Handbook on Rice Policy for Asia

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IRRI
INTERNATIONAL RICE RESEARCH INSTITUTE

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Contents

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Agricultural policies in Asia are historically pervasive, especially those pertaining to rice—a staple for half of the global population and a source of livelihood for nearly a billion people. Because of its strategic and political importance, the rice sector has been subject to a number of policy interventions. The objective of this handbook is to explain the current policy structure in the major rice-producing and rice-consuming countries in Asia. Many Asian countries have revamped their efforts in recent years to achieve rice self-sufficiency and stabilize domestic prices through stronger policy interventions. To insulate the domestic market from global uncertainty, a majority of Asian countries control the movement of rice in and out of the country through a variety of trade measures, including state trading and quantitative trade restrictions. A few rice-exporting countries set minimum export prices to ensure availability of rice for their domestic consumers by controlling exports and in some cases countries even temporarily banned rice exports. On the domestic front, many large rice-growing countries have increased the minimum support price for farmers and introduced many short-term policy measures to subsidize inputs such as fertilizer, seed, electricity, and fuel to expand domestic rice production. Net rice-importing countries, on the other hand, besides implementing policies to enhance domestic production by providing incentives to farmers, also provide a price subsidy on rice to make it affordable to poorer consumers. Governments often adopt highly crafted programs designed to raise the income of farmers by enhancing rice production. This includes the use of price floors, subsidized loans, payments to encourage fallow area, etc. The policies related to production, consumption, and stock of rice can be broadly categorized as domestic policies since any change in these policies mainly affects the behavior of local producers or consumers.

In this handbook, rice policies pursued by the major rice-producing and rice-consuming countries in Asia are compiled. This handbook clearly demonstrates that a number of major rice-exporting countries adopted some measures to create a buffer domestic rice market, such as imposing an export ban for a short period and setting minimum export prices to ensure an available rice supply in the domestic market (India and Vietnam). In contrast, major rice-importing countries lifted the tariff on imported rice without giving any special treatment to domestic producers to ensure an available rice supply in the domestic market (Nepal and Bangladesh).

This handbook is organized as follows. The next section presents the rice policies pursued by the South

Asian countries Bangladesh, India, Nepal, Pakistan, and Sri Lanka. The third section explains the rice policies pursued by the eastern Asian countries China, Hong Kong, Vietnam, South Korea, Japan, Taiwan, Lao PDR, Cambodia, and Myanmar, and the fourth section covers the rice policies pursued by the Southeast Asian countries Thailand, Indonesia, Malaysia, Singapore, Brunei Darussalam, and the Philippines. The fifth section offers concluding remarks and summary matrices of the rice policies of the major producing and consuming countries in Asia.

South Asia

Almost 40% of the world's harvested rice areas are in South Asia (Gumma et al 2010). Among South Asian countries, India and Pakistan are net rice exporters, whereas Bangladesh, Nepal, and Sri Lanka are net rice importers.

Bangladesh

Bangladesh is the biggest rice importer in South Asia (Javier 2011). In the mid-1980s, Bangladesh was the fourth-largest rice producer in the world, but it has lower productivity than Malaysia and Indonesia. It imports rice mainly to control domestic prices. In 2010, Bangladesh imported a total of 0.087 million tons of rice (GOB 2010). Below are the major policies in Bangladesh, followed by a summary of rice policies implemented (Table 1).

- Subsidy support for producers is provided on different agricultural inputs to increase agricultural productivity. Subsidies are mainly given to keep the price of production inputs within the purchasing capacity of producers. In 2010, BDT 49,500 million (US$712 million) was disbursed for subsidy assistance (exchange rate: BDT 69.52 = US$1).
- The Bangladeshi government introduced an Input Distribution Card to 9 million small and marginal farmers in 2010. These cards are used to obtain cash subsidies for electricity and fuel for irrigation, purchasing fertilizer at government-fixed prices, and other forms of government support (Hussain 2011). Marginal farmers (with rice area ranging from 0.02 to 0.19 ha) and small farmers (with rice area ranging from 0.20 to 1.0 ha) receive a subsidy of $11.51 whereas medium farmers (with rice area ranging from 1.01 to 3.03 ha) get $14.40 (Parvin 2010).
- The government has attempted to stabilize prices through open market sale (OMS) since 2004. OMS was established when the cost of food in Bangladesh began to increase sharply as a result of global price hikes.
- Originally, OMS allowed people to buy rice at BDT 24 instead of BDT 40 in 2,500 centers in district towns across the country, benefiting only those with easy access to the towns. More villagers in remote areas were left struggling to feed their families so it was extended to the *upazilas* or subdistricts. Rice prices ranged from $0.39 to $0.63 per kilogram depending on grain quality. Each union-level[1] dealer is allowed to sell 1.5 tons of OMS rice. Union-level dealers in the southeastern part of Bangladesh such as Chittagong and Bandarban can sell up to 2 tons of rice.

[1]The lowest administrative tier in the Bangladeshi local government system.

- The government manages public food distribution to protect the poor from rising food prices. Since January 2011, a total of 1.03 million tons of food grain had been distributed through subsidized cash sales and the food subsidy program that provides food resources to women, who receive 10 kilograms of rice per month in periods of hardship. Other forms of food subsidy assist women by providing 30 kilograms of rice or wheat per month. The supplementary Fair Price Card program was launched to provide eligible households with up to 20 kg of food grains. Under the program, rice is to be sold at $313 per ton.
- The Ministry of Food and Disaster Management also administered the food for work program, wherein wages and labor requirements were set to discourage the nonpoor from participating and workers are paid 3.5 kilograms of rice or wheat for every day of work.
- During the boro season in 2010, a cash subsidy was given directly to farmers who were irrigating their crop land with a diesel pump set.
- As of October 2011, government food grain procurement from the domestic market was 800,260 tons of paddy at $0.41 per kilogram.
- Since May 2008, Bangladesh has had a ban on rice exports.
- The government has allowed the duty-free import of rice (i.e., imports exempted from import tax) since 2008.

Table 1. Rice sector policies in Bangladesh, 2011.

Policy	Description of policy
Consumption policy	
Food subsidy for rice price increase	Under OMS, individuals can purchase a maximum of 5 kg of rice per month at a subsidized price of $0.34 per kg. The food subsidy program also provides women with 10 kg of rice per month. Eligible households receive up to 20 kg of food grains under the Supplementary Fair Price Card program.
Food for work	Wages and labor requirements were set to discourage the nonpoor from participating and workers are paid 3.5 kg of rice or wheat for every day of work.
Production subsidy	
Fuel subsidy	Cash is given directly to farmers irrigating their crop land with a diesel pump.
Fertilizer subsidy	Provision of free fertilizers in order to boost aus (upland/dry) crop production by 200,000 tons.
Price support	800,260 tons of paddy had been procured by the government. The boro paddy procurement price is $409/ton.
Export policy	
Export ban	Implemented since May 2008 to stabilize domestic prices and control supply and will last until June 2012.
Import policy	
Import duty	The government has allowed the duty-free import of rice since 2008.

India

India has always been South Asia's largest rice producer, accounting for 68% of the region's production in 2009. India is a large producer and exporter of rice. As a large rice producer, India is the home of rice with low-quality grain and fragrant basmati rice. The major markets for rice with low-quality grain are Indonesia, Bangladesh, and Nigeria. For basmati rice, the major markets are the Middle Eastern countries such as Saudi Arabia, Kuwait, and the United Arab Emirates (UAE), and the European Union (EU).

India's main policy goal focused on attaining food self-sufficiency while ensuring a fair price for farmers and a stable price for consumers. Below are the major policies in India, followed by a summary table of the rice policies implemented (Table 2).

- Through open market operations, 1 million tons of rice are approved to be sold at INR 15.86 per kilogram ($314 per metric ton).
- The "Extending the Green Revolution to Eastern India" program was renewed for a second season, with an INR 4 billion ($79 million) allocation, to boost rice production in seven eastern states.
- Through the Food Corporation of India (FCI), the government implements price policy through procurement and public distribution operations. The agency buys wheat, rough rice, and milled rice for which minimum support prices have been announced well before the commencement of the rabi (winter planted, spring harvested) and kharif (fall/early winter harvested) seasons. Only average-quality food grains previously specified by the government are purchased, wherein surplus stock is exported. The agency buys paddy rice directly from farmers and maintains huge rice stocks at all times. These stocks are then subsidized by the government and distributed across the country to the poorer population. The stocks are transported throughout India and issued to state governments at the rates declared by the central government of India for further distribution under the Targeted Public Distribution System (TPDS) for consumption by ration-card holders.
- The TPDS, a revamped PDS, with focus on the poor, requires the states to formulate and implement infallible arrangements for identification of the poor for delivery of food grains and their distribution in a transparent and accountable manner at Fair Price Shops (FPS). Rice and other staple grains are sold through a network of FPS located across the country. FCI distributes the rice to FPS throughout the country. The difference between the purchase price and the sales price, along with internal costs, is reimbursed by the central government of India in the form of a food subsidy. The government also creates a minimum support price (MSP) to create a rice price floor for rice farmers. The rice farmers then choose to either sell to commercial buyers or sell to the state entities.
- Under the MSP, the procurement price is predetermined and the Central Issues Price (CIP) represents the price at which food grains are issued under the TPDS.

