7150	1310	5840	3327	0.39	1519
2008 Scenario 2	7150	2620	4530	3327	0.79	1178
2008 Scenario 3	7150	3930	3220	3327	1.18	838

Source: WB(2003), NIS(2008), and the authors' estimation

Table 4: Key Indicators for Paddy

Key indicators	Uints	2008 actual	2009 estimated	2010 projected	2011 projected	2012 projected	2013 projected
Land under crops	000 Ha	596	750	950	1000	1000	1000
Paddy: cultivated area	million Ha	2.61	2.63	2.65	2.65	2.65	2.65
Yield per hectare	tonnes	2.74	2.77	2.80	2.83	2.87	3.00
Rice production	million tonnes	7.17	7.28	7.42	7.50	7.6	7.95
Irrigated land area	000 Ha	827	867	-	-	-	-

Source: RGC (2009)

Rice Milling Capacity

Milling capacity is the key challenge for rice processing in Cambodia. While 4.12 million tonnes of paddy are produced per year, the World Bank (2003) estimates that the total milling capacity of the country is only 1.31 million tonnes—a deficit of nearly 2.81 million tonnes.This suggests that milling capacity needed to increase at least three-fold in order to meet domestic demand in 2008 (Table 3).

Rice processing faces constraints. First, a large number of millers rely on old equipment, resulting in a high level of broken grains, reducing the value. Cambodian rice is 35 percent broken and considered low grade compared to long-grain Thai or Vietnamese rice, which is less than 5 percent broken. Mixed varieties of seed and inadequate post-harvest handling also increase the percentage of broken rice. Second, the high cost of credit and lack of working capital limit millers' ability to buy paddy from farmers and upgrade their machinery. The president of the Federation of Cambodian Rice Millers Associations emphasises that Cambodian millers would need more than USD375 million in loans to buy surplus paddy during the peak season (The Economy Today 2008). So far, only small loans from the government, commercial banks and micro-finance institutions have been offered to the associations. Third, rice millers have limited access to foreign markets because of their inability to produce consistent amounts of quality milled rice.

Determinants of Paddy Productivity

As noted in Section 2, Cambodia's paddy productivity is one of the lowest in the region. Previous studies (e.g. World Bank 2006; Markussen 2008) note that secure land tenure positively affects agricultural productivity. Based on the Cambodian Socio-economic Survey (CSES) 2004, the World Bank (2006) found that land tenure, in the form of certificates, application receipts or other official document, raised crop yield by 65 percent. Markussen (2008), using the same data, produced a consistent result though the productivity increase was half that found by the World Bank. Although the impact of land tenure on agricultural productivity is widely recognised, its effect on paddy production is not well documented. Tong (forthcoming) attempts to fill this gap by utilising the CSES 2007 and notes that plots that are registered on paper are on average 20 percent more productive than other plots. In addition, Tong's study confirms that other inputs such as seeds, fertilisers, pesticides, animal manure and compost, electricity for farming, transportation of input materials, hired labour, irrigation and modern agricultural assets including tractors, hand tractors and water pumps contribute positively to paddy production. Other interesting findings are that smaller plots are more efficient than larger plots; no positive effect of the government agricultural development projects has been observed but collaborative projects between the government and non-government organisations improve productivity; and drought has a long-term negative impact on paddy production i.e. drought in the current season impacts on productivity in the following season.

Government Strategy

The government has prioritised enhancing agriculture by increasing productivity and diversification and promoting agro-industry. However, the government

has shifted its emphasis from extending the cultivated area to intensive farming on existing land (Table 4). The share of agriculture in the national budget was an average of 2 percent for 2008–13, 0.2 percentage points lower than in 1999–2007 (RGC 2009). In general, the budget allocation for agriculture has not changed substantially during the last decade.

Since Cambodia became a member of ASEAN and the World Trade Organisation, its policy for exports of agricultural produce has been liberalised. In addition, the Everything but Arms initiative launched in 2001 by the European Union was important in opening access to the EU market for Cambodian rice. Everything but Arms allows duty-free and quota-free imports (with the exception of armaments) from the least developed countries.

Policy Implications

Even though Cambodian paddy productivity is lower than in neighbouring countries, total production exceeds domestic demand, leaving a surplus for export. Because milling capacity is still short of requirements, most surplus paddy is informally exported to Thailand and Vietnam for milling and re-export. Taking into account potential rice production, increasing value-added for rice is crucial to agricultural growth and poverty reduction.

Government policies for 2009–13 aim to achieve a high and sustainable paddy growth through continuing to issue land titles, particularly to farmers, increasing irrigation and improving agricultural water management systems, encouraging farmers to adopt new technology for farming, enhancing cooperation of the government and non-government organisations, using paddy land effectively and accelerating land concessions to smallholders.

Oknha Phou Puy, the practitioner, calls for concerted efforts to address the constraints to realising the rice export potential:

Actions are needed to achieve improvement in production, processing and exports. With regard to production, there is a need to: (i) increase the supply of rice seeds (including seed production sites) that are demanded by export markets; (ii) improve production and management techniques; (iii) improve harvesting techniques; (iv) develop high potential areas that can grow two crops per year; (v) implement a framework for quality assurances; (vi) support commercial farms with government initiatives; and (vii) provide affordable credit for short, medium and long term through the institutions that work closely with farmers and communities.

The promotion and development of processing and packaging entails modern equipment and adherence to international market standards. This also requires affordable credit for short, medium and long term investment. The size of the credit should be flexible to meet the actual needs of the enterprises. Government guarantee is needed for banks and financial institutions to provide loans to the private sector. Vital to the cost of processing rice (and many other things) is electricity. A special (low) electricity tariff should be set for processing and packaging enterprises, at least during weekends and or late night. One way to increase the supply of cheaper electricity is to allow big investors to produce their own electricity and sell the surplus to areas nearby.

The government should help find markets for rice exports in countries such as The Philippines, Indonesia and Europe. The legal aspects related to agriculture, agro-industry, and trade also need strengthening. There should be decisive rules and reinforcements on imports and exports. Restrictions and prohibitions should be put on the import and export of certain products, while the import and export of other products should be allowed openly. Trade supporting services should be improved. This includes tax exemptions, streamlining paperwork, reducing transportation costs both inland and by sea, and improving port services. In order for the private sector and government to succeed in the free market economy, there is need to always calculate the benefits and costs. This principle applies to all the sectors involved, namely agriculture, industry, and trade.

References

The Economy Today (2008), *Gold is Money: Cambodian Savings Bank*, Volume 2, Number 10, March 1-15 (Phnom Penh: Cambodia)

Hang Chuon Naron (2010), Macroeconomic Development in 2009, Presentation at Cambodian Economic Association Annual Meeting

Hing Vutha, Chan Sophal, and Sok Sina (2007),

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