

PART II

COUNTRY REPORTS

COUNTRY REPORT

Summaries of the Country Reports

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Summary of Country Report: Brunei Darussalam

1. Production

A limited quantity of rice (about 200 tons or about 0.6% of total consumption) is produced by small farmers in the interior region. The output is usually kept for their own consumption. Many schemes were attempted in the past, to increase domestic rice production, including the importation of farmer to cultivate rice in Brunei D. and investing in the production of rice in other countries. These alternatives had proved to be less efficient than import.

2. Imports

Almost all the rice consumed in Brunei Darussalam is imported. Most of rice imported is the high quality fragrant rice from Thailand. However, there are some diversification from this traditional source.

The import of rice is conducted through the Government-to-Government (G-to-G) arrangement, especially, with Thailand. Other sources of supply include Singapore and Vietnam. The import is controlled and managed by the State Store under the Department of Information Technology and State Store, Ministry of Finance.

3. Consumption

Brunei Darussalam has 350,000 population and most of the people are in the urban. The per capita income is about US\$ 24,000 in the year 2000. The per capita consumption of rice is about 94.8 kg in 1998 and 108.6 kg in 1999. The total consumption of rice is about 36,000 tons in the year.

4. Reserve Policies

The import of rice is controlled and regulated by the State Store. The State Store will determine the quantity and schedule of rice to be delivered by the exporters. At the same time, the quantity release of rice in the market is regulated through the release from the State Store stock. The State Store has a target of 3 months supply of rice in stock + reserve. There are some fluctuations in the stock level but it will fall below this target level. In the case of emergency, the State Store can readily mobilise the reserve from its stock to a specific location.

Rice balance

(Unit: 1,000 tons)

Year	Supply				Demand			
	Beginning Stock	Production	Import	Total	Local Consumption	Export	Ending Stock	Total
1997/1998	12.6	0.3	33.0	45.9	33.2	-	12.7	45.9
1998/1999	12.7	0.1	32.0	44.8	30.9	-	13.9	44.8
1999/2000	19.6	0.2	34.2	54.0	35.9	-	18.0	54.0

Source : Department of Agriculture, Brunei Darussalam

Summary of Country Report: Cambodia

1. Production

The nation level self-sufficiency in rice has been achieved since 1995/96. However, rice production system is vulnerable to the changes of climate conditions and to the insect/disease, due to obsolete cultivation technology and poor agricultural infrastructure. The destroyed ratios of rainy season rice from 1995 to 2000 were 9%, 15%, 8%, 7%, 4% in order. Paddy area in 1999/2000 is 1.9 million ha. It has not yet recovered to the level (2.5 million ha) in the 1960s.

2. Imports and Food aid

Through the informal border trades, local markets are integrated with Thailand or Vietnam. Consequently, fragrant broken rice constantly flows into the country from Thailand according to the preference of city consumers. On the other hand, there is a chance of rice inflows from Vietnam depending on rice prices in the Mekong Delta in Vietnam, i.e. situation of Vietnam's rice export.

Japan provided the in-kind support to WFP activities in Cambodia and it accounted for about 50% of the distributed volume of rice in 1998 and 1999.

3. Consumption

Although there has been an overall rice surplus, 20 % of rural population were under the food poverty line (1997). Per capita rice consumption has been set at 151.2 kg as a result of the FAO/WFP mission since 1996.

4. Exports

Annual rice export was 3,000 tons to 16,000 tons from 1999 to 2001 and Singapore was a major destination accounting for 57% of total volume based on the data of Ministry of Commerce. Large volume of paddy is exported though informal border trades to Vietnam and Thailand every year. The Cambodia government permitted the export without an export license for both of milled rice and paddy in July 2001.

5. Reserve Policies

Except for ASEAN Food Security Reserve (AFSR), there is no measure accompanied by clear numerical target as a national reserve. About the half of the obligate amount in AFSR is reserved by the government through GTC, another half is done by commercial rice millers.

Rice balance

(Unit: 1,000 tons)

	Paddy Production	Seed & Feed	Loss	Available volume		Demand (milled rice)	Annual balance (milled rice)
				Paddy	Milled rice		
1996/97	3,458	242	346	2,870	1,779	1,618	162
1997/98	3,415	239	341	2,834	1,757	1,653	104
1998/99	3,510	246	351	2,913	1,806	1,776	30
1999/00	4,041	283	404	3,354	2,079	1,819	261
2000/01	4,026	282	403	3,342	2,072	1,981	91

Source : Agricultural Statistic, MAFF

Summary of Country Report: Indonesia

1. Production

From 1984 to 1998, rice production rose by just 1.7% annually, barely sufficient to keep pace with population growth. However, promotion of production (subsidy for fertilizer etc.) is decreasing except irrigation project, this condition lead to constipation of production increasing. Reducing subsidy is protecting farmers from feeble ability of farmers' production depending upon subsidy freak. Import of rice with low price defect grower's price and informal import of rice decrease farmer's motivation for producing. Under control of the government, the banks of private sector have achieved a new credit system for farmers since December 2001.

2. Import and Food aid

Low-grade rice and high-grade rice should be imported continuously through the government policy. Bulog's main activity changed to the distribution of supporting rice to the poverty through the government scheme (OPK, RASKIN). There are large numbers of poor and near-poor consumers, for whom rice provides the main source of calories and protein in the diet, and who cannot afford to buy adequate amounts of rice when prices would be high. Production was approximately 51 million tons of paddy in 2000. Tariff of imported rice is Rp.430/kg.

3. Consumption

Consumption per capita is slightly decreasing. It was 130.0 kg in 1999 (BCS).

4. Export

No export transaction for rice.

5. Reserve Policies

The strategic directions are stable production, Increase of percentage of rice self-sufficient, Stable import quantity. There is a system to control and monitor the national stock of the rice by Bulog (National Reserve is 68,000 tons). It is supposed that balance of supply-demand for rice is on the borderline being in deficit side. National Food Security Committee is the final organization for reservation and for stock control including with import quantity through Bulog's data. Bulog is holding 1 to 2 million tons of milled rice as buffer stock included with ASEAN Food Reserve. The government's policy is not to classify the rice between the ASEAN food reserve and the national food reserve.

Rice balance

(Unit: 1,000 tons)

Year	Supply				Domestic Use			Annual balance
	Production		Import	Total	Food	Loss, Seed & Other	Total	
	Paddy	Milled rice						
1997	49,377	31,206	782	31,988	26,371	5,617	31,988	0
1998	49,237	31,118	6,076	37,194	31,593	5,601	37,194	0
1999	50,866	32,147	4,183	36,330	30,544	5,786	36,330	0
2000	51,179	32,345	1,512	33,857	28,034	5,822	33,856	1
2001	50,080	31,661	1,396	33,057	27,351	5,707	33,058	-1

Source: Ministry of Agriculture, Population data, BCS and data on production & availability to consume (2001)

Summary of Country Report: Laos

1. Production

In the last five years, the output of rice increases from 0.85 million tons to 1.32 million tons, an increase of about 55%. This remarkable achievement is attained through the increase in planted area and the improvement of yield. The main production areas are in the central and south regions where more land is still available for rice cultivation. With better infrastructure such as irrigation and road, this rate of production growth can be sustained for the next few years.

2. Imports

Laos imported rice a small quantity of rice in the north in spite of the surplus in the south. The transportation cost from the south to the north is high. It would be cheaper to use the road network in Thailand. The market takes care of this by exporting rice from the south and importing rice in the north. A large proportion of imported rice into Lao is for purpose of food aid, e.g., during the flood in 1995/1996.

3. Consumption

With the 50% increase in production and no report on export, it implies that per capita consumption of rice in Lao has increased enormously during the past 5 years. The level of consumption is about 180 kg/cap/year or about 0.5 kg/cap/day. This is supported by the household survey which put the per capita consumption at 358 kg in paddy basis. However, the consumption for feed and seeds are property taken into account, the direct consumption may not be as high. If the proper statistic is account for the export, it is likely that the level of rice consumption in Lao is at best staying the same or even declining.

4. Exports

With a 50% increase in production and limited increase in consumption, the logical deduction would be that there must be at least a 50% increase in export. It is a well accepted fact that there are unofficial exports along the border to its neighboring countries i.e. Vietnam, Thailand, and China. Some source mentioned that volume of export to Vietnam is much higher than the export to Thailand. Approximately 50,000 tons of rice was exported from Laos to Vietnam in Year 2001. With the potential increase in rice production in Lao, it is likely that the export from Lao will increase further in the future.

5. Food aid

Between 1975 and 1990, total foreign aid to Laos, including grants and loans, was approximately US\$2.3 billion. Of this sum, only 65 % had been spent as of 1989, of which grants and loans made up approximately equal quantities. Fifty-five percent of spent aid derived from the nonconvertible currency area, 17.8 % from convertible currency area countries, and 27.2 % from international organizations and financial institutions.

6. Reserve Policies

Though there is no law/regulation on rice reservation, the Government realizes the need of have some sort of reserve for food security in the country. Generally if there is surplus amount of rice in a year, this stock usually kept by the farmers around the country. It is expected that rice reserved in Lao PDR is stored in form of paddy, glutinous rice. Approximate rice reserve is 3 months.

Rice balance

(Unit: 1,000 tons)

Year	Supply				Demand			
	Beginning Stock	Production	Import	Total	Local Consumption	Export	Ending Stock	Total
1995/1996	-	851	16	867	978	-	-	978
1996/1997	-	848	27	875	998	-	-	998
1997/1998	-	996	20	1,016	1,030	-	-	1,030
1998/1999	-	1,005	6	1,011	1,056	-	-	1,056
1999/2000	-	1,262	5	1,266	1,082	-	-	1,082
2000/2001	-	1,321	10	1,331	1,109	-	-	1,109

Source: Ministry of Agriculture and Forestry and Department of Customs and Electrical Enterprise.

Summary of Country Report: Malaysia

1. Production

Malaysia has adopted a rice-sufficiency target of 65%. However, the success of the production program has increased the output from 1.27 million tons in 1996 to 1.47 million tons in 2000. This enables Malaysia to achieve 72% self-sufficiency, i.e., import only 28% of total domestic consumption. The increase comes mainly from the lower quality rice which is not preferred by higher income and more sophisticated farmer. The government is now focusing on quality improvement.

2. Imports

The import of rice went up from 0.44 million tons in 1996 to 0.66 million tons in 1998 and reduced to 0.55 in 2000. With the favorable production, import may not be expanding much in the future. The sole authorized importer is BERNAS, now a listed company in the stock market. BERNAS is responsible to ensuring purchase of the domestic crop and wide power to regulate import. Malaysia imports rice in various forms, that is semi-milled or wholly-milled either polished or glazed and broken rice. Source of supply comes from various countries in Asia and even USA and Oceania. Imports high quality rice usually comes from Thailand and Pakistan.

3. Consumption

The per capita consumption of rice declined from 102.2 kg in 1985 to 81 kg in 2001. However the national consumption of rice is projected to increase from 1.8 million tons in 1995 to 2.12 million tons in 2000 due to population increase. As income increases and degree urbanization grows, it is likely that per capita consumption of rice in Malaysia will decline even further. The movement toward higher quality rice will become more prominent not only in the urban but also in the rural areas.

4. Reserve Policies

Rice reserves in Malaysia is governed by the Control of Paddy and Rice Act which control (store and manage) the supply of paddy and rice domestically and ensure a stable price for both farmers and consumers. Its target is to ensure adequate supply of rice in any situation, especially during national emergencies. BERNAS is the main agency executing the rice reserve with the guidance from the Ministry of Agriculture.

Rice balance

(Unit: 1,000 tons)

Year	Supply				Demand			
	Beginning Stocks	Production (milled rice)	Import	Total	Domestic Use	Export	Ending Stocks	Total
95/96	300	1,270	440	2,010	1,800	-	210	2,010
96/97	210	1,380	480	2,070	1,830	-	240	2,070
97/98	240	1,370	660	2,270	2,010	-	260	2,270
98/99	260	1,280	610	2,150	1,780	-	370	2,150
99/00	370	1,470	550	2,390	2,120	-	270	2,390

Source: Ministry of Agriculture

Summary of Country Report: Myanmar

1. Production

Since the summer paddy program (irrigated HYV rice production) has introduced in 1992, paddy irrigation areas have been almost doubled. Consequently, paddy production has increased significantly from 13.7 million tons in 1991-92 to nearly 20 million tons in 1999-2000.

2. Imports

No rice imports.

3. Consumption

Currently the government uses “15 baskets of paddy per annum” (equivalent to 187.8 kg of milled rice) as a norm of per capita rice consumption. On the other hand, per capita rice consumption is estimated at 134.2 kg for the urban and 158.5 kg for the rural based on the Household Income & Expenditure Survey in 1997. It also indicates that rice consumption in the rural varies from the lowest at 134.4 kg to the highest at 219.8 kg depending on the states/divisions. A preference of rice also varies by region.

4. Exports and Food aid

Rice exports have not been liberalized yet and Myanmar Agricultural Produce Trading (MAPT), an agency of the Ministry of Commerce, is a solo exporting agency. Rice exports are managed together with the systems of the government paddy procurement from farmers at government-determined prices (10-12% of production, which is about 2 million tons of paddy), the government rice distribution to budgetary groups (about 600,000 tons to government employees, military, etc.) and the rice reserve. All those systems are managed by MAPT. Basic stance on rice export is to export only when there is a surplus in the MAPT rice stock.

During the last three years (1999 to 2000), major destination of exports were African countries (40%) and Bangladesh (32%) and border trade accounted for 13% of the total export volume. 36% of the exports to Bangladesh were shipped through the border trades. No exports for food aid.

5. Reserve Policies

Total about 50,000 tons of milled rice (25,000 tons of milled rice plus 41,700 tons of paddy) held as the national reserve in 2001-01. Rice reserve for ASEAN Food Security Reserve (14,000 tons milled rice) is stored in separation from the national reserve.

Rice balance

(Unit: 1,000 tons)

Year	Paddy Production	Paddy Utilization				Annual balance	
		Seed	Loss	Food	Total	(Paddy)	(milled rice)
1996-97	17,676	596	596	14,258	15,450	2,223	1,334
1997-98	16,654	594	594	14,520	15,708	943	566
1998-99	17,078	648	648	14,787	16,083	992	595
1999-2000	20,126	682	682	15,060	16,424	3,698	2,219

Source : Myanmar Agricultural Service, MOAI

Summary of Country Report: Philippines

1. Production

The country's self-sufficiency ratio for rice averaged 92.93 % for the last decade. Production is not stable, for ex. El Niño and the draught in 1998 caused serious damage for production by about 8%.

2. Imports

The country has been consistently relying on importation to supplement domestic production of rice since 1983. NFA is presently a sole agency for rice imports inclusive of allocating import quota for private importers. Allowing farmers to import rice was pronounced by President on July 23, 2001, this directive is yet to be implemented. The government through NFA is now in the process of determining the system of allocating the volume to be imported among the farmers, the private sector and the government. The both prices of farmers-gate and consumer are competitively higher than other ASEAN countries. Consequently, cheaper rice from the neighbor countries is in tendency to flow into the country topographically.

3. Consumption

Population has increased by yearly 2.35% so that increase of rice production could not reach increase of consumption. Shortage situation of rice is becoming chronic, although the government tries to have advancement of self-sufficiency for the rice.

4. Exports and Food aid

No rice was exported after 1983. Poor people who have a lack of food are increasing (39.4%/2000). Accordingly, the government is required to strengthen food aid to those people. Food aid under US PL480 has supplied rice since 1996.

5. Reserve Policies

Reserve for national level shall be 90 days consumption (24,000-25,000 tons/day), i.e. 30 days by the government through NFA, 15 days by commercial sector and 45 days by household level.

Rice balance

(Unit: 1,000 tons)

Year	Supply				Demand				
	Beginning Stock	Production	Imports ^{1/}	Total	Exports	Seeds ^{2/}	Feeds & Wastes ^{3/}	Local Consumption	Total
1996	1,422	7,334	862	9,618	-	244	587	6,990	7,821
1997	1,797	7,325	722	9,844	-	249	623	6,996	7,868
1998	1,976	5,560	2,171	9,707	-	212	500	6,711	7,423
1999	2,284	7,662	834	10,780	-	286	728	7,411	8,425
2000	2,355	8,053	617	11,025	-	289	765	7,782	8,836

Source: Selected Statistics on Agriculture, June 2001

1/ NSO figures, 2/ Updated based on seeding rate, 3/ Updated based on post-harvest losses

Summary of Country Report: Singapore

1. Production

Singapore has no production of rice. There are some private investors who invest in rice production in Myanmar and Vietnam and importing into Singapore. For the purpose of this study, this will not be counted as Singapore's production. However, this is an interesting development, which could have an impact on the future arrangement for trade and investment.

2. Imports

Singapore imports about 3-400 thousand tons of rice a year. Imports of rice are carried out by private companies. Some companies (e.g. NTUC) are linked with the government. Importers count on their long-standing relationship with the suppliers in price negotiation. Traditionally, Singapore imports rice from Thailand. However, now imports are becoming more diverse. In particular, Vietnam and Myanmar are playing a more important role.

3. Consumption

The calculation of domestic utilization suggests that rice consumption per capita in Singapore increase from 108 kg/cap/annum to 114 kg/cap/annum. Given the level of income and degree of urbanization in Singapore, the consumption per capita should be about of 68 kg/cap/annum - lower than that in Malaysia and higher than in Japan.

4. Exports

Singapore re-exports some of the rice imported. This is an important function of Singapore for the rice market in the region. In particular, the fragrant rice from Thailand is re-exported to Brunei Darussalam, Mauritius and even Malaysia. With the establishment of AFTA, this flow of trade through Singapore could become more vigorous.

5. Reserve Policies

The Price Control Order also lists participation in stockpile as a condition of the license. Only the importers of rice for local consumption have to participate in the Rice Stockpile Scheme (RSS) and sign the Rice Stockpile Agreement. The RSS is operated under the legal framework of Price Control Act (Cap 244) and Price Control Order 1990. The level of reserve is varied depending on the supply and demand of the domestic rice market. It is estimated to range between 3 to 6 months of domestic consumption.

Rice balance

(Unit: 1,000 tons)

Year	Supply				Demand			
	Beginning Stock	Production	Import	Total	Local Consumption	Export	Ending Stock	Total
1998/1999	37	-	404	441	400	4	44	448
1999/2000	44	-	355	399	352	3	42	397
2000/2001	42	-	448	490	447	1	51	499

Source: Import/Export - Trade Development Board

Summary of Country Report: Thailand

1. Production

Thailand in 2001/02, ranks sixth in the world in terms of rice production volume. Rice production in Thailand in 2001/02, increase from 15.9 to 16.9 million tons. This additional output further depresses the price of rice in the domestic market. The government introduced a paddy deposit program to cushion the impact of price decline. However, with the dry spell in 2002, it is expected that rice production will be reduced.

2. Consumption

Rice consumption is about 9 million metric tons in 2001/02. The per capita consumption of rice is about 110 kg/cap/annum. Lower price of rice does not stimulate direct human consumption but cheaper bro-ken rice makes it more competitive with other animal feed ingredients.

3. Exports

Thailand export about 7 million tons of rice in 2001 which is about 30% of the world market. Thai rice exports could reach 7.55 million metric tons in 2002. However, the good harvest in major production areas in the world, especially, China and India, has increased the stock level and depress the world price. There are more competitors in the world market, especially, Vietnam and India.

4. Reserve Policies

The ending stock in has increased from 2.33 million (milled rice) tons in 1998/1999 to 3.76 million tons in 2000/01. This high level of ending stock indicates the surplus in the market. Although there is no specific provision for the maintenance of emergency reserve in the Thai law, Thai Rice Exporter Association is working closely with the government agencies to ensure that an amount equivalent to about 3 months consumption would be kept for this purpose.

Rice balance

(Unit: 1,000 tons)

Year	Supply				Demand			
	Beginning Stock	Production	Import	Total	Local Consumption	Export	Ending Stock	Total
1996/1997	2,130	14,230	-	16,360	8,740	5,030	2,590	16,360
1997/1998	2,690	15,570	-	18,260	9,010	6,600	2,650	18,260
1998/1999	2,650	15,180	-	17,820	8,840	6,660	2,330	17,820
1999/2000	2,330	15,950	-	18,280	8,980	6,090	3,210	18,280
2000/2001	3,210	16,900	-	20,110	9,350	6,990	3,780	20,110

Source: Thai Chamber of Commerce

Summary of Country Report: Vietnam

1. Production

Vietnam's rice production (milled basis) in 2000/01 crop is 20.90 million tons increased from 20.30 million tons in 1999/00. Severe flood in late summer and early fall in 2000 is estimated to have reduced plantings of Vietnam's 2001/02 10-month crops and will likely delay planting of the country's main winter-spring crop as well.

2. Imports

In 2001, Vietnam imported an estimated 20,000 metric ton of rice, mainly from Thailand. Traders predict that, imports of Thai jasmine rice will probably increase before the TET (Feb 7-17, 2002) holidays. Moreover, two companies in Nghe An province have been granted permission to import 5,000 tons of glutinous rice from Laos. Rice imported from Laos will be assessed a lower import tariff (about 50% lower than the 40% tariff Laos would normally face) as a result of the agreement between the two countries).

3. Consumption

Domestic consumption of rice increases steadily from 14.58 million tons in 1998 to 16.75 million tons in 2001. Rice consumption in Vietnam varies only slightly by income groups, though beyond a certain level of income, additional income is not spent on rice but on higher-value foods such as meat, fat/oil, eggs and on non-food items. The average per capita consumption is about 190 kg in 1998 and increase to 210 in 2001.

4. Exports

Since joining international markets in 1989, the year which Vietnam started exporting rice, quality and scale of Vietnam export rice has been dramatically improved. Rice export volume increased from 1.4 million tons in 1989 to 4.5 million tons in 1999, making Vietnam the second largest rice exporter in the world. Along with the increase in export volume and value, rice market share of Vietnam in the world market has been ever enhanced, from 9% in 1989 to 15% in 1998 and to 21% in 1999.

5. Food aid

In summer and autumn 2000, the Mekong River basin, one of the most important rice producing areas in Southeast Asia, was experiencing unusually serious flooding which affected human life and agricultural production in large areas of Thailand, Lao, Cambodia and Vietnam. An Giang Province of Vietnam was one of the most affected by the flood. 3,253 hectares of summer-autumn and third season rice were destroyed while another 116 hectares were partially damaged. Vietnam Government's appeal through the United Nation system launched an appeal to assisting the country in its relief and rehabilitation efforts. The appeal resulted in funds being allocated by OCHA to FAO with a total of USD378,800 for the procurement of rice seeds in sup-port of the most-affected farm households.

6. Reserve Policies

National reserve is a major mechanism of rice serve that is directly controlled by the government. The reserve is in the form of both paddy and rice. The current government policy is to reduce the amount of rice reserve and replaced by an increasing amount of cash reserve. In 2001, Vietnam Government made the reserve of 1 million tons of rice in order to protect the farmers' benefits/earnings after being affected by the reduced market price.

Rice balance

(Unit: 1,000 tons)

Crop Year	Supply				Demand				Population (million)
	Beginning stocks	Production (milled rice)	Import	Total	Domestic use	Export	Ending stocks	Total	
1997/98	3,690	18,940	0	22,630	14,580	3,700	4,350	22,630	76.5
1998/99	4,350	20,400	0	24,750	14,820	4,510	5,420	24,750	77.5
1999/00	5,420	20,300	0	25,720	15,060	3,600	7,060	25,720	78.5
2000/01	7,060	20,900	0	27,960	16,750	4,000	7,210	27,960	79.9

Source: Country Report in the 22nd Asean Food Security Reserve Board (AFSRB) Meeting, 28-29 June 2001 held in Phnom Penh, Cambodia

Summary of Country Report: China

1. Production

Self-sufficiency in food is an important policy target for a large country like China. Government provides both inputs (such as seed) and price subsidies for food crop including rice. The output of rice, one the main food grains, reached the historical height of 198.7 million ton in 1997. This accounts for about 51% of the global output. This has led to a surplus in rice and prompted China to export. Starting in the 2000, the government has withdrawn the price support for early rice, a lower quality rice crop grown mostly in the south. The research program is redirected toward quality rather than quantity. The output of rice declined to 188 million tons in 2001. The output may decline further and the quality of rice will improve for the future.

2. Imports

China imports a small quantity of premium grade quality rice from Thailand, the US and Myanmar (about 0.3 million tons or 0.1% of total consumption). Thailand has been the dominant supplier. China may be importing more rice as a member of WTO. The amount committed is 2.66 million tons in 2002 (about 10 times more than the actual import) and 5.3 million tons in 2006. This is almost 20% of the current level of world rice trade.

3. Consumption

About 50 percent of the population in China has rice as their major staple and over 80% of rice for human consumption. Average per capital consumption in China is about 102 in 2000. This is still high. The rapid degree of urbanization and the increase in income will reduce the consumption of rice. If the production does not decline fast enough, there will be more surplus in China.

4. Exports

China export jumps to 3.75 million tons in 1998 and declines to 2.5 million tons in 2001 (about 10% of the world market). Most of China's rice exports were Indica rice from the Yangtze River region. China also export Japonica rice (about 20 per cent) from the northeastern provinces. Some of these are from number of joint-venture farms with investors from Japan and Korea. China also export to countries outside eastern Asia, especially, Cote d'Ivoire, Cuba, Russia, Iran and Guinea.

5. Food aid

World Food Programme (WFP), a UN specialised Agency, is one of the major food aid donors to China. China's government has built an increasingly effective partnership by closely matching WFP's contribution with its own contributions over the last two decades.

6. Reserve Policies

Governor's Grain Bag Policy, first implemented in 1995, requires a minimum reserve of 3 months of grain consumption for grain surplus provinces and 6 months for grain-deficit provinces. Nevertheless, only a small share of these stocks are likely to enter the market. This is due to strong preference for self-sufficiency in grain and these grains stocks serve as insurance against catastrophic crop failures.

Rice balance

(Unit: 1,000 tons)

Year	Supply				Demand			
	Beginning Stock	Production	Import	Total	Local Consumption	Export	Ending Stock	Total
1995/1996	85,500	129,650	850	216,000	246,930	270	84,500	331,690
1996/1997	84,500	136,570	330	221,400	244,750	940	88,500	334,190
1997/1998	88,500	140,490	240	229,230	250,350	3,750	93,000	347,100
1998/1999	93,000	198,710	170	291,880	248,680	2,700	96,000	347,390
1999/2000	96,000	198,490	240	294,730	246,010	2,950	98,500	347,460
2000/2001	98,500	187,910	300	286,710	256,130	2,500	95,000	353,630

Source : China Agriculture Yearbook

Summary of Country Report: Japan

1. Production

Rice production has tendency to decline slightly over the long term. In accordance with the continuing decline in rice demand, various governmental programs to adjust rice production have been implemented since 1970s. In 2000, rice planted area became 1.77 million ha that is 54% of the planted area in 1960.

2. Imports

Minimum access (MA) rice imports began in 1995 at commitment volume of 426 thousand tons (brown rice basis) and it increased at 767 thousand tons in 2000. MA rice imports are controlled by the government and carried out under the two bidding methods. The main rice exporter to Japan was Australia, China, Thailand and U.S.A. in 1999 – 2001.

3. Consumption

Per capita rice consumption was at its peak (118.3 kg) in 1962 (total demand about 13 million tons), but afterward it has been continuing to decline and it reached at 64.6 kg, 76% of the peak, in 2000 (total demand about 10 million tons). In general, Japanese consumers are extremely stuck on their favorite; i.e. Japonica rice. Also they have high attention to the food safety.

4. Exports and Food aid

No commercial exports. In the past five years, total of approximately 2.13 million tons of rice was exported under the various food aid programs. At the large-scale food emergency in case of Indonesia (1998) and North Korea (2000), the government supported them in response to their request and/or appeals for food aid issued by FAO/WFP.

5. Reserve Policies

The normal level of rice stock is set at 1 million tons as precaution against once-in-ten years poor harvest.

Rice balance

(Unit: 1,000 tons)

Fiscal Year	Domestic Supply					Domestic Use		
	Production	Trade		Stock changes 1/	Total	Food	Feed, Seed, Processing & Loss	Total
		Import	Export					
1996	10,344	634	6	783	10,189	9,345	844	10,189
1997	10,025	634	201	351	10,107	9,291	816	10,107
1998	8,960	749	876	-1,075	9,908	9,096	812	9,908
1999	9,175	806	141	-65	9,905	9,109	796	9,905
2000	9,490	879	462	-81	9,988	9,045	934	9,988

Source: Food Balance Sheet, MAFF

1/ Difference between carryover volume and stock volume at the end of year.

Summary of Country Report: Korea

1. Production

There is a policy to advance increase of rice production heretofore. It is difficult to change policy because of election year in 2002, nominally policy of advancement of production increase. Under the circumstance, the government has commenced to make an examination of production control for understanding. Rice self-sufficiency was established stably in 1997 because of reduction of consumption. The government has to stock approximately 150 million tons of rice in the end of 2001. The strategic direction is to control production keeping rice self-sufficiency.

2. Import

Minimum access (MA) rice has been imported under the government control since 1995/1996. The quantity that the government committed for MA is 128,267 tons in 2001, which imported mainly from China (55 to 93%) with short grain through bidding procedures. MA imports rice is approximately 2.5% of annual consumption in 2001.