- Under the TPDS, CIPs are for different segments of beneficiaries, namely: Above Poverty Line (APL), Below Poverty Line (BPL), and Antyadoya Anna Yojana (AAY). Eligible families belonging to BPL receive 35 kilograms of rice subsidy per month at $44 per ton. For families under APL, they are eligible for 15 kilograms of rice subsidy per month at $176 per ton. Under AAY, category card holders are eligible for 35 kilograms of rice subsidy per month at $93 per ton. Under AAY, the poorest of the poor are given the option to buy food at even more subsidized prices (Svedberg 2010).
- Rice is classified into two categories for government procurement operations: common (length to breadth ratio less than 2.5) and grade A (length to breadth ratio more than 2.5) (Singh 2011).
- The MSP for common paddy varieties was $214 per ton and for Grade A varieties was $220 per ton as of 23 February 2011. The MSP is based on the cost of production and on the recommendations of the Commission for Agricultural Costs and Prices (CACP).
- The government subsidizes agricultural inputs in an attempt to keep farm costs low and increase production, thereby lowering the price for consumers (Grossman and Carlson 2011). Numerous subsidies ranging from food to fertilizer, irrigation, electricity, seeds, and machinery are also available. The food subsidy covers compensation to state-run procurement firms such as the FCI for buying staple grains, including rice and wheat, from local farmers to supply to the poor at below-market rates.
- Irrigation and electricity are supplied directly to farmers at prices below production costs. Machinery subsidies are carried out under the rice activities of the National Food Security Mission. The subsidy rate for pump sets, seed drills, rotavators, knapsack sprayers, power weeders, and rice transplanters is 50%. Power tillers are distributed at 25% subsidy subject to a maximum of $989. This scheme was implemented with an allocation of $6.5 million.
- In April 2010, a new fertilizer subsidy scheme was implemented. A nutrient-based subsidy (NBS) scheme was implemented in which farmers are given incentives to use a better mix of nutrients. The NBS is based on a scheme that fixes a subsidy on nutrient nitrogen (N), phosphorus (P), potassium (K), and sulfur (S) contents for 2010-11. There is also an additional per ton subsidy on fertilizers carrying other secondary nutrients and micronutrients approved by the Fertilizer Control Order (FCO) of India.
- The NBS regime was implemented and took effect in April 2010. The whole fertilizer industry receives a subsidy based on certification of sale by the state government/statutory auditors while the implementation and distribution of the fertilizer are monitored through the online Web-based Fertilizer Monitoring System. Currently, 120 million farmers rely on a fertilizer

subsidy implemented by the government. However, starting in 2012, the government will stop its 34-year-old system of providing fertilizer subsidies. As a plan, a cash-transfer system will be implemented wherein the subsidy will be deposited directly into the bank accounts of farmers.

- Since 2005-06, India's Ministry of Agriculture has been implementing the Production and Distribution of Quality Seeds Scheme with the target of ensuring timely availability of quality seeds of various crops at affordable prices.
- Under the National Food Security Mission Scheme, rice farmers are provided with a subsidy of INR 1,000 per quintal[2] or 50% of the cost, whichever is less, for certified hybrid rice seed: INR 2,000 per quintal or 50% of seed cost, whichever is less, for certified hybrid rice seed distribution: INR 5 per kilogram or 50% of the cost, whichever is less, for seed distribution of certified high-yielding varieties; and full cost of seed minikits of high-yielding varieties.
- Assistance is also provided for the production and distribution of hybrid rice. A production subsidy of INR 20 per kilogram and a distribution subsidy of INR 25 per kilogram are given to various beneficiaries.
- On the trading side, commitments on rice import tariffs under the Uruguay Round Agreements Act (URAA) for India are bound at 0% since 2009 up until the first quarter of 2012. The central government of India is likely to extend the zero import duty regime for another year on price inflation concerns (Singh 2011).
- The Indian government imposed a total ban on nonbasmati rice exports in October 2008 but lifted it following protests from exporters. In April 2011, the three-year-old rice ban was partially lifted. Exports of Ponni Samba and Matta basmati varieties, subject to a capacity of 25,000 tons each, and shipments of Sona Masuri, with a capacity of 1,000,000 tons, have been permitted. In September 2011, the export ban on nonbasmati rice was removed. However, exports will be allowed only from the Custom Electronic Date Interface (EDI) ports to effectively monitor exports. Exports of rice were initially allowed for privately held stocks but it was later on decided that government parastatals under existing food aid programs and bilateral trade agreements specifically between the government of India and the government of Maldives be permitted (Singh 2011). Part of the reason for the export ban was to control the escalating domestic prices of rice.
- For the popular and fragrant basmati rice, the minimum export price (MEP) is currently $900 per ton but this rice could be traded at as high as $1,200 per ton; for nonbasmati rice, the MEP was $400 per ton as of 9 November 2011; and the MEP for 25% broken rice was $370–380 per ton as of 21 December 2011. For Sona Masuri, Ponni Samba, and Matta rice varieties, the MEP was $600 per ton as of 13 August 2011.

[2]A unit of weight equal to 100 kilograms.

Table 2. Rice sector policies in India, 2011.

Policy	Description
Stock policy	
Public stocks	Approval of one million metric tons of rice to be sold through open market operations.
Production policy	
Minimum support price	The minimum support price of common paddy is $0.21 per kilogram, and $0.22 per kilogram for grade A paddy.
Irrigation and electricity subsidy	Irrigation and electricity are supplied directly to farmers at prices below production costs. Consumption is unmetered for many agricultural users and is based on the horsepower rating of the water pump.
Machinery subsidy	Provision of a 50% subsidy for pump sets, seed drills, rotavators, knapsack sprayers, power weeders and rice transplanters. Power tillers are distributed at a 25% subsidy, subject to a maximum of INR 45,000.
Fertilizer subsidy	Also called NBS. This subsidy was implemented to give farmers incentives to use a better mix of nutrients and is based on the scheme that fixes a subsidy on nutrient nitrogen (N), phosphorus (P), potassium (K), and sulfur (S) contents.
Seed subsidy	Production of hybrid rice seed amounting to a subsidy of INR 2,000 per quintal or 50% of the cost.
Consumer policy	
Food subsidy for rice price increase	Under the TPDS scheme, BPL families are eligible for 35 kilograms of rice subsidy every month at $0.04 per kilogram; while 15 kg of monthly rice subsidy are allotted at $0.18 per kilogram for APL families; AAY category card holders are eligible for 35 kilograms of rice subsidy every month at $0.09 per kilogram.
Export policy	
State trading	Rice is sold to importing countries through state-to-state agencies.
Minimum export price	The MEPs are $900–1,200 per ton for basmati rice; $400 per ton for nonbasmati rice (9 November 2011); $370–380 per ton for 25% broken rice (21 December 2011); and $600 per ton for Sona Masuri, Ponni Samba, and Matta rice varieties (13 August 2011).
Export ban	The export ban was lifted in September 2011 for premium non-basmati rice (Sona Masuri, Ponni Samba, and Matta varieties). Private-sector companies can export 2 million tons from own stocks through an OGL. The government will monitor the flow of shipments and review export decisions once the 2 million tons of rice exports mark is reached.
Import policy	
Tariff	Although there has not been any import of rice, the government of India is likely to extend the zero import duty regime for another year because of price inflation concerns.

- Export of nonbasmati rice is done by private traders from privately held stocks on a purely commercial basis. However, prior registration of all export contracts is done by the Directorate General of Foreign Trade (DGFT) on a first-come, first-served basis. Rice is freely exportable under an Open General License (OGL) (as of October 2011). As per the terms of reference of the World Trade Organization (WTO) agreement, India has to put most of the items under an OGL, which means that these items can be freely traded. The decision to lift exports was triggered by an increasing grain output and the need for freeing up storage space ahead of the kharif marketing season beginning in October 2011.

Nepal

Nepal has been a net rice importer for the last two decades, importing mainly from India despite the recent export bans by India. The country's government policies and interventions in agricultural markets were geared toward the supply of adequate food grain through importation. Below are the major policies in Nepal, followed by a summary of rice policies implemented (Table 3).

- Fertilizer policy intervention in Nepal started in 1973 but a subsidy was introduced a year after alongside a transport subsidy.
- Currently, Nepal's Ministry of Agriculture and Cooperatives provides support in chemical fertilizers targeting only small and marginal farmers. Subsidized fertilizers are provided for farmers with landholdings of 0.75 hectare in hilly areas and 4 hectares in wetland or *terai* regions.
- The Nepal Food Corporation, a government-owned corporation, buys rice and distributes it to food-deficit areas in the country. As of March 2011, the government price support of rice was NPR 30.50 per kilogram.
- The Nepalese government allocated NPR 2.75 billion (NPR 2.5 billion for around 200,000 tons of chemical fertilizer and NPR 250 million for organic fertilizers) for fertilizer subsidy in 2011. This subsidy aimed at providing aid for farmers facing a rising cost of production.
- The Nepal Food Corporation provides subsidized rice to the people, who are given a coupon to purchase a fixed quantity of rice. This subsidy is NPR 10 per kilogram for Japanese rice and NPR 5 per kilogram for Sona Masuri rice. A sack of Japanese rice (30 kg) costs NPR 625 and a sack of Sona Masuri (50 kg) costs NPR 1,520. The government is providing a subsidy of NPR 300 per sack for Japanese rice and NPR 250 per sack for Sona Masuri rice (Sapkota 2011).
- Trade of products between Nepal and India is free of customs duty and quantitative restrictions.

Table 3. Rice sector polices in Nepal, 2011.

Policy	Description of policy
Production policy	
Price support	As of March 2011, the guaranteed price of rice was $0.42 per kilogram at an exchange rate of NPR 73.43 = US$1.
Input subsidy	Subsidized fertilizers are provided for farmers with landholdings of 0.75 hectare (hilly area) up to 4 hectares (wetland or *terai*).
Consumer policy	
Food subsidy for rice price increase	The government provides a subsidy of NPR 300 per sack for Japanese rice and NPR 250 per sack for Sona Masuri rice.
Import policy	
Import tariff	Duty-free
State trading	The Nepal Food Corporation buys rice in the international market and is also in charge of the distribution of rice to food-deficit areas in the country.

Pakistan

Pakistan is the world's fifth-largest rice exporter (FAO 2011). Rice is the third-largest crop in Pakistan after wheat and cotton. Though rice is not a staple food in Pakistan, it is the second-highest export earner in the country after textiles. Pakistan and India are known for producing and exporting basmati rice. Pakistan produces 67% of the global basmati rice and India produces 33%. In 2010, rice export earnings totaled $22 million. The U.S. is the major buyer of basmati rice from Pakistan (Raza 2011). Basmati rice is also exported to other West Asian and European nations. The major basmati rice export markets for Pakistan are UAE, Saudi Arabia, UK, Yemen, Qatar, Bahrain, Kuwait, Malaysia, and the U.S. Below are the major policies in Pakistan, followed by a summary of rice policies implemented (Table 4).

- Through the Tube Well Efficiency Improvement Program (TWEIP), the Pakistani government aims to reduce peak electricity demand of highly subsidized agricultural customers. The TWEIP will replace up to 11,000 highly inefficient irrigation tube-well motor-pump sets with more energy-efficient motor pumps. The program offers a 50% subsidy to farmers to replace their pump sets. The TWEIP is one of six activities under the U.S. Signature Energy Program that Secretary of State Hillary Clinton announced in October 2009 to help alleviate Pakistan's severe power-supply shortfall.
- Back in 2001, the government merged the Rice Export Corporation of Pakistan (RECP) with the Trading Corporation of Pakistan (TCP). Since then, government intervention in the rice market has been minimal.
- The government intervened in the rice market in 2009 when prices plummeted as a result of a bumper harvest. The government started procurement from farmers through the Pakistan Agriculture Storage and Supplies Corporation (PASSCO) and TCP.
- In the domestic market, TCP is responsible for price support implementation offered by the government.

Table 4. Rice sector polices in Pakistan, 2011.

Policy	Description of policy
Producer policy	
Irrigation subsidy	TWEIP offers a 50% subsidy to farmers to replace their pump sets.
Price subsidy	Aside from rice procurement and sales abroad, the government also procures rice domestically from farmers through PASSCO and TCP.
Export policy	
Minimum export price	The MEP for 5% broken rice is $445–450 per ton on 21 December 2011.

- Rice trading is completely liberalized in Pakistan and well managed by the private sector. Exporters invested in rice-processing equipment to improve the quality of rice. Similarly, private-sector investment in milling improved the quality of rice available for exports, thus enhancing the competitiveness of Pakistan's rice in the world market.
- The MEP for 5% broken rice was $445–450 per ton as of 21 December 2011.

Sri Lanka

Sri Lanka was once a food-deficit nation importing rice, but this situation has changed significantly in recent years as the country achieved near self-sufficiency in rice in 2005. In spite of this, Sri Lanka still imports rice mainly from Pakistan. The Sri Lankan government has policies aimed at creating self-sufficiency in rice production and encouraging rice consumption. Below are the major policies in Sri Lanka, followed by a summary of rice policies implemented (Table 5).

- The Sri Lankan government maintains a price floor for producers through the Paddy Marketing Board in the event market prices fall below a certain level. The purchase price of the Paddy Marketing Board is RP 30 per kilogram ($0.27 per kilogram) for Samba paddy and RP 28 per kilogram ($0.25 per kilogram) for Nadu paddy.
- A budget of $299 million was allocated for rehabilitation work, including restoration of irrigation networks and canals damaged by recurring floods in 2011.
- Rice farmers receive free irrigation water and a subsidy for up to 95% of the fertilizer cost.
- Sri Lanka keeps a base import duty of RP 20 per kilogram with a 5% Port and Airport Levy (PAL) and a 2% National Building Tax (NBT). This rate is adjusted depending on the amount of domestic production.
- Sri Lanka exports rice particularly to UAE, Australia, and Canada. In 2011, Sri Lankan rice exports were set at 10,000 tons.

Table 5. Rice sector polices in Sri Lanka, 2011.

Policy	Description of policy
Production policy	
Price support	The Paddy Marketing Board procures 75,000 tons of Yala paddy at $0.27 per kilogram and Samba paddy and Nadu paddy at $0.25 per kilogram.
Irrigation and fertilizer subsidy	Rice farmers receive free irrigation water. Fertilizers are subsidized up to 95% of the total fertilizer cost.
Import policy	
Import tariff	The rice import tariff is $0.18 per kilogram.

East Asia

A majority of the countries in East Asia import almost exclusively medium-/short-grain rice (USDA 2009). Among the East Asian countries, China is the only net exporter, though in recent years South Korea exported milled rice to Australia and the U.S. China also imports some rice, particularly the fragrant variety called Hom Mali from Thailand. This is consumed in high-end hotels or restaurants located in well-off coastal cities. Japan, Hong Kong, and Taiwan are net rice importers. Japan is the steadiest rice buyer, annually importing 682,000 tons on a milled-rice basis.

China

China is the largest producer and consumer of rice in the world. As an important exporter of low-quality long-grain and medium-grain rice to countries such as Côte d'Ivoire, Indonesia, Cuba, Russia, Japan, South Korea, and North Korea, it is necessary to ensure a stable supply of rice domestically. Recently, due to the sharp increase in domestic demand, the Chinese government has taken on domestic price-stabilizing policies. The Chinese government imposes trade restrictions primarily aimed at raising farmers' income while ensuring food supply for its growing population. Since 2004, China has begun to subsidize and remove taxes on agriculture. These agricultural taxes include cooperative economic entities, enterprises, units, peasants, and other individuals who are engaged in agricultural production and receive agricultural income within China. For 2011, the budgetary allocation to the agricultural sector was CNY 988 billion ($155 million), with 15% allotted to finance direct payment to grain producers and subsidies on the purchase of agricultural supplies, improved seed varieties, tools, and farm machinery (FAO 2011). Below are the major policies in China, followed by a summary of rice policies implemented (Table 6).

- By 2015, single-cropping rice production systems in northeastern provinces and mid and lower areas of the Yangtze River should be fully mechanized. A target of 45% is set for mechanized planting and 85% for mechanized harvesting.
- To ensure that annual grain production is at least 540 million tons by 2015, the target is to preserve arable land of 121 million hectares.
- To encourage production, the Chinese government introduced a machinery subsidy, which is monetary assistance granted by the government to a farmer for buying agricultural machinery.
- Farmers are offered a 30% discount on agricultural

machinery purchased, with a maximum subsidy ranging from $7,720 to $30,879.

- Farmers growing superior rice varieties receive subsidies ranging from $22 to $33 per hectare. The Agriculture and Cooperatives Ministry has been assigned to set a suitable paddy price based on capital cost and a suitable return for farmers and to quickly complete the registration of farmers joining the rice price guarantee program.
- The government-set price support for paddy for early indica and japonica varieties is $311 per ton and $390 per ton. This price support program applies to only 13 major grain-producing provinces in China: Heilongjiang, Jilin, Liaoning, Inner Mongolia, Shandong, Hebei, Henan, Anhui, Jiangsu, Shanxi, Hunan, Hubei, and Jiangxi. These provinces produce about 80% of China's total grain supplies. In addition, a few other provinces not included in the price support program also set a floor price to encourage and sustain local grain production (Lagos and Jiang 2011).
- The price support for paddy for intermediate and late indica varieties is $326 per ton.
- In exporting rice, only two state monopoly trading companies are given a license to export rice, the China Grain Reserves Corporation (Sinograin) and China National Cereals, Oils, and Foodstuffs Import and Export Corporation (COFCO). Sinograin exports rice and beans. COFCO handles the major cereal trade. China usually exports rice of medium to low quality. COFCO manages the country's rice exports and has a monopoly on rice imports as well. The trading companies are granted 50% of the rice permits.
- When China joined the WTO in 2001, part of its commitment was to lower the tariff rate of 65% for rice imports. To ensure the protection of domestic rice producers, the Chinese government implemented the grain tariff rate quota (TRQ) for rice in 1996, which set a 5.3 million tons quota for both private traders and state enterprises, each having a 50% allocation.
- The TRQ is a policy measure designed to protect a domestically produced commodity from competitive imports using two policy measures: quotas and tariffs. In a TRQ, the quota component works with a specified tariff rate for a certain degree of import protection. Imports entering during a specific time period under the quota portion of a TRQ are usually subject to a lower, or sometimes zero, tariff rate. On the other hand, imports above the quota's quantitative limit face a much higher tariff rate.

Table 6. Rice sector policies in China, 2011.

Policy	Description
Production policy	
Machinery subsidy	Provision of 30% discount on agricultural machinery purchased, with a maximum subsidy ranging from $7,720 to $30,879.
Input subsidy	Farmers growing superior rice varieties receive subsidies from $22 to $33 per hectare.
Price support	The price support for paddy for early indica varieties is $0.31 per kilogram, $0.33 per kilogram for intermediate-late indica varieties, and $0.39 per kilogram for japonica varieties.
Export policy	
State trading	State-owned companies will be granted 50% of the rice-trading permits.
Tariff rate quota	The grain tariff rate quota for rice is 5.3 million tons and the private share and state enterprise share are 50% each. The TRQ within TRQ is 1% and TRQ out of TRQ is 65%.

Hong Kong

Rice is a major staple in Hong Kong. The Hong Kong government operates a Rice Control Scheme to ensure a stable supply of rice and to keep a buffer stock for consumption and for periods of shortages. All rice for local consumption is imported mainly from Thailand and Vietnam. Hong Kong is a major importer of Hom Mali fragrant rice from Thailand. Only registered stockholders may import rice to Hong Kong for local consumption. Importers need to register with the office of the Director General of Trade and Industry. The application for a rice import license should clearly state whether the license form will be used for local consumption or for importation and then later re-export. In 2010, Hong Kong purchased 200,000 tons of rice worth $200 million from Thailand and 15,000 tons of fragrant rice from Vietnam.

Japan

Japan has a lengthy record of serious protectionism in its rice sector (Moody 2011). For decades, Japan pursued the goal of food self-sufficiency by using a number of commodity programs such as a producers' quota, income stabilization policies, deficiency payments, and rice diversion programs. A production quota is a target set by the government or an organization for the production of a good and it can be applied to an individual worker, firm, industry, or country. Quotas can be set high to encourage production or can be used to limit production to control the supply of goods. This type of policy aims to restrict the supply in order to maintain a certain price level. On the other hand, deficiency payments are direct government payments made to farmers who participated in commodity programs. Deficiency payment rates are based on the difference between the legislatively set target price and the lower national average market price during a specified time. The total payment is equal to the payment rate multiplied by a farm's eligible payment area and the program payment yield established for the particular farm.

To revitalize the agricultural sector, younger segments of the population are encouraged to take up farming activities through incentives. The average farm size is also to be raised from the current national average of 2 hectares to 20–30 hectares in flatlands and 10–20 hectares in hills and mountainous terrains (FAO 2011). Currently, Japan is 40% food self-sufficient on a caloric basis. One of the principal goals in Japan's Food, Agriculture, and Rural Areas Basic Plan is to raise Japan's self-sufficiency in food production to 50% by 2020. Below are the major rice policies in Japan, followed by a summary of rice policies implemented (Table 7).

- The tariff for rice imports is 778% (Yamasita 2010). Rice imported outside of the minimum access framework of 257 tons is charged by paying tariffs.
- A new basic law on Food, Agriculture, and Rural Areas that emphasized increasing the food self-sufficiency ratio was enacted. This is through an income stabilization program with a combination of a fixed payment and variable payment for households that plant rice, wheat, barley, and soybean.
- Through the Food Action Nippon Policy, the Japanese government aims at increasing its food self-sufficiency rate by promoting home-grown produce and raising awareness among people.
- The Japanese government agreed to allow minimum market access to exporting countries at the Uruguay Round in 1993, buying only 682,000 metric tons of rice in a year (Fukuda 2011). Minimum market access is the allowable tradable goods that can enter a country. The Staple Food Department of the Ministry of Agriculture, Forestry, and Fisheries (MAFF) administers imports of rice within the TRQ through periodic ordinary minimum access (OMA) tenders and through simultaneous buy-sell (SBS) tenders. Imports of U.S. rice under the OMA tenders are programmed exclusively for government stocks. The government, through the State Trading Enterprises (STEs), chooses the bids that have the biggest difference between the purchase and sales price and awards them the requested import volume, provided other criteria are met. The STE then retains the difference between the prices as a markup. The Japanese government saves 200,000 metric tons of rice for a food aid program. MAFF releases these stocks solely for nontable rice users in the industrial food-processing or feed sector and for re-export as food aid. The emergency stock of rice of MAFF is targeted at 1 million metric tons a year. MAFF has the exclusive right to import rice, wheat, and barley within the TRQ.
- The government imports minimum-access rice in two ways: (1) open tender and (2) the SBS tender system. In an open tender, the government decides on the importer, volume of imports, types of rice, etc., most of which are long-grain types for processing use. Meanwhile, the SBS tender system tends to focus on short-grain types meant for staple foods because it is jointly conducted by designated importers and registered wholesalers, and concentrates on imports controlled by businesses.
- The New Food, Agriculture, and Rural Areas Basic Plan was developed in March 2010 to bring a major change to agricultural policy and restructure a set of policies that can swiftly renew and

Table 7. Rice sector policies in Japan, 2011.

Policy	Description of policy
Production policy	
Direct income support	Also known as the Income Compensation System for Farmers, this policy provides subsidies to support farmers whose main agricultural products are rice, oats, or soybeans.
Import policy	
Tariff rate quota	Minimum market access is 682,000 tons a year. The Staple Food Department of the MAFF manages imports of rice within the TRQ through periodic OMA tenders and through SBS tenders.
Import tariff	Imposes a 778% tariff on rice imports.
State trading	The Food Department within Japan's MAFF has the exclusive right to import rice within the TRQ.

revitalize food and communities (Japan Ministry of Agriculture, Forestry, and Fisheries 2010). This plan sets 50% as the target for the food self-sufficiency ratio on a supplied calorie basis and 70% on a production output basis to be achieved in 2020. This plan adopts measures for the sustainable development of agriculture such as an income compensation system for farmers. This policy provides government subsidies to support farmers whose main agricultural products are rice and other cereals at a level depending on certain production targets that are decided by prefectural and city governments and municipalities based on a food self-sufficiency target rate. The subsidies are calculated based on the difference between the nationwide average production cost and the nationwide average retail price. Every farmer participating in this scheme was given a basic subsidy at a rate of 1 million yen per hectare.

South Korea

Similar to Japan, the South Korean rice sector is highly protected. South Korea protected its rice sector with an import ban until 1995, upon an agreement with a minimum access commitment in the Uruguay Round Agreement. In 2010, South Korea exported 1,252 tons of milled rice to Australia, Hong Kong, Haiti, and South Africa (Chiou-Mey 2011). Below are the major rice policies in South Korea, followed by a summary of rice policies implemented (Table 8).

- During the first quarter of 2011, rice prices rose sharply in South Korea. To control this, the South Korean government decided to release 150,000 tons of rice reserves in the market.
- The Korean government also purchases rice to control the domestic price. Under the Public Rice Stockholding Program (PRSP), the government purchases domestic paddy during harvest season, October to December, and sells it during the nonharvest season at prevailing domestic prices. This is also known as the Public Storage System for Emergencies (PSSE).
- For price support, the government sets a target price

and compensates rice farmers for the difference between the target price and the market price of the year in the form of fixed and variable payments. The government pays rice farmers a fixed amount every year, regardless of the market price. The variable portion covers a payment equal to 85% of the difference between the target price and the market price, minus the fixed payment. The government paid rice farmers an average price of $1.54 per kilogram based on grade.

- The National Agricultural Cooperative Federation (NACF) on behalf of the government purchased 86,000 metric tons at the government purchasing price to stabilize farm-gate prices during the harvest period. Aside from domestic rice procurement, the Korea Agro-Fishery Trade Corporation, the government's state trading arm, manages the purchase and sale of imported rice. It sells table rice shipments through a public auction system.
- South Korea imports rice as part of its WTO Minimum Market Access (MMA) rice agreement. Import volumes will increase according to the predefined MMA schedule until the end of 2014. By 2014, rice imports are expected to double and cover 8% of domestic consumption. After 2014, rice imports will be subject to a tariff equivalent (Choi and Smith 2011).
- Under the MMA, milled rice imports of 347,658 metric tons were allowed to enter the country for 2011. Of this amount, 151,460 metric tons of milled rice went to the Most Favored Nation (MFN) quota allocation. Out of this, 13,025 tons came from United States, 23,080 tons came from China, and 13,619 tons came from Thailand.
- Under the Country-Specific Quota (CSQ), a total of 196,198 tons of milled rice were allowed to enter the country, with 50,076 tons from the U.S., 116,158 tons from China, and 29,963 tons from Thailand. Australia failed to fulfill the CSQ allocation due to a bad crop situation.
- The rice import quota is set to grow by about 20,000 tons per year to 408,700 tons by 2020. An import quota is a type of protectionist trade restriction that sets a physical limit on the quantity of a good that can be imported into a country in a given period of time.
- Aside from MMA commitments, South Korea also has several global quota allocations, which are generally limited to different kinds of brown rice and short, medium, and long varieties.
- The price and distribution of rice used to be controlled by the government under the Food Stuff Control Act but, in 1995, the same law was abolished and replaced with the Act for Stabilization of Supply-Demand and Prices of Staple Food (Staple Foods Law). This new law enabled rice producers (farmers) to sell rice directly to consumers.
- The government subsidizes domestic rice production through two types of direct payments, an area payment, which is based on eligible paddy land that was registered from 1998 to 2000, and a price support payment. Total support

payments were nearly $1.19 billion in 2010.

- The Rice Reduction Program of the government encourages rice farmers to plant other crops from 2011 to 2013.
- Eligible farmers who cultivate alternative crops in their paddy fields receive an area direct payment of $608 per hectare. Those eligible for payment are farmers, farming union corporations, agricultural corporations, or anyone producing rice on a minimum of 0.1 hectare of farmland between 1 January 1998 and 31 December 2000.
- The government also provides support of $2,600 per hectare for farmers cultivating alternative crops in their rice paddy fields in addition to the area direct payment.
- The government controls imports and segregates them from the domestic rice market. Imported rice is mainly used for processing. The combined policies of production support and import restrictions led to retail prices for rice well above the international levels. The Ministry of Food, Agriculture, Forestry, and Fisheries (MIFAFF) sells the processing rice to end-users throughout the year. MIFAFF exclusively controls rice imports for use by food processors. The 2010 MMA shipments were to be sold until November 2011.
- Most Korean rice farmers prefer planting high-yielding varieties because of government direct payment programs designed to support rice farmers' income.

Table 8. Rice sector policies in South Korea, 2011.

Policy	Description
Stock policy	
Public stocks	Starting in March 2011, 150,000 tons of rice were released from government reserves to control increases in domestic prices.
Production policy	
Price support	The government supports farmers through the direct purchase of domestic milled rice under the PSSE. The government paid rice farmers an average price of $1.54 per kilogram based on grade.
Direct income support	Eligible farmers receive an area direct payment of $608 per hectare. Farmers not participating in the rice reduction program receive support of $2,600 per hectare.
Area limit	The rice reduction plan will continue until 2012, with paddy plantings cut by 40,000 hectares. The government aims to reduce rice production by 200,000 tons annually.
Import policy	
Minimum access commitment	South Korea allowed rice imports of only 347,658 tons for 2011. The rice import quota is set to grow by about 20,000 tons per year to 408,700 tons by 2020.
State trading	The Korea Agro-Fishery Trade Corporation manages the purchase and sale of imported rice. Rice shipments are sold through the public auction system.

Taiwan

Although rice self-sufficiency in Taiwan surpasses 90%, rice is still considered one of the politically sensitive crops in the country. Taiwan is one of the nations that has the highest protection. However, upon WTO membership in 2002, policy reforms were enacted. Taiwan first opened its domestic rice market to foreign countries in 1995. The major rice policies of Taiwan are as follows, with a summary shown in Table 9.

- The Taiwanese government raised price support for paddy to help farmers cope with rising prices of inputs such as fuel and fertilizer. An increase of NT$3 per kilogram from NT$20.60 to NT$26 per kilogram for the three government rice-purchasing programs, Guaranteed Purchase Program, Guidance Purchase Program, and Surplus Purchase Program, was implemented. In response to this, domestic rice prices of milled japonica rice rose to NT$33.76 per kilogram from NT$33.09 per kilogram and retail prices increased to NT$38.34 per kilogram from NT$33.75 per kilogram (as of July 2011).
- Sales under these three programs are limited to certain quantities per hectare. If farmers were to sell the maximum per-hectare quantity allowed under the Guaranteed Purchase Program and Guidance Purchase Program, sales would equal almost half of production. The eligible amount for purchase is 1,200 kg per hectare under the Guidance Purchase Program, 2,000 kg per hectare for the Guaranteed Purchase Program, and 3,000 kg per hectare for the Surplus Purchase Program.
- In case of an unexpected local price increase, a stock of 10,000 metric tons of rice will be released.
- To control excessive rice production, the government runs a set-aside program for farmland under which large quantities of farmland lie fallow. Rice farmers are paid NT$41,000–45,000 per hectare per cropping season.
- Around 220,000 hectares of set-aside paddy rice fields are now allowed to grow feed corn and remain eligible to receive a direct payment up to NT$45,000 per hectare for fallow land (Chiou-Mey 2011). A campaign is under way to promote greater consumption of rice-based products with the aim of lifting per capita rice consumption from 48.5 kilograms in 2011 to 50 kilograms in 2013 and to 51 kilograms in 2014.
- The government adopted the rice paddy and upland field use adjustment program upon membership in the WTO. This program is basically an extension of the previous paddy field diversion and set-aside program. All farmers participating in the rice price guarantee purchase program in the base years of 1994-96 are eligible to register for the new program. Upon approval, the farmers will receive a direct payment up to NT$41,000—45,000 per hectare per cropping season. The only requirement is to fallow their land and plant green manure crops. So, after deducting NT$5,000 for plowing and buying seeds for green manure crops, the net earnings for each hectare are NT$36,000, which

is slightly more than that of planting rice (NT$30,000) or sugarcane (NT$25,000) (Chang 2009).

- Since 2002, upon accession to the WTO, Taiwan has allowed rice imports for the first time by implementing price support, direct payments, and a TRQ. Under the Minimum Access commitment, Taiwan imported 4% of total consumption (Min-Hsien and Blandford 2011). Price support is the minimum price for a product established by the Taiwanese government and this is carried out by payments to producers in the circumstance that the market price falls below the specified minimum price. Direct payments are made straight to rice farmers, without sending them through an intermediary or a third party. The Taiwanese government implemented a rice paddy and upland field use adjustment program to control excessive supply.
- The annual import of 94,068 tons of brown rice will replenish the public stock. With the price support for domestic price and the procurement system for imported rice, the public stock is enough for 3 months of rice consumption. The public stock is periodically released to the military, prisons, and schools, and for brewing and consumption.
- The Country-Specific Quotas for Centralized Imported Rice are purchased by the Council's Agriculture and Food Agency.
- The in-quota tariff for rice is zero and the out-quota tariff is NT$45 per kilogram. Out-quota tariff rates are NT$45 per kilogram for rice and NT$49 per kilogram for processed-rice products. The out-quota tariff rate is used for imports above the concessionary access level. Following the implementation of a TRQ on rice, the Taiwanese government adopted the rice paddy and upland field use adjustment program. All farmers whose paddy fields were included in the rice price guarantee purchase program in the base years of 1994-96 are eligible to register for this new program.
- The Yilan County government appropriated NT$3.855 million for the fertilizer subsidy program that ran from 1 October to 30 November 2011. Farmers purchasing fertilizers directly from farmers' associations across Yilan County have been fully subsidized for the price increase. Some 85% of the subsidy was collectively shouldered by the Council of Agriculture and Taiwan Fertilizer Co., Ltd., while the remaining 15% was shouldered by the Yilan County government.
- Taiwan adjusted some fluctuations in domestic rice prices by imposing a rice export control set at 30,000 tons from November 2010 to June 2011. Taiwan rice export control measures are adjusted in accordance with any fluctuations in domestic rice prices or public rice reserves, as well as any unfavorable factors, such as drought, flooding, typhoon damage, or world food price fluctuations.
- Since the June 2007 agreement with members of the WTO, including the United States, Taiwan set an annual TRQ for rice of 144,720 tons on a brown

Table 9. Rice sector policies in Taiwan, 2011.

Policy	Description of policy
Stock policy	
Public stocks	Release of 10,000 tons of rice will be to control unexpected local price increases.
Production policy	
Price support	Guidance Purchasing Program: NT$22 per kilogram for indica and NT$23 per kilogram for japonica. Guaranteed Purchasing Program: NT$25 per kilogram for indica and NT$26 per kilogram for japonica. Surplus Purchasing Program: NT$20.60 per kilogram for indica and NT$21.60 per kilogram for japonica.
Set-aside program	Rice farmers are paid NT$41,000–45,000 per hectare per cropping season.
Fertilizer subsidy	Yilan County farmers purchasing from farmers' associations have been fully subsidized for the price difference brought about by the rising cost of fertilizer.
Export policy	
Export ban	Imposed rice export volume controls set at 30,000 tons from November 2010 to 30 June 2011.
Import policy	
Minimum access volume	The government limits the import of rice. Every year, only 144,720 tons of brown rice can be imported.
In-quota tariff	The in-quota tariff for rice is zero.
Out-quota tariff	Out-quota tariff rates are NT$45 per kilogram for rice grain and NT$49 per kilogram for rice-processed products.
Tariff rate quota	The TRQ is 144,720 tons, of which 50,652 tons were to be imported annually by the Taiwanese private sector and 94,068 tons were taken by Taiwanese authorities as country-specific quotas to the United States, Australia, Thailand, and Egypt.

rice basis (126,000 tons milled equivalent). Of this amount, 50,652 tons were to be imported annually by the Taiwanese private sector and 94,068 tons were taken by Taiwanese authorities as country-specific quotas to the United States (64,634 tons), Australia (18,634 tons), Thailand (8,300 tons), and Egypt (2,500 tons).

Southeast Asia

The Southeast Asian region comprises two of the world's largest rice exporters, Thailand and Vietnam. In 2010, Thailand had a 30% market share in global rice trade, followed by Vietnam at 22%. Thailand exported 9.03 million tons of rice in the same year, amounting to $176 million.

Brunei Darussalam

Brunei aspires to increase its self-sufficiency by 60% in 2015 to reduce its reliance on rice imports. The country's Department of Agriculture hoped to achieve short-term self-sufficiency by 20% in 2010 through the use of high-yielding varieties, opening new farming areas, upgrading farm infrastructure, and retraining the Department of Agriculture and local farmers as well. The mid-term plan is to increase local rice production to 60% self-sufficiency by 2015. The mid-term plan of action has three aspects: upgrading farm infrastructure, planting annual double-cropping HYV rice on all farms, and upgrading technology and human resource capacity.

Importation of rice in Brunei requires import permits that are issued by the Information Technology and State Store Department of the Ministry of Finance. Rice importation is restricted to maintain security of the domestic supply and for price stability. There are no state trading enterprises in the country such that importation is directly by the government through the Information Technology and State Store Department of the Ministry of Finance. The Department imports rice directly through the BruSiam Food Alliance, which is a joint venture between the Brunei and Thailand governments.

Cambodia

In the 1960s, Cambodia was a rice-exporting country. Because of civil war for more than two decades, rice production in Cambodia declined drastically. Currently, Cambodia aspires to be Asia's "rice basket" and a major milled rice-exporting country in the world. The country has set a target to achieve 1 million tons of milled rice exports by 2015. In Asia, Cambodia has been exporting rough rice and milled rice to Thailand and Vietnam for more than two decades as well as to China, New Zealand, and Africa and America.

Cambodia used to be a planned economy before joining the Association of Southeast Asian Nations (ASEAN) in 1999 and the World Trade Organization in 2004. When Cambodia became a member of the WTO, the country took advantage of access to international markets. Imported rice from Cambodia is now subject to zero import duty for ASEAN trading partners. The major importers of Cambodian rice are European countries such as France, Poland, Russia, Sweden, and the Netherlands. Below are the major rice policies followed by the Cambodian government, with a summary shown in Table 10.

- To boost rice exports to a million tons by 2015, the Cambodian government launched a guarantee of 50% of commercial bank lending to rice producers. Borrowers still need to repay loans, but the government would cover 50% of defaulters' payments. This policy aims to encourage all commercial banks to provide loans to be used for expanding paddy production and rice exports.

Table 10. Rice sector policies in Cambodia, 2011.

Policy	Description of policy
Production policy	
Input subsidy	The government guarantees 50% of commercial bank lending to rice producers. Allocation of $310 million to improve rice irrigation systems.
Import policy	
State trading	GTC manages the national rice reserve through domestic sales and procurement abroad.
Import tariff	An import tax was not imposed on rice imported from Cambodia effective until 31 December 2011. Cambodia has zero import duty on rice for ASEAN trading partners.

- Eleven state trading organizations are engaged in import and export activities for rice. The Green Trade Company (GTC), established in 1988, is a merger of three former state-owned companies: the Cambodian Food Company, Material and Equipment Company, and Agricultural Product Company. GTC manages Cambodia's national reserve of rice through sales and purchases at market prices. Since July 2001, GTC has not engaged in rice export activities and has focused only on domestic rice trade and distribution.
- Cambodia is also engaged in a bilateral agreement through a rice joint venture specializing in rice processing and export that has been reached between Cambodian and Vietnamese companies. The Cambodia-Vietnam Foods Company (Cavifoods) is a joint venture between the Investment and Development Company of Cambodia (IDCC), Vietnam's Southern Food Corporation (Vinafood II), and Cambodia's Green Trade Company.

Indonesia

Next to India, Indonesia is also a large rice-producing and -consuming nation. It has been importing rice for decades as production has not grown enough to meet increasing demand. However, imports slowly declined in early 2000 due to a rice import ban. Hence, most of the policies implemented were aimed at achieving self-sufficiency by enhancing rice production. On average, Indonesia imports 0.8 million tons a year (Matsunami 2011). Below are the major rice policies implemented in Indonesia, followed by a summary table (Table 11).

- The Indonesian government set a production target of 10 million tons of annual rice surplus for 2015. Rice procurement by the government for 2011 is set at 3.5 million tons, wherein 2 million tons of stocks will be held by Bulog, Indonesia's national logistics agency.
- Indonesian farmers receive fertilizer subsidies but these are limited only to those managing less than 0.5 hectare of land. These farmers receive 40% of the total amount of subsidy.
- To ensure that prices are stabilized, Bulog maintains grain stocks for the government by selling stocks when rice prices are too high or buying from farmers when prices drop below specific levels. Similarly, food subsidies worth IDR 15.3 trillion ($1.4 billion) are implemented to compensate for the increase in the price of rice. Bulog procures 7% of the rice production in the country and sells this at a subsidized rate.
- Bulog is also in charge of carrying out domestic purchases of rough rice and milled rice with a price support at $0.59 per kilogram and $0.39 per kilogram for rice and dry paddy, respectively (Slette and Meylinah 2011). Bulog is also in charge of distributing subsidized rice for poor and vulnerable people and retaining and managing the national rice reserve stock.
- The government reserve stock will also be used for the rice for the poor (Raskin) program. In 2011, Bulog distributed a total of 3.15 million tons of Raskin rice to 17.5 million poor families. Each family receives 15 kg of rice every month equivalent to

Table 11. Rice sector policies in Indonesia, 2011.

Policy	Description of policy
Production policy	
Fertilizer subsidy	Farmers managing less than 0.5 ha of land receive only 40% of the subsidy. The total amount of organic fertilizer subsidy allocation is 835,000 tons (IDR 584,500 million).
Price support	$0.59 per kilogram for rice; $0.39 per kilogram for dry paddy.
Food subsidy for rice price increase	Bulog sells subsidized rice to poor families at $0.177 per kilogram. The market price for medium rice is $0.813 per kilogram.
Import policy	
State trading	Bulog purchases grain for price stabilization, delivers rice to the poor via the Raskin program, and manages food stocks.
Tariff	The import duty on rice is $50 per ton.

a price of $33.84 per kilogram. In the Raskin program, the government targeted distributing 2.9 million tons of rice for 17.5 million targeted impoverished households in 2011. The food subsidy bill is worth $1.4 billion to compensate for rice price increases.

- The import duty for rice is $0.05 per kilogram.

Lao PDR

Lao PDR is another major rice-growing country in Southeast Asia. In 2000, Lao PDR achieved self-sufficiency in rice production. Though sufficient in rice production in many years, rice import requirements in 2011 were estimated at 38,000 tons (FAO 2011). Below are the major policies implemented in Lao PDR.

- Since the period of the volatile global rice market, the State Food Enterprise (SFE) of Lao PDR has been a major player in the rice marketing system by procuring rice during the harvest and selling rice stocks during periods of shortage. The SFE functions as a profit-making organization by procuring 20,000 to 25,000 tons of rice yearly. This procurement influences market prices as it engages farmers in contract farming, using advance payments and distribution of seeds and fertilizer to farmers.
- Glutinous rice (sticky rice) is the most popular variety grown and consumed in Lao PDR. The major market for glutinous rice is Thailand, and it is traded informally due to mutual agreements between the two governments. Though Lao PDR is known to produce sticky rice, it still imports long-grain rice, particularly from its three major trading partners, Thailand, China, and Vietnam.
- A temporary rice export ban was imposed from November 2010 until February 2011 in response to a price spike due to excessive foreign demand.

Malaysia

Malaysia is also a rice importer in the Southeast Asian region. This country is about 63% self-sufficient and it imports rice to compensate domestic production (Hoh 2011). The total productivity of rice is as low as 3 tons per hectare and Malaysia produces a total output of only 65% of the total demand for rice consumption in the country. It aims to attain 70% food self-sufficiency by implementing a new food security policy that seeks to ensure the availability, accessibility, and affordability of rice for the general population. This new plan, called the National Agro-Food Policy 2011—2020, was launched as a four-pronged strategy to boost the nation's food self-sufficiency, raise product value addition, reinforce supply chains, and increase technical capacity. A total of RM 1.1 billion ($350 million) was allocated in 2012 for agricultural development (FAO 2011). Below are the major rice policies implemented in Malaysia, followed by a summary table (Table 12)

- SUBUR is a rice subsidy program for poor people and families in Malaysia, including the two Malaysian states of Sabah and Sarawak. Under this program, food vouchers are provided to eligible people and families based on a predefined income chart. Each family is given a maximum of 3 vouchers depending on the number of people in the family. To be eligible for the SUBUR rice subsidy program, monthly income should be lower than $500 for the urban area and $333.56 for the rural area. Under SUBUR, rice farmers receive a subsidy of $0.83 per kilogram of paddy delivered to a licensed mill or drying facility.
- Rice in Malaysia is a highly sensitive good under the ASEAN Free Trade Area (AFTA) agreement as it is excluded from the Common Effective Preferential Tariff Agreement (CEPT). In 2011, the tariff rate of rice imported in Malaysia was 20% until its complete removal in 2015.
- Rice importation in Malaysia is operated by Padiberas Nasional (BERNAS), a state agency that buys paddy from local farmers and millers to ensure a continuous supply of rice at affordable prices and acceptable quality. The agency is involved in the procurement and processing of local paddy, importing foreign rice, warehousing, distributing, and marketing of rice in Malaysia. BERNAS currently controls 50% of the rice sold in Malaysia. Among BERNAS's social obligations is to manage and keep the national stockpile at 292,000 tons as a matter of national security for sustained consumption for 45 days. BERNAS also keeps 100,000 to 150,000 tons of trading stock at all times, disburses government subsidies to deserving farmers, and manages Bumipitra Miller's scheme in which paddy brought by BERNAS is processed for free.
- BERNAS buys paddy at a minimum support price of $249.52 per ton when there is no demand, when paddy has low quality, or when no millers want to buy it (as of 25 August 2011).
- The price support for paddy rice was RM 65 per 100 kilograms as of 6 April 2011.
- Rice farmers received a subsidy of RM 25 per 100 kilograms of paddy delivered to a licensed mill or drying facility as of 6 April 2011.

Table 12. Rice sector policies in Malaysia, 2011.

Policy	Description of policy
Production policy	
Minimum support price	BERNAS buys paddy at a minimum support price of $246.42 per ton.
Machinery subsidy	Rice farmers receive a subsidy of RM 25 per 100 kilograms of paddy delivered to a licensed mill or drying facility.
Consumer policy	
Food subsidy for rice price increase	The SUBUR program, a voucher system, gives a rice subsidy for poor people and families based on a predefined income chart.
Import policy	
Import duty	The tariff rate of rice imported into Malaysia is 20% until complete removal in 2015.
State trading	BERNAS is entrusted by the government in the procurement and processing of local paddy, importing foreign rice, warehousing, distributing, and marketing rice in Malaysia.

Myanmar

Myanmar was the dominant rice-exporting country during the pre–World War II period and was known as the "Rice Bowl of Asia" in the 1960s. After the war, production was damaged severely, affecting its export performance. Soon after, Thailand rapidly emerged as the dominant world rice exporter while Myanmar's position slowly declined because of comprehensive state control. Nevertheless, Myanmar is still one of the largest exporters in Southeast Asia. From 2010 up to March 2011, Myanmar exported a total of 570,000 tons. The major importers are West Africa, Bangladesh, Malaysia, and Singapore. Below are the major rice policies implemented in Myanmar, with a summary presented in Table 13.

- When Myanmar became a member of the WTO in 1989, the market was liberalized for all other crops except rice exports. Marketing of rice remained under state control. The rice ration system and paddy procurement system were maintained while rice exporting remained a government monopoly with responsibility taken over by Myanmar Agricultural Produce Trading (MAPT).
- In 2003, the rice ration system and paddy procurement system were finally abolished. The government tried to keep the domestic rice price by maintaining a monopoly on all rice exporting. The government also resorted to intervention of the private sector in the rice market. The private rice marketing sector was able to achieve self-sustaining development. In 2011, both the state and private trading companies were exporting rice. Myanmar produces an average of 10 million tons of rice every year, exporting from 500,000 tons to 1 million tons. Private exporters are required to apply for a license from the government's Ministry of Commerce.
- Myanmar suspended rice exports to increase the domestic supply of rice and control increasing prices in the country.

Table 13. Rice sector policies in Myanmar, 2011.

Policy	Description of policy
Production policy	
Input subsidy	Private companies are encouraged by the government to provide microfinance for rice farmers to buy rice seeds and agricultural inputs.
Credit subsidy	The program provides MMK 135,908 per hectare for the Mandalay region.
Export policy	
Export ban	Rice exports were temporarily restricted from February to May 2011 to regulate the domestic supply and keep local prices under control.
Export permit	Myanmar's rice exporters have to apply to the government's Ministry of Commerce for rice export permits.
Export tax	Rice export taxes declined from 8% to 5% but were subsequently lifted for a 6-month period, but a 2% income tax still applies.
Import policy	
Import tariff	There is zero duty on rice imports going from Myanmar to India.

The rice export ban started in the last week of February and ended on 30 April 2011.

- In 2010, the Myanmar government set up the national Myanmar Rice Industry Association (MRIA), a merger of three associations, the Rice and Paddy Traders' Association, the Rice Millers' Association, and the Paddy Producers' Association. The MRIA was created to develop strategies to increase Myanmar's rice production capacity.
- For the Mandalay region in Myanmar, a credit program that provides MMK 135,908 per hectare is available for poor-income farmers, with an interest rate of 2.5% per month, with the full amount due after 8 months.

The Philippines

The Philippines is the largest rice importer in the world. Although rice is a main staple in the country, it is a highly political commodity. The Philippine rice sector has always been the center of government agricultural policies. The focal points of the policies revolve around promoting food self-sufficiency, providing high income to rice farmers while making prices affordable to the consuming public. Rice farming in the Philippines has always been small-scale compared to Thailand.

The Philippines became self-sufficient in rice in the 1970s and was a rice exporter to neighboring countries such as Indonesia, China, and Burma (Myanmar). However, with population rapidly increasing and limited land resources to produce the total rice requirement, the country slowly turned into a net rice importer. Being the largest rice importer in the world, rice imports totaled 1.8 million tons in 2010, with sources mostly coming from Vietnam and Thailand. As part of the Food Self-Sufficiency Roadmap 2011-2016, the Philippine government aimed to increase food self-sufficiency by raising paddy production to 22.5 million tons by 2016. Below are the major policies implemented by the Philippine government, followed by a summary (Table 14).

- The National Food Authority (NFA) buys paddy rice with 14% moisture content for PhP 17 ($0.36) per kilogram, but offers a lower price for deliveries with higher moisture levels not exceeding 24% (Corpuz 2011).
- In line with the self-sufficiency objectives of the government, most of the strategies implemented were to raise production by using hybrid rice varieties. Rice seed subsidy schemes for farmers were implemented to acquire high-yielding varieties. To encourage farmers to use hybrid rice seeds, the government shouldered half of the cost, pegged at PhP 60 per kilogram. This program will last until 2013.
- Under the Rapid Seed Supply Financing Program (RaSSFiP) Phase II, which aimed to increase paddy production in rainfed and irrigated areas, certified seeds are made available to farmers at subsidized cost. The seeds were distributed together with liquid fertilizers for the first cropping season, 16 September 2010 to 15 March 2011.
- The Department of Agriculture also extends the RaSSFiP to help rice farmers by providing good-quality seed, especially to farmers affected by drought, floods, and pest infestation. The program's target is to increase paddy production of marginalized farmers in rainfed and irrigated areas in Regions V (Bicol), VI (Western Visayas), VIII (Eastern Visayas), and X (Northern Mindanao) through the provision of certified seeds at a 50:50 subsidy. Farmers in irrigated and rainfed lowland areas with yield below 3.8 tons per ha as certified by the Municipal Agricultural Officers and City Agriculturists are entitled to the subsidy.
- A budget allocation of PhP 16 billion ($369 million) for the Rice Mechanization Program aimed to provide farm machinery and boost drying and milling capacity through 2016. The DA was to release PhP 1 billion in 2011 for the purchase of 4,000 units of various postharvest machinery. By 2016, the program aims to procure and distribute 7,000 postharvest units and 90,000 units of on-farm machinery.
- Farmer associations, organizations, and cooperatives will also be given a chance to own their own farm machinery through a financing scheme in which 70% of the cost will be shouldered by the government.
- The Department of Social Welfare and Development (DSWD) provided rice subsidies to 678,621 small-scale farmers and fishermen from Regions I to XII, and the National Capital Region (NCR), CARAGA, Cordillera Administrative Region (CAR), and Autonomous Region in Muslim Mindanao (ARMM) have undertaken Cash-for-Training and Cash-for-Work (CFT/W).
- The DSWD also implemented a temporary work scheme by hiring farmers and fisherfolk to work in government projects. Farmers were given a choice to either obtain NFA rice or be employed temporarily in

government infrastructure projects for 14 days a month. The beneficiaries of the temporary work scheme worked on agricultural projects such as farm-to-market roads and irrigation facilities.

- Under the rice subsidy program, the beneficiaries undertook a Cash-for-Training program in which they were trained on disaster management and mitigation, including family and community preparedness. The training program was held for 4 days, after which they undertook the Cash-for-Work program for 7 days, performing community service such as cleaning of canals and drainages and repair of roads and other structures. The beneficiaries received their payment upon completion of their CFT/W activities based on the prevailing regional wage rate in their respective areas.
- The National Food Authority, a state agency, imports 35% of the import allocation at duty-free rates, and the private sector imports 65%. The total import allocation for NFA is 860,000 tons of rice, wherein 660,000 tons are allocated to the private sector. Private traders will bid for the so-called "service charge" that has a minimum floor price of PhP 2 per kilogram. Each importer will be allowed to bid for a maximum of 20,000 tons.
- The Philippines also negotiated for the retention of a quantitative restriction (QR) from 1994 to 2012 in exchange for lower tariff rates on some agricultural products, as well as increased minimum access for rice. QRs are explicit limits, or quotas, on the physical amounts of particular commodities that can be imported or exported during a specified time period, usually measured by volume but sometimes by value. The quota can be applied on a selective basis, with varying limits set according to the country of origin or destination, or on a quantitative global basis that specifies only the total limit and thus tends to benefit more efficient suppliers.
- Since June 2005, the Philippines also opened a minimum import access quota of 350,000 tons at 40% tariff rate. This minimum access quota will be implemented until 2015. The minimum access quota refers to the volume of a specific agricultural product that is allowed to be imported with a lower tariff as committed by the Philippines to the WTO under the Uruguay Round Final Act.
- The QR is enforced through the NFA. This is done through the "buy high, sell low" policy that guarantees that more farmers will plant rice because of the high farm-gate prices to enable them to gain higher returns. Likewise, retail prices will also be affordable to consumers while rice is delivered quickly to calamity-stricken areas. This also allows NFA to maintain a food-security reserve, with rice stocks kept at 15 days of consumption. Under the WTO commitment, private companies will be allowed to bid for a maximum of 20,000 tons. The minimum access quota refers to the minimum volume of farm produce that will be allowed to enter into the Philippines at reduced tariffs.

Table 14. Rice sector policies in the Philippines, 2011.

Policy	Description of policy
Production policy	
Price support	The state-owned NFA buys paddy from farmers at $0.36 per kilogram.
Input subsidy	The government shoulders half of the cost of the HYVs, pegged at PhP 60 per kilogram. This program will last until 2013.
	Through RaSSFiP, rice farmers are provided with good-quality seed, especially those affected by drought, floods, and pest infestation. The target is to increase paddy production of marginalized farmers in rainfed and irrigated areas in Regions V, VI, VIII, and X through the provision of certified seeds at a 50:50 subsidy.
Consumer policy	
Food subsidy for rice price increase	The DSWD provided rice subsidies to small-scale farmers and fishermen but they will have to undertake Cash-for-Training and Cash-for-Work. The DSWD also implemented a temporary work scheme for farmers and fisherfolk to work in government projects. Farmers were given a choice to either obtain NFA rice or be employed temporarily in government infrastructure projects for 14 days a month.
Import policy	
State trading	The NFA imports 35% of the import allocation while 65% goes to the private sector.
Import duty	A duty-free import quota is allocated for the private sector subject to a minimum fee of PhP 100 per 50-kg bag ($46 per ton).
Quantitative restrictions	Importation of rice in the country is subject to a 40% tariff and duty-free importation is limited to a concessionary amount of only 350,000 tons.
Minimum access volume	The Philippines' minimum access volume for rice is 350,000 tons annually at reduced tariffs equal to 40%.

Singapore

Rice is a controlled good in Singapore. To import, export, or carry out wholesale dealings of rice, a license is required from the Ministry of Trade and Industry. This license can be obtained from the International Enterprise (IE) Singapore, a statutory board under the supervision of the Ministry of Trade and Industry. Below are the major policies implemented by the Singaporean government, with a summary in Table 15.

- Singapore has five types of rice licenses: a stockpile license, a nonstockpile license, an import for re-export license, a manufacturer license, and a wholesale license. The stockpile license is for the import of white rice, basmati rice, parboiled rice, and ponni rice. Stockpile license holders must participate in the Rice Stockpile Scheme. The nonstockpile license is for the import of glutinous rice, brown rice, red rice, cargo rice, and wild rice. Stockpile licenses ensure that importers stockpile minimum quantities (50 tons) of certain types of rice. Ordinary licenses are for other varieties and these are issued automatically. The re-export license is for the import of rice for re-export only. The manufacturer license is for the import of 100% broken white rice for manufacturing purposes. Wholesale license

Table 15. Rice sector policies in Singapore, 2011.

Policy	Description of policy
Import policy	
Import license	Imports of rice are subject to nonautomatic licenses issued by International Enterprise (IE) Singapore. All rice varieties are controlled under the Price Control Act. Imports of rice are regulated for food security and price stability reasons.
Public stocks	Stockpiled rice is released into the market when there are shortages in the market.

holders are not permitted to import rice. This license is for merchants to carry out wholesale dealings in all types of rice within Singapore.

- Imports of rice are subject to nonautomatic licenses issued by IE Singapore.
- All rice varieties are controlled under the Price Control Act. Imports of rice are regulated for food security and price stability reasons.
- Stockpiled rice is released into the market when there are shortages in the market. The decision to release rice stocks is made by the relevant government agency such as IE Singapore, Ministry of Trade and Industry, Agri-Food and Veterinary Authority of Singapore, and/or the Department of Statistics Singapore, when applicable, in consultation with rice importers to assess the market requirements. All white rice is classified as stockpile grade and the costs of stockpiling are shouldered by consumers in Singapore. The stockpile currently constitutes 10–15% of the total rice imported annually.

Thailand

Thailand is today's largest exporter of rice in the world. Despite being only fifth in the world's total land area devoted to rice production, Thailand is the top among rice-exporting nations in both value and volume, wherein rice exports are mainly long-grain and jasmine rice. Rice policies in Thailand have always been geared toward domestic production and improving production for trade. Intensive promotion of high-yielding varieties is now a priority in Thailand. Below are the major rice policies implemented by the government of Thailand, followed by a summary (Table 16).

- In case of shortages, 100,000 tons of rice will be released from government stocks.
- A price pledging program was reinstated with a budget of THB 435 billion ($14 billion). Producers were permitted to pledge unlimited volumes of 2011-12 main-crop paddy under the program, which was to run from October 2011 to February 2012. In other parts of the country, particularly in southern provinces, the program will go from 1 February 2012 until July 2012. This new policy is different from the existing price support program. Basically, under this scheme, farmers do their own trade and collect from the government the difference between their actual selling price and the price the

government fixed at THB 10,000 per ton. Farmers can sell rice directly to the government at THB 15,000. The government stores the purchased rice in silos and sells the stock itself at any time. Also, the government will issue credit cards to farmers to use the money they earn from selling rice to the government. Farmers can use these credit cards to buy inputs such as fertilizer, pesticide, and machinery and tools. As the card issuer, the government will collect repayment for these items from the earnings farmers receive from the government under the price support scheme. The program is extended to cover 2011-12 secondary paddy crops harvested as of March 2012.

- A price pledging program is a form of arrangement under which a manufacturer or supplier assures refunding the difference to an agent/dealer if prices go down while the agent or dealer still has goods bought at the previous (higher) prices. This arrangement serves to encourage agents or dealers to order goods in large quantities, without worrying about any loss from a subsequent drop in prices.
- The price pledging scheme is to run between October 2011 and February 2012 with prices set at THB 13,800–15,000 ($446–484) per ton for white rice, THB 15,000–16,000 ($434–517) per ton for glutinous rice or Pathum Thani rice; THB 18,000 ($581 per ton) for provincial fragrant rice; and THB 20,000 ($646 per ton) for Hom Mali rice.
- To be eligible for the price guarantee/support, Thai farmers had to harvest the crop between September 2010 and June 2011 in the southern part of the country and between August 2010 and May 2011 in other parts of the country. The objective of the program was to help stabilize domestic prices of paddy during the harvest season.

Table 16. Rice sector policies in Thailand, 2011.

Policy	Description of policy
Stock policy	
Public stocks	Around 100,000 tons of rice will be released from government stocks at market prices to relieve shortages due to floods. Traders and millers possessing 15 tons of rice or more are required to report stockpiles to the government in order to prevent unlawful pledging of stocks.
Production policy	
Price support	THB 13,800–15,000 ($446–484) per ton for white rice; THB 15,000–16,000 ($484–517 per ton) for glutinous rice; THB 16,000 ($517 per ton) for long-grain glutinous or Pathum Thani rice; THB 18,000 ($581 per ton) for provincial fragrant rice; and THB 20,000 ($646 per ton) for Hom Mali rice.
Fertilizer subsidy	Subsidized fertilizers are available to rice farmers, for which they receive a direct subsidy of $49.97 per ton.
Cultivation limits	Rice cultivation will be restricted to two crops per year.
Export policy	
Minimum export price	MEPs are $1,060 per ton for jasmine rice, $550—560 per ton for 5% broken rice, $535—545 per ton for 25% broken rice, and $555—565 per ton for parboiled rice.

- Also under the government's crop price insurance program, subsidized fertilizers are available to rice farmers in which they receive a direct subsidy of $49.97 per ton. However, the farmers are required to register with the Bank for Agriculture and Agricultural Cooperatives (BAAC) to enable them to join the program. Farmers can either buy fertilizers on a cash basis or borrow from the BAAC at 7% annual interest.
- In April 2011, the Thai government restricted rice cultivation to two crops per year.
- To prevent unlawful pledging of volumes, traders and millers possessing 15 tons of rice or more are required to report stockpiles to the government.
- The MEP for jasmine rice is $1,060 per ton, for 5% broken it is $550–560 per ton, for 25% broken it is $535–545 per ton, and for parboiled rice it is $555–565 per ton.

Vietnam

Twenty-five years ago, food insecurity was the main problem in Vietnam. Since the adoption of an economic reform called *Doi moi*, Vietnam has been slowly emerging as one of the largest rice exporters. Vietnam now ranks as the second-largest exporter of rice in the world, exporting 6.73 million tons, the highest ever rice export volume in its history, bringing an export value of $3.23 billion into the country (Tran and Vigil 2011). Following *Doi moi*, Vietnam pursued an intensification policy in rice with the objective of raising yield and quality. Since then, in 1997, Vietnam became one the largest rice exporters.

Rice policies in Vietnam are a balance between maintaining domestic food security and promoting rice exports. The major rice importers from Vietnam are the Philippines, Indonesia, and Malaysia. Rice exports are mainly medium and long grain with moderate to intermediate quality commanding a lower export price than in Thailand. Below are the major policies implemented in Vietnam, followed by a summary (Table 17).

- Government intervention is limited in the domestic market and a majority of rice exports in the country are made through state-owned trading enterprises (50% share), particularly by the Vietnam Food Association (VFA).
- The minimum export price for 5% broken was $465—475 per ton and $425—435 per ton for 25% broken rice as of 21 December 2011.
- Since most of the rice grown in Vietnam is purely for export, local rice consumption is sourced mainly from imports. Vietnamese farmers have paddy rice investments in Cambodia for additional rice production, which is used mostly for local consumption in Vietnam.
- To support domestic prices, Vietnamese exporters stocked 1 million tons of milled rice without government support but in the form of low-interest loans.
- In February 2011, VFA bought 1 million tons of rice from farmers to keep the price of rice stable and also to prevent rice importers from haggling for prices too low during the harvest season. The minimum purchase price for paddy rice was equivalent to $0.24 per kilogram (VND 5,000 per kilogram) (as of 6 May 2011).
- Import quotas have an import duty of 0% for rice and paddy of all kinds coming from Lao PDR.

Table 17. Rice sector policies in Vietnam, 2011.

Policy	Description of policy
Consumption policy	
Price support	The price support for paddy is VND 5,000 per kilogram ($0.24 per kilogram).
Production policy	
Public stocks	To keep the price of rice stable, VFA bought 1 million tons of rice from farmers to prevent rice importers from haggling during the harvest season.
Export policy	
Minimum export price	The MEPs are $465–475 per ton for 5% broken rice and $425–435 per ton for 25% broken rice.
State trading	VFA is the country's state-owned enterprise. It does processing and trading of food and agricultural products, especially rice.

Summary

Table 18 presents a summary of the rice policies in the rice-producing regions in Asia. Asian countries have similarities as well as dissimilarities as far as policy implementation is concerned. In general, food security is a main concern in all the countries. As a result, trade and domestic policies are largely the same; they all aim at providing high income to rice farmers while making prices reasonable to the public. Among the Asian countries, India has the most trade policies implemented. Measures can be categorized under trade support through import and export controls, stock policy, production subsidy through price support and input subsidy, direct income payments, and consumption subsidies.

A majority of the Asian economies procure through state-owned enterprises (SOEs), particularly India, Pakistan, Nepal, China, Japan, South Korea, Vietnam, Cambodia, Indonesia, Lao PDR, Malaysia, and the Philippines. Generally, the SOEs have substantial control in procurement in order to stabilize domestic prices and control foreign trade.

Among all regions in Asia, India has been providing the most subsidies to rice farmers. These subsidies not only provide an incentive for farmers to produce more but also help in raising farmers' income. Subsidies also make rice prices cheaper through expanded production, mainly through expansion of area.

In Asia, both net rice-exporting and -importing countries pervasively pursued a price support policy, mainly to protect the interests of farmers. Figure 1 presents the extent of rough rice price support to farmers pursued by the major rice-producing and -consuming countries in Asia. The figure demonstrates that Taiwan is the largest price-supporting country that guarantees at minimum $0.91 per kilogram of paddy to farmers. The second- and third-largest price-supporting countries are Thailand and Bangladesh, with minimum guaranteed prices at $0.48 and $0.41 per kilogram of rice, respectively. Indonesia and the Philippines are the fourth-largest price-supporting countries that guarantee $0.39 per kilogram of rice to farmers. Other countries such as China, Sri Lanka, and Malaysia also guarantee minimum prices for paddy at $0.31 and $0.25 per kilogram, respectively. The lowest guaranteed minimum price of $0.21 per kilogram is in India. India, Vietnam, and Thailand implement a guaranteed minimum price to encourage production to enhance their exports to the world market, whereas

Table 18. Rice policies for rice-producing countries in Asia, 2011.

Policy tool	South Asia					East Asia		
	Bangla-desh	India	Nepal	Sri Lanka	Paki-stan	China	Hong Kong	Japan
Trade policy								
Minimum export price (per ton)		√			√			
Minimum import access commitment								√
Quantitative restrictions								
Import tariffs						√		√
Tariff rate quota				√		√		√
Export ban/export license		√						
Export tax								
Import license							√	
State trading		√	√		√	√		√
Public stocks		√						
Production policy								
Cultivation limits								
Set-aside program/area limit								
Price support ($ per kg)	0.41	0.21	0.42	0.25		0.31		
Input subsidy	√	√			√	√		
Machinery		×				×		
Seed		×				×		
Irrigation		×		×	×			
Fuel	×	×						
Fertilizer	×	×	×	×	×			
Direct income support								√
Consumption policy	√	√						
Food-for-Work	×							
Food subsidy for rice price increase	×	×						

[a]Price support for South Korea is for milled rice.

			Southeast Asia									
	South Korea	Taiwan	Brunei Darussalam	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Singapore	Philippines	Thailand	Vietnam
											√	√
	√	√								√		
										√		
				√	√		√			√		√
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	√	√										
											√	
	×	×										
	1.54[a]	0.91			0.39		0.25			0.39	0.48	0.24
				√	√		√	√		√	√	
							×			×		
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					√		√			√		
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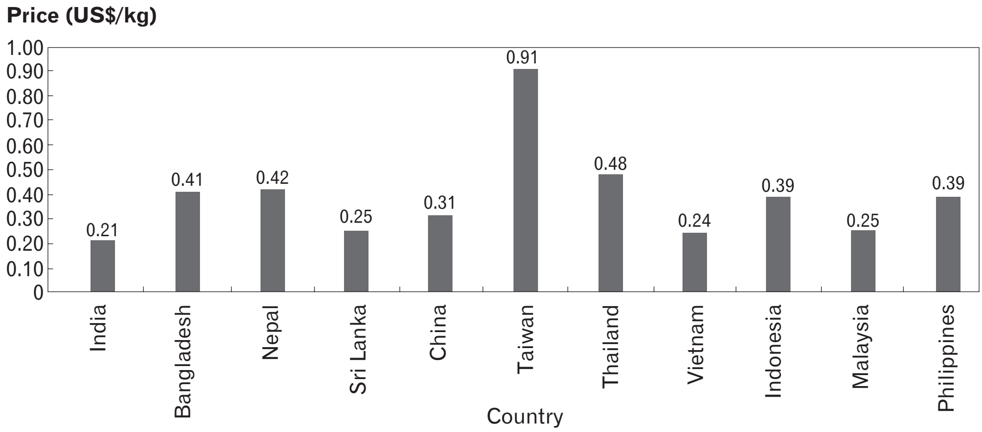
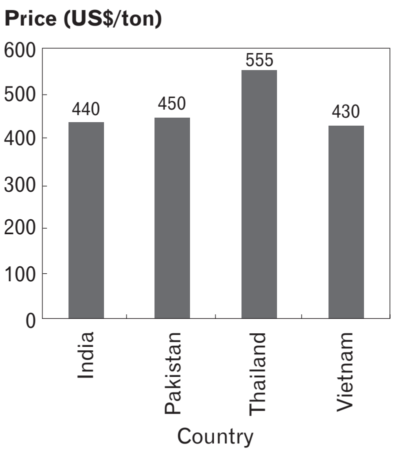


Fig. 1. Price support for paddy in Asian countries, 2011.

Fig. 2. Minimum export price for 5% broken rice, Asia, 2011.



Bangladesh, Malaysia, and Indonesia use this intervention to increase production and ensure an available supply of rice in the domestic market.

After the world food crisis, a number of major rice-exporting countries in Asia set a minimum export price mainly for two reasons: (1) to control the free flow of trade and (2) to ensure an available supply of rice in the domestic market (USITC 2009). Figure 2 presents the minimum prices per ton set by the major rice-producing countries. It shows that Thailand and Pakistan set their minimum export prices at $555 and $450 per ton, respectively. Basically, minimum prices are set on the basis of grain quality and destinations at the same time. It is interesting to mention here that, although Pakistan mainly exports to Middle Eastern countries, India and China mainly export to African and Asian countries. Myanmar, on the other hand, is the largest supplier to North Korea and the U.S. It is noteworthy to point out that a substantial amount of intercountry trade among the major rice-exporting countries also takes place. For example, Thailand and Vietnam import a substantial amount of basmati rice from Pakistan (UN COMTRADE 2011).

Concluding remarks

This handbook summarizes the current policy structure in the major rice-producing and rice-consuming countries in Asia. Asian developing countries are the dominant players in the world rice trade, accounting for 31 million tons of total global rice trade in 2010. Four Asian giants—Thailand, Vietnam, China, and India—are the largest rice exporters in the world; altogether, they comprise about three-quarters of world trade. This handbook demonstrates that, as rice is a vital commodity in many countries in the world, it is subjected to a wide range of government controls and interventions. To insulate the domestic market from global uncertainty, a majority of Asian countries control movement of rice in and out of the country through a variety of trade measures, including state trading and quantitative trade restrictions. A few rice-exporting countries set minimum export prices to ensure the availability of rice for their domestic consumers by controlling exports, and, in some cases, countries even temporarily ban rice exports.

On the domestic front, many large growing countries have increased the minimum support price for farmers and introduced many short-term policy measures to subsidize inputs such as fertilizers, seeds, electricity, and fuel to expand domestic rice production. Net rice-importing countries, on the other hand, aside from implementing policies to enhance domestic production by providing incentives to farmers, also provide a price subsidy on rice to make it affordable to poorer consumers. Governments often adopt highly crafted programs designed to raise the income of farmers by enhancing rice production. This includes the use of price floors, subsidized loans, payments to encourage fallow area, etc. The policies related to production, consumption, and stock of rice can be broadly categorized as domestic policies since any change in these policies mainly affects the behavior of local producers or consumers.

For continuous economic growth, governments in developing Asia should pursue policies that promote open trade and investment. This handbook reveals that almost all countries strongly intervene in the market to attain food self-sufficiency while ensuring a fair price for farmers and stable prices for consumers. Generally, the major rice-exporting countries adopted some measures to create a buffer domestic rice market, such as imposing an export ban for a short period and setting minimum export prices to ensure an available rice supply in the domestic market (India and Vietnam). In contrast, the major rice-importing countries lifted the tariff on imported rice without giving any special treatment to domestic producers to ensure an available rice supply in the domestic market (Nepal and Bangladesh).

Closer regional and global cooperation among countries to build up mutual trust under bilateral and multilateral agreements is thus essential to mitigate the problem. International agencies, particularly the WTO, can thus play a major role in building trust among the major rice-producing and -consuming countries in the world.

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