3. Consumption

Surplus of rice is generated because of improvement of production technology (increasing yield) and reduction of rice consumption. Annual consumption per capita is prospectively 93.6 kg in 2000 (119.6 kg in 1990): reduction speed is 2.6 kg/year.

4. Export & Food aid

No commercial rice was exported. The government accomplished food aid for North Korea with food shortage as a part of improvement for relations. The milled rice was exported to North Korea, 150,000 tons with Korean rice in 1995 through grant aid program and 300,000 tons with Thai rice through loan program in 2001.

5. Reserve Policies

There is no conclusive regulation for stock as the national rice reserve. The government should stock rice in paddy except MA rice, which is attained to stock 1,150,000 tons (8,000,000 sok: 1 sok = 144 kg) +288,000 tons based on milled rice.

Rice balance

(Unit: 1,000 tons)

Year	Supply				Demand				
	Beginning Stock	Production	Import	Total	Food	Loss, seed & other	Export	Ending Stock	Total
1996	659	4,695	115	5,469	4,778	447	-	244	5,469
1997	244	5,323	-	5,567	4,710	360	-	497	5,567
1998	497	5,450	75	6,022	4,606	610	-	806	6,022
1999	806	5,097	97	6,000	4,541	737	-	722	6,000
2000	722	5,263	107	6,092	4,425	689	-	978	6,092

Source: Ministry of Agriculture and Forestry

COUNTRY REPORT

Brunei Darussalam

1. Background

Rice is the staple food grain for Brunei Darussalam. Like other food, most of the supply of rice is imported. Domestic production is confined to a small number of farmers in remote areas. Government manages the supply and price of rice through import control.

2. Production

2.1 Cultivating Area

A small quantity of rice is produced by medium and small-scale farmers in the Belait and Temburong districts of Brunei using tradition methods. Total land area utilized for rice production is 482 ha.

Table 1: Number of Farmers, Area and Output of Rice

Districts	No. of Farmers	Area (ha)	Output (tons)
Belait	155	200	151
Temburong	221	205	161
Tutong	132	77	38
Total	508	482	350

Source: Brunei Rice Policies in Rice Stock Management and Food Security, Paper presented at the First Technical Meeting on Rice Reserve (TMRR), 19 April 2002, Bangkok, Thailand.

Most of the farmers are using their family labour. However, a few are using foreign workers.

2.2 Rice Variety

The rice grown in Brunei is a local variety, which has a texture between glutinous and normal rice. This variety of rice only has 1 harvest a year. The yield is about 1 metric ton per ha but with better infrastructure and technology, the official opined that the yield can be increase to 3 metric tons.

The government has tried growing modern rice variety but has to stopped because it is not popular with the local consumers. Currently, the Ministry of agricultural is trying to plant a rice variety from Bangladesh.

2.3 Output

About 350 tons of rice was produced in 2001. Domestic production only accounts for 1% of domestic rice consumption. The aim is to increase product to 5% in next few years.

2.4 Production Policy

In order to ensure the supply of rice, the government invested in the food production (including

rice) not only in Brunei. itself but also in other countries. Many scheme were attempted in the past, including the importation of farmer to cultivate rice in Brunei. This had proved to be less efficient than import.

The Ministry of Agriculture oversees all aspects of rice production and the sale of domestically produced rice. Under the national development plan, \$2 million has been earmarked for development of the domestic rice production. Due to the lack of expertise and manpower, the Ministry do not cultivate/breed rice variety. Instead they, try to ask other countries for rice varieties for “trial production” in Brunei.

The Ministry is also considering joining the ASEAN Science and Breeding program to conduct research with China. This will allow them to tap on Chinese equipments & expertise. The Ministry set aside an annual budget of about \$300,000 to purchase all the domestic rice production at a price of 41.60 per kg. The Ministry will also undertake to mill the rice for direct sale to end-consumers.

Other forms of assistance to the farmers include provision of fertilizer and chemicals such as insecticides.

3. Consumption

Brunei Darussalam has 350,000 population. The per capita income is about US\$ 24,000 in the year 2000. Most of the people are in the urban area. In 2001, the estimated consumption of rice is 97.7 kg. This is a decrease from 94.8 kg. in 1998 and 108.6 kg. in 1999. The total consumption of rice is about 36,000 tons in the year.

Table 2 : Rice Balance Sheet 1997-2001 (Unit: 1,000 tons)

	1997	1998	1999	2000	2001
Beginning Stocks	12.589	12.670	19.575	18.045	14.457
Production (milled rice)	0.293	0.135	0.199	0.299	0.350
Import	16.500	32.000	34.200	20.800	32.600
Total Supply	29.382	44.805	53.974	39.144	47.407
Domestic Use	16.224	30.930	35.929	24.686	29.701
Ending Stock	13.158	13.875	18.045	14.457	17.707

Source: Department of Information Technology and State Store.

The important factor determining the rice consumption is the growth rate of population is (about 2%). However, consumption per capita may be declining as the taste of consumer, especially, with the increase in the size of younger population.

The preference for high quality rice consumption is evidence in the type of rice imported (See the import table below). Fragrance rice is the main variety of rice consumed in Brunei. The import of fragrant rice from Thailand dominates the import of rice by Brunei.

Another important aspect of rice consumption in Brunei is the consumption of rice by the migrant worker. In 1998, there are about 20,000 Thai worker (mostly construction workers). The Thai workers prefer glutinous rice. The import of glutinous rice cater for this demand and a small portion went for the preparation of deserts.

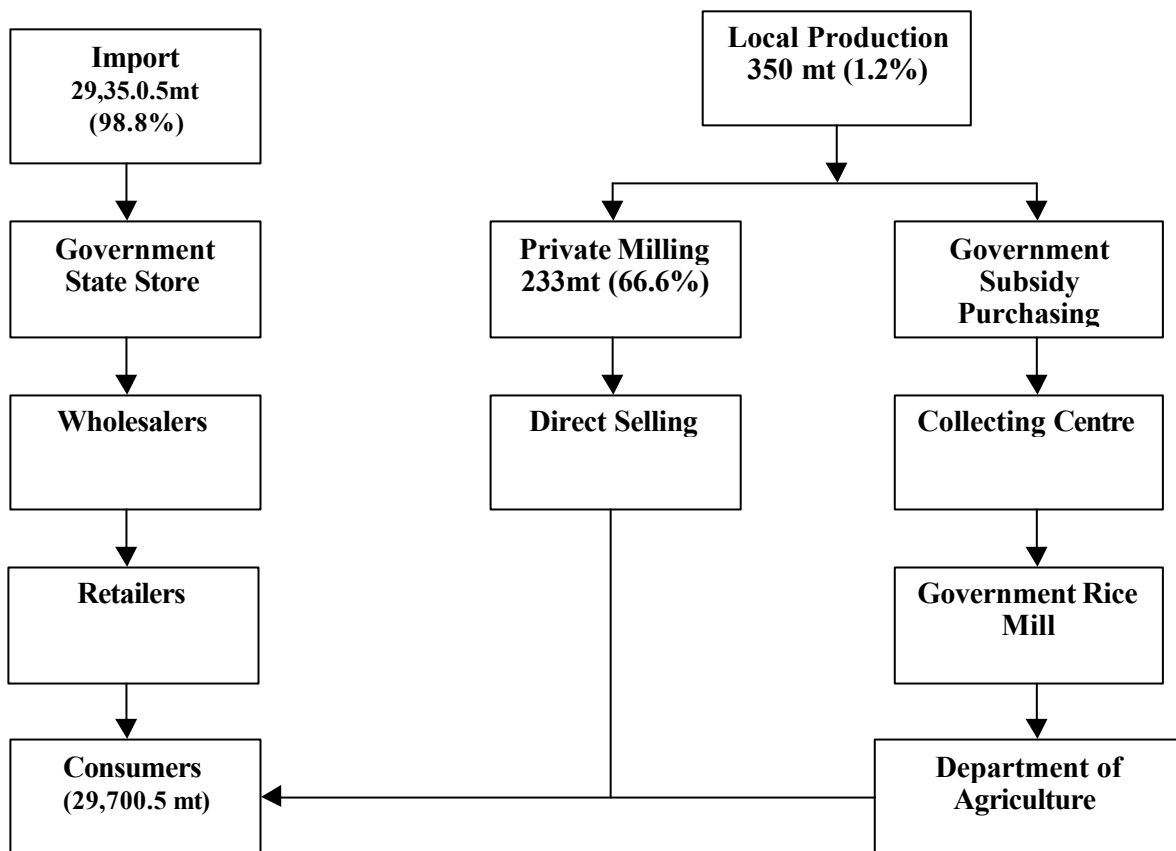
4. Distribution and Price

4.1 Distribution

Rice is distributed to the consumption through an open market system. Most (66%) of the rice produced domestically are sent to the rice mill and sold through roadside stalls, hawkers, retailer and consumed by the farmers themselves.

For the imported rice, the rice trader (licensed wholesalers and retailers) purchase their rice from the State Store and distribute it to the consumer in each locality. Currently there are more than 160 license holders registered with the State Store. To apply for a license, the rice wholesaler/retailer needs to be a registered business in Brunei.

Diagram 1 Rice Distribution System in Brunei Darussalam (2001)



Rice wholesalers/retailers can also import other specialty rice e.g. basamti from overseas suppliers upon application for a license from the State Store.

4.2 Price and Price Policy

The price of rice is controlled by the government and through the selling price of the State Store. The objective of the price control is to protect the consumer.

The government set the sale of rice in Brunei. The rice is sold at \$7.50-\$8.50 per 10 kg pack to the wholesaler who in turn sells it for \$11.50, this price structure has been used for the last 7 years.

Table 3: Rice Price by Types

Type of Rice	Wholesale Price		Ceiling Retail Price	
	B\$ per 50kg	B\$ per 10 kg	B\$ per 50kg	B\$ per 10 kg
Fragrant Rice	57.50	11.50	62.50	12.50
Ordinary Rice	38.50	7.70	42.50	8.50
Glutinous Rice	35.50	7.10	38.50	7.70

Source: Department of Information Technology and State Store.

5. Rice Trade

Importation of rice is the most important source of supply of rice in Brunei. The import is controlled and managed by the State Store under the Department of Information Technology and State Store, Ministry of Finance.

Brunei Darussalam is an importer of rice. Only the State Store under the Ministry of Finance is allowed to import rice. Rice traders can only import other varieties of rice. To import rice, these traders need to apply for a license from the State Store. There is no criteria attached to the application for a licence other than being a business registered in Brunei.

Although there is no regulation, prohibiting the purchase of rice from other countries, the State Store continue to rely solely on Thai suppliers out of consideration for the following factors

- Better bargaining power with the scale of purchase
- Relative ease of mobilizing shipment of a large quantity from 1 country of supply versus several shipments from numerous countries.
- The end-consumers in Brunei prefer the Thai fragrance rice.

The import of rice is conducted through the Government-to-Government (G-to-G) arrangement, especially, with Thailand. Other sources of supply include Singapore and Vietnam. The Government of Brunei has an agreement with the Thailand government on the purchase of rice. This agreement is negotiated yearly and the price of the rice is based on the Thai prevailing market price.

The State store will in turn sell the rice to licensed wholesalers/retailers. They're about 160 licensed wholesalers/retailers. These traders are free to store the rice purchased from the State Store in their own warehouses. Similarly there are no criteria attached to the application for a license.

The delivery is usually made every 2 months. This is to ensure the freshness of rice and to avoid holding large quantity of rice stock. The State Store will determine the quantity of rice to be delivered.

Prior to the delivery, the State Store will dispatch the inspector to check the quality of the rice.

Table 4: Import of Rice by Types

Types of Rice	Quantity (MT)	
	1998	1999
Fragrant rice	22,500	27,400
Ordinary rice	5,500	4,600
Glutinous rice	4,000	2,200
Total	32,000	34,200

Source: Department of Information Technology and State Store.

Beside the procurement of rice, the state store is also responsible for checking the quality of the rice, and maintaining the rice reserve.

6. Recent Developments

The government has recently awarded 300 ha of land to an agricultural group to grow rice in Brunei. The group, which has close affiliation with China, will be growing rice in Brunei using the Chinese rice variety and technology.

The Ministry will be reviewing all incentives for rice production next year and does not rule out the possibility of involving the private sector in the sale of domestically produced rice. As such, the annual budget for the purchase of rice from the farmers can be channeled into development of infrastructure. Another reason for the review is that a bigger budget will be needed to purchase the increasing rice production.

One of the immediate concerns is to improve the current rice storage system to cater to increasing rice production and to better maintain the quality of the imported rice while in storage.

One option that the government can explore is to invest in the production of rice in other countries. For example, Japan and Korea invest in rice production in China and import it back to their countries.

7. Rice Reserve System in Brunei

7.1 Reserve System

The import of rice is controlled and regulated by the State Store. The State Store will determine the quantity and schedule of rice to be delivered by the exporters. At the same time, the quantity release of rice in the market is regulated through the release from the State Store stock.

The State Store has a target of 6 months consumption of rice in stock + reserve. There are some fluctuations in the stock level but it will fall below this target level.

In the case of emergency, the State Store can readily mobilise the reserve from its stock to a specific location.

7.2 Management of Rice Reserve

The State Store bears all the costs of maintaining the reserve. It operates a central warehouse, which could keep up to 6,000 tons of rice. The State Store maintains a reserve of 6 months of rice based on an average of last 3 months consumption. After 6 months, the rice stock is sold to the traders. This is higher than the 1.5 months consumption recommended by FAO.

The stock is replenished by the import shipment every 2 months. The release of stock is based on a First-in-first-out System.

8. International Commitments

8.1 ASEAN

Aside from the commitment under the AERR, Brunei is also participating in the ASEAN Free Trade Area (AFTA). Since Brunei has not reserve the right under the Special Arrangement for Sensitive and Highly Sensitive Product, Brunei will be obliged to bring down the import tariff (already 0%) by 1 January 2002 and the quantitative restriction has to be removed immediately.

8.2 WTO

As a member of WTO, Brunei is bounded by the regulation stipulate in the WTO. Brunei has bound the import tariff for rice at 50%.

8.3 ASEAN Emergency Rice Reserve

Brunei agreed to earmark 5,000 tons of rice for this purpose. This stock is part of the stock kept by the State Store. There is no special process or mechanism devised for this purpose. In other words, emergency in ASEAN will be treated as the emergency in Brunei.

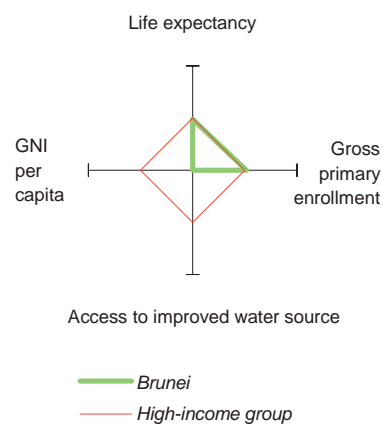
Brunei at a glance

9/19/01

POVERTY and SOCIAL

	Brunei	High-income
2000		
Population, mid-year (<i>millions</i>)	0.33	903
GNI per capita (<i>Atlas method, US\$</i>)	..	27,510
GNI (<i>Atlas method, US\$ billions</i>)	..	24,829
Average annual growth, 1994-00		
Population (%)	2.2	0.7
Labor force (%)	2.8	0.9
Most recent estimate (latest year available, 1994-00)		
Poverty (% of population below national poverty line)	..	..
Urban population (% of total population)	72	77
Life expectancy at birth (<i>years</i>)	76	78
Infant mortality (<i>per 1,000 live births</i>)	9	6
Child malnutrition (% of children under 5)	..	..
Access to an improved water source (% of population)	..	99
Illiteracy (% of population age 15+)	9	< 5
Gross primary enrollment (% of school-age population)	106	103
Male	109	104
Female	104	103

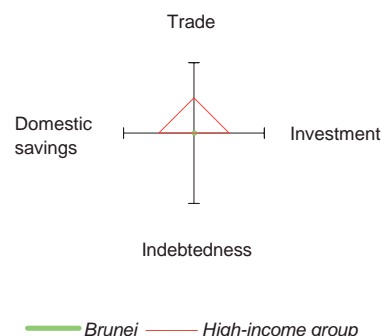
Development diamond*



KEY ECONOMIC RATIOS and LONG-TERM TRENDS

	1980	1990	1999	2000
GDP (<i>US\$ billions</i>)	4.9	3.6	..	..
Gross domestic investment/GDP	3.0	..	..	..
Exports of goods and services/GDP	..	..	..	..
Gross domestic savings/GDP	..	..	..	..
Gross national savings/GDP	..	..	..	..
Current account balance/GDP	..	..	..	..
Interest payments/GDP	..	..	..	..
Total debt/GDP	..	..	..	..
Total debt service/exports	..	..	..	..
Present value of debt/GDP	..	..	..	..
Present value of debt/exports	..	..	..	..
(average annual growth)				
GDP	-0.7	2.1	..	..
GDP per capita	-3.5	-0.5	..	..
Exports of goods and services	..	..	..	..

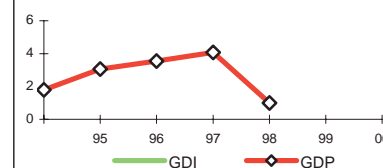
Economic ratios*



STRUCTURE of the ECONOMY

	1980	1990	1999	2000
(% of GDP)				
Agriculture	0.6	2.4	..	..
Industry	84.8	54.8	..	..
Manufacturing	11.8	..	..	..
Services	14.5	42.9	..	..
Private consumption	..	..	..	..
General government consumption	7.0	..	..	..
Imports of goods and services	..	..	..	..
(average annual growth)				
Agriculture	4.1	2.8	..	..
Industry	-3.5	0.5	..	..
Manufacturing	-0.3	..	..	..
Services	6.6	4.8	..	..
Private consumption	..	..	..	..
General government consumption	..	..	..	..
Gross domestic investment	..	..	..	..
Imports of goods and services	..	..	..	..

Growth of investment and GDP (%)



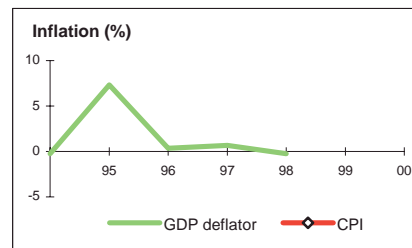
Note: 2000 data are preliminary estimates.

This table was produced from the Development Economics central database.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

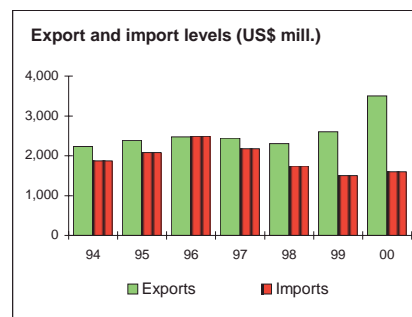
PRICES and GOVERNMENT FINANCE

	1980	1990	1999	2000
Domestic prices				
(% change)				
Consumer prices	..	..	..	..
Implicit GDP deflator	86.1	8.4	..	..
Government finance				
(% of GDP, includes current grants)				
Current revenue	..	..	..	..
Current budget balance	..	..	..	..
Overall surplus/deficit	..	..	..	..



TRADE

	1980	1990	1999	2000
(US\$ millions)				
Total exports (fob)	4,581	2,213	2,600	3,500
Food and agricultural raw materials	0	0	..	..
Fuels, ores, and metals	4,455	2,137	..	..
Manufactures	0	10	..	..
Total imports (cif)	572	1,001	1,500	1,600
Food	86	192	..	..
Fuel and energy	11	9	..	..
Manufactures	445	780	..	..
Export price index (1995=100)	..	..	..	..
Import price index (1995=100)	..	..	..	..
Terms of trade (1995=100)	..	..	..	..



BALANCE of PAYMENTS

	1980	1990	1999	2000
(US\$ millions)				
Exports of goods and services	..	..	..	..
Imports of goods and services	..	..	..	..
Resource balance	..	..	..	..
Net income	..	..	..	..
Net current transfers	..	..	..	..
Current account balance	..	..	..	..
Financing items (net)	..	..	..	..
Changes in net reserves	..	..	..	..
Memo:				
Reserves including gold (US\$ millions)	..	..	..	..
Conversion rate (DEC, local/US\$)	2.2	1.8	1.7	..

EXTERNAL DEBT and RESOURCE FLOWS

	1980	1990	1999	2000
(US\$ millions)				
Total debt outstanding and disbursed
IBRD
IDA
Total debt service
IBRD
IDA
Composition of net resource flows				
Official grants
Official creditors
Private creditors
Foreign direct investment
Portfolio equity
World Bank program				
Commitments
Disbursements
Principal repayments
Net flows
Interest payments
Net transfers

Brunei Social Indicators

	Latest single year			Same region/income group
	1970-75	1980-85	1993-99	High-income
POPULATION				
Total population, mid-year (millions)	0.2	0.2	0.3	896.3
Growth rate (% annual average for period)	4.3	2.9	2.3	0.7
Urban population (% of population)	62.0	62.3	71.6	76.8
Total fertility rate (births per woman)	4.8	3.5	2.7	1.7
POVERTY				
<i>(% of population)</i>				
National headcount index	..	..	..	..
Urban headcount index	..	..	..	..
Rural headcount index	..	..	..	..
INCOME				
GNI per capita (US\$)	..	..	24,620	26,440
Consumer price index (1995=100)	..	..	..	107
Food price index (1995=100)	..	..	..	..
INCOME/CONSUMPTION DISTRIBUTION				
Gini index	..	..	..	..
Lowest quintile (% of income or consumption)	..	..	..	..
Highest quintile (% of income or consumption)	..	..	..	..
SOCIAL INDICATORS				
Public expenditure				
Health (% of GDP)	..	..	8.1	6.1
Education (% of GNI)	..	..	3.1	5.5
Social security and welfare (% of GDP)	..	..	..	9.8
Net primary school enrollment rate				
<i>(% of age group)</i>				
Total	..	78	91	95
Male	..	78	90	95
Female	..	78	91	95
Access to an improved water source				
<i>(% of population)</i>				
Total	..	90	..	..
Urban	..	..	100	..
Rural	..	..	92	..
Immunization rate				
<i>(% under 12 months)</i>				
Measles	..	98	94	89
DPT	..	88	92	91
Child malnutrition (% under 5 years)	..	..	..	..
Life expectancy at birth				
<i>(years)</i>				
Total	69	73	76	78
Male	68	71	73	75
Female	71	75	78	81
Mortality				
Infant (per 1,000 live births)	35	12	9	6
Under 5 (per 1,000 live births)	..	..	11	6
Adult (15-59)				
Male (per 1,000 population)	173	187	132	125
Female (per 1,000 population)	142	132	76	63
Maternal (per 100,000 live births)	..	..	..	..
Births attended by skilled health staff (%)	..	82	98	..

Note: 0 or 0.0 means zero or less than half the unit shown. Net enrollment ratios exceeding 100 indicate discrepancies between the estimates of school-age population and reported enrollment data. Latest year for access to improved water source data is 2000.

COUNTRY REPORT

Cambodia

1. Rice Production

Rice is Cambodia's most important agricultural commodity and it accounted for nearly one-third of total agricultural output and about 11 % of total GDP in 1998. Also, it takes up 80-90% of total cultivated area.

There are serious problems, partly the result of three decades of war and civil strife. Displacement of farmers, land mines, abandoned fields, social insecurity and shortage of manpower have caused a significant decline in paddy area from 2.5 million ha in 1967 to 1.9 million ha in 1999/2000.

1.1 Rice Production in Recent Years

Production has increased in 1999/2000 due to increase of yield of wet season crop but still very low level compare to other Asian countries. Planted area of dry season crop has no much expansion during last 5 years.

Rice Production in Cambodia, 1996/97 – 2000/01

Description		1996/97	1997/98	1998/99	1999/00	2000/01
Total	Planted area (ha)	2,170,900	2,076,011	2,104,013	2,157,592	2,318,495
	Harvested area (ha)	1,882,000	1,928,689	1,962,566	2,079,442	1,903,159
	Yield (ton/ha)	1.84	1.77	1.79	1.94	2.12
	Output (paddy, ton)	3,458,000	3,414,918	3,509,871	4,040,900	4,026,092
Wet season crop	Planted area (ha)	1,936,900	1,827,328	1,873,093	1,915,592	2,058,648
	Harvested area (ha)	1,649,000	1,684,906	1,745,396	1,846,442	1,647,812
	Yield (ton/ha)	1.67	1.60	1.65	1.81	1.95
	Output (paddy, ton)	2,759,000	2,672,597	2,873,906	3,332,900	3,212,269
Dry season crop	Planted area (ha)	234,000	248,683	230,920	242,000	259,847
	Harvested area (ha)	233,000	243,783	217,170	233,000	255,347
	Yield (ton/ha)	3.00	3.05	2.93	3.04	3.19
	Output (paddy, ton)	699,000	742,321	635,965	708,000	813,823

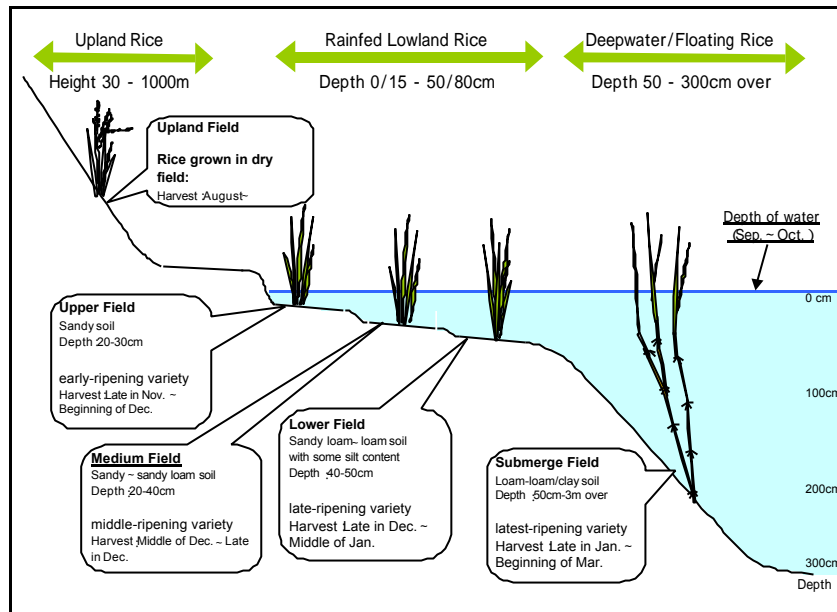
Source: Agricultural Statistics, MAFF

1.2 Characteristic of Rice Production

(1) Rice ecosystem

Rice ecosystems in Cambodia are diversified and can be classified into four systems as; Rainfed lowland rice, Deepwater Rice, Rainfed Upland Rice (Wet season crop) and Dry Season Rice.

Local varieties are mostly cultivated in wet season crop and IR varieties are cultivated in dry season crop.

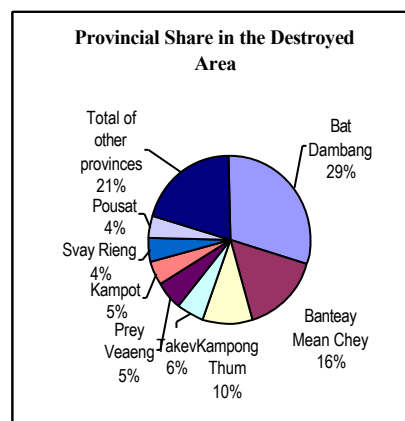
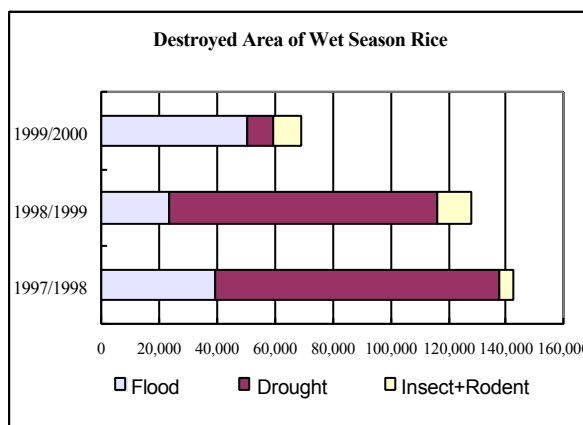


Ecosystems of Wet Season Rice

(2) Rice Crop Damage

Rice production is strongly influenced by changes of climatic conditions and the insect/disease, due to obsolete cultivation technology and poor agricultural production infrastructure without irrigation system and dyke system.

The destroyed ratio of wet season rice from 1995 to 2000 were 9%, 15%, 8%, 7%, 4% in order. The destroyed ratios of dry season rice were lower than that of wet season rice. Average yields were stable for both wet season rice and for dry season rice. Although the causes of damage vary by areas, for a country as a whole, it can be said that year 1997 and 1998 were drought years and year 1999 was a flood year. Provincial share (average for three years) of the national damage show that the damages were most serious in Bat Dambang province and Banteay Mean Chey province, occupying 45% of the total damage. Following Kompong Thum province, Takeav province and Prey Veang province, another main rice production area in southeast part, were in the higher rank of the damage share, occupying 11% of the total damage.



(3) Inputs and Production Costs

Besides natural disasters, the subsistence nature of agriculture is another productivity-inhibiting factor. There is, for example, limited use of improved crop varieties and fertilizers. According to the research report of Cambodia-IRRI-AusAID project, the costs and returns of economic model of rainfed lowland rice (1995) are summarized as follows.

Item	Unit price	Traditional system		Improved system	
		Quantity	Value	Quantity	Value
Seed	368 / kg	80	29,440	--	--
Improved seed	800 / kg	--	--	80	64,000
Fertilizer					
Urea	680 / kg	0	0	50	34,000
DAP	864 / kg	0	0	70	64,800
Manure	Free / cart	5	0	10	0
Labor					
Family	Free/person-day	110	0	120	0
Hired	3,000/person-day				
Hired draft power	95,650	1	95,650	1	95,650
Equipment & materials	25,800	1	25,800	1	25,800
Total costs for 1 ha			150,890		284,250
Yield per 1 ha		1.3 ton		2.0 ton	
Total costs for 1 ton paddy (Riel)			116,069		142,125
Total costs for 1 ton paddy (US\$) 1/			46.4		56.9

Source : Rice Production in Cambodia, Cambodia-IRRI-AusAID (1997)

1/ US\$ 1 = 2500 riels (1995), Exchange rate in March 2002 was around 3,950 riels.

(4) Irrigation

Only a small fraction of around 20,000 ha of irrigated dry-season rice land is presently fully irrigated.

1.3 Policy on the Rice Production

(1) Rice Production Plan

The Agricultural Development Plan (2001-2005) aims at accelerating and increasing food production, especially the rice crop and other alternative food crops. Ministry of Agriculture and Forestry (MAFF) has set up a target-yield in year 2005 as 2.0 ton/ha and a target-harvest area as 2,420,000 ha. Target harvest area has set as about 14% increase in wet season rice and about 24% increase in dry season rice. Damage/destroy area has set as corresponding to the actual result of 1999/00 in which the damage in wet season rice was least in recent years.

Rice Production Plan for Year 2005/06

Description	Targets in 2005/06
1. Total cultivated land	2,500,000
2. Damaged land	80,000
3. Harvested land	2,420,000
4. Yield (ton/ha)	2.00
5. Total output	4,800,000

Each of these targets corresponds to the actual result in the past. They can be achieved if the removal of land-mines and the improvement in productivity through rehabilitation of irrigation system, increase in access and better use of quality input (seeds, fertilizers, pesticides) and modernization of agricultural technology are progressed.

(2) Government Support on Rice Production

There is no subsidy program regarding the rice production. Agricultural support services, especially input supply, research and extension, marketing and credit, have just started from scratch with foreign assistance.

Company of Material, Equipment and Transport (COCMA) affiliated with MAFF handles fertilizer, agricultural chemicals, agricultural machines, etc. but it is regarded as object of privatization. The multiplication and distribution of high quality seed gets high priority. The CARDI under MAFF has been conducting paddy seed multiplication and distribution under assistance from Australia but its quantity is rather limited. Depending on the area, some small-scale groups are formed by NGO. The government is planning to organize farmer's groups but the MAFF is yet in the stage of drafting the agricultural cooperative act.

NGOs and banks are providing loans to farmers, traders, rice millers, etc. Although general conditions for loan (specially interest rate) are severe due to low agricultural productivity, there is not stable political loan specific to rice marketing. A system which the Central Bank evaluates NGO and approves their qualification as lender have been introduced.

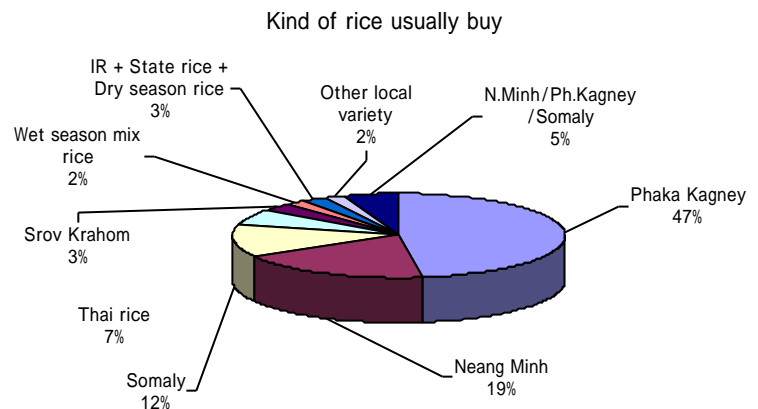
2. Demand**2.1 Per Capita Consumption**

Per capita consumption of rice has been set at 151.2 kg in the food balance calculations as a result of the FAO/WFP mission since 1996. From the result of limited scale of the survey (159 samples) in the JICA Study, amount of rice consumption was calculated as about 117 kg per person in Phnom Penh. At the same time, significant taste preference to the certain varieties/place of production was observed, especially at the central part of the city. In the rural area, collected data show the similar level of rice consumption per capita, 151.2 kg.

Staple cereals including rice have low-income elasticity and per capita consumption is expected to decline with the change of the eating habits in accordance with the economical development and the increase of income, from the examples of other Asian countries. However, it is hard to say that rapid economical development and change of eating habits will take place in Cambodia when present situations in rural villages are viewed.

2.2 Consumer's preferences

Phnom Penh has a population of about 1.1 million and is the largest market in the country. Rice from the northwest production areas, namely Bat Dambang, has an established reputation of good taste and good quality. It has large market share in high-medium price market in Phnom Penh. High-medium priced rice such as Somaly, Phaka Kagney, N. Menh from Bat Dambang are the most common in the city center where residents have the highest income level in the country. In contrast, medium-low priced rice from surrounding provinces such as IR, Local variety and Mixed-rice are common in the outskirts of the city area where lower income earners live.



IR rice produced in the southern part of the country such as Takaev and Prey Veang is evaluated poor in taste and the cheapest rice in Cambodia. In Phnom Penh, IR rice is marketed mostly for factory lunch consumption and for low-income earners living in the outskirts of the city. IR rice is sold only at a few markets in the city center. Phaka Kagney produced in Takaev is 100 – 150 Riel/kg cheaper than the same produced in Bat Dambang, due to "hard taste".

Thai fragrant broken rice (Thai A1 Special 100% broken) is sold at most rice shops in center of Phnom Penh. Consumers value this rice and considered as “It is soft and it maintain softness even when rice get cool”. In contrast, Cambodian rice is considered as “It becomes hard when it is cool”. Many local restaurants also use Thai fragrant broken rice to blend with local rice to add fragrance and softness.

The “look“ of rice is an important factor in determining price (quality) in the market. Therefore, foreign matter and colored grain are removed manually before retailing.

According to the questionnaire survey on the consumer's criteria for choosing rice at shop conducted in the JICA Study, the respondents put higher marks on ‘variety’, ‘fragrance’ and ‘price’. Among the criteria, broken percentage is the least important.

Consumer's criteria for choosing rice in Phnom Penh

Criteria	Variety	Price	Fragrance	Color	Shop Recommendation	Broken ratio	Origin
Average score	1.596	3.396	2.324	3.917	5.729	6.042	4.917
Order	1	3	2	4	6	7	5

As for the preference on the variety, the result conforms to an assortment of varieties at rice shops in the city. 71 cases (45.2%) of respondents prefer new crop, and 86 cases (54.8%) prefer old one.

3. Supply and Demand Balance

3.1 National Balance

With the yield growth and planted area expansion, Cambodia have achieved the rice self-sufficiency since 1995. In the crop year 1999/2000, Cambodia produced 4.04 million ton of paddy; its largest ever total, and the surplus was estimated to be 261 thousand ton.

Crop Year	Rice Balance (Unit : 1000 tons)						Deficit/Surplus (Rice)
	Paddy Production	Seed & Feed	Loss	Available volume (Paddy) (Rice)		Demand (Rice)	
1994/95	2,223	156	222	1,845	1,144	1,467	-322
1995/96	3,448	241	345	2,862	1,774	1,588	187
1996/97	3,458	242	346	2,870	1,779	1,618	162
1997/98	3,415	239	341	2,834	1,757	1,653	104
1998/99	3,510	246	351	2,913	1,806	1,776	30
1999/00	4,041	283	404	3,354	2,079	1,819	261
2000/01	4,026	282	403	3,342	2,072	1,981	91

Calculated based on the production data (Agricultural Statistics, MAFF) with under-mentioned norms.

Norms for assessment of food balance by MAFF:

Post-harvest losses : 10 % of paddy production

Seed use : 5 % of paddy production

Feed and other uses : 2 % of paddy production *¹

Milling yield from paddy to rice : 62 %

Per capita rice consumption : 151.2 kg per annum

Nationwide self-sufficiency of rice has been achieved since 1995/96. However, even in surplus district, there exist certain rice deficit communes. The vulnerable people must rely on international assistance (food aid) through WFP and NGOs.

*¹ The norm for Feed and other uses (2%) did not applied to the MAFF's food balance estimation in 1995/96 and 1994/95.

3.2 Regional Balance

The rice balance situation by Provinces in 1999/2000 is shown in the following table. Out of the 13 main rice-producing Provinces, which have paddy production more than 100,000 tons, four (4) provinces are rice-deficit. The remaining nine (9) rice-producing Provinces are all rice-sufficient.

Province-wise Balance of Rice in 1999/2000

Province	Region	Supply of Rice							Demand of Rice		Balance
		Paddy Production *3			Seed Req't	P.H. Loss	Availability		Population	Total Demand	
		Area (ha)	Yield	Production			Paddy	Rice			
1 Phnom Penh	Plain	6,596	1.84	12,110	660	1,399	10,051	6,232	1,052,743	159,175	-152,943
2 Kandal	Plain	87,674	2.81	246,331	8,767	33,109	204,455	126,762	1,132,491	171,233	-44,471
3 Prey Veaeng	Plain	297,225	1.94	577,380	29,723	68,432	479,225	297,120	996,985	150,744	146,376
4 Kampong Cham	Plain	197,243	2.34	460,935	19,724	58,635	382,576	237,197	1,696,135	256,456	-19,258
5 Svay Rieng	Plain	171,318	1.56	266,877	17,132	28,237	221,508	137,335	504,331	76,255	61,080
6 Takev	Plain	231,131	2.40	554,890	23,113	71,218	460,559	285,546	833,039	125,955	159,591
7 Kampong Chhnang	Tonle S.	92,966	1.66	154,300	9,297	16,934	128,069	79,403	439,879	66,510	12,893
8 Bat Dambang	Tonle S.	169,771	2.11	357,860	16,977	43,859	297,024	184,155	835,410	126,314	57,841
9 Siem Reab	Tonle S.	191,080	1.36	260,404	19,108	25,161	216,135	134,004	805,888	121,850	12,154
10 Kampong Speu	Plt/Mt	85,303	1.82	155,388	8,530	17,886	128,972	79,963	630,917	95,395	-15,432
Sub-total (Study Area)		1,530,307	1.99	3,046,475	153,031	364,870	2,528,574	1,567,716	8,927,818	1,349,886	217,830
11 Kampong Thum	Tonle S.	100,964	1.52	153,070	10,096	15,926	127,048	78,770	599,643	90,666	-11,896
12 Banteay Mean Chey	Tonle S.	140,500	1.73	243,446	14,050	27,336	202,060	125,277	608,975	92,077	33,200
13 Pousat	Tonle S.	72,050	1.84	132,650	7,205	15,346	110,100	68,262	380,060	57,465	10,797
14 Otdar Mean Cgev	Tonle S.	-	-	-	-	-	-	-	-	-	-
15 Krong Pailin	Tonle S.	-	-	-	-	-	-	-	-	-	-
16 Krong Preah Sihanouk	Coastal	9,500	1.78	16,940	950	1,930	14,060	8,717	163,901	24,782	-16,065
17 Kampot	Coastal	135,607	2.28	308,795	13,561	38,934	256,300	158,906	556,869	84,199	74,707
18 Kaoh Kong	Coastal	7,272	1.30	9,460	727	881	7,852	4,868	139,149	21,039	-16,171
19 Krong Kaeb	Coastal	2,450	1.84	4,500	245	520	3,735	2,316	30,250	4,574	-2,258
20 Preah Vihear	Plt/Mt	16,911	1.30	21,986	1,691	2,047	18,248	11,314	125,698	19,006	-7,692
21 Stueng Traeng	Plt/Mt	13,466	1.40	18,852	1,347	1,858	15,647	9,701	85,421	12,916	-3,214
22 Rotanak Kiri	Plt/Mt	17,618	1.30	22,905	1,762	2,132	19,011	11,787	99,356	15,023	-3,236
23 Mondol Kiri	Plt/Mt	6,180	1.45	8,960	618	905	7,437	4,611	34,169	5,166	-556
24 Kracheh	Plt/Mt	26,617	1.99	52,861	2,662	6,325	43,875	27,202	277,372	41,939	-14,736
Sub-total (Non Study Area)		549,135	1.81	994,425	54,914	114,139	825,373	511,731	3,100,863	468,850	42,881
Total		2,079,442	1.94	4,040,900	207,944	479,009	3,353,947	2,079,447	12,028,681	1,818,737	260,711

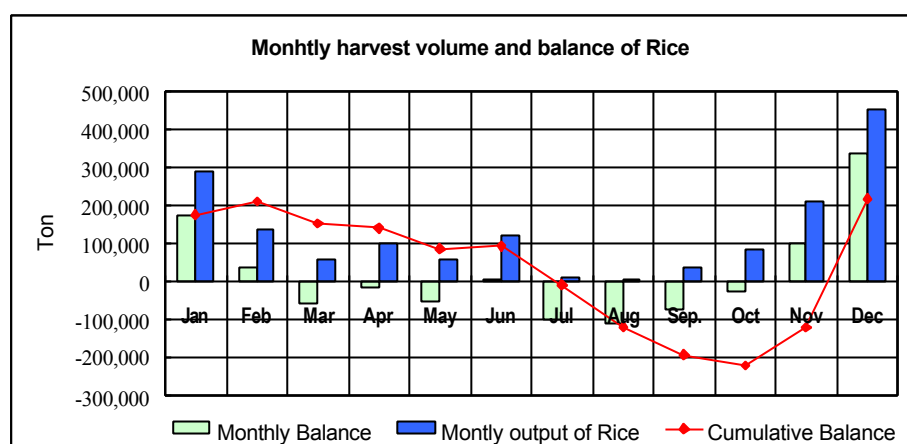
Note: *1 Deficit is probably supplied by Province of Siem Reab; *2 Deficit is probably supplied by Bat Dambang Province

*3 Crop assesment for Wet season rice 1999/2000 and Dry season rice 2000

Table does not include any provision for rice under so-called social safety nets such as the United Nations World Food Program (WFP) activities.

3.3 Seasonal Balance

Harvest volume is largest during the harvest peak of wet season crop in December and is smallest during wet/flood season in July and August. Monthly balance is in deficit situation in 7 months of the year. Although about 60% of the production are harvested during harvest season of wet season rice (November – January), harvesting is practiced almost throughout the year. Paddy cultivation is subject to water resources, and if irrigation system and flood control systems are installed, monthly harvest quantity can be equalized more throughout the year.



Data source : Agricultural statistic (1998/99), MAFF

Note : Monthly harvest volume is assumed based on cropping calendars.

3.4 A Future View on Rice Balance

Population Increase: The population of Cambodia is likely to increase from about 12.2 million in 1998 to 20.3 million in 2021. The percentage of urban population may increase from about 16% to 18% during the period of 2001-2021, based on the population census in 1998 by NIS.

Balance prediction for the year 2005/06: Based on the above target value of paddy production for the year 2005/06 with adopting the result of loss assessment survey for “milling yield of paddy to rice” and “ratio of post-harvest loss”, 404 thousand ton of surplus milled rice is calculated. There is a difference of 134 to 171 thousand ton in the estimated surplus of milled rice calculated on the conventional conditions (milling yield 62% and post-harvest loss 10%) and on the conditions based on the result of the study.

Prediction of Rice Balance for the year 2005/06 (Unit: 1000 tons)

Items	CASE-1		CASE-2	
	1999/00	2005/06	1999/00	2005/06
1. Paddy production	4,041	4,800	4,041	4,800
2. Post harvest losses	404	480	283	336
3. Seed, Feed and other uses	283	336	283	336
4. Available milled rice	2079	2,470	2,224	2,641
6. Demand of milled rice	1,819	2,238	1,819	2,238
7. Balance of milled rice	261	233	405	404

CASE-1 : same as the present assumption of MAFF (Milling yield of paddy to rice=62%, Post harvest losses=10%)

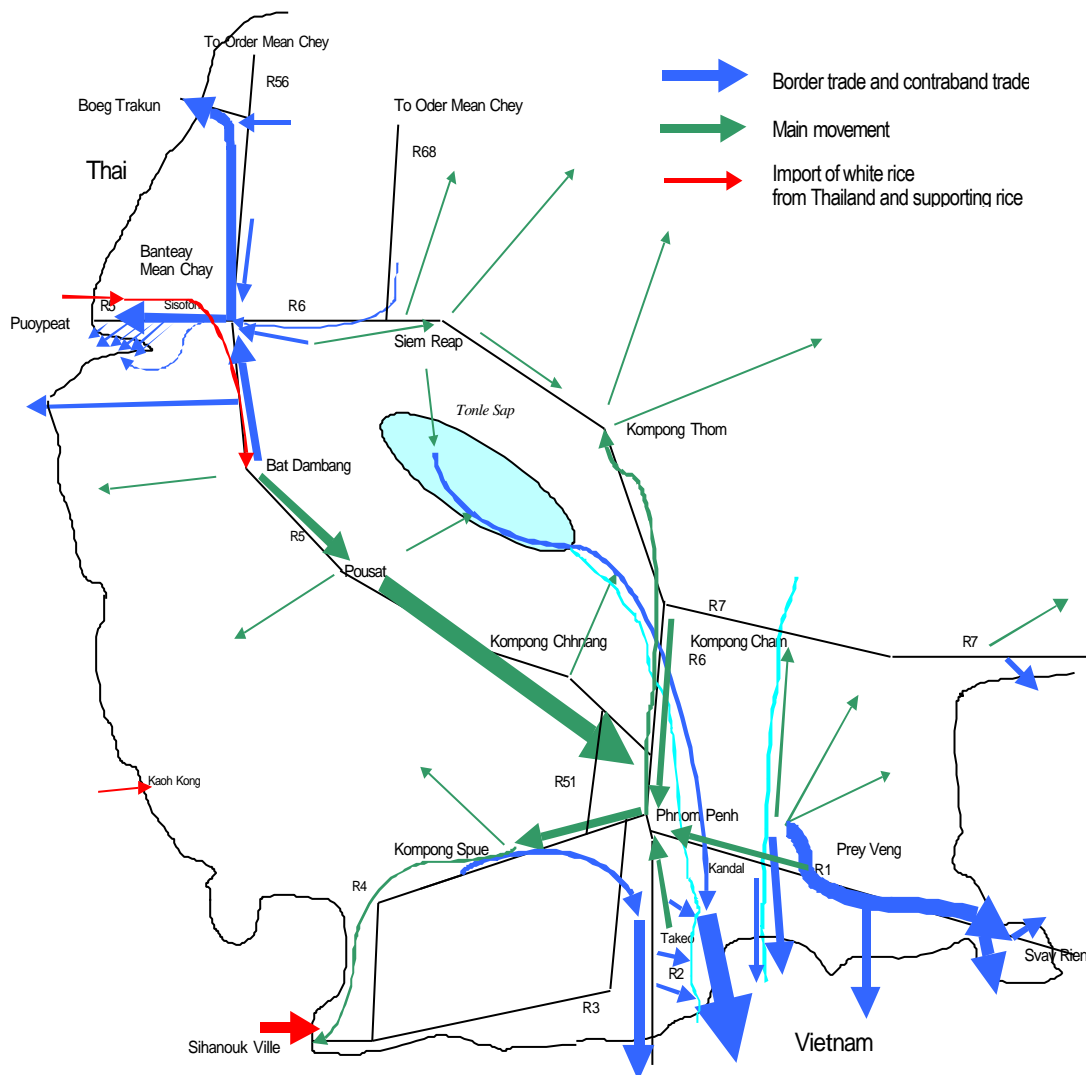
CASE-2 : assumption based on the results of the JICA Study in 2000 (Milling yield of paddy to rice=64%, Post harvest losses=7%)

4. Rice Marketing

4.1 Trade Flows

Rice/paddy trade flows vary depending on crop conditions in the provinces and depending on the prices in neighboring countries. Trade flows are generated not only by quantity imbalance but also by needs for specific rice variety and quality. Rice flows to Phnom Penh are steady. Paddy flow to Vietnam is largely influenced by the rice export situation of Vietnam.

Only varieties of Somaly, Phaka Kagney and Neang Minh produced at the northwest production areas, have an established reputation for high quality and marketed to many urban areas - Phnom Penh, Sihanouk Ville and other provincial towns. Other local varieties are marketed only within the province of origin and/or to neighboring provinces. Except the paddy flows to Thailand and Vietnam, paddy movements in the country are limited. Most paddy is milled in the province of origin or in a neighboring province. Thai fragrant broken rice constantly flows into Phnom Penh via small corridors and via formal gates without leaving record.



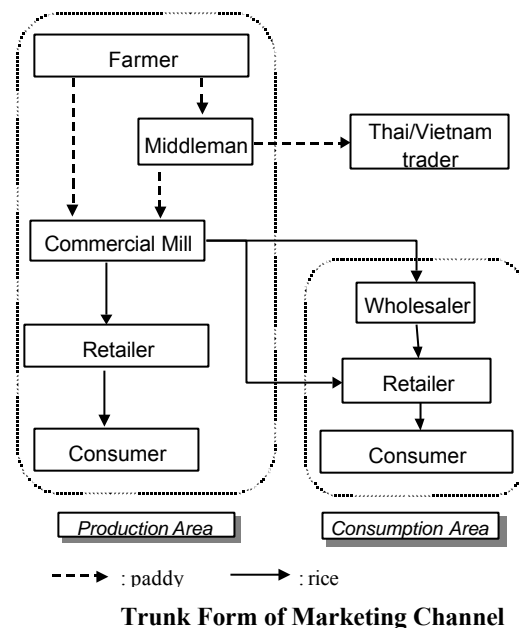
Major Trade Flows

From	To	Kinds / Major variety
Northwest main production area (Bat Dambang, Banteay Mean Chey)	Phnom Penh	Rice : Somely, Phaka Kagney, Neang Menh
	Thailand	Paddy : Somely, Domely
Southeast main production area (Takeav, Prey Veang)	Phnom Penh	Rice : IR, Phaka Kagney, Srov Krahome, Mixed-rice
	Vietnam	Paddy : IR

4.2 Marketing Channels**(1) Marketing Channel**

Under the market economic policy, rice/paddy marketing is entrusted entirely in the hand of the private sector. Currently, the government has no market intervention or market control system for the domestic marketing. Under this situation, farmer, middleman, commercial mill, wholesaler and retailer formulate various marketing channels. From the varieties of the channels, a trunk form is abstracted as shown in the figure.

Prices prevailing in their immediate area of operation are well known by all agents except farmers.

**(2) Marketing Agents**

Farmer: According to the questionnaire survey conducted in JICA Study, only 40% of farmers sold rice, regardless of quantity, during the 1998/99 – 1999/00. Average sales volume is 1.6 ton/year and maximum is about 3 ton/year. Thus, the number of farmers involved in the marketing system is limited. Farmers tend to sell part of the surplus paddy immediately to repay debts and store the rest until they need more money. About 70% of farmers sold paddy to middlemen and about 20 % sold to commercial rice millers.

Middleman (Paddy Collector): Middlemen play an important role in the marketing of farmer's paddy, especially in remote areas far from rice mills, markets or towns. The area for paddy collection is generally fixed within several districts. Large-scale middleman uses agents to visit individual farmers and buy paddy.

Commercial rice miller: Among the marketing agents, commercial rice millers have the largest business scale and play the role of financial supplier to other agents; making advance payments to middlemen and deferred payments to rice sellers. They also play an important role in paddy storage. Scale of business varies from 200 ton/year to 10,000 ton/year in throughput. Except for a few commercial mills in Bat Dambang, which are formed as a company or partnership, almost all commercial mills are family operation and categorized as Sole Proprietorship. Many of rice mills have regular business relations with select middlemen. Many of rice mills have regular business relations with selected middlemen to order a specific variety of paddy to middleman when they receive a large or urgent order.

Rice trader (seller): Rice sellers can be divided into a stall shop type in the markets and an independent shop type. Most of all rice traders are small-scale businesses. Especially, a stall shop type in the markets sell only 50 to 300 kg/day and mostly are owned and managed by housewives earning supplemental housekeeping money. Except Phnom Penh and Sihanoukville, the number of rice sellers in each provincial town is small due to small urban population. Combining the functions of retailer/wholesaler and direct purchase from rice millers is widely practiced by rice sellers. Between rice miller - wholesaler – retailer, deferred payments are usual. It is common for retailers to settle payment when re-purchasing. Rice sellers in Phnom Penh are facing the situation of “Too many rice shops and too small sales”.

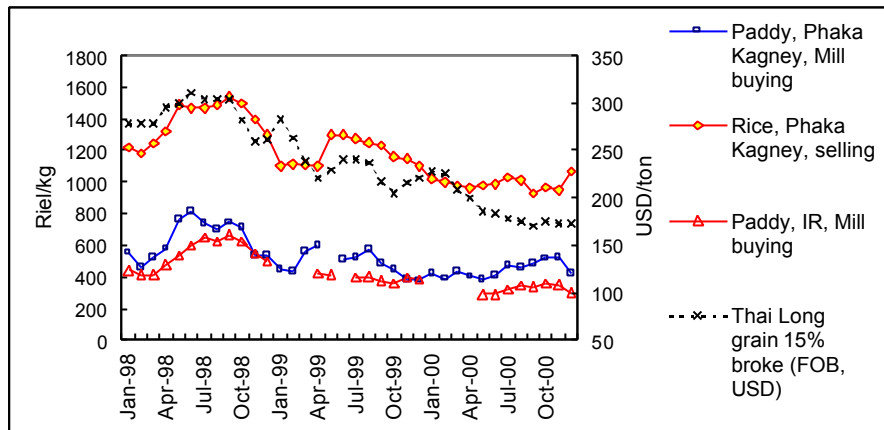
Rice procurement by the WFP: The amount of rice procured by WFP was 16,352 tons from outside of the countries and 19,673 tons from domestic market in 1998. In 1999, it was 10,882 tons (outside) and 13,037 tons (domestic). The domestic procurement accounts for 5 % of the national surplus (260,710 ton, milled rice) in 1999/2000. WFP procures milled rice by tender.

Rice procurement by the Police and Army:

Reportedly, the total rice supply for the army and police was 70,000 ton in 1999. A sole agent exclusively has been supplying rice to the army and police. The agent procures rice from rice mills directly.

(3) Prices

Price trend: Rice price tends to show a seasonal fluctuation pattern: decreasing during main harvest season (Nov. – Jan.) and increasing during off-season (flood season) although the range and pattern of fluctuation varies every year, due to the fluctuation of the international market price. Paddy prices and rice prices of Cambodia, Thailand and Vietnam show similar fluctuation. Especially, paddy prices in the Southeast region are largely influenced by the rice export situation of Vietnam.



Price differences between Provinces: Price differences between provinces on the varieties which are produced at Bat Dambang, such as Somaly, Phaka Kagney and Neang Menh, are small. Prices of IR variety rice, which is always cheapest in the markets, are in the same level among several provinces. Prices of Mixed-rice, which is mixture of minor wet season varieties and it may have different content of varieties depending on the province, are also in the same level (Riel 600-700/kg) among provincial towns.

Price difference among variety/grade: There is a definite price order among major marketed varieties that is Somaly- Phaka Kagney- Neang Khon- Neang Menh- Mixed Rice – IR, and this order never change in the markets. In Phnom Penh, some rice shops have different grade of rice, in higher price variety such as Somaly. The price difference between grades is normally 100-200 Riel/kg. Rice sellers explain the difference is: in appearance (clearness) which comes from different degrees of milling, broken rice ration, or production area (i.e. taste). Although it appears that some common scale/sense of quality evaluation exist among the traders, no numerical indicator is used for grading the rice quality in domestic trade.

Margin: Farmers share account for 70 – 80% of the retail price. The cost/margin at milling stage and retail stage is stable: cost/margin of both stages account for 6 – 13% for Phaka Kagney and 8 – 13% for Neang Menh.

4.3 Rice Milling

Rice mills in Cambodia are classified into two: Custom Mills (village mill) work for only commission processing and do not buy/sell the rice, Commercial Mills (large mill) have capacity of 0.3 ton/hr. to more than 1.0 ton/hr. Most of the rice mills have storage facility and play a roll of adjusting the seasonal imbalance of rice demand-supply. According the registration data on rice mills, about 60% of them were installed after 1995, although many of rice millers have not registered yet due to the registration is not compulsory. Numbers of rice millers in 10 provinces were 12,716 (Commercial mills 581, Custom mills 12,198) in 1999. The number of large-scale rice mills is increasing.

Numbers of Rice Mills by Province

Type	Kandal	Prey Veang	Kg. Cham	Svay Rieng	Takaev	Kg. Spueu	Kg. Chhn.	BTB	Siem Reab	Phnom Penh	Total
Commercial	87	50	49	3	23	59	11	207	23	6	518
Custom	1,688	2,495	2,363	1,447	1,113	830	1,090	153	956	63	12,198
Total	1,775	2,545	2,412	1,450	1,136	889	1,101	360	979	69	12,716

Source: (1) Provincial Department of Industry, Year2000; K. Cham in 1998, K. Spueu in 1999

4.4 Transportation

(1) Mode of Paddy/Rice Transport

Most paddy and rice is transported by road. Regular use of water transport is limited to some areas in the southern provinces, such as paddy transport to the rice mills and paddy transport to Vietnam through the main/branch streams of the Mekong/Bassac River. The railway was a major mode of rice transportation from the Northwest Provinces to Phnom Penh during the 1960's. In 1999-2000, it was estimated that about 80% of rice were transported by heavy trucks through National Route 5.

For road transportation, various means are used depending on distance and road condition. Paddy transport in rural areas is most often by ox-cart for short distances and for the roughest roads within villages/communes. For medium distances within districts (village to local town/rice mill), tractor and truck are used. For long distances (inter-district/inter-provincial transport mostly for rice), heavy trucks over 10 ton are used. 40-ton heavy trucks with trailers are widely used for rice transport from Bat Dambang to Phnom Penh.

Transport rates for the major destinations are consistent and well known to the users. As of 2000, it was reported that there were no more illegal fee collection points along the trunk lines of national roads except at town/city areas, border gates and port areas.

(2) Conditions of Transportation Infrastructure

Most of the National roads are paved with asphalt-concrete or laterite; however they are damaged or broken in numerous sections of the road, with big and small potholes. In year 2000, the average driving speed of cars was only 20 to 50 km/hour, excluding RN-4 and some portions of RN-6 & RN-7. Most of the other National roads and Provincial roads paved with laterite are often not drivable after heavy rains. Village / farm road are very poor in quantity and quality. Farm roads are not found in the paddy fields, even in irrigated areas. Paddy transportation is conducted manually or by bullock carts from field to field.

Rehabilitation works for National Roads are planned or being implemented with the assistance of ADB, World Bank and the Japanese government.

4.5 Policy on Rice Marketing and Prices

Currently, the government has no market intervention or market control system for the domestic marketing.

Producer's price

Rice prices are completely under market mechanism and there is no programs/subsidies to support producer's prices or guarantee minimum price, etc. There are no insurance institutions to protect farmers from natural disaster.

Consumer's price

There is no mechanism to stabilize the price fluctuation (Market intervention)

Food subsidy (Rice procurement by the Police and Army)

Rice for police and army is procured by the tender but its details are no clear. Reportedly, the total rice supply for the army and police was 70,000 tons in 1999. Due to the demobilization, the amount of rice supply also is decreased.

5. Rice Trade

5.1 Rice Trade

Although some import/export statistics are available from various agents such as FTD/MOC, Custom Dept./MEF, Port Authority and CAMCONTROL, each figure is based on different sources and has no reliability.

Rice export data obtained from MOC are shown. During the 1996-2001, Singapore is a major destination and it account for 57% of total export volume.

Export amount & turnover

Year	Q'ty (M/T)	Turnover (USD)	Average FOB (USD/ton)
1996	16,310	4,314,070	265
1997	10,947	3,234,815	295
1998	3,080	808,840	263
1999	7,390	1,632,310	221
2000	12,800	2,413,866	189
2001	6,020	2,049,395	340

Source : Foreign Trade Department/MOC

Note : Although several export-import data are available form Custom dept./MEF, FTD/MOC and Camcontrol, each data shows different figures because data sources are different from each other.

Export costs by using a dry cargo 20-ft container was quoted at over USD21/ton (in 2000). Informal fee payments for port procedures were included in the quotation.

5.2 Paddy Trade

There is no statistics for paddy export to neighboring countries. Based on the Agricultural Statistic 1999/2000 and other trade data obtained, the volume of paddy out-flow through informal border is roughly assumed as 477 to 485 thousand ton.

Main reason for the paddy flow to Vietnam is lack of a domestic market for irrigated early rice (specially IR variety). The main reason for the paddy flow to Thailand is physical difficulty and high costs of transporting commodities within the northwest region and/or higher profit. Due to this informal export, there is no trade data. This is a major hindrance to estimate the national food balance and to formulate policies and intervention measures.

General agreement on trade cooperation between respective country was made and promotion of bilateral trade and border trade is clearly stated in the agreements. But it seems that no definite (written) agreements about paddy border trade exists.

Reportedly paddy trade is banned at Thai border. However, Thai local authority has some flexibility in border trade and admits the paddy import with a limitation of amount at a certain formal gate.

Vietnam government allows Cambodian people with legal permanent residence in border areas in Cambodian territory to conduct trade at border markets in Vietnam if they have border passes. Rice imports need the permit from the Ministry of Trade of Vietnam. According to the hearing from Vietnam traders, paddy import is legalized with import tax, but rice import is banned in border trade.

5.3 Policy on Rice Trade

Although export of processed agricultural produce is regarded as most important policy in the development of national economy, there is no concrete measure for export promotion about rice.

(1) Overseas (Rice) Trade

Ban on export of milled rice was removed in 1995 (Declaration No.02) and export license (issued on request) was introduced. Thus, there is no restriction on rice export.

(2) Border (Paddy) Trade

Large quantity of paddy has been flowing out as informal border trade (without license) to neighboring countries (Vietnam and Thailand). On the other hand, the government did not want to export paddy and took a stance for not issuing a license for paddy export even if there was an application. But in order to promote rice production in the country, Ministry of Commerce has permitted the export both of milled rice and paddy without an export license in July 2001 (Notification No. 2290 Moc/M2001).

Tax on Export / Import

Export duty on milled rice is 0%, import duty is 7% and VAT 10%.

Export subsidies

None

Bilateral/Multilateral agreement on Rice trade

Though there are general trade agreements, there is no agreement specific on rice trade.

Quality Standard System

In June-2000 “Law on the Management of Quality and Safety of Products and Services” was enacted as sub-decree but the quality standard as a measure is not enacted yet. Standard of rice (for export and for domestic distribution) has not established yet.

6. Rice Reservation

6.1 Policy on Rice Reserve

Although the food reserve policy is the foundation of food security, except for urgent rice reserve by ASEAN, there is no measure accompanied by the clear numerical target as a national reserve by the government.

6.2 Rice Reservation by the Government

After its official participation in 1999, Cambodia is obligated to allocate 3,000 tons of milled rice for the ASEAN Food Security Reserve (AFSR). Ministry of Commerce is a responsible agency for the AFSR and Green Trade Company (GTC) under the Ministry of Commerce undertakes the management. Rice reserve by GTC is conducted in a form of paddy.

In FY 2001, actual reserved amount by GTC was 2,340 tons (equal to about 1,450 tons of milled rice) nearly equal to 50 % of the obligate amount due to tight situation of national finance. For another 50%, in October 2001, the Minister of Commerce has requested to commercial rice millers in the country through the Rice Millers Association to regularly keep stock at the volume of not less than one month of the handling volume (sales volume or processing volume) in either paddy or rice.

6.3 Rice Storage Facilities under the Government

Warehouses under MOC: Most of warehouses owned by MOC were constructed around the year 1985, and they are old and less utilized. However, they are dispersed in whole provinces, having a good accessibility locating along the National Road or main roads or near main cities. Most of them are necessary to renovate to be utilized because the damages on doors, walls, floors and roofs.

Warehouses & facilities owned by GTC: GTC has 27 warehouses of 50,000 ton capacity in Phnom Penh, and three rice mills in Phnom Penh and Bat Dambang and one under construction in Kampong Cham.

Warehouses owned by MOC

Province	Number	Capacity (ton)	Usage (Number)	Building Conditions (Number)		
				Good	Fair	Poor
Bat Dambang	13	43,438	1	N.A	N.A	N.A
Kg. Cham	17	36,369	0	2	10	5
Kg. Chhnang	7	12,703	0	2	1	4
Kg. Spueu	3	1,040	0	0	0	3
Kandal	5	10,783	0	0	1	3 + (N.A)
Siem Reab	15	21,154	0	9	6	
Svay Rieng	12	161,400	0	N.A	N.A	N.A
Takeav	7	11,300	1	2	5	0

Source: Provincial Department of Commerce

7. Food Aids (Food distribution to the vulnerable people)

7.1 WFP

WFP financially supported by international donors, procures rice from both external and internal sources. It then distributes this rice with other basic commodities to deficit and vulnerable areas. Food-for-Work program accounts for 85 % of its activities.

Rice Procurement and Distribution by WFP (Unit: tons)

Year	Foreign procurement	Domestic Procurement	Total	Distribution
1998	16,352	19,673	36,025	28,828
1999	10,882	13,037	23,919	27,474

Source : WFP

Japanese government provided 16,533 tons (1998), 10,859 tons (1999) and 14,772 tons (2000) of rice in kind through the WFP and other IOs.

Although it may be cheaper to import rice from neighboring countries when the need arises, it would be desirable for donors, including WFP, to purchase local rice surplus for internal transfers to deficit areas. Apart from cost savings, this would help support prices in surplus areas in Cambodia.*1

7.2 The National Committee for Disaster Management (NCfDM)

The National Committee for Disaster Management (NCfDM) under the Council of Ministers is responsible to implement the disaster relief scheme, which was established in 1996. NCfDM has

*1 Agricultural Strategies and Policy Framework for Sustainable Food Security and Poverty Alleviation, MAFF, FAO & UNDP, 2000

an allocated budget of 1 billion Riels (equivalent to about 1,200 tons of white rice) for periodic flood damages as well as draught damages that occur annually.

8. Poverty

The monthly per capita income was estimated as at only \$20 (79,355 Riel) in the results of the Socio-Economic Survey 1999. On the UNDP's Human Development Index (1999), which measured by both income and broader human development indicators, Cambodia is ranked 121st of 162 countries

The poverty is measured relative to a level of expenditures that allows some minimum standard of living, i.e. "poverty line". In Cambodia, it is defined as food consumption that provides at least 2,100 calories of energy per person per day and a small allowance for non-food consumption to cover basic items like clothing and shelter.

Poverty Line in Cambodia (1997)				
		Phnom Penh	Other urban areas	Rural areas
Food expenditure	Riel	1,378	1,102	940
(Food poverty line)	(USD) *	(0.46)	(0.37)	(0.31)
Non-food expenditure	Riel	441	305	270
	(USD) *	(0.15)	(0.10)	(0.09)
Poverty line	Riel	1,819	1,407	1,210
	(USD) *	(0.61)	(0.47)	(0.40)

Source : Ministry of Planning (1998)

* Annual average exchange rate (mid-point, official) in 1997 (2,991 Riel) is used for conversion to USD.

Based on 1997 data, it is estimated that 36% of the population was poor and the poverty rate was higher in rural areas (40%), which is four times higher than poverty in Phnom Penh (11%). Rural households, especially those for whom agriculture is the primary source of income, account for 88% of the poor.

Situation of the Poverty (1997)					
		Phnom Penh	Other urban areas	Rural areas	Total
Population	(%)	9.9	10.7	79.4	100.0
Food poverty line					
- Population under the food poverty line	(%)	3.4	15.4	20.0	17.9
- Contribution to total	(%)	1.9	9.2	88.9	100.0
Poverty line					
- Population under the poverty line	(%)	11.1	29.9	40.1	36.1
- Contribution to total	(%)	3.1	8.9	88.1	100.0

Source : Cambodia Poverty Assessment, Ministry of Planning (1999)

However, the inequalities among the poor are higher for other urban areas than for the rural sector.

Some urban areas outside Phnom Penh have a significant minority of their population with very low living standards. A particular characteristic of urban poverty is the presence of about 35,000 squatters families in all seven wards of Phnom Penh. There are approximately 170,000 squatters living legally or illegally in the capital, of which more than 50% are children.*¹

By type of employment of household head, poverty rate was highest in households headed by farmers (43.6%) and households headed by civil servants were second lowest (18%).

Distribution of poverty by employment of household head (June 1997)

	Population (%)	Population under the poverty line (%)	Contribution to total (%)
Agriculture	59.1	43.6	71.3
Manufacturing and mining	4.7	28.9	3.8
Construction and utilities	2.0	37.8	2.1
Trade	6.8	18.7	3.5
Transportation and communications	3.6	19.9	2.0
Government service	4.7	18.0	2.4
Education and health services	3.0	17.0	1.4
Other services	1.8	26.5	1.3
Employed, industry not reported	2.3	33.6	2.1
Unemployed	0.4	27.0	0.3
Not in labor force	9.7	31.2	8.4
Not reported	1.9	27.1	1.4
Total	100.0	36.1	100.0

Source : Cambodia Poverty Assessment, Ministry of Planning (1999)

In Cambodia, rice accounts for an estimated 75% of daily calorie intake, and rice availability is a critical element of overall food security. Although there has been an overall rice surplus since 1995, yet food insecurity in rural areas remains a major aspect of poverty in Cambodia. According the 1997's data of food poverty line, 20% of rural population were unable to secure enough food to meet the nutritional norm of 2,100 calories a day.

The most important contributors to food insecurity in Cambodia are low incomes and high levels of indebtedness, high variation in food production over time and across regions, and inadequate distribution and marketing infrastructure linking food deficit and surplus areas. Low incomes limit purchasing power and effective access to adequate food supplies.*²

9. National Food Security Policy

As described in the prior section, 44 % of the agricultural farm households live on the expenditure level under the poverty line. Taking a fact that 75% of the nation labor force is engaged in

*1 Interim Poverty Reduction Strategy Paper, Oct. 2000

*2 Cambodia Poverty Assessment, Ministry of Planning 1999

agriculture into account, agriculture development for up-raising of farmers' income will greatly contribute to poverty alleviation in Cambodia.

The Agricultural Development Plan (2001-2005) has set a development target in conformity with its political line: "to assure food security and natural resource conservation". The basic targets for the development of agriculture, forestry and fisheries until year 2005 has set as:

- Continues to focus the attention upon the food security, especially at community and family levels, and on reducing poverty because there is a large number of poor people in the agricultural sector. Accelerate and increase in food production, especially the rice crop and other alternative food crops.
- Help promote the national economic growth through exporting agricultural produce, which are surplus to domestic consumption.
- Improve quality of agriculture produce and increase value added by promoting the development of processing agro-industry, and create new jobs for rural areas.
- Improve family income, reduce poverty through the production of various crops that yield highly with low cost of production.
- Manage natural resources effectively by law and technical measures in order to assure sustainable exploitation.

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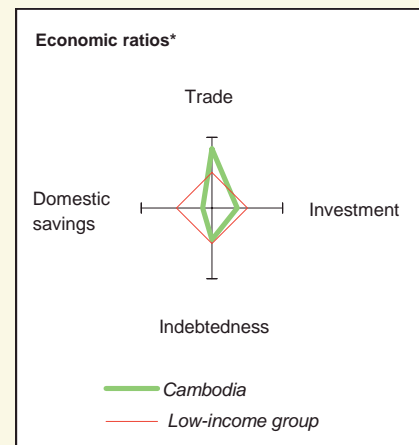
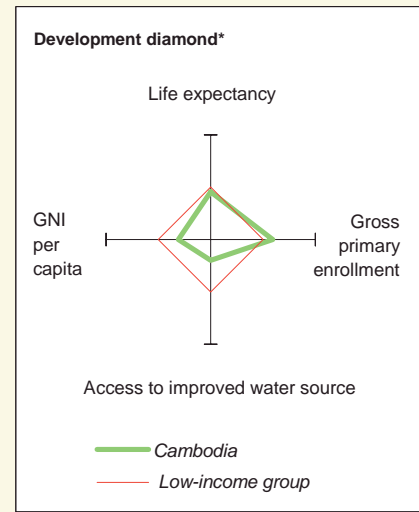
Annexes

1. Cambodia at a glance & Social Indicators (World Bank Data)
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3. Rice crop damage, 1995 – 1999
4. Cause of Damage, Selected provinces
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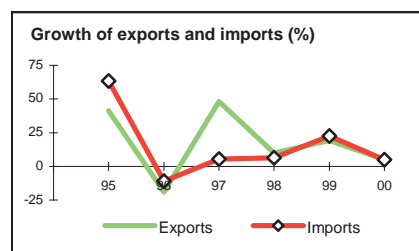
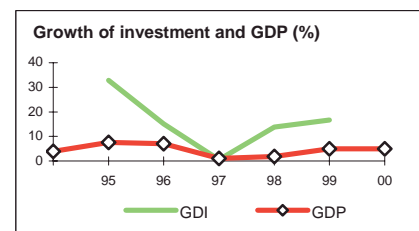
Cambodia at a glance

9/7/01

	Cambodia	East Asia & Pacific	Low-income		
POVERTY and SOCIAL					
2000					
Population, mid-year (millions)	12.0	1,853	2,459		
GNI per capita (Atlas method, US\$)	260	1,060	420		
GNI (Atlas method, US\$ billions)	3.1	1,964	1,030		
Average annual growth, 1994-00					
Population (%)	2.5	1.1	1.9		
Labor force (%)	2.7	1.4	2.4		
Most recent estimate (latest year available, 1994-00)					
Poverty (% of population below national poverty line)	36	..	..
Urban population (% of total population)	16	35	32		
Life expectancy at birth (years)	54	69	59		
Infant mortality (per 1,000 live births)	100	35	77		
Child malnutrition (% of children under 5)	47	13	..		
Access to an improved water source (% of population)	30	75	76		
Illiteracy (% of population age 15+)	60	14	38		
Gross primary enrollment (% of school-age population)	113	119	96		
Male	123	121	102		
Female	104	121	86		
KEY ECONOMIC RATIOS and LONG-TERM TRENDS					
	1980	1990	1999	2000	
GDP (US\$ billions)	..	1.1	3.0	3.2	
Gross domestic investment/GDP	..	8.2	15.8	15.0	
Exports of goods and services/GDP	..	6.1	37.2	40.1	
Gross domestic savings/GDP	..	1.6	3.9	5.3	
Gross national savings/GDP	..	5.6	3.7	5.0	
Current account balance/GDP	..	-4.5	-9.4	-10.4	
Interest payments/GDP	..	2.6	0.4	0.5	
Total debt/GDP	..	166.4	75.1	74.0	
Total debt service/exports	..	34.1	2.9	1.0	
Present value of debt/GDP	62.1	..	
Present value of debt/exports	163.0	..	
	1980-90	1990-00	1999	2000	2000-04
(average annual growth)					
GDP	..	4.8	5.0	5.0	6.0
GDP per capita	..	2.0	2.7	2.7	4.0
Exports of goods and services	..	15.1	19.1	5.0	5.0



	1980	1990	1999	2000
STRUCTURE of the ECONOMY				
<i>(% of GDP)</i>				
Agriculture	..	55.6	39.6	37.1
Industry	..	11.2	18.8	20.5
Manufacturing	..	5.2	..	..
Services	..	33.2	41.6	42.4
Private consumption	..	91.2	89.8	..
General government consumption	..	7.2	6.3	..
Imports of goods and services	..	12.8	49.1	46.9
	1980-90	1990-00	1999	2000
(average annual growth)				
Agriculture	..	1.9	1.1	1.0
Industry	..	8.3	7.5	4.7
Manufacturing	..	8.2	..	..
Services	..	6.9	8.1	9.3
Private consumption	..	1.5	1.7	..
General government consumption	..	-0.8	9.9	..
Gross domestic investment	..	13.4	16.7	..
Imports of goods and services	..	10.3	22.6	5.0

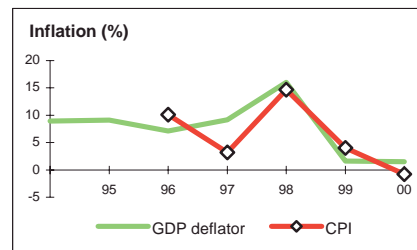


Note: 2000 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

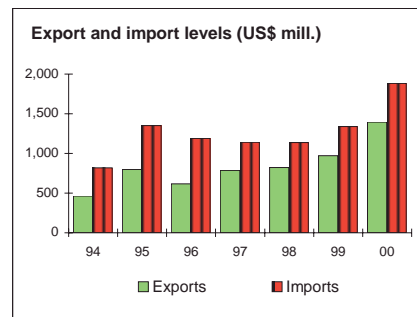
PRICES and GOVERNMENT FINANCE

	1980	1990	1999	2000
Domestic prices				
(% change)				
Consumer prices	4.0	-0.8
Implicit GDP deflator	..	145.6	1.6	1.5
Government finance				
(% of GDP, includes current grants)				
Current revenue	..	6.8	14.6	15.6
Current budget balance	..	-0.4	1.8	1.5
Overall surplus/deficit	..	-1.6	-4.4	-5.5



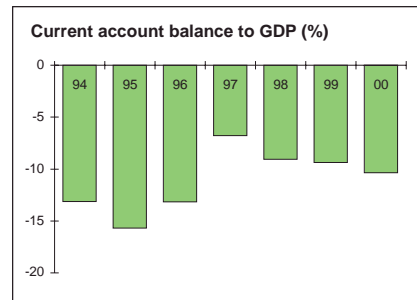
TRADE

	1980	1990	1999	2000
(US\$ millions)				
Total exports (fob)	..	86	971	1,396
Rubber	..	17	111	49
Logs and sawn timber	..	8	37	11
Manufactures
Total imports (cif)	..	164	1,337	1,885
Food
Fuel and energy
Capital goods
Export price index (1995=100)
Import price index (1995=100)
Terms of trade (1995=100)



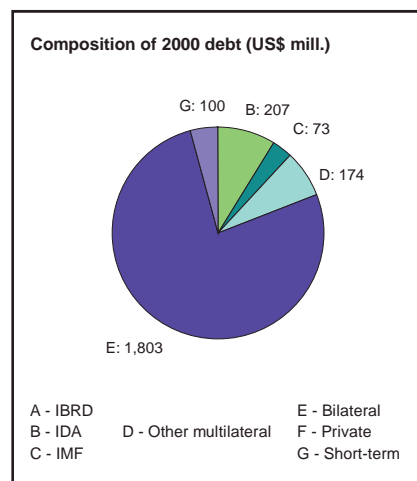
BALANCE of PAYMENTS

	1980	1990	1999	2000
(US\$ millions)				
Exports of goods and services	..	88	1,131	1,600
Imports of goods and services	..	183	1,407	1,919
Resource balance	..	-95	-276	-319
Net income	..	0	-76	-81
Net current transfers	..	45	70	70
Current account balance	..	-50	-282	-330
Financing items (net)	377	392
Changes in net reserves	-95	-62
Memo:				
Reserves including gold (US\$ millions)	422	484
Conversion rate (DEC, local/US\$)	..	537.0	3,807.8	3,840.8



EXTERNAL DEBT and RESOURCE FLOWS

	1980	1990	1999	2000
(US\$ millions)				
Total debt outstanding and disbursed	..	1,854	2,262	2,357
IBRD	..	0	0	0
IDA	..	0	180	207
Total debt service	..	30	33	16
IBRD	..	0	0	0
IDA	..	0	1	1
Composition of net resource flows				
Official grants	..	23	220	271
Official creditors	..	0	38	78
Private creditors	..	0	-3	0
Foreign direct investment	146	110
Portfolio equity	..	0	..	..
World Bank program				
Commitments	..	0	80	37
Disbursements	..	0	27	37
Principal repayments	..	0	0	0
Net flows	..	0	27	37
Interest payments	..	0	1	1
Net transfers	..	0	26	35



Cambodia Social Indicators

	Latest single year			Same region/income group	
	1970-75	1980-85	1993-99	East Asia & Pacific	Low-income
POPULATION					
Total population, mid-year (millions)	7.1	7.8	11.8	1,836.6	2,417.1
Growth rate (% annual average for period)	0.5	2.7	2.6	1.2	1.9
Urban population (% of population)	10.3	12.6	15.6	34.5	31.4
Total fertility rate (births per woman)	4.7	5.0	4.4	2.1	3.7
POVERTY					
<i>(% of population)</i>					
National headcount index	..	..	36.1	..	..
Urban headcount index	..	..	21.1	..	..
Rural headcount index	..	..	40.1	..	..
INCOME					
GNI per capita (US\$)	..	..	260	1,010	420
Consumer price index (1995=100)	..	..	136	136	138
Food price index (1995=100)	..	..	..	..	..
INCOME/CONSUMPTION DISTRIBUTION					
Gini index	..	..	40.4	..	..
Lowest quintile (% of income or consumption)	..	..	6.9	..	..
Highest quintile (% of income or consumption)	..	..	47.6	..	..
SOCIAL INDICATORS					
Public expenditure					
Health (% of GDP)	..	..	0.6	1.7	1.2
Education (% of GNI)	5.8	..	2.9	2.9	3.3
Social security and welfare (% of GDP)	..	..	..	..	..
Net primary school enrollment rate					
<i>(% of age group)</i>					
Total	..	..	100	100	..
Male	..	..	..	100	..
Female	..	..	92	100	..
Access to an improved water source					
<i>(% of population)</i>					
Total	..	..	30	75	76
Urban	..	..	53	93	88
Rural	..	..	25	66	70
Immunization rate					
<i>(% under 12 months)</i>					
Measles	..	..	63	83	64
DPT	..	..	64	82	70
Child malnutrition (% under 5 years)	..	..	47	12	..
Life expectancy at birth					
<i>(years)</i>					
Total	35	47	54	69	59
Male	34	46	52	67	58
Female	36	49	55	71	60
Mortality					
Infant (per 1,000 live births)	230	142	100	35	77
Under 5 (per 1,000 live births)	244	330	143	44	116
Adult (15-59)					
Male (per 1,000 population)	509	473	364	184	288
Female (per 1,000 population)	406	355	315	141	258
Maternal (per 100,000 live births)	..	..	470	..	..
Births attended by skilled health staff (%)	..	100	31	..	..

Note: 0 or 0.0 means zero or less than half the unit shown. Net enrollment ratios exceeding 100 indicate discrepancies between the estimates of school-age population and reported enrollment data. Latest year for access to improved water source data is 2000.

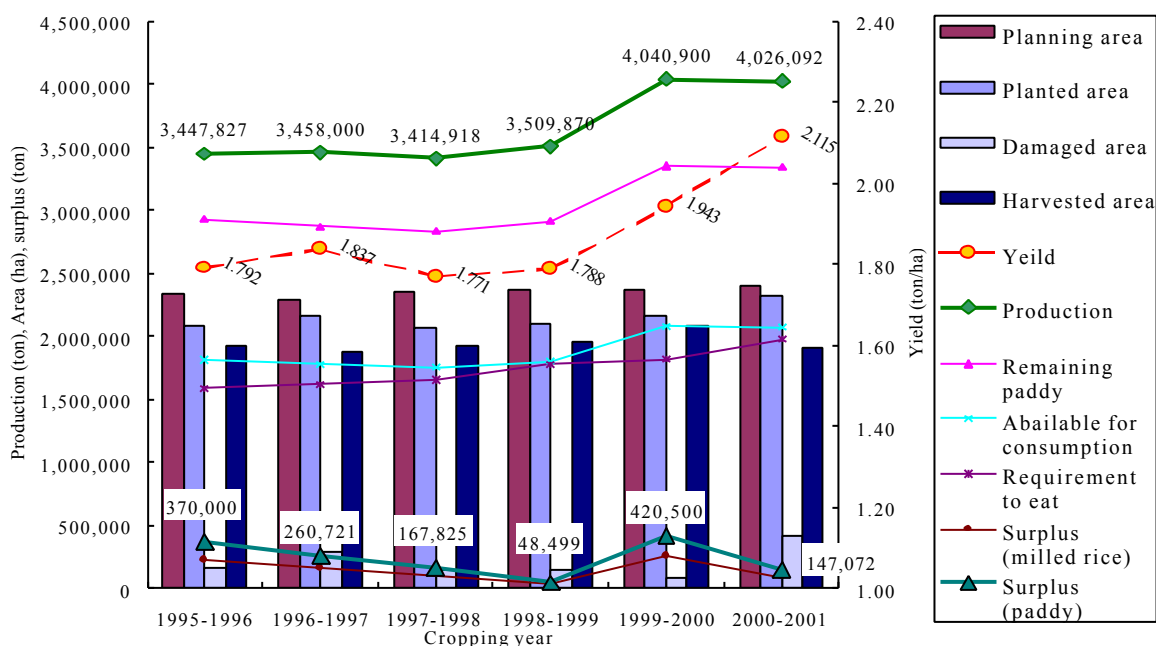
2001 World Development Indicators CD-ROM, World Bank

2. Annual and Monthly Statistic Data for Production of paddy

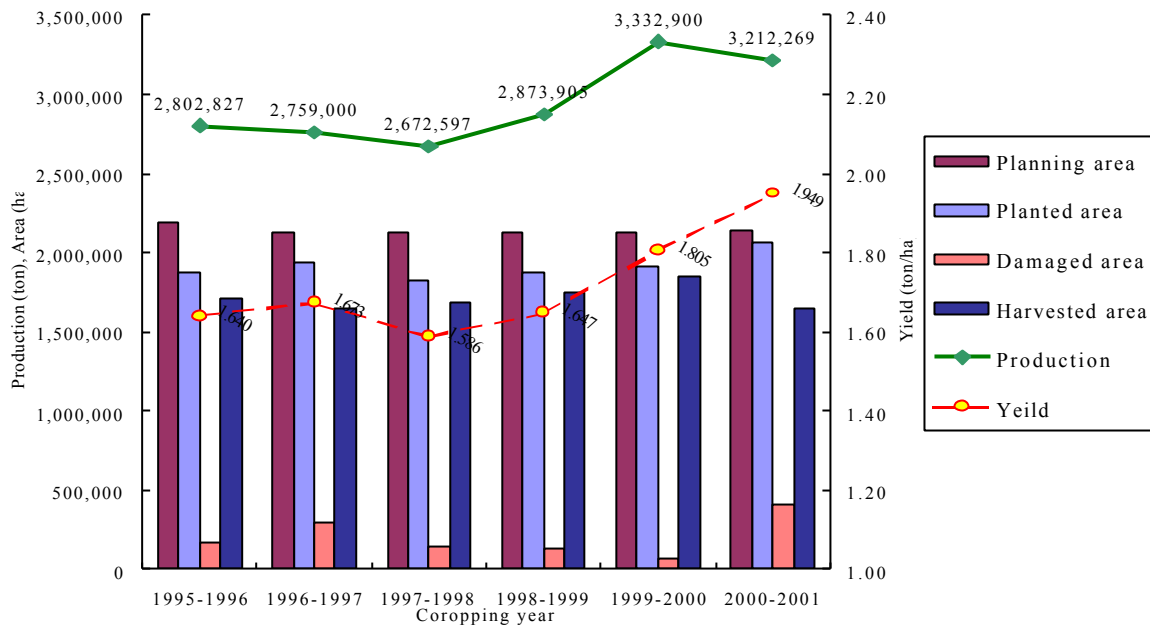
Transition of Production, Cultivation area, Yield for the last 6 years

Cropping year		1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001
Total of cropping year	Planning area	2,345,000	2,297,000	2,358,000	2,370,000	2,370,000	2,395,000
	Planted area	2,085,991	2,170,900	2,076,011	2,104,013	2,157,592	2,318,495
	Damaged area	161,950	288,900	147,422	141,447	78,150	415,336
	Harvested area	1,924,041	1,882,000	1,928,589	1,962,566	2,079,442	1,903,159
	Yield	1.792	1.837	1.771	1.788	1.943	2.115
	Production	3,447,827	3,458,000	3,414,918	3,509,870	4,040,900	4,026,092
	Remaining paddy	2,930,653	2,870,140	2,834,382	2,913,192	3,353,947	3,341,656
	Available for consumption	1,817,005	1,779,487	1,757,317	1,806,179	2,079,447	2,071,827
	Requirement to eat	1,587,600	1,617,840	1,653,265	1,776,110	1,818,737	1,980,642
	Surplus (milled rice)	229,405	161,647	104,052	30,069	260,710	91,185
	Surplus (paddy)	370,000	260,721	167,825	48,499	420,500	147,072
Wet season crops	Planning area	2,185,000	2,127,000	2,128,000	2,130,000	2,130,000	2,135,000
	Planted area	1,869,991	1,936,900	1,827,328	1,873,093	1,915,592	2,058,648
	Damaged area	160,950	287,900	142,422	127,697	69,150	410,836
	Harvested area	1,709,041	1,649,000	1,684,906	1,745,396	1,846,442	1,647,812
	Yield	1.640	1.673	1.586	1.647	1.805	1.949
	Production	2,802,827	2,759,000	2,672,597	2,873,905	3,332,900	3,212,269
Dry season crops	Planning area	160,000	170,000	230,000	240,000	240,000	260,000
	Planted area	216,000	234,000	248,683	230,920	242,000	259,847
	Damaged area	1,000	1,000	5,000	13,750	9,000	4,500
	Harvested area	215,000	233,000	243,683	217,170	233,000	255,347
	Yield	3.000	3.000	3.046	2.928	3.039	3.187
	Production	645,000	699,000	742,321	635,965	708,000	813,823

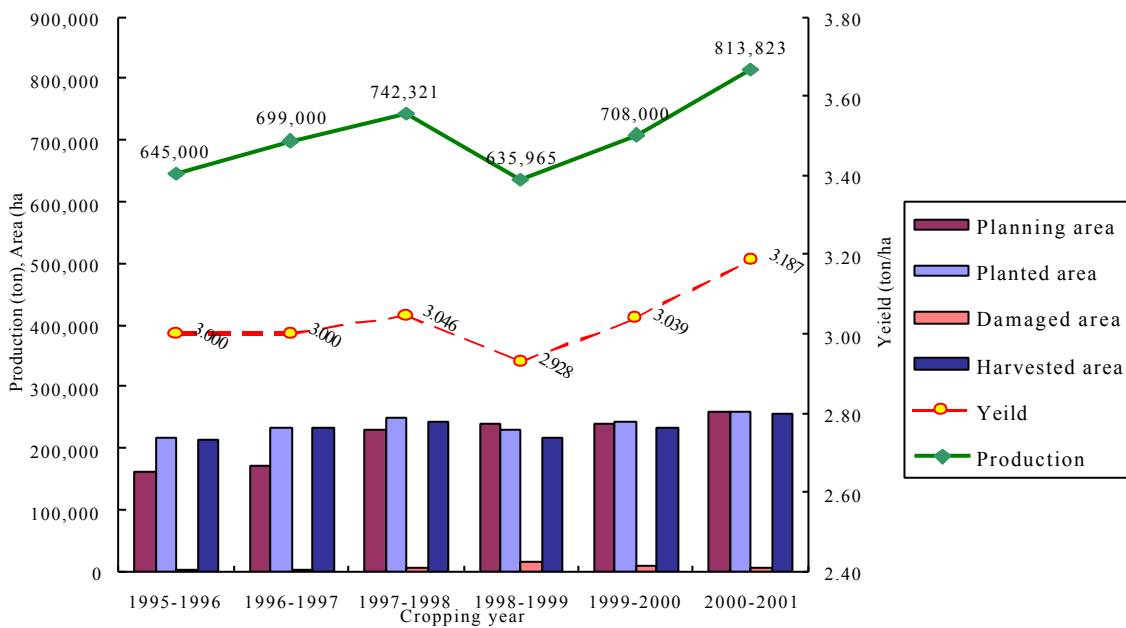
Source: AGRICULTURAL STATISTICS, Department of Agronomy & Agricultural Land Improvement, MAFF



Production transition of paddy by cropping year for the last 6 years



Production transition of paddy by wet season crops for the last 6 years



Production transition of paddy by dry season crops for the last 6 years

3. Rice Crop Damage (1995 - 2000)

Wet Season Rice	unit	1995/1996	1996/1997	1997/1998	1998/1999	1999/2000
Cultivated Area	ha	1,869,991	1,936,900	1,827,328	1,873,093	1,915,592
Destoryed Area	ha	160,950	287,900	142,422	127,697	69,150
Harvested Area	ha	1,709,041	1,649,000	1,684,906	1,745,396	1,846,442
Destroyed ratio	%	9%	15%	8%	7%	4%
Production	1000 ton	2,803	2,759	2,673	2,874	3,333
Yield	ton/ha	1.64	1.67	1.60	1.65	1.81

Dry Season Rice	unit	1995/1996	1996/1997	1997/1998	1998/1999	1999/2000
Cultivated Area	ha	216,000	234,000	248,683	230,920	242,000
Destoryed Area	ha	1,000	4,000	4,900	13,750	9,000
Harvested Area	ha	215,000	230,000	243,783	217,170	233,000
Destroyed ratio	%	0.5%	2%	2%	6%	4%
Production	1000 ton	645	699	742	636	708
Yield	ton/ha	3.00	3.04	3.05	2.93	3.04

Source : Agricultural Statistics, MAFF

4. Cause of Damage, Selected provinces

Crop Year	Province	Bat	Mean	Kampong		Prey
	Cause of damage	Dambang	Chey	Thum	Takev	Veang
1997/1998	Flood	4%	0%	69%	67%	7%
	Draught	94%	100%	21%	33%	93%
	Insect+Rodent	2%	0%	10%	0%	0%
1998/1999	Flood	8%	47%	9%	0%	22%
	Draught	91%	44%	68%	100%	11%
	Insect+Rodent	2%	9%	23%	0%	67%
1999/2000	Flood	65%	78%	67%	39%	33%
	Draught	3%	20%	20%	39%	42%
	Insect+Rodent	32%	2%	13%	22%	26%

Source : Agricultural Statistics, MAFF

5. Destroyed Area of Wet Season Rice

Unit : ha

Province	Crop Year		1999/2000						1998/1999						1997/1998					
	Region	Area* (sq.km)	Cultivated area	Destroyed area					Cultivated area	Destroyed area					Cultivated area	Destroyed area				
				Total	Flood	Rodent	Draught	Insect		Total	Flood	Rodent	Draught	Insect		Total	Flood	Rodent	Draught	Insect
1 Phnom Penh	Plain	290	7,530	2,134	2,134				7,980	1,580	0	0	1,580	0	7,845	156			76	80
2 Kandal	Plain	3,568	45,143	2,469	1,869	165	435		44,150	1,950	950			1,000	42,891	4,868	4,343		525	
3 Prey Veang	Plain	4,883	241,308	1,083	353	63	450	217	204,112	2,312	500	80	262	1,470	177,507	17,031	1,241		15,790	
4 Kampong Cham	Plain	9,799	168,374	1,131	1,063	50		18	160,500	400		30	190	180	146,937	3,117	2,837		180	100
5 Svay Rieng	Plain	2,966	167,878	5,560	2,465	80	1,815	1,200	154,800	5,400	1,700	100	3,200	400	151,681	792			727	65
6 Takev	Plain	3,563	176,102	2,971	1,147	660	1,164		170,648	8,648			8,648		170,648	8,619	5,745		2,835	39
7 Kampong Spueu	Plt/Mt.	7,017	86,598	2,295	1,756		539		83,645	45				45	81,931	2,563	138		2,425	
8 Kampong Chhnang	Tonle S.	5,521	83,561	495	495				76,714	414	150		184	80	84,110	483	386			97
9 Bat Dambang	Tonle S.	11,702	184,154	15,583	10,099		470	5,014	202,033	33,333	2,500		30,233	600	193,065	56,422	2,352		53,070	1,000
10 Siem Reab	Tonle S.	10,299	182,630	1,550	1,150		320	80	182,000	1,200		50	850	300	178,820	8,645	7,970			675
11 Kampong Thum	Tonle S.	13,814	108,887	9,723	6,536	173	1,914	1,100	121,702	11,502	1,021	1,050	7,839	1,592	127,501	9,248	6,338		1,967	943
12 Banteay Mean Chey	Tonle S.	6,679	145,700	5,500	4,300		1,100	100	157,500	32,800	15,500		14,400	2,900	149,250	20,000			20,000	
13 Pousat	Tonle S.	12,692	76,404	4,454	4,454				77,147	6,647	0		6,647		76,028	1,500	1,500			
14 Otdar Mean Chey	Tonle S.	6,158		0						0						0				
15 Krong Pailin	Tonle S.	803		0						0						0				
16 Krong Preah Sihanouk	Coastal	868	9,523	23	23				9,645	166	130			36	9,450	1,700				1,700
17 Kampot	Coastal	4,873	135,890	2,783	2,783				130,535	13,635			13,635		136,500	0				
18 Kaoh Kong	Coastal	11,160	7,514	242	242				7,115	0					7,340	0				
19 Krong Kaeb	Coastal	336	2,500	50	30		10	10	2,594	0					2,594	0				
20 Preah Vihear	Plt/Mt.	13,788	17,425	514	477		37		15,000	1,020	854		166		15,755	0				
21 Stueng Traeng	Plt/Mt.	11,092	17,110	3,644	2,779		865		16,000	873			194	679	14,262	5,349	4,948		172	229
22 Rotanak Kiri	Plt/Mt.	10,782	18,822	1,204	1,089			115	17,423	1,075			542	533	19,883	944	225		719	
23 Mondol Kiri	Plt/Mt.	14,288	7,602	1,422	887			535	5,000	747			222	525	6,185	0				
24 Kracheh	Plt/Mt.	11,094	24,937	4,320	4,302	5		13	23,850	3,950	15		3,935		27,145	985	985			
Total		178,035	1,915,592	69,150	50,433	1,196	9,119	8,402	1,870,093	127,697	23,320	1,310	92,727	10,340	1,827,328	142,422	39,008	0	98,486	4,928

Note: * Not including Tonle Sap Lake (3,000 sq.km) Data Source: General Population Census of Cambodia, 1998

Source : Agricultural Statistics, MAFF

6. Ploughed Area by Tractor in 2000

Province	Tractor		Power Tiller		Ploughed Area (ha)
	State-own (unit)	Private-own (unit)	State-own (unit)	Private-own (unit)	
Phnom Penh		5		2	122
Kandal		25			4,865
Kampong Cham	1	195		263	32,588
Svay Rieng		20			3,380
Prey Veang	8	132		278	9,151
Takev		82		85	
Kampong Thum		150	1		17,016
Siem Reab	14	34		24	5,487
Bat Dambang	32	693	1	2,599	121,115
Banteay Mean Chey		658		1,625	87,000
Pousat		45		25	11,012
Kampong Chhnang		40		94	2,100
Sihanouk Ville		10			
Kampot	2	10		20	
Kampong Spueu		10		15	15
Total	57	2,109	2	5,030	293,851

Source : Agricultural Statistics 2000-2001, MAFF

7. Monthly Paddy / Rice Prices, 1998 - 2000

	Cambodia 1/			Thailand 2/
Place	Bat Dambang	Phnom Penh	Takeo	Bangkok
Type / Variety	Paddy/Phaka Kagney	Milled rice,/Phaka Kagney	Paddy/IR	White rice/Long grain 15% broke
Kind of price	Mill buying price	Wholesaler selling price	Mill buying price	FOB Bangkok
Unit	(Riel/kg)	(Riel/kg)	(Riel/kg)	(US\$/ton)
1998-Jan.	553	1220	441	278
1998-Feb.	461	1180	413	279
1998-Mar.	524	1245	415	278
1998-Apr.	578	1320	478	296
1998-May.	761	1490	537	299
1998-Jun.	812	1470	599	311
1998-Jul.	736	1470	648	304
1998-Aug.	703	1490	626	305
1998-Sep.	745	1540	668	304
1998-Oct.	714	1500	621	282
1998-Nov.	536	1400	549	260
1998-Dec.	535	1300	495	261
1999-Jan.	448	1100		283
1999-Feb.	436	1115		263
1999-Mar.	563	1110		239
1999-Apr.	599	1100	424	221
1999-May.		1300	413	229
1999-Jun.	506	1300		240
1999-Jul.	525	1276	395	241
1999-Aug.	570	1250	400	237
1999-Sep.	480	1230	374	217
1999-Oct.	446	1160	358	205
1999-Nov.	383	1150	394	216
1999-Dec.	377	1100	386	221
2000-Jan.	417	1023		228
2000-Feb.	388	1000		225
2000-Mar.	434	977		209
2000-Apr.	402	962		200
2000-May.	383	980	288	186
2000-Jun.	406	989	290	183
2000-Jul.	470	1028	319	178
2000-Aug.	461	1015	345	175
2000-Sep.	481	930	336	170
2000-Oct.	517	965	359	176
2000-Nov.	523	950	348	173
2000-Dec.	424	1067	299	173

Source : 1/ Price Bulletin for Agricultural Commodities, 1998, 1999 and 2000, MAFF

2/ USDA Rice Outlook

8. Rice Export 1996 - 2000 by Grade

Year	1996		1997		1998		1999		2000		1996 - 2000	
	MT	USD	MT	USD	MT	USD	MT	USD	MT	USD	MT	%
White rice 100%							3,050	670,990	400	58,800	3,450	6.8%
4% Broken									500	164,525	500	1.0%
5% Broken	10,620	3,242,670	7,216	2,337,730	1,880	507,840	1,920	412,400	1,380	419,341	23,016	45.5%
10% Broken			240	100,800			400	108,000	120	24,000	760	1.5%
15% Broken							200	35,600			200	0.4%
30% Broken					500	120,000					500	1.0%
35% Broken	490	135,400	1,186	313,260	700	181,000	1,820	404,320	10,400	1,747,200	14,596	28.9%
Broken	5,200	936,000	2,315	483,125							7,515	14.9%
	16,310	4,314,070	10,957	3,234,915	3,080	808,840	7,390	1,631,310	12,800	2,413,866	50,537	100.0%

Source : Export Office, MOC

9. Rice Export 1996 - 2001 by Distention

Year	1996		1997		1998		1999		2000		2001		1996 - 2001	
	MT	USD	MT	USD	MT	USD	MT	USD	MT	USD	MT	USD	MT	%
China	750	217,500											750	1.3%
Hong Kong	1,526	442,540	1,100	419,000									2,626	4.6%
Philippine	450	126,000											450	0.8%
Singapore	13,584	3,528,030	8,757	2,374,815	2,280	618,840	6,390	1,366,560	1,600	333,000			32,611	57.7%
Australia			240	100,800			500	150,000					740	1.3%
Israel			215	92,450									215	0.4%
Netherlands			420	159,600									420	0.7%
Spain			215	88,150									215	0.4%
Thailand					800	190,000							800	1.4%
Malaysia							500	114,750	1,200	400,866	6,000	2,049,375	7,700	13.6%
USA									10,000	1,680,000			10,000	17.7%
Belgium											20	20	20	0.04%
Total	16,310	4,314,070	10,947	3,234,815	3,080	808,840	7,390	1,631,310	12,800	2,413,866	6,020	2,049,395	56,547	100.0%

Source : Export Office, MOC

10. Rice Import 1996 - 2000

Year	1996		1997		1998		1999		2000		1996 - 2000	
	MT	USD	MT	USD	MT	USD	MT	USD	MT	USD	MT	
Rice	25,966	7,566,025	19,755	3,783,502	33,419	9,122,039	34,169	6,272,134	60,646	8,493,626	173,956	

Source : Export Office, MOC

11. Rice Cropping Pattern in Each Ecosystem

	Month											
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Rainfed lowlands medium and long-duration, photoperiod-sensitive and nonphotoperiod-sensitive varieties												
Land preparation		←→	←→	←→	←→							
Seedbed			←→	←→	←→							
Transplanting				←→	←→							
Harvesting									←→	←→		
Rainfed lowland broadcast rice												
Land preparation		←→	←→	←→	←→							
Broadcasting			←→	←→	←→							
Harvesting									←→	←→		
Rainfed lowland, supplementary irrigation (from Seeded to harvest)												
Early rice	←→	←→	←→	←→								
Medium rice					←→	←→	←→	←→	←→			
Recession rice												
Land preparation		←→	←→	←→					←→	←→		
Seedbed	←→	←→	←→					←→	←→			
Transplanting		←→	←→							←→	←→	
Harvesting	←→				←→							
Deepwater rice												
Land preparation	←→	←→	←→							←→	←→	
Seeding	←→	←→	←→									
Harvesting									←→	←→		
Upland rice												
Land preparation (slash & burn)	←→											←→
Seeding	←→	←→	←→									
Weeding			←→	←→	←→							
Harvesting					←→	←→	←→	←→	←→			

COUNTRY REPORT

Indonesia

1 Production

1.1 Production Status

Rice production momentum has been badly compromised in the 1990s. The culmination of this was the series of poor harvests in 1997, 1998 and 1999, resulting in record imports of 5.8 million metric MT in 1998. Since 1990, Indonesia has witnessed horrific year-to-year variability in rice production. While weather-related crop stress may be the immediate cause of poor performance in the short-run, the instability and slowing-growth in rice production reflects a great number of underlying, structural factors. To understand what went wrong with rice production in the 1990s, one must scrutinize these underlying or systemic determinants of rice production.

- From 1969 to 1984, rice production increased at an average of 5.01% per annum while rice demand rose at just 4.65% per year. In other words, domestic supply growth outstripped demand growth in the run-up to self-sufficiency in the early 1980s.
- From 1984 to 1998, rice production rose by just 1.7% per annum, barely sufficient to keep pace with population growth. Demand growth has steadily outstripped production growth.
- From 1969 to 1984, the average coefficient of variation in rice production growth was 86%. From 1984 to 1998, the average coefficient of variation of rice production growth was 203%. Clearly, the growth slowdown has coincided with a period of wild instability in rice supply.

In terms of rice output, the pre-self-sufficiency period was one in which production was advancing rapidly and year-to-year growth was becoming more stable. Since 1984, rice production growth has slowed and production has become much unstable. Both the falloff in growth and the increasing instability of output undermine efforts to build sustainable food security. The topping-out of rice growth and the volatility in output has been especially problematic in the 1990s. From 1990 to 1998, rice production grew by just 0.89% per annum, well below growth in population and incomes. But the rice problem is not just a problem of production alone. The rice-milling yield has been on a declining trend for the better part of the past forty years. The figures presented demonstrate that the rice-milling yield has fallen from around 70% in the 1950s to close to 62% in the late 1990s. If milling yields had been maintained at the levels prevailing in the 1950s, this alone would have made a significant contribution mutational rice output.

Looking ahead, the main challenge for policy makers is to reverse these adverse trends in rice production, supply-volatility and the rice-milling yield. But in order to make progress in these areas, it is important to understand why these problems have come about.

In the 1970s, the rice varieties released had significantly higher yields than those did that were regularly in use. On average, the yield of the high yield variety (HYV)'s released in the 1970s yielded 4.6 to 5.5 MT of rough rice per hectare. The most important of these were Pelita-I, IR-26 and IR-36. Since 1980s, the varieties that have been released have not improved on the yield potential of the first generation of HYV's, but have focused on improved consumer taste

characteristics, disease resistance and ability to withstand climatic stress. IR-36 dominated production from 1978 to 1988. It was widely adopted after pest infestations in 1976 and 1977. While its taste characteristics were inferior to the earlier HYV's, it was resistant to brown plant hopper infestation. IR-64 was released in 1986. It has favorable taste and disease resistance characteristics and has dominated production for the better part of the last decade. In addition, during the 1980s, new varieties were released that were suitable for "unfavorable land" or the swamp, acidic and rain-fed rice production. These varieties were widely diffused in the 1980s as well.

But technological progress slowed considerably in the 1990s. In the 1980s, of the 41 rice varieties released, the average yield potential was 6.9 MT per hectare, or some 2.3 MT higher than the varieties released in the 1970s. In the 1990s, only 17 new rice varieties were released, compared to some 41 in the 1980s. Furthermore, the yield ceiling of the new varieties released in the 1990s fell to 5.9 MT, compared to 6.9 MT in the 1980s. The 1990 HYV's exhibited improved cooking and taste characteristics, better disease tolerance and slightly shorter cultivation periods. But these improvements clearly came at the expense of rice productivity.

In terms of new technology, Indonesia's rice farmers were facing a rice production frontier that was gradually shifting inwards during the 1990s. Farmers were reluctant to adopt the newer varieties, in large part because of the lower yields. But the reliance on IR-64, for a period of almost 14 years, has contributed to technological degradation. Over time, the longer a given HYV is used, the lower its potential yield and the lower its resistance to pests, disease and climatic stress. Sudaryanto, Adnuana and Swastika (1999) present research results that show that IR-64 remains the dominant rice variety in use in large parts of Java and that the maximum yield from this variety is declining over time. For the best part of the past decade, farmers have had a choice between the "best technology" of the 1980s, knowing that peak yields would decline over time, or the newer varieties introduced in the 1990s whose yield ceiling was significantly below that of IR-64.

As a strategic commodity, available domestic rice production for consumption serves as a parameter of the Indonesian staple food supply. Rice production development during the last eleven years (1990-2001), indicates that paddy production tends to increase relatively slowly, with an average annual growth of 0.67 %. In 1990, available rice production for consumption amounted to 26.5 million MT, that fluctuated and reached a high level volume of 29.7 million tons of rice in 1996. During the crisis and long dry season in 1997-1998, rice production decreased and re-increased in 1999, reaching the peak production level of 28.9 million MT in 2000. In fact, rice production in the form of dried husked paddy in 2000 reached its highest amount that has ever been reached by Indonesia during the time. However, due to the conversion from husked paddy to rice, the figure of domestic rice production in 2000 was lower than that of 1996. Up to 1996, the conversion figure was 0.65 compared to the figure in 1997 of 0.632. It is estimated that due to various issues related to the economic crisis that hit farmers and the adjustment process of the regional autonomy, the 2001 production would be lower than 2000.

Table 1: Rice Production and Supply, 1990-2001

Year	Production (000 ton)			Import (000 ton)	Provision (000 ton)	Population (000 people)	Provision /Capita (kg)
	Rice DHR	Rice Equiv.	Available to consume				
1990	45,571	29,361	24,076	29.8	24,106	177,923	135.48
1991	44,688	29,047	23,818	178.9	23,997	181,043	132.55
1992	48,240	31,356	25,712	634.2	26,346	183,487	143.59
1993	48,181	31,318	25,681	-	25,681	185,964	138.10
1994	46,648	30,321	24,683	876	25,559	188,474	135.61
1995	49,744	32,334	26,514	3,014	29,528	191,019	154.58
1996	51,102	33,216	27,237	1,232	28,469	193,598	147.05
1997	49,377	31,206	25,589	782	26,371	196,211	134.40
1998	49,237	31,118	25,517	6,076	31,593	198,860	158.87
1999	50,866	32,147	26,361	4,183	30,544	200,746	152.15
2000	51,179	32,345	26,523	1,512	28,035	203,456	137.79
2001	50,080	31,661	25,954	1,396	27,350	206,203	132.64
10 year Growth 1990—2001 (%)	0.93	0.77	0.77	151.49	1.52	1.35	0.17
5-year growth 1990—1995 (%)	1.87	2.04	2.06	345.96	4.37	1.43	2.91
5-year growth 1996—2001 (%)	-0.38	-0.91	-0.91	107.56	-0.31	1.27	-1.56

Sources: Data on production and availability to consume; Sulastri Surono and Syarifuddin Musa (2001), Population data (half year) BCS

Notes:

- Paddy-rice conversion: 65% in 1990—1996, 63.2% in 1997—2001
- Consumption availability: production less 10% for seed, food, post-harvest reduction and transportation, and 8% land modification
- Import Data: State Logistics Agency (BULOG) (1990—1996); The Rice Report (1992—2001)
- Population Data: BCS "Population of Indonesia", 2000 census result (processed data, population in one semester)

In line with the domestic rice production pattern and the fluctuating rice import, the domestic rice supply also fluctuated with an increasing trend of 1.34 % per year that lasted for eleven years (Table 1). Rice supply growth occurred in line with the growth of the Indonesian population. However, it should be noted that during last five years (1996-2001) the supply decreased 0.4 %. Afterwards, the supply in the last two years was relatively stable at 30 million MT per year. With 1.35 % population growth per year, the rice supply per capita was around 144 to 170 kg per year during the last eleven years. This figure was far above the average annual consumption rate per capita. However, in the last five years, the rice supply decreased 1.7 % per year.

To have a closer review at the national rice production performance during last eleven years, analysis could be made on the rice crop area and the rice productivity (Table 2). The overall rice crop area covers around 11 million hectares with the lowest points in 1990, 1991 and 1994 when the crop area suffered from long dry season caused by El-Niño climate anomaly. The biggest rice crop area covering about 12 million hectares occurred in 1999 as it was supported by helpful climate for rice planting. Development of rice crop area during the last eleven years increased 0.83 % per year. A closer look at the development of the crop area during the time span of 1999—2001 indicates that the crop area fell into 11.4 hectares. Similarly with the productivity, a decreasing trend of 0.08 %

was indicated during the 1st five years, especially in 1998 and 1999. With the condition as mentioned above, Indonesian rice production during the last 11 years grew relatively slow (1.01 % per year). However, it has shown a better condition in the last five years (0.36 % per year). This decrease was caused by long dry season and economy crisis. However, in the last two years rice production was raised and in 2000 it reached a capacity of 51.90 million MT which was the highest production achieved by Indonesia.

The phenomena of stagnant rice crop area and paddy productivity in the last five year was closely related to long dry season, economy crisis and transition of the national economic policy. The problems faced by farmers are: (i) insufficient stock of Urea fertilizer and the high price of phosphate and potassium fertilizers; (ii) decreasing seed supplies and quality; (iii) limited financial resource due to the cancellation of credit program (except for interest subsidy); (iv) profit generated by rice agribusiness is less than other alternative commodities to plant in the field (e.g. sugarcane, orange, and other horticultural plants); (v) an intensity of plant disturbing organism and other disasters such as flood or dry season; (vi) low efficiency in water usage due to rehabilitation of irrigation network is not optimum caused by the lack of financial support; (vii) educational performance decreasing related to the regional autonomy process.

Table 2: Rice Crop Area, Rice Productivity and Production 1990—2001

Year	Rice crop area (1000 ha)	Productivity (ton/ ha)	Production (1000 ton/MDHP)
1990	10,502,357	4,302	45,178,751
1991	10,280,519	4,347	44,688,247
1992	11,103,317	4,345	48,240,009
1993	11,012,776	4,375	48,181,087
1994	10,733,830	4,345	46,641,524
1995	11,438,764	4,349	49,744,140
1996	11,569,729	4,417	51,101,506
1997	11,140,594	4,432	49,377,054
1998	11,730,325	4,197	49,236,692
1999	11,963,204	4,252	50,866,387
2000	11,793,475	4,401	51,898,852
2001	11,412,026	4,390	50,096,486
Growth 1990-2001 (%)	0.83	0.21	1.01
Growth 1996-2001 (%)	-0.22	-0.08	-0.36

Source: BCS

1.2 Production Control

After three years of heavy reliance on imports to meet domestic requirements between 1996 and 1998, Indonesia intensified its rice production policy to achieve rice self-sufficiency. This renewed emphasis was reflected in marked increases in support prices and large domestic purchases of paddy rice by Bulog, the National Logistic Agency in 1998, 1999 and 2000. Rice purchases in Indonesia continue to be carried out by BULOG, the state marketing agency, but private traders

were allowed to import rice as of 1999. However, due to an expected higher local rice production, the government imposed a ban on all rice imports between March and May 1999, and allocated about US\$ 10 million to purchase paddy from domestic farmers. There is no plan of the government to strengthen a subsidy system for farmers because of protecting farmers from feeble ability of farmers' production depending upon subsidy freak. The government is reduced subsidy to farmers step by step except the projects for infrastructure, irrigation etc.

Under control of the government, the banks of private sector have achieved a new credit system for farmers since December 2001.

2 Policy on Prices

2.1 Growth of Price of Rice (1990-2001)

Domestic price of rice increases 20 % consistently per year during the last ten years (Table 3). During the time span of 1990-1997, a consistent increase was indicated along with the government's control through floor price policy. This increase is designed in line with the inflation level to protect the interests of farmers and consumers. The price of domestic rice increased sharply in 1998. At the same time, the government increased the floor price of husked paddy/rice more than double with the purpose of providing the benefits of the price increase to farmers. Subsequently, in the last two years, 2000-2001, the price of rice tends to decrease and is relatively stable at around Rp 2,500.00 per kilogram with a sharp increase by the end of 2001 and in the beginning of 2002. At the same time, the international price of rice - if converted to rupiah - also shows high increase of 23 % per year. However, it decreased in dollar of 3.7 % per year (US\$ 254/ton in 1990 to US\$ 151/ton in 2001 of 25% of Thai rice quality). This increase was resulted by weakened rupiah exchange rate. Compared to the price of domestic rice in 1990-1997, the international price shows bigger fluctuation. It implies that the stability of domestic supply cannot fully depend on the supply in the world market. Domestic or international price of rice faces the stable period during 1990-1997, and then fluctuated sharply in 1998-1999, and became stable again in 2000-2001. The domestic price of rice up to 1997 was relatively equal to the international price and slightly decreased in-1998-1999 and in 2000-2001 the domestic as well as the international price of rice reached an equal level. There were different policies that characterized the movement of domestic price of rice in those three time segments. In the first segment, 1990 until 1997, a policy was implemented to protect domestic price of rice from fluctuating international price. The next segment, 1998-1999, a transition policy was issued that removed almost all-prevailing protection instruments and a sharp exchange rate fluctuation occurred, and the international price of rice affected the domestic price. Afterwards, in 2000-2001, an import duty of Rp 430 per kg was applied so that the impact of international price movement towards the domestic price was not as strong. Except for 1998, the movement in 1998 (BULOG stabilization era) and in 2000-2001 (controlled market era), the movement of the monthly price was relatively stable. The big movement occurred in 1998 was closely related to the macro economy condition at

the time. The relation between the international and the domestic price of rice can be shown more clearly in monthly price movement represented. It means that (a) parity prices of rice in 2001 and 2002 (in rupiah, FOB Bangkok) was much lower than the domestic one by taken out CIF cost, port handling, and import tariff, the price of imported rice at wholesale market was competitive. Moreover (b) movement patterns of domestic and international price of rice were not alike due to unstable exchange rate in those two years.

Table 3: Comparison of Domestic and International Price of Medium quality rice, 1990 to 2001

Year	Domestic Price	International Price	
		Thai Rice 25% (US\$/ton)	Imported Thai Parity 25% (Rp/kg)
1990	432	254.00	601
1991	480	244.13	605
1992	536	235.17	594
1993	511	215.63	558
1994	592	270.78	727
1995	657	304.25	851
1996	880	331.80	967
1997	1,064	289.96	1,063
1998	2,100	275.99	3,384
1999	2,666	216.21	2,096
2000	2,519	172.72	2,303
2001	2,545	151.85	2,406
10 year growth 1990 to 2001(%)	19.96	-3.65	23.49
5 year growth 1990 to 1995(%)	8.99	4.41	8.03
5 year growth 1996 to 2001(%)	28.14	-14.26	40.91

Source: Price of Rice: State Logistics Agency (BULOG) 2001

Notes :

1. Thai 25% Rice Price is F.O.B.
2. Freight Insurance 7.5% of F.O.B price; C.I.F price=1.075*F.O.B
3. Handling cost/domestic transport 5% of C.I.F price
4. Imported parity price at wholesale level = C.I.F. + handling cost (for 2000 & 2001 plus Rp. 430/kg import duty)
5. Import parity price at retail level = price at wholesale level + 10%

During the New Order era, the main aim of Indonesian rice policy was increase food security and to help stabilize domestic prices. Stabilizing rice prices was important because of the pronounced season of domestic production and because of the year-to-year volatility in prices due to climate-induced supply volatility and changes in world market rice prices. Compared to many other Asian states, BULOG has been highly successful in stabilizing rice prices through a combination of adept procurement, stock management and stock release policies. This was facilitated by subsidized credit (KLBI) which allowed the agency to finance these activities without much difficulty.

2.1 Price Policy

During the crisis period of 1997 to 1999, the Government was unable to contain inflation using traditional rice price stabilization techniques. In fact, inflation reached 72 % in 1998, the highest it had been in the past thirty years. Since the beginning of the financial crisis, the Government tried to increase rice supply to dampen domestic price growth. Imports were increased and heavy subsidies were applied to fertilizer and farm credit to stimulate domestic supply. BULOG was provided foreign exchange at concessionaire rates and was instructed to sell rice at subsidized prices in domestic markets. But rice prices increased anyway. Because rice prices were held below world market price levels, rice was smuggled from Sumatra and Kalimantan to neighboring states. This was especially the case when the gap between domestic and world market prices ranged from 50-60 %. Holding farm prices well below world market prices conveyed significant benefits to consumers but at the cost of considerable producer welfare.

The most significant change in rice policy was the replacement of general price subsidies with targeted food subsidies. In mid-1998, the Government introduced the special market operations program, which was aimed at subsidizing rice consumption levels of the poor. The rice price stabilization program was phased-down and in September 1998, free trade in rice was declared. Private rice imports increased rapidly because falling world market rice prices and an appreciating exchange rate combined to make Indonesian rice more expensive than rice imports. To stem soaring private rice imports, Bulog's rice import monopoly was re-imposed in September 1999 except for high-quality rice (5 % Broken). Since the price of high-quality rice was 15 to 20 % lower than prevailing-domestic rice prices, the new policy hasn't been fully effective in containing rice imports. Furthermore, since rice import prices was below the government floor support price, the Government has inadvertently subsidized imported rice. To date, rice policy has been rather ineffective in combating low milling yields, high waste and the erosion in rice productivity. On average, the rice mills are relatively old but milling attracts very little new investment. The operation of many small vintage mills make rice quality to decline year-after-year.

Public policy making in rice has suffered because different reforms have been introduced without adequate assessment and without considering the need to frame a consistent set of rice policies. Future rice policy should aim to frame policies which are internally consistent and which make a positive contribution towards raising farm incomes and enhancing food security. Although the present study is being conducted during the economic crisis, it is also a time of unprecedented public policy change. A new Government has come into office, and that Government has expressed its desire to revitalize agriculture and improve the lot of the farm community.

The government quitted to distribute rice for the government officer except the officers in the remote area and army/ police officers as a salary and food logistics in 2000.

The 1998/1999 rice price stabilization experience raises concerns about both the feasibility and cost-effectiveness of Government rice price stabilization, at least using traditional instruments. In

1997/1998, as the Rupiah devalued from Rp.2500 to Rp.17,000, the Government tried to use domestic rice price controls to brake inflation. From mid-1997 to mid-1998, BULOG was instructed to keep domestic rice prices from rising above RP.1500-Rp.1700 per kg, a price ceiling that proved to be 50 to 60 % of prevailing import parity prices. By May of 1998, domestic hoarding, soaring imports, consumer panic, smuggling and re-export of official imports forced BULOG to abandon its attempts to contain the domestic price. From May to September of 1998, domestic prices quickly converged to world market levels. Domestic rice prices have gradually fallen from the highs reached in September 1998 to present levels.

A number of lessons can be drawn from the 1998/1999 episode of high rice price instability:

- Bulog's ability to maintain a wedge between domestic and international prices is limited by geography. When the gap becomes too large --as it did in early 1998-- incentives for hoarding and smuggling become too great.
- Exchange rate volatility has become a significant source of rice price volatility¹. Traditional rice price stabilization instruments were designed to offset seasonal rice shortages, not day-to-day volatility in the exchange rate.
- General rice price stabilization, in the face of exchange rate volatility, can place great burdens on the budget. In 1998, general rice price subsidies were initially budgeted at Rp.14 trillion (\$1.6 billion).
- Producers paid a high cost as domestic prices were held well below import-parity levels. The loss in producer welfare from the 1997/1999 "low consumer price" rice policy to rice producers was estimated at Rp. 22 trillion (Tabor et. al. 1998), or almost twice the fiscal cost of the rice subsidy.

¹ Rice price controls may even aggravate exchange rate instability. If rice price controls lead to hoarding or excessive fiscal costs, the private sector may anticipate higher future rates of inflation or further devaluation. This, quite rational, change in expectations can become self-fulfilling when it is translated into a shift in the demand for base money.

2.3 Short-term Price Control Management

Table 4: Volume of rice supplies and Price of rice (IR-64) at Cipinang Wholesale Rice Market, 25 December 2001 - 24 January 2002

Date	Supply (ton)		Price (Rp/kg)	
	2000/2001	2001/2002	2000/2001	2001/2002
25 December	14	228	2,100	2,900
26 December	0	2021	2,100	2,900
27 December	0	1565	2,100	2,900
28 December	0	1468	2,100	3,100
29 December	35	1358	2,100	3,100
30 December	147	512	2,100	3,100
31 December	175	3250	2,100	3,100
1 January	212	340	2,100	3,100
2 January	1,253	2907	2,100	3,100
3 January	1,843	1992	2,100	3,100
4 January	2,290	1117	2,100	3,100
5 January	2,300	880	2,100	3,300
6 January	1,798	199	2,100	3,300
7 January	204	2140	2,100	3,300
8 January	3,263	1903	2,100	3,300
Average Growth	902	1,459	0.00 %	%
9 January	2,139	2,583	2,100	3,700
10 January	2,443	2,505	2,175	3,700
11 January	2,260	2,897	2,175	3,700
12 January	2,481	1,847	2,175	3,700
13 January	1,954	397	2,175	3,700
14 January	99	3,858	2,175	3,600
15 January	2,649	2,325	2,175	3,600
16 January	2,987	2,262	2,175	3,550
17 January	2,208	1,536	2,175	3,500
18 January	2,061	2,131	2,175	3,500
19 January	2,165	1,516	2,175	3,500
20 January	1,289	384	2,225	3,500
21 January	43	2,520	2,225	3,500
22 January	3,194	1,974	2,225	3,400
23 January	2,270	1,252	2,225	3,300
24 January	820	2,017	2,225	3,300
Average Growth	1,756	1,666	5.87%	-5.58%

Source: Cipinang Wholesale Rice Market

To stabilize this abnormal increase of the price of rice, the government has executed pure market operation (PMO) since 8 January 2002. This PMO is one of real short-term efforts to stabilize the increase of the price of rice. This strategy was taken to anticipate and prevent uncontrollable escalation of price of rice, which was triggered by further speculation and market psychological factor. If the price escalation occurs --as rice is the staple food and it has economical and psychological relations to other commodities and it also has large contribution to inflation-- the impact to the economy recovery would be very serious.

The government through State Logistics Agency (Bulog), executed PMO in 15 provinces which was concentrated in big cities, with distribution volume shown in Table 5 after the monitoring for rice market. These concentrations were in Jakarta, Bandung (West Java) Surabaya (East Java), and Semarang (Central Java); because the price escalation took place in these big markets. The PMO in other areas were also conducted but not to decrease the price (because there was no significant figure), but to prevent the market players from increasing the price due to the news of increased price of rice in Jakarta. Around one week after the PMO was launched, the government also launched the so called “RASKIN program”² that provided assistance in the form of subsidized price for poor people.

PMO realization figure, which reached only 18,583 tons (Table 5), was not much, but it has an impact in stabilizing the price of rice in some big cities. This situation shows that actually there were no serious insufficient rice supply. It reaffirmed the assumed speculative acts in rice trading in several big cities, especially Jakarta.

At the same time, in order to accelerate rice import distribution, the government has decided to implement rice import distribution policy under “green track”. It is expected that the rice import will increase and the domestic price of rice will decrease.

Table 5. Total Pure Rice Operation (OPM) Volume, 9-24 January 2002

No.	Regional Logistics Agency (Dolog)	PMO Realization (Ton)	Type of Rice	Price before PMO (Rp/Kg)	Price after PMO (Rp/Kg)	Price change (%)
1	North Sumatra	18	ADA DN 1/	2,975	2,975	-
2	Jambi	30	ADA DN	2,750	2,750	-
3	South Sumatra	200	ADA DN	3,000	3,000	-
4	Bengkulu	254	ADA DN	2,800	2,800	-
5	Lampung	526	ADA DN	3,100	3,100	-
6	Jakarta	3,493	ADA DN	3,500	2,900	-17.14
7	West Java 2/	9,208	ADA DN	3,400	2,900	.14.71
8	Central Java	632	ADA DN	2,900	2,900	-
9	Yogyakarta	67	ADA DN	2,900	2,900	-
10	East Java	2,402	ADA DN	3,000	2,900	-3.33
11	East Kalimantan	72	ADA DN	2,700	2,700	-
12	Bali	235	ADA DN	3,500	3,500	-
13	West Nusa Tenggara	390	ADA DN	3,500	3,300	-5.71
14	East Nusa Tenggara	100	ADA DN	2,500	2,500	-
15	Maluku	856	Ex Vietnam	3,250	3,250	-
Total		18,583				

Source: State Logistics Agency (Bulog)

Notes: 1/ ADA DN = Domestic rice

2/ Plan to distribute (Laklog)

² Raskin: Beras untuk orang Miskin (A program to the poor people).

In monitoring the implementation of PMO, the Ministry of Agriculture in cooperation with the Bureau of Food Security Public Education/Provincial Agricultural Services and Cipinang Wholesale Rice Market have monitored the daily price of rice since 7 January 2002 in 7 (seven) big cities: Jakarta, Bandung, Semarang, Surabaya, Makassar, Medan and Palembang. From the monitoring result of 26 January 2002, it was found that after PMO execution the price was relatively stable in most of those big cities. It means that in two weeks of the PMO implementation, it succeeded in stabilizing the escalating price of rice. Especially at Cipinang Wholesale Rice Market, there was a decreasing price for the IR-64 type of 5.6 percent during the PMO execution. In addition, the rice distribution to this market was relatively normal, which was parallel with the similar condition in the previous year. Based on the monitoring of the price movement in the above seven big cities, it shows that the price increase in Jakarta also occurred in Bandung, Semarang and other related cities, which has trade relation with Jakarta such as Surabaya. Meanwhile, the price of rice outside Java, such as in Makassar, Palembang and Medan, did not fluctuate (with an exception of Medan at the time of this city being flooded).

3 Policy on Trades

3.1 Basic Stance

Since 1934, the Government of Indonesia has regulated international trade. From 1967 to 1998, Bulog had a monopoly for rice imports. Bulog used this monopoly to stabilize domestic prices and to ensure that there were adequate supplies of rice to meet domestic consumer requirements. In general, Indonesian rice prices were held in line with long-term trends in world market prices.

Following the 1998 reform, Indonesia relaxed Bulog's rice import monopoly and allowed rice imports by the private sector for the first time in 1999. However, private imports were initially restricted to high quality rice of no more than 5 % broken and were charged a 25 % import duty. The quality restriction was withdrawn in January 2000 and a tariff of Rupees 430 per kilo (US\$ 58 per ton), equivalent to a 30 % ad-valorem duty, was imposed on all imports, whether private sector or Bulog.

The Ministry of Agriculture dissents from WTO's completed liberalization for agri-production in order to protect the farmer. The government recognizes that the farmer and marketing firm for the rice would lack competitive power under the international market. On the other hand, there is difficult situation to fix tariff for custom duty of rice under the circumstance, which keep farmer's motivation for rice production and protect from illegal import, it is hard problem to have unifiable condition of its tariff.

Table 6: Rice Import by Bulog and Private sector, Jan.1998 to Sep. 1999 (Unit :MT)

Month	1998		1999	
	Bulog	Private	Bulog	Private
Jan	399,800	0	445,100	232,800
Feb	427,200	0	301,900	207,300
Mar	663,900	0	221,500	231,300
Apr	843,500	0	97,400	94,900
May	725,000	0	132,600	98,800
Jun	323,800	0	156,800	275,800
Jul	252,600	0	218,600	418,800
Aug	293,600	0	20,500	NA
Sep	362,200	228,600	108,600	NA
Oct	375,600	216,400		
Nov	587,800	259,400		
Dec	528,100	613,300		
Total	5,783,100	1,317,700	1,703,000	1,559,700

Source: Bulog and Ditjen Bea Cukai, Ministry of Finance for private sector (revised 19-10-99)

Note: Values are rounded by hundreds MT.

3.1 Management of Import/Export

Indonesia could use a “price-based” system to regulate access to international trade. A tariff could be applied to regulate international trade. The main advantages of using a tariff to regulate international trade are:

- Price formation is more transparent;
- Scope for private investment in storage and marketing is increased;
- It is easier to administer and has a lower fiscal cost than an import monopoly;
- Government will receive revenues from the import tax;
- Domestic prices will become more closely integrated with the world market price;
- Price policy will signal more efficient resource allocation---those areas, which have a comparative advantage in rice will produce it and those that don't will not.

Some of the advantages of a tariff are also disadvantages, given the nature of the thin world rice market:

- Domestic prices will become more volatile, unless the tariff is periodically adjusted to offset volatility in global market prices;
- “High cost” rice production will be discouraged as those “high cost” regions come to increasingly compete with imported rice (priced with a tariff).
- Government may face difficulties in implementing other farm support efforts, such as a floor price program, in the face of volatility in international rice prices.

Three other factors bear consideration when thinking about the application of rice tariff for Indonesia. First, Indonesia doesn't have any recent experience in applying or implementing import tariffs for rice. This doesn't mean that it can't be done, and certainly tariffs are applied for other commodities. But rice is different (i.e. the gap between private and social opportunity costs

is large) and the “economic logic” used to set tariffs for purely private goods isn’t appropriate for rice. Institutional capacity for appropriate rice tariff setting needs to be created in Indonesia. This can certainly be done, but it is not in place at the moment. Second, Indonesia’s physical and institutional geography limits the scope for tariff setting. If a tariff is set too high, the incentives for smuggling and collusion (with custom’s and with the tariff setters) will be too high. If the tariff-formula is too complicated, “slow implementation” of the tariff by customs can disrupt trade and trigger rice shortages. Most importantly, high-cost rice production regions may no longer be “globally” competitive, and inter-insular rice trade may also decline.

Third, a tariff, unto itself cannot completely close the gap between private and social opportunity costs for rice. The tariff will need to be complemented by other measures (those which raise producer incomes) to help correct this distortion.

From a political-economy advantage point, tariffication appears to be the most appropriate solution. Indonesia can honor its commitments to GATT and WTO and politicians can demonstrate that they are abolishing one of the Soeharto’s monopolies.

If Indonesia does impose an import monopoly, than it will need to renegotiate its IMF commitment not to apply import duties above 5 %. The IMF will, no doubt, try to hold the country to its commitments, because the “credibility” of the Fund and Government is enhanced if these commitments aren’t changed. On the other hand, the Fund normally is willing to change commitments when the economic setting changes and when it becomes aware that its past commitments were inappropriate. In this case, the economic setting has changed---the exchange rate has appreciated and world rice prices have collapsed. Furthermore, the Fund was perhaps unaware that Indonesian rice is a quasi-private good, and that there is a large gulf between the social and private opportunity cost for rice. Clearly the IMF doesn’t wish to induce a farm income collapse, for the human, fiscal and political cost of this would be severe indeed. To put it bluntly, if farm incomes collapse, social stability will be lost and Indonesia’s fragile democracy will come undone. Clearly the IMF doesn’t want to undermine Indonesia’s hard fought restoration of democracy.

How high should a tariff be set? The appropriate economic answer to this is that Indonesia’s domestic rice price should reflect the private economic cost of rice (which is its import parity value) and the net value of any externalities. This, as noted above, would make the “optimal” domestic price of rice quite a bit higher than world market prices. The size of a rice import tariff, on the other hand, is likely to be limited by rather practical constraints, for a tariff is set too high, it will not be effective---smuggling and collusion will occur.

It has been found out price moved from –60 % in May/June 1998 to a high of 27 % in September 1999. This comparison is, of course, sensitive to what is assumed to be an appropriate marketing charge and exchange rate. The conclusion, however, is that the nominal protection rate, resulting from Bulog’s import monopoly, is now on the order of some 33-37 % of world market prices.

It was recommended that Government replace Bulog's import monopoly by a tariff; that trade be opened to general importers and that the tariff be set initially equal to 33-37 % of the Indonesian rice wholesale price. No restrictions should be placed on rice exports. It is recommended that:

- A specific (rather than an ad valorem) tariff is set; to eliminate the need to use check-prices or to review import prices.
- A specific tariff is set that is a price that can be easily calculated to avoid costly delays in calculating the custom's duty.
- To insulate the domestic rice market from exchange rate volatility, the specific tariff should be calculated in dollars.
- Given world market prices of approximately \$200/ton, and a prevailing nominal protection rate of 32-37%, this would imply that the specific tariff should be set at (about) \$70 per ton of rice imported into Indonesia.

It is also recommended that the Government carefully monitor the implementation of the tariff. It may, or it may not be effective. Until it is "tested", the government simply does not know if Indonesia can operate an effective rice import tariff.

3.3 Bilateral/multilateral Agreements

There is no Bilateral/ Multilateral agreement only for rice trade.

4 Policies on Stock Management

4.1 General Situation of Stock Rice

In 1998, Indonesia initiated a market liberalization process under a structural agreement with the IMF, which diminished the role of BULOG, the National Logistic Agency, in domestic food crop marketing and imports. Since 1999, the agency's authority to procure rice has been restricted to paddy, which it purchases through local logistic agencies, "Dolog", local agencies of Bulog, while it abstains from purchasing milled rice from millers. Moreover, under the 1998 reform, the agency is to rely on banking credits at market rates to finance its operations. Bulog has, nonetheless, kept the responsibility to stabilize the domestic rice market through supply releases from stocks and to operate a Government subsidized rice distribution scheme to the needy. Under this program, low-income households were entitled to receive 10 kilos of rice per month, per person, at *rupees* 1000 per kilo (US\$ 0.14 per kilo) in 1999. The Bulog also sells rice to military and civil servants as part of their salaries. In 1999 and 2000, the agency is estimated to have released some 4.8 million ton of rice on the domestic market, half of which under its special programs and half as regular market operations, carried out through Dolog local agencies.

It is most important index character for Bulog to purchase rice. There is a lot of illegal import of rice, which the government does not grasp the quantity of it. Under this circumstance, it makes

unfair price of rice for the farmer to reduce incentive to produce rice.

4.2 Rice Reserve

There is a system to control and monitor the national stock of the rice by Bulog.

National Reserve = 1,000,000 MT

National Food Security Committee is final organization for reservation and for stock control including with import quantity through Bulog's data.

Indonesia's rice policy has been guided by a notion of 'self-sufficiency' for the better part of the past three decades. This has been the over-riding goal. It has focused public policy in the food sector and has provided a rallying call for political and administrative action. Supporting public expenditure programs and policies, in the areas of rice supply, technology, agro-input and pricing was designed to support the attainment of this objective.

Some confuse Indonesia's rice self-sufficiency policy with commodity autarky. This is incorrect. In practice, Indonesia's rice self-sufficiency policy has been implemented in a manner "broadly" consistent with private and public resource use efficiency. Rice self-sufficiency has been interpreted to mean the provision of an adequate supply of rice to meet domestic consumption requirements at "globally competitive" prices. The policy was applied to the long-term trends in rice requirements and availability, rather than to season-to-season or year-to-year requirements. International trade was used to clear the markets during surplus and deficit years, with public stocks adjusting to changes in inter-seasonal availability.

In the 1960s, when rice self-sufficiency first became national policy, Indonesia was a poor, agrarian, food deficit nation. Food shortages contributed to endemic poverty, political insecurity and bursts of severe inflation. From a macro-economic vantagepoint, rice self-sufficiency helped to reduce inflationary pressures and release scarce foreign exchange for the import of goods and services needed to modernize the other sectors of the economy. From a national security vantage point, the belief that there was an adequate domestic food supply helped to allay consumer fears and uncertainties.

In terms of economic development, rice self-sufficiency helped to increase employment and incomes for small farmers and to ensure adequate availability of rice at a low price for domestic consumers. The combination of the two contributed to labor-intensive development improved nutrition standards and poverty reduction. From an agricultural development vantagepoint, rice self-sufficiency provided an opportunity to close the gap between global and Indonesian rice technology. In so doing, Government was able to draw subsistence rural societies into the broader market economy.

Since 1996, Indonesian has failed to achieve what could be described as "globally competitive" rice self-sufficiency. Rice imports of 5.8 MT in 1998 broke historical records. In 1999, despite a

return of more normal environmental conditions, rice imports of approximately 5 million metric MT are anticipated. As 1999 comes to an end, nearly a quarter of the population depend on Government rice-subsidies to meet consumption requirements while domestic rice prices are 30-40 % above world market import-parity levels. All of these are signs that "rice self-sufficiency" as traditionally defined in Indonesian policy, has been badly compromised in the past two years.

While it is clear that rice self-sufficiency has been compromised, the Government should achieve "correct the situation" by reaffirming its commitment to rice self-sufficiency and increase public spending on rice programs? The answer to this is far less obvious than it was three decades ago.

First of all, rice has lost much of its macro-economic significance. Its share in the overall consumption basket has declined to below 7 %. It is still very important as a wage good and in the diets of the poor, but wages are being held down by under-employment, price rigidity and weak labor demand rather than "low" rice prices. Growing poverty and food insecurity has resulted mainly because of Indonesia's economic crisis---not because of the fall in domestic rice output.

As an instrument for fostering long-term economic development, rice has also lost much of its luster. Rice output would need to rise by approximately fifteen % to bring the country back on a self-sufficiency track. As incomes improve, domestic rice demand is expected to "top out", in per capita terms, sometime during the next decade. By the year 2025, Indonesia is expected to have a total population of 275 million persons. Total rice consumption is expected to reach between 60 and 65 million MT by then. Thereafter aggregate demand will either be flat, slightly rising or slightly falling, as the demand-enhancing effects of population growth are counter-balanced by the diet-quality improving effects of income growth and urbanization. Demographic and economic limits to domestic rice demand growth imply that rice cannot be a very powerful motor for future agricultural development since the long-term demand-ceiling is just 20-25 % above current output levels.

The future expected social benefits arising from "rice self sufficiency" are also considerably less than they were some three decades ago. Rural poverty is still severe, but is increasingly unrelated to developments in the rice market. Rural poverty is most severe in eastern Indonesia where rice is not the main food staple or the main source of agricultural incomes. In rural Java, the recent upsurge in poverty levels primarily reflects the collapse of urban industry and services which contributed to off-farm incomes in the rural areas. A broader recovery of aggregate demand will be needed to replace the largely, off-farm sources of income and employment lost during the economic crisis.

Rice policy has been designed to protect consumer food security. There were several reasons for this:

- Government needed to ensure that the military, the police and the civil service can afford rice in order to have a properly functioning government;
- there are large numbers of poor and near-poor consumers, for whom rice provides the main

source of calories and protein in the diet, and who cannot afford to buy adequate amounts of rice when prices are high;

- Rice prices are closely linked to wages for unskilled laborers. Sudden changes in the rice price can reduce labor demand and have an adverse impact on employment;
- Rice price stability is closely linked to political stability. If consumers fear that there are inadequate supplies of rice or that rice has become unaffordable, than hoarding, public protests and a breakdown of law-and-order can result.
- Excessively volatile rice prices will reduce the signaling-effect of food markets and induce consumers to make costly substitutions of one food grain for another. Very poor consumers may not be able to afford to make these substitutions.

To meet these objectives, the Government has public procurement, buffer stocks and administrative rice sales to meet these different consumer food security objectives. Rice rations for budget groups (civil service and the military) were used to ensure that these groups could afford an adequate diet. General rice price subsidies were used to blunt off-seasonal increases in rice prices during the lean season. Since 1998, the sale of rice at below-market prices to poor households (the OPK) program was used to augment the purchasing power of the poor. And the provision of rice at no cost to households in emergency situations was employed to offset location-specific market failure. But changes have taken place in Indonesia's food economy which call into question the continued rationale for some of these objectives, and suggest the possibility of more cost-effective means of assuring other ones.

4.3 ASEAN Food Security Reserve

Quote to Indonesia for ASEAN Food Security Reserve is 12,000 ton in milled rice. This quantity is included in the national rice reserve. The government's policy is not to classify the rice between the ASEAN food reserve and the national food reserve. Moreover, country quota for the ASEAN Food Reserve is supposed to require changing by the government.

5 Supply and Demand

Rice as industrial raw material is growing along with the development of various rice-based products such as rice flour, semi-finished products such as noodle and various chips, traditional snacks or dried snacks. In addition to the development of the types of products, the amount and capacity of rice-based industry kept increasing. With the help of Input-Output table, the use of rice for indirect demands such as for industries, hotel, restaurants and other food vendors will increase from 7.8 % in 1990 to 15.6 % in 1995, and 18.8 % in 1999. With the acceleration in food industry, it is assumed that the need of rice need growth as raw material will increase in the coming years. Aside from that need, at aggregate level rice is still in demand for other various activities such as public and government additional stock, food aid distribution, or other activities. For those activities, the numbers varied in the area or time, depending on the specific condition at the time. The State Logistics Agency

(BULOG) data shows that in every end of the year, the secured BULOG stock is 1.0--1.5 million MT, whereas the rice in public is 4.0 million MT. It means that the total need of rice in a year is still sufficient, however rice import is still needed for stockpile.

Based on household consumption and indirect consumer calculations, the estimated consumption demand per capita is obtained of approximately 127.7 kg per capita per year in 1990, that increased to 134.8 kg in 1996 and re-decreased to 130.0 per capita in 1999. It is assumed that consumption need increased around 3.4 % per three years.

Table 7: Estimated Rice Consumption per Capita 1990-1999 (Unit : kg/capita/year)

Year	Household Rice Consumption	Indirect Consumer Demand	Total Consumption per capita
1990	117.7	10.0	127.7
1993	116.8	17.4	134.2
1996	111.2	23.6	134.8
1999	103.5	26.6	130.0
Growth 1990—1999 (%)	-4.16	40.89	3.39

Source/Notes:

- Consumption per capita 1990,1993,1996,1999 from the National Social-Economic Survey, 2001 assumption
- Indirect consumers include processing industries, hotels, restaurants, other food vendors, estimated based on Input-Output Table
- Growth ratio of other than rice demand including those of 1993 - 1999 (not including that of 1990)

The strategic directions are stable production, Increase of %age of rice self-sufficient, Stable import quantity. There is a system to control and monitor the national stock of the rice by Bulog. It is supposed that balance of supply-demand for rice is on the borderline being in deficit side. National Food Security Committee is the final organization for reservation and for stock control including with import quantity through Bulog's data. Bulog is holding 1 to 2 million MT of milled rice as buffer stock included with ASEAN Food Reserve. The government's policy is not to classify the rice between the ASEAN food reserve and the national food reserve.

Table 8: Rice Balances (Unit : 1,000 MT)

Year	Supply				Domestic Use			Annual balance
	Production		Import	Total	Food	Loss, Seed & Other	Total	
	Paddy	Milled rice						
1997	49,377	31,206	782	31,988	26,371	5,617	31,988	0
1998	49,237	31,118	6,076	37,194	31,593	5,601	37,194	0
1999	50,866	32,147	4,183	36,330	30,544	5,786	36,330	0
2000	51,179	32,345	1,512	33,857	28,034	5,822	33,856	1
2001	50,080	31,661	1,396	33,057	27,351	5,707	33,058	-1

Source: Ministry of Agriculture, Population data, BCS and data on production & availability to consume (2001)

Note: There is no clear record for informal trade transaction of rice.

6 Activity for Poverty and Aid

6.1 Measures for Poverty

Special Rice Market Operation (OPK) was improved in 2002 and the name of the operation changed into RASKIN (Rice Program for Poor People). This program was designed as income transfer and designated for among others: (a) preventing negative impact on the local food consumption pattern, and (b) preventing the encouragement of too strong tendency towards rice or wheat consumption pattern. Rice distribution was planned to comprise 2,167,000 ton for 9.7 poor households.

Table 9: OPK Realization 2001 and RASKIN Target 2002 (Unit : MT)

No.	Province	2001 Realization OPK & PPD-PSE	2002 Target RASKIN & PPD-PSE
1	D.I. ACEH	58,977	77,977
2	SUMATERA UTARA	30,689	40,310
3	RIAU	24,472	24,789
4	SUMATERA BARAT	17,975	33,856
5	JAMBI	14,498	20,426
6	SUMATERA SELATAN	42,119	64,327
7	BENGKULU	17,371	23,315
8	LAMPUNG	72,324	114,139
9	DKI JAKARTA	20,559	28,278
10	JAWA BARAT	233,026	315,215
11	JAWA TENGAH	325,658	498,007
12	DIY	31,829	43,385
13	JAWA TIMUR	245,732	428,763
14	KALIMANTAN BARAT	25,184	30,431
15	KALIMANTAN TIMUR	12,956	34,187
16	KALIMANTAN SELATAN	24,904	17,599
17	KALIMANTAN TENGAH	13,523	19,969
18	SULAWESI UTARA	22,819	29,884
19	SULAWESI TENGAH	28,511	19,902
20	SULAWESI TENGGARA	19,375	30,604
21	SULAWESI SELATAN	32,875	40,370
22	BALI	7,235	11,003
23	NUSA TENG. BARAT	42,442	65,784
24	NUSA TENG. TIMUR	43,900	64,355
25	MALUKU	28,791	31,629
26	IRIAN JAYA	30,574	38,596
	Total	1,468,318	2,167,100

Notes:

- 2001 OPK Realization includes PPD-PSE
- The number of head of families served for OPK is 7.5 million households, and 1.1 million households for PPD-PSE
- RASKIN limit for 2002 is for 9.7 million households

The inter-island pattern for the implementation of RASKIN distribution in 2002 is almost similar to that of 2001 comprising mostly in Java, and the distribution was conducted all year long with quite substantial proportion (>10%) during the months of September – November (Table 10). In the

implementation, RASKIN monthly distribution pattern will be adjusted with the condition in the field for better effectiveness, to guarantee the food security of poor families as well as to Support farmers by preventing the pressure on the price of paddy.

Table 10: 2001 OPK Realization

No.	Month	Volume	
		Ton	%
1	January	88,713	6/04
2	February	121,598	8.28
3	March	116,320	7.92
4	April	110,144	7.50
5	May	109,775	7.48
6	June	118,608	8.08
7	July	114,572	7.80
8	August	126,945	8.65
9	September	146,846	10.00
10	October	152,191	10.37
11	November	161,174	10.98
12	December	101,430	6.91
	Total	1,468,316	100.00

Notes: The number of households under OPK comprises 7.5 households and that for PPD-PSE of 1.1 million households

6.2 Food Aids

WFP's main activity are to convey the supporting rice WFP procured to the Bulog. WFP's procurement records of country origins the last 4years, from 1998 to 2001 in Indonesia, were stated as below:

Country of origin	Quantity (ton) from 1998 to 2001
Thailand	115,499.00
USA	115789.75
Australia	56,435.67
Vietnam	36,367.05

Main donor countries were Japan, USA, and Australia. USA and Australia supported Indonesia by in-kind using own origin of rice.

7 Issues

The government has not yet had a fixed policy for activities concerning rice. The quantity of illegal imported rice to disturb rice self-sufficiency. Its actual quantity is not grasped to defect keeping the national food security.

1. Up till now rice is still an economically, socially and politically strategic commodity. The people's reaction towards the fluctuation of rice supply and price is quite intense and tends to exaggerate. The most recent incident being the abnormal fluctuation of price of rice within a relatively short time (between December 2001 up to early January 2002) that drew the attention of the general

public. This is quite understandable since rice is the staple food for 95% of the Indonesian inhabitants, and 30 percent of poor family expense is allocated for rice. Furthermore, paddy agribusiness constitutes the source income for 21 million farmer families.

2. The government is fully aware of the strategic position of rice in the national economy, the people's social life, and the possible political impacts. In this regard, national rice handling that can protect the interests of producers and consumers is made one of the priorities of the national development program.
3. In addressing the fluctuation of the price of rice from December 2001 up to early January 2002, the government realized that if such fluctuation continued resulting in uncontrolled escalating price, the impact would affect the economic recovery process through the increasing inflation rate that may trigger social unrest. In this regard, the government made a short term policy to solve this problem by implementing Pure Rice Market Operation (OPM), combined with other programs, namely rice distribution for poor families (RASKIN) and the implementation of "green track" for rice import. With this operational policy, within two weeks the price fluctuation could be overcome. The most recent monitoring (26 January 2002) at the Cipinang Central Rice Market indicated that the price of medium quality rice consumed by the majority was back to normal at a reasonable level namely back to the price before 7 January 2002.
4. This success, aside from owing to the correct anticipation of the government, was also resulted by the anticipation taken by the market players of the upcoming paddy main harvest in February 2002. The constant problem coming up at main harvest is the low price of paddy received by the farmers. To solve this problem, in 2002 the government (through BULOG) planned to perform domestic paddy/rice supply of 2.2 million ton with a price based on the government's basic procurement price, namely Rp. 1,529,-/kg/GKG or Rp. 2,490,-/kg. Under normal condition, the volume of rice purchase by the government is capable to increase the price of paddy in the market, in line with or approaching the basic procurement price.
5. During the New Order government era, the efforts to stabilize the supply and price of rice was supported by sufficient policies and instruments, including the insulation of international market through rice import monopoly by BULOG, nearly unlimited central bank's credit facility for domestic food supply operations, and providing input subsidies. During the transition period (1998-2000) the government liberated the national rice economy by opening domestic rice market and eliminating input subsidies.
6. The findings of the analysis on monthly fluctuation of the price of rice during the two policy periods indicate that the volatility of the price of rice in the liberation era turns out to be no higher than that during the more controlled era. During the period of 1980-1997 the coefficient of variation value was 4.2 percent, whereas during the period of 1999-2000 it was only 3.9 percent. It indicates that (a) the stabilization policy by strong government intervention did not guarantee the capacity to overcome the fluctuation of price of rice altogether, and (b) during the liberation era,

sharp fluctuation of price did not occur due to the role of the private sector (such as what was done by BULOG during the New Order era) in reducing the fluctuation of supply and price through import policy.

7. Comprehensive rice policy was given a controlling main policy by the issuance of Presidential Instruction no. 9/2001 regarding the stipulation of rice policy. This presidential instruction obligates that rice policy shall not only be limited to the regulation of the price of paddy/rice, but shall also include the development of rice as a whole. Policies regulated in this presidential instruction comprise efforts to encourage: (a) improvement of farmers' productivity and rice production, (b) improvement of farmers' income through economic diversity, (c) regulating of the stability of supply and price of paddy/rice through procuring paddy/rice at the government's basic procurement price, regulating of import (tariff and procedures) to protect farmers and consumers, and (d) guaranteeing food supply for poor and food restricted people.
8. The basis of the consideration behind the rice policy in the Presidential Instruction No. 9/2001 does not intent to totally hand over the rice economy to the market mechanism (free market mechanism), on the other hand, neither does it intend to turn back to the strict government's control/intervention such as previously in practice during the New Order era creating excess in the use of opportunity to make use of economic interest for the interest of individuals or groups. Rice policy developed in this presidential instruction follows the approach of managed market mechanism in the efforts to protect the interest of producers and consumers. As mentioned in the previous point, during the normal condition, the private sector can respond immediately in the case of need of supply (high price) by importing. However, as rice is a strategic commodity, it cannot totally be handed over to the market mechanism. The government still has to have instruments to overcome market failure in order to protect producers and consumers. Presidential Instruction No. 9/2001 still provides such instruments namely government's basic procurement price, import regulating (tariff and procedures), and subsidized rice distribution for poor people.
9. In the long term, the national food policy is directed at food diversification efforts towards varied, nutritious, and balanced food consumption. This policy is capable of improving the quality of the human resources and at the same time the diversification of food consumption towards that of non-rice. In the long-term context, this policy will be able to establish sustainable food security, considering that by the reduced rice consumption per capita, the growth of national rice demand will decrease. This will reduce the national economic expense, considering those land area resources as a basis of developing food production is limited and becomes increasingly competitive in the utilization with the other economic activities. Rice relative price policy against the other higher food products, is one of the policies that can accelerate this food consumption diversification.
10. The above description reaffirms the fact that Presidential Instruction No. 9/2001 constitutes the main governing comprehensive rice policy. To make it effective, this regulation requires operational explanation by the Technical Department and the Regional Government, in a synergic

development program to enable people's empowerment in the development of rice and food agribusiness that can provide interest for farmers and consumers. In handling cases of food security as a local phenomena, regional governments should take more proactive role in accordance with the regional autonomic authority. Therefore, the coordination forum of the National and Regional Food Security Council need to take initiatives for the synergy in the operational policy of the inter-departmental development program in developing food agribusiness.

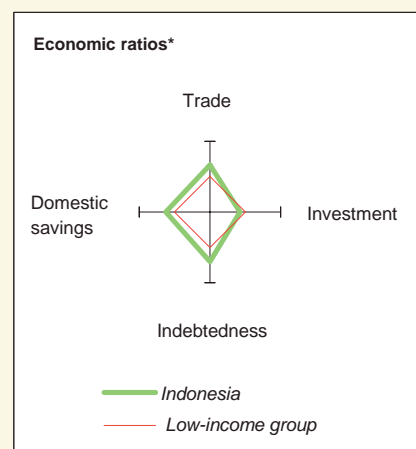
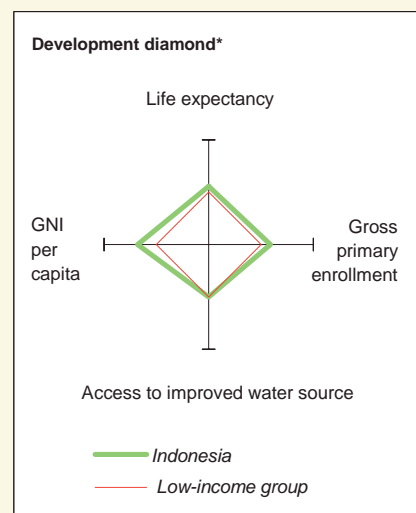
Annexes

1. Indonesia at a glance & Social Indicators
2. Rice imports by type and by country of origin, 1993 - 2000

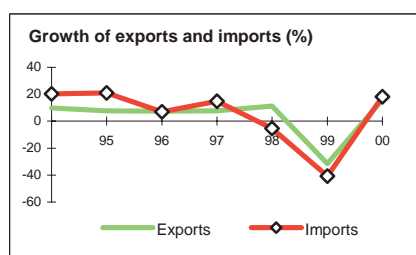
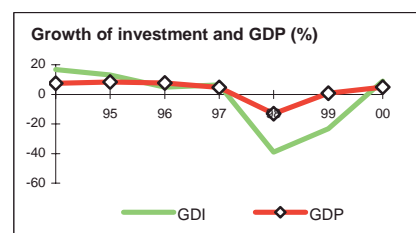
Indonesia at a glance

9/10/01

POVERTY and SOCIAL	Indonesia	East	Low-		
		Asia & Pacific	income		
2000					
Population, mid-year (<i>millions</i>)	210.4	1,853	2,459		
GNI per capita (<i>Atlas method, US\$</i>)	570	1,060	420		
GNI (<i>Atlas method, US\$ billions</i>)	119.9	1,964	1,030		
Average annual growth, 1994-00					
Population (%)	1.5	1.1	1.9		
Labor force (%)	2.5	1.4	2.4		
Most recent estimate (latest year available, 1994-00)					
Poverty (% of population below national poverty line)	24	..	..
Urban population (% of total population)	41	35	32		
Life expectancy at birth (<i>years</i>)	66	69	59		
Infant mortality (<i>per 1,000 live births</i>)	46	35	77		
Child malnutrition (% of children under 5)	70	13	..		
Access to an improved water source (% of population)	76	75	76		
Illiteracy (% of population age 15+)	10	14	38		
Gross primary enrollment (% of school-age population)	113	119	96		
Male	115	121	102		
Female	110	121	86		
KEY ECONOMIC RATIOS and LONG-TERM TRENDS					
	1980	1990	1999	2000	
GDP (<i>US\$ billions</i>)	76.4	114.4	141.3	153.3	
Gross domestic investment/GDP	24.6	30.7	12.2	17.9	
Exports of goods and services/GDP	34.9	25.3	35.2	38.5	
Gross domestic savings/GDP	38.8	32.3	20.2	25.7	
Gross national savings/GDP	..	28.1	13.1	19.2	
Current account balance/GDP	..	-2.6	3.3	4.9	
Interest payments/GDP	1.5	3.0	3.4	4.7	
Total debt/GDP	27.4	61.1	106.7	92.5	
Total debt service/exports	..	33.3	30.5	25.4	
Present value of debt/GDP	106.0	..	
Present value of debt/exports	254.9	..	
	1980-90	1990-00	1999	2000	2000-04
<i>(average annual growth)</i>					
GDP	6.1	4.2	0.8	4.8	4.9
GDP per capita	4.2	2.5	-0.8	3.1	3.4
Exports of goods and services	2.9	5.4	-31.6	16.1	4.0



STRUCTURE of the ECONOMY	1980	1990	1999	2000
<i>(% of GDP)</i>				
Agriculture	24.5	19.4	19.5	16.9
Industry	42.6	39.1	43.7	47.3
Manufacturing	13.3	20.7	25.9	26.0
Services	32.9	41.5	36.7	35.8
Private consumption	50.4	58.9	73.3	67.3
General government consumption	10.7	8.8	6.5	7.0
Imports of goods and services	20.6	23.7	27.2	30.7
	1980-90	1990-00	1999	2000
<i>(average annual growth)</i>				
Agriculture	3.6	2.1	2.7	1.7
Industry	6.9	5.8	1.9	5.5
Manufacturing	12.6	6.9	3.8	6.2
Services	6.9	3.5	-1.0	5.3
Private consumption	5.6	6.5	4.6	3.6
General government consumption	4.6	0.1	0.7	6.5
Gross domestic investment	6.7	-0.3	-23.3	8.9
Imports of goods and services	1.2	5.5	-40.7	18.2

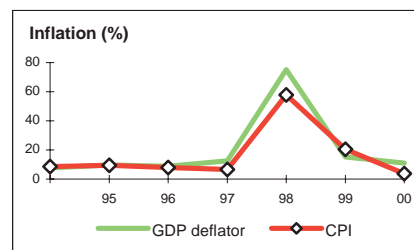


Note: 2000 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

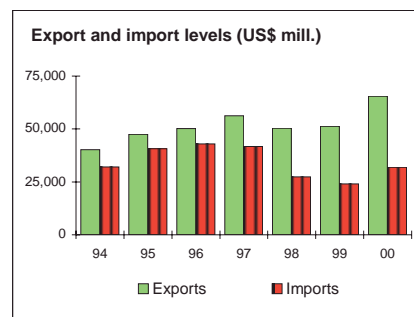
PRICES and GOVERNMENT FINANCE

	1980	1990	1999	2000
Domestic prices (% change)				
Consumer prices	17.7	7.8	20.5	3.7
Implicit GDP deflator	28.3	7.7	15.2	11.0
Government finance (% of GDP, includes current grants)				
Current revenue	..	19.3	18.0	20.1
Current budget balance	..	-2.0	2.8	3.6
Overall surplus/deficit	..	..	-2.4	-1.1



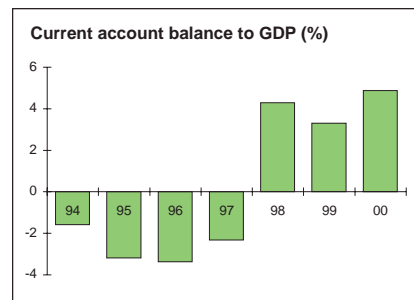
TRADE

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Total exports (fob)	..	26,807	51,242	65,408
Fuel	..	11,071	9,885	14,386
Estate crops	..	840	1,289	1,111
Manufactures	..	8,508	19,253	22,287
Total imports (cif)	10,834	21,837	24,003	31,962
Food	..	852	3,237	2,782
Fuel and energy	..	1,937	3,726	6,071
Capital goods	..	9,328	5,710	9,212
Export price index (1995=100)	..	63	131	129
Import price index (1995=100)	..	87	90	90
Terms of trade (1995=100)	..	72	146	143



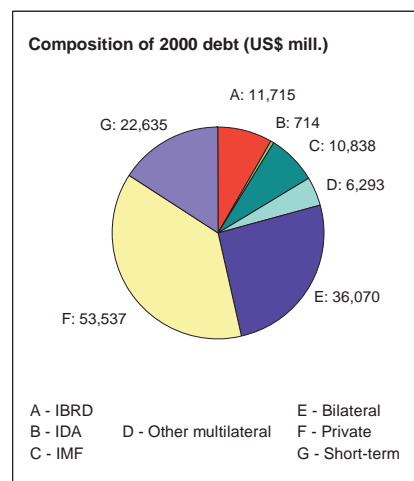
BALANCE of PAYMENTS

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Exports of goods and services	..	29,295	55,741	70,541
Imports of goods and services	..	27,511	42,071	55,293
Resource balance	..	1,784	13,670	15,248
Net income	..	-5,190	-8,997	-8,440
Net current transfers	..	418	0	672
Current account balance	..	-2,988	4,674	7,480
Financing items (net)	..	5,239	-2,702	-5,140
Changes in net reserves	..	-2,251	-1,972	-2,340
Memo:				
Reserves including gold (US\$ millions)	..	..	27,054	29,394
Conversion rate (DEC, local/US\$)	627.0	1,842.8	7,855.1	8,421.8



EXTERNAL DEBT and RESOURCE FLOWS

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Total debt outstanding and disbursed	20,938	69,872	150,844	141,802
IBRD	1,040	9,542	11,424	11,715
IDA	566	842	682	714
Total debt service	3,084	9,946	17,900	18,810
IBRD	120	1,281	1,584	1,710
IDA	5	18	29	31
Composition of net resource flows				
Official grants	109	283	0	0
Official creditors	806	2,384	3,389	1,700
Private creditors	807	1,830	-7,021	-7,040
Foreign direct investment	180	1,093	-2,745	-4,550
Portfolio equity	0	312	-1,793	-1,911
World Bank program				
Commitments	734	1,565	1,693	164
Disbursements	373	987	1,506	1,110
Principal repayments	32	562	786	787
Net flows	341	425	720	324
Interest payments	93	737	827	955
Net transfers	248	-312	-107	-631



Indonesia Social Indicators

	Latest single year			Same region/income group	
	1970-75	1980-85	1993-99	East Asia & Pacific	Low- income
POPULATION					
Total population, mid-year (millions)	132.6	163.0	207.0	1,836.6	2,417.1
Growth rate (% annual average for period)	2.4	1.9	1.6	1.2	1.9
Urban population (% of population)	19.4	26.1	39.8	34.5	31.4
Total fertility rate (births per woman)	5.0	3.6	2.6	2.1	3.7
POVERTY					
<i>(% of population)</i>					
National headcount index	..	..	27.1	..	..
Urban headcount index	..	..	..	..	..
Rural headcount index	..	..	..	..	..
INCOME					
GNI per capita (US\$)	230	530	600	1,010	420
Consumer price index (1995=100)	15	46	219	136	138
Food price index (1995=100)	..	40	119	..	..
INCOME/CONSUMPTION DISTRIBUTION					
Gini index	..	..	31.7	..	..
Lowest quintile (% of income or consumption)	6.8	..	9.0	..	..
Highest quintile (% of income or consumption)	52.0	..	41.1	..	..
SOCIAL INDICATORS					
Public expenditure					
Health (% of GDP)	..	..	0.7	1.7	1.2
Education (% of GNI)	2.8	2.0	1.4	2.9	3.3
Social security and welfare (% of GDP)	..	..	1.1	..	..
Net primary school enrollment rate					
<i>(% of age group)</i>					
Total	72	98	95	100	..
Male	78	101	96	100	..
Female	67	95	93	100	..
Access to an improved water source					
<i>(% of population)</i>					
Total	..	39	76	75	76
Urban	..	60	91	93	88
Rural	..	32	65	66	70
Immunization rate					
<i>(% under 12 months)</i>					
Measles	..	15	71	83	64
DPT	..	15	64	82	70
Child malnutrition (% under 5 years)	..	..	34	12	..
Life expectancy at birth					
<i>(years)</i>					
Total	51	59	66	69	59
Male	50	57	64	67	58
Female	53	60	68	71	60
Mortality					
Infant (per 1,000 live births)	109	75	42	35	77
Under 5 (per 1,000 live births)	172	125	52	44	116
Adult (15-59)					
Male (per 1,000 population)	478	368	235	184	288
Female (per 1,000 population)	405	308	183	141	258
Maternal (per 100,000 live births)	..	..	450	..	..
Births attended by skilled health staff (%)	10	31	43	..	..

Note: 0 or 0.0 means zero or less than half the unit shown. Net enrollment ratios exceeding 100 indicate discrepancies between the estimates of school-age population and reported enrollment data. Latest year for access to improved water source data is 2000.

2. Rice import by type and by country of origin

Year	Year 1993	Year 1995	Year 1998	Year 1999		Year 2000	
Unit	kgs	kgs	kgs	kgs	US\$	kgs	US\$
Rice in the husk (paddy or rough) - HS 1006.10.000							
Total	580	1,051,018	460,874	9,538,638	2,263,543	1,795,284	451,913
Thailand		1,050,000		663,638	174,269	1,472,000	381,564
Vietnam				1,100,000	231,508	210,020	52,337
Malaysia						11,873	1,597
Philippines	40	19					
Singapore	540					71,387	10,782
Korea		39					
China				6,500,000	1,482,000		
India						2	1
Pakistan				275,000	60,500		
Australia		960		1,000,000	315,266		
USA			460,350				
Hong Kong			524				
Indonesia						30,002	5,632
Husked (brown) rice - HS 1006.20.000							
Total	5,407,650	676,153	11,413,175	768,375,900	297,519,523	160,493,919	51,069,560
Thailand		5,800,000	9,626,693	108,371,137	24,504,198	44,408,023	11,161,979
Vietnam		7,140,000	11,025,000	250,973,268	56,630,353	62,535,425	13,275,038
Malaysia			750,000			538,000	97,890
Myanmar		10,342,858		3,225,257	707,581		
Philippines		3,898,332					
Singapore	50,000		325,252	1,111,561	501,624	56,059	17,048
Korea	45			57	28	210	118
China			42,005	12,526,142	3,221,853		
Japan		20	5,003,331	372,401,965	199,320,310	35,000,000	20,528,127
Taiwan				21,000	5,250		
India				1,695,099	294,801	108	68
Pakistan				2,647,000	507,171	1,823,089	404,955
Australia	555	1,734	455	215,735	41,237	8,601,216	3,033,328
USA	5,357,050	674,399	6,041,140	14,849,465	11,696,399	7,238,240	2,494,967
Saudi Arabia			992				
US. Virgin Islands						283,000	44,795
Venezuela						7,500	3,230
Switzerland						3,049	8,017
United Arab Emirates				640	1,306		
Tunisia				215,516	45,150		
Austria				64,500	31,282		
Bulgaria				31,000	6,300		
Indonesia				26,558	4,680		
Semi-milled or Wholly milled rice, whether or not polished or glazed - HS 1006.30.000							
Total	4,742,650	1,309,510,154	2,798,289,778	3,055,414,022	817,591,111	803,356,590	187,545,518
Thailand	1,650,000	249,997,119	924,690,547	970,481,381	260,826,477	149,583,774	34,610,552
Vietnam		291,451,903	1,130,000,000	997,617,930	243,487,458	112,802,205	27,166,382
Malaysia		3,453,500		15,105,000	3,855,627	5,165,495	735,421
Myanmar		249,565,638	210,000	25,993,339	6,706,330		
Philippines							
Singapore	1,150	750,000	95,640	8,455,907	1,724,464	2,144,443	410,683
Cambodia		11,895,263					
China			330,796,579	821,281,963	233,207,189	451,556,048	102,197,982
Japan		30,317,287		5,000,000	967,312	20,000	1,020
Taiwan		67,600,000		39,500,000	10,574,700		
India		139,657,000	8,000,000	10	9		
Pakistan		151,432,480	347,561,638	109,210,525	27,538,483	17,815,000	4,716,319
Australia		480		763,116	171,130	4,362	4,973
USA	3,090,000	36,282,877	15,569,096	60,106,629	28,017,400	40,740,341	10,837,597
Bangladesh		11,774,074					
Hong Kong			15,750,000				
Uganda		1,728,663					
Turkey		4,972,100					
Sri Lanka		12,523,400					
Saudi Arabia	1,500	3,901,000					
Ireland		10,921,059					
Canada		31,286,311		17,814	11,953	27,742	16,992
Armenia			12,050,000				
Peru			6,988,000				
Tunisia			5,000,000	42,000	10,130		
Italy				554,418	221,552	3,097,180	914,197
Venezuela				1,200,000	252,000		
Anguilla				83,990	18,897		
Others			1,578,278				
Indonesia						20,400,000	5,933,400

Year	Year 1993	Year 1995	Year 1998	Year 1999		Year 2000	
Unit	kgs	kgs	kgs	kgs	US\$	kgs	US\$
Broken rice - HS 1006.40.000							
Total	14,166,415	469,456,569	67,934,585	918,069,600	210,084,795	389,975,110	80,063,053
Thailand	14,125,000	406,324,490	61,016,005	294,100,456	72,091,142	166,270,992	37,253,938
Vietnam			6,917,797	554,267,307	121,599,347	193,999,180	36,581,841
Malaysia				30,000	4,500	1,897,984	277,774
Myanmar		10,665,938		1,878,242	286,752	198,380	13,772
Singapore	39,332			7,603,968	1,807,251	225,020	45,801
Cambodia				769,000	119,473		
China				35,515,615	8,134,665	25,220,606	5,230,466
Taiwan		5,500,000					
India		46,966,141		96,000	13,024		
Pakistan				16,676,500	3,857,404	501,000	109,789
Australia						199,004	31,000
USA	268					1,426,642	496,385
France	1,815						
United Arab Emirates				301,000	60,199		
Togo				62,985	11,337		
Venezuela				1,197,000	261,599		
Netherlands				77	520		
Italy				2,271,450	1,061,332		
Bulgaria				3,300,000	776,250		
Maldives						25,302	3,211
Tunisia						5,000	17,500
Others			783				
Indonesia						6,000	1,576
Total	24,317,295	1,780,693,894	2,878,098,412	4,751,398,160	1,327,458,972	1,355,620,903	319,130,044

Source : Biro Pusat Statistik, Jakarta - Indonesia (Import Statistic)

COUNTRY REPORT

Laos

1. Rice Production

The People's Democratic Republic of Lao (Laos), is a landlocked country with borders with China in the North, Vietnam to the east, Cambodia in the South and Thailand and Myanmar to the West and North West respectively. The country is well endowed with forests and extensive river systems of which the most important is the Mekong River, constituting a natural border with Thailand and Myanmar. Laos has about 25 % of the total area of the highly productive Mekong River basin.

Agriculture is the principle economic sector in Laos, accounting for about 52% of total GDP employing 85.5 % of the labor force. Rice is the predominant crop grown in Laos, for 614,000 agricultural holding in Laos grows this crop, accounting for 77% of all households in the country. Typically agricultural holdings in Laos is produced mainly for home consumption.

1.1 Production Zone

Rice production area in Laos can be divided into 3 groups:

1. Rainfed Lowland,
2. Rainfed Upland, and
3. Irrigated area.

Major rice production zones locate in 7 provinces along the Mekong River, namely, Vientiane, Vientiane Municipality, Bolikhamxay, Khammuane, Savannakhet, Saravane, Champasak.

Of all harvested areas, the Central region of Laos where rice is most produced, accounting for 50 % of the total land area. In term of production ecology, rice is growing at varying altitudes. During 1995-2000 period, it is estimated that 70% of the harvested rice area come from rainfed lowland area and 21% come from upland area.

1.2 Rice Cropping Systems and Rice Production by Type of Land

Most farmers engage in rice farming. Three predominant systems of rice production exist in the country:

1. Wet season lowland,
2. Wet season upland, and
3. Dry season.

In term of production by type of land, approximately 70% of rice production appeared in the Low land Area. From 1998-2000, there was increasing trend in rice production in the irrigated land area: from 13% in 1998 to 18% in 2002.

During the wet season various varieties of rice are cultivated, though the proportion of high yielding varieties has increased phenomenally. Irrigated dry season cropping is under high yielding varieties. The following diagram sows the cropping sequence of various types of rice varieties in Laos.

Rice Cultivation Pattern in Laos

	Type of Rice	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Wet Season Lowland	<i>Short Variety</i>												
	-Land preparation					←→	→						
	-Seeding					←→	→						
	-Transplanting						←→	→					
	-Harvesting											←→	→
	<i>Medium Variety</i>												
	-Land preparation					←→	→						
	-Seeding					←→	→						
	-Transplanting						←→	→					
	-Harvesting											←→	→
	<i>Late Variety</i>												
	-Land preparation					←→	→						
	-Seeding					←→	→						
	-Transplanting						←→	→					
-Harvesting											←→	→	
Dry Season rice	<i>Dry Season rice</i>												
	-Land preparation										←→	→	
	-Seeding											←→	→
	-Transplanting	→											←
	-Harvesting				←→	→							

Source: Ministry of Agriculture and Forestry, Compiled by FAO Special Report FAO/WFP Crop and Food Supply Assessment Mission to Laos. 15 March 2001

1.3 Crop Management

Most farmers employ one of two cultivation systems: either the wet-field paddy system, practiced primarily in the plains and valleys, or the swidden cultivation system (slash-and-burn cultivation), practiced primarily in the hills.

Until recently, with the exception of production in irrigated environments, where extension services have been better developed, most rice production in Laos has been based on systems of minimum inputs, concentrating on family labour.

1.4 Overview of Rice Production

(1) During 1975 - 1990

Rice production in Laos doubled between 1974 and 1986, from fewer than 700,000 tons to 1.4 million tons; however, drought in 1987 and 1988 decreased annual yields by nearly one-third, to about 1 million tons, forcing the government to rely on food aid for its domestic requirements. In 1988 and 1989, some 140,000 tons of rice were donated or sold to Laos. With improved weather

and the gradual decollectivization of agriculture--an important measure under the New Economic Mechanism--rice production surged by 40 % in 1989.

Production continued to increase in 1990, although at a much slower rate, and the point of self-sufficiency in rice was reached: a record 1.5 million tons. Though this amount was sufficient at a national level, there were considerable regional differences in rice yields. The southern Mekong provinces of Khammouan, Savannakhet, and Champasak regularly produce surpluses, as do Vientiane and Oudomxai provinces, where the northern provinces experienced shortages. An inadequate transportation system, however, often makes it easier for provinces with shortages to purchase rice from Thailand or Vietnam than to purchase it from other domestic provinces.

The overall increase in rice production throughout the 1980s was the result of higher productivity per hectare, rather than of an increase in the land area planted in rice; in fact, the area planted in rice decreased during the 1980s, from 732,000 hectares in 1980 to 657,000 hectares in 1990. Because farmers make little use of fertilizers or irrigation, however, most land still yielded only one annual crop in the early 1990s, despite government efforts to foster the use of double-crop rice. ¹

(2) In the 1990s

Approximately 645,000 ha, represented more than 80% of the cropped land area engaged in rice cultivation in 1997. Total rice production in 1997 was 1.66 million tons. Severe flooding and drought conditions in the rainfed lowland environment in 1995 and 1996 significantly reduced rice production by about 20% to 1.45 million tons.

Wet season rice cultivation accounts for about 96% of the rice area and about 97% of total production. In 1997, the rainfed lowland ecosystem accounted for about 70.5% of the rice areas and about 78.3% of production; the rainfed uplands accounted for a further 25.4% and 14.9% of the area and production, respectively. The area planted to dry season irrigated rice in the 1996/97 dry season was approximately 25,000 ha. This expansion of the irrigated area reflects official policy to reduce the large fluctuations in production that have been a usual characteristic of the rainfed dependent nature of rice production in Laos.

From 1997-2001 total of paddy production increased over period, namely, it increased 40% from 1.66 million tons to 2.3 million tons in 2001. This is partly due to expanding in area harvested from 600 thousand ha in 1997 to 746 thousand ha in 2001, respectively. This correlates with increasing in yield of paddy rice, which gradually increased from 28 thousand Hg/ha in 1997 to 30 thousand Hg/ha in 2001.

¹ Library of Congress, Federal Research Division, Country Study, Area Handbook Series, Laos.

Rice Production, Harvested Area and Yield 1997-2001

	1997	1998	1999	2000	2001
Area Harvested (ha)	599,400	617,538	718,200	719,370	746,775
Yield (Hg/ha)	27,694	27,116	29,279	30,606	31,300
Production (MT)	1,660,000	1,674,500	2,102,815	2,201,700	2,334,500

Source: FAO online statistics and Ministry of Agriculture and Forestry, Laos

This remarkable achievement is attained through the increase in planted area and the improvement of yield. The main production areas are in the central and south regions where more land is still available for rice cultivation. With better infrastructure such as irrigation and road, this rate of production growth can be sustained for the next few years.

1.5 Agricultural Population, Land used, Fertilizer Consumption, and Tractor Used

Total population in Laos gradually increases over 5 years. Among these, agricultural population accounts for more than 75% of the country population.

Agricultural Population 1997 – 2000 (Unit : x 1,000)

	1997	1998	1999	2000
Total population	4,918	5,036	4,156	5,279
Agricultural population	3,786	3,868	3,952	4,037

Source: FAO online statistics

Agricultural area accounts for 7% of total land of the country. It, however, has a tendency to increase gradually over time as witnessed by increasing in agricultural area from 1,700 (1000 ha) in 1995 to 1,805 (1000 ha) in 1999. Fertilizer consumption increased sharply from 1995 to 1998.

Land Area, Fertilizer and Tractor Used

	Unit	1995	1996	1997	1998	1999
Total Area	1000 ha	23,680	23,680	23,680	23,680	23,680
Agricultural Area	1000 ha	1,700	1,700	1,756	1,780	1,805
Irrigation: Agricultural Area	1000 ha	155	156	164	168	172
Total Fertilizer Consumption	MT	6,189	N/A	N/A	10,166	NA
Tractors Agricultural Total in Use		890	N/A	N/A	890F	N/A

Source: FAO Online Statistics and FAO's CORIFA, Laos

Agricultural Census 1998/1999 indicates that 64% of the result of total land used was for rice production, and Central area is where rice is most grown.

1.6 Main Production Constraints

During the last five years, rice yield has steadily increased. In order to further increase in rice yield, not only development of irrigation facilities is required, but also several constraints to sustainable rice production should be aware. These include:

- Drought in rainfed areas
- Soil erosion and fertility losses in upland rice cultivation
- Periodic flooding due to the swelling of Mekong River
- Sandy soils with low level of fertility, especially P and K
- Weeds, insects and diseases
- Inadequate infrastructures
- Inadequate credits and input supply-fertilizer and other agro-chemical
- Small farm size
- Price fluctuation
- Storage
- Popular preference to glutinous rice

1.7 Planted Varieties

Information from Ministry of Agriculture and Forestry, Laos states that Laos has rice variety of total 14,000 types. Of these 80% are glutinous rice type Kor, Khor from Thailand. Others are traditional rice with some was adapted from Vientiane. One of the high yield rice titled “Kai Noi” is only available in northern province of Laos, and is not available in the market.

1.8 Law/Decree/Regulation/Order regarding the Rice Production

Related laws with rice production in Laos include:

1. Decree on Decree of the Prime Minister on the management and use of forests and forest land
2. Land on Land (Law No. 01/97 NA, 1997)
3. Law on the Promotion and Management of Foreign Investment
4. Agricultural Law
5. Land Tax Law

1.9 National Agricultural Development Plan ²

Economic policy since 1986 has emphasised reforms from a centrally planned to a market driven economy. Extensive privatisation of former state owned enterprises were part of this process. The number of state owned enterprises fell dramatically from some 800 in 1990 to 29 in 2000. As the majority of the population depend on farming in rural areas as their main livelihood, economic

² Excerpt from Library of Congress. Federal Research Division. Country Studies. Area Handbook Series. Laos and Special Report FAO/WFP Crop and Food Supply Assessment Mission to Lao PDR 15 March 2001.

development is strongly linked to rural development. The Government focus in these areas is to develop access to markets, improve rural and micro finance and credit, expand the irrigation network and strengthen technology transfer.

Agriculture (including forestry and fisheries) is the most important sector in the economy, accounting for over 50 % of GDP. This sector is dominated by subsistence farmers, mainly engaged in wet season and, to a lesser extent, dry season rice production. In recent years, however, agriculture policy has strongly emphasised the development of irrigated dry season farming, to enhance rice production.

The introduction of the New Economic Mechanism in 1986 clearly benefited the agricultural sector. The changes positively affected performance by establishing a consistent policy that induced increased agricultural production over a number of years, especially in paddy production.

In June 1988, the government of Laos passed a resolution to reform the agricultural sector. The principal goal was to reorient the sector toward a market economy. The abolition of agricultural tax and the restrictions on marketing assisted creating necessary incentives for farmers.

The major change was in the pricing policy. The practice of setting low producer prices for a wide range of crops was ended, boosting incomes in rural areas. (In 1987 the procurement price of rice was only 30 % of the market price). Other changes were implemented. Restrictions on internal trade of agricultural products were removed allowing free markets to operate, at least for important crops such as rice. Laws also were enacted to guarantee farmers' rights to private ownership of land, including the right to use, transfer commercially, and bequeath. Tax exemptions for specified periods also were decreed. ³

The reforms emphasize the government's belief that further increasing and diversifying agricultural production requires the participation encouragement of the private sector. Food security, as always, remains a key objective, but the focus of the new agricultural policy is on the production of cash crops that can be processed--to increase their value--and then exported. The means for reaching that goal include the popular 1989 measure of abandoning the poorly developed attempts at establishing the socialist infrastructure of agriculture--a cooperative farming system. ⁴

In March 1991, at the Fifth Party Congress, the government reiterated the basic objective of its agricultural policy: a shift from subsistence production to cash crop production through crop diversification and improved linkages to export markets. At the congress, the government also affirmed its support for the private ownership of land and its intent to protect farmers' rights to long-term use of land, to bequeath land to their children, and to transfer their land rights in exchange for compensation.

³ Ditto

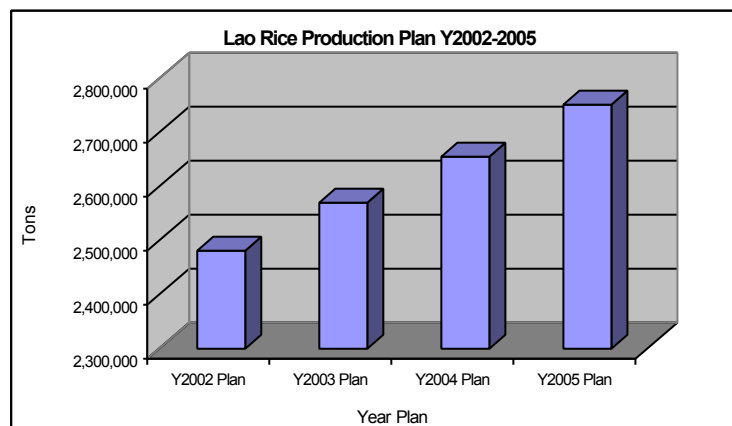
⁴ Ditto

Rice is considered as first priority commodity by the Government to increase level of its production in the context of a market-oriented economy in accordance with the application of the New Economic Mechanism. Rainfed lowland rice and irrigated rice are considered as a priority food source before upland rice. Rice self-sufficiency at the national level is always the main government objective.

Another important objectives of the national agricultural policy are the reduction of upland slash-and-burn agriculture and promote rainfed lowland and irrigated rice production. Government intends to develop at the maximum the potential of regions with comparative advantage for rainfed lowland rice production. Crop diversification is promoted in the rice-based production systems. A progressive intensification of rice production techniques and the utilization of the available technology from research are also part of the Government policy.⁵

1.10 National Rice Production Plan

Ministry of Agriculture and Forestry has planned targeted of rice production for Year 2002-2005 that the yield shall increase gradually from 3.22 ton/ha in 2002 to 3.42 ton/ha in 2005. In term of harvested area, it is planned that rice harvested area will expand 2.5% from Year 2002 to Year 2005. Production is expected to increase at the average 1 hundred thousand tons per year.



2. Rice Marketing System

An important objective of the government of Laos since the initiation of the economic reform in 1986, has been the development of an efficient market economy. The primary focus is to privatize former state enterprises and to greater promote domestic and international trade. Currently, the private sector plays a more important role in the distribution of agricultural inputs, the procurement and trade of rice. Despite of these developments, the level of market integration and development remains low, due to various problems of communications systems and access, inadequate market information and

⁵ ASEAN Secretariat. Country Report: Lao PDR.

low agricultural incomes. This is particularly witnessed amongst the rural poor.

As rice is mainly cultivated on family land holdings mostly for home consumption, the proportion sold is relatively small. From the interview with government officers of Ministry of Agriculture and Forestry, 88% of rice production is for home consumption, whereas 12% is for domestic selling. As market integration and communications remain highly under-developed, there is wide variation in prices among provinces.

2.1 Mechanism

The government has major role in the market of paddy/rice. The State Enterprise Food & Corp Promotion (SEFCP) is the agency involve in rice marketing and trade in Laos. There are also some private enterprise dealing with trading of rice in Laos. Most of them are import-export companies or private rice mill enterprises. The SEFCP intervenes in rice milling and marketing to different degrees from one province to another. It procures rice mainly for civil servants in its provinces, and exports rice when possible to neighboring countries. Where the SEFCP gives contracts to private millers, this adds an additional intermediary in the marketing chain and will probably increase overall marketing costs. In provinces where the SEFCP operates its own mills, there is a danger of unfair competition with the private sector, as the SEFCP will be exempt from payment of licenses, taxes and free of certain restrictions concerning inter-provincial or export trade. ⁶

2.2 Marketing Channels

A large number of different marketing channels for paddy and rice are available in Laos. Farmers either sell paddy or have it milled at a small village mill or a bigger mill at District level for sell as milled rice and also for their home consumption. Paddy may be sold to collectors who visit the rural areas or delivered to a mill via road or near the bigger towns, for slightly higher price. In many cases, middlemen visit household at farm level and buy paddy after harvesting and sell the paddy to the SEFCP or to private rice mills. Private rice mills often purchase paddy at rice mill gate. The paddy is then processed and milled rice is distributed to retail markets in the province, and to household processing units for noodle and alcohol distillery.

In addition, large rice farmers often have their own thresher. They thresh the paddy of smaller farmers in the area for certain amount of payment. In some cases, the large farmer not only operates a village mill, but also engages in role of being farmer, collector, miller and rice trader.

Generally, rice was transported by car via route 13, and by boat along the Mekong River. Given that the road condition is not in a good shape, transportation cost is one of the concerns for traders.

Most of paddy and milled is channeled to the market through middlemen/collector, rice miller and

⁶ Information received from Ministry of Agriculture and Forestry, Lao PDR.

SEFCP. According to sampling made at producer level by the Ministry of Agriculture and Forestry, 45% of domestic traded rice was sold to SEFCP, where as 35% to other private sectors, and 20% direct to consumer, respectively.

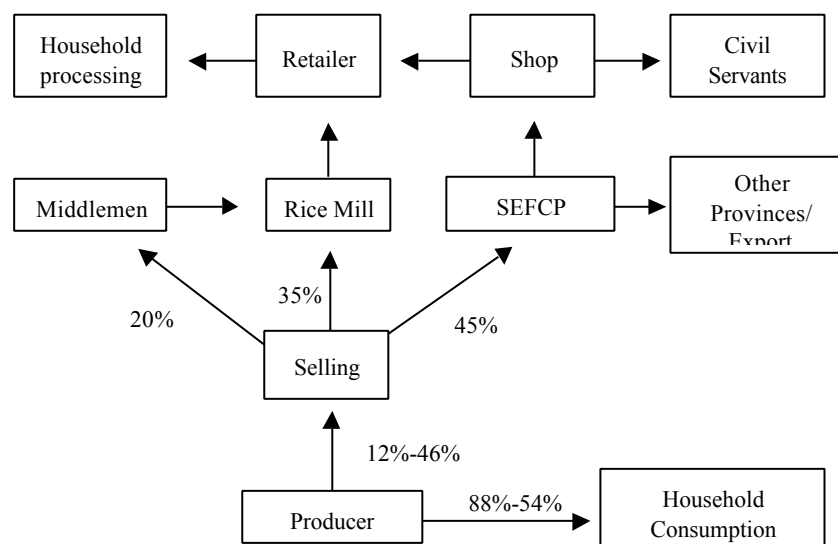
2.3 Type of Millers

Information from Ministry of Agriculture and Forestry, Laos reveals that there are 3 types of millers in general. Combinations of the following miller types are usually seen.

- Customs Milling: This begins with farmers or small traders bring their paddy to the mill. Milling can be free of charge in exchange with bran. This practice is most common in Laos. The bran is then sold to poultry farmers. In some cases, milling fee is approximately K1,500/12 kg. However, in Vientiane province, a milling fee of K10,000/ 100 kg paddy is charge. Small and medium sized mills usually carry out customs milling.
- Commercial Milling: The miller will buy paddy and sell rice directly to the market retailers or via intermediary traders. Millers who has storage capacity may store paddy up to 10 months, to take advantage of higher prices in August and September, before the new harvest begin.
- Contract Milling: This is for Government Institution, Department of Commerce in provincial governments, for SEFCP, and very rarely for international organizations such as World Food Program (WFP).

2.4 Domestic Rice Trade Flow

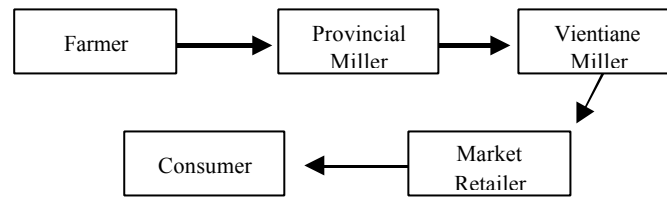
Domestic marketing channel of paddy/rice in Laos is shown in the following diagram:



Source: Ministry of Agriculture and Forestry, Laos.

In some cases, farmers sell paddy to Provincial miller, who then sell to Vientiane Miller before sell

to market retailer and to the consumer.



3. Rice Price Policy

In supporting free market mechanism, the Government of Laos has no policy in fixing rice price in the market. The Ministry of Commerce, however, announces minimum-buying price from farmers annually. The SEFCP is obliged to buy rice not lower than announced by the Ministry. Most recently, in November 2001, the minimum-buying price announced was 900 Kip/ paddy Kg. ⁷ (Equivalent to Approximately 5 Baht)

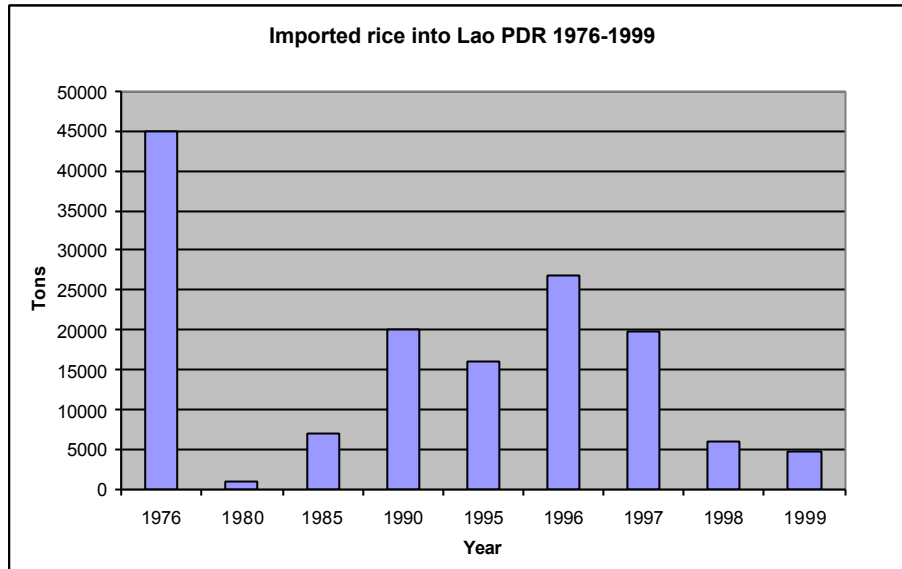
Some provincial government or SEFCP branches have objective of price stabilization. They issue a guideline floor price to paddy farmers and a ceiling retail price of rice. However, in practice these prices can not be enforced since it would require a large budget for paddy procurement in good crop years and a large stock of rice for release in time of shortage. The problem with stock lies in cost of storage and maintenance facilities. In case of Laos, with borders with Thailand and Vietnam, it will not be plausible to maintain prices that are very different from those across the border.

4. Rice Trade (Overseas)

4.1 Imports

Statistics from Ministry of Finance shows that imported rice doubled from 1985-1990. In addition, Lao's rice import increased largely from 1995 to 1996 due to flooding in Mekong River which resulted in decrease of local rice production in that year. Generally large number of imported rice into Laos is for purpose of food aid.

⁷ Announcement of Ministry of Commerce and Tourism, Lao PDR.



Among the traders, Thailand is the major rice trade partner. Department of Foreign Trade, Ministry of Commerce, Thailand, provides the data on quantity of rice export from the Kingdom during 1997 to 2001. It clearly shows that rice imported from Thailand is also decreasing. From 2000 to 2001, total rice export from Thailand to Laos decreased by 76%, namely, from 5,120 tons to 1,220 tons. Rice export from Thailand to Laos accounts for less than 1% of the total amount of rice export to Asia.

Volume of Imported Rice from Thailand to Laos during 1997-2001 (Unit: tons)

	1997	1998	1999	2000	2001	% Change
To Asia	2,380,003	3,199,656	2,503,699	1,949,741	2,011,383	3.16
To Laos	38,203	15,196	3,804	5,120	1,220	-76.17

Source: Department of Foreign Trade, Statistics on Rice exportation during Y 1997-2001

The decreasing trend of rice import into Laos is due to government's policy to have rice sufficiency and to reduce importation. Some source informed that from Y2000 to present, Laos has not imported rice since there was enough rice in the country, with some surplus amount. However, imported rice still exists in form of food aid from foreign donors especially Japan, WFP.

In term of import location, Laos imported a small quantity of rice in the north in spite of the surplus in the south. This is owing to the transportation cost from the South to the North is high. Therefore, it would be cheaper to use the road network in Thailand. The market takes care of this by exporting rice from the South and importing rice in the North.

Two main factors related to the import of Thai rice are the preference of wealthy people for quality rice, and the drop of rice price in Thailand.

4.2 Exports

With a 40% increase in production and steady increase in consumption, the logical deduction would be that there must be at least a 50% increase in export. It is a well accepted fact that there are unofficial exports along the border to its neighboring countries i.e. Vietnam, Thailand, and China. Some source mentioned that volume of export to Vietnam is much higher than the export to Thailand. Approximately 50,000 tons of rice was exported from Laos to Vietnam in Y2001. With the potential increase in rice production in Laos, it is likely that the export from Laos will increase further in the future.

5. Rice Reservation

5.1 Rice Reservation by the Government

Rice reserve is considered as one of important procedures aiming to guarantee and stabilize rice supplying. Laos has established rice reserve for stabilizing market prices, preventing and overcoming consequences of natural disasters, and supporting the defense security.

Though there is no law/regulation on rice reservation, the Government realizes the need of have some sort of reserve for food security in the country. Generally if there is surplus amount of rice in a year, this stock usually kept by the farmers around the country. It is expected that rice reserved in Laos is stored in form of paddy, glutinous rice. Approximate rice reserve is 3 months.

The government of Laos allocates budget for rice reserve annually. Since 1994, rice reserve capital is provided by the government budget (approximately 10,000 tons of rice paddy) for purchasing reservation volume and assigned to the SECFP to manage the reserve.

Ministry of Agriculture and Forestry estimates that by the year 2005, total rice reserve will be approximately 30,000-40,000 tons (the national rice reserve is about 4-5 kg. per person). In 2010, total rice reserve volume will double to 60,000-85,000 tons (national rice reserve is 8-10 kg. of rice/ person.)

5.2 Rice Reservation for AFSR

Under the commitment of ASEAN Food Security Reserve Board (AFSR), Laos reserve 3,000 tons of paddy, glutinous rice.

6. Rice Demand/ Consumption

6.1 Rice Stock

There is no clear evidence regarding rice stock in Laos. The FAO/WFP Special Mission to the Laos in the year 1999 concluded that official stocks held at national, provincial and district levels or in Government shops are limited and complete data do not exist. As the bulk of the harvest is available shortly before the end of the year, significant on-farm or trade inter-annual carryovers are likely to be minimal. None of the villagers interviewed the Mission reported carryovers. In the absence of complete and reliable data, it is assumed, in line with the previous missions, that there will be zero net draws down.⁸

6.2 Rice Supply/Demand Balance

A calculation from available information, namely data on production, import, consumption, and export were summarized in the following table.

Rice Balance in Year 1995 - 2001 (Unit: million tons)

Year	Supply				Demand			
	Beginning Stock	Production	Import	Total	Local Consumption	Export	Ending Stock	Total
1995/1996	-	0.851	0.016	0.867	0.978	-	-	0.978
1996/1997	-	0.848	0.027	0.875	0.998	-	-	0.998
1997/1998	-	0.996	0.020	1.016	1.030	-	-	1.030
1998/1999	-	1.005	0.006	1.011	1.056	-	-	1.056
1999/2000	-	1.262	0.005	1.266	1.082	-	-	1.082
2000/2001	-	1.321	0.010	1.331	1.109	-	-	1.109

Source: Ministry of Agriculture and Forestry and Department of Customs and Electrical Enterprise

Italic: U.S. Department of Agriculture, World Agricultural Supply and Demand Estimates

Production: Milled Rice

Conversion rate: Paddy/Milled = 60%

Consumption per Capita: 212.43 kg./year (National Statistical Center, Expenditure and Consumption Survey 1997/98)

Ministry of Agriculture and Forestry, Laos calculates the net availability of rice for human consumption in 2000-2002, under the assumption that per capita consumption is 180 milled rice. It finds that per capita net availability increased over the period of 2000-2002. The rice surplus was witnessed since 2000, and continues to grow in 2002, specifically, from +110,000 metric tons to +178,200 metric tons. These findings also correlate with FAO/WFP Special Mission to Laos in 1999's report situation of rice supply/demand balance sheet for the 2001 marketing year (Jan/Dec) that there is zero import requirement for rice in Laos.

⁸ Special Report FAO/WFP Crop and Food Supply Assessment Mission to Lao PDR 4 March 1999.

6.3 Rice Consumption

With the 50% increase in production and no report on export, it implies that per capita consumption of rice in Laos has increased enormously during the past 5 years. The level of consumption is about 180 kg/cap/yr or about 0.5 kg/cap/day. This is supported by the household survey, which put the per capita consumption at 358 kg. in paddy basis. However, the consumption for feed and seeds are property taken into account, the direct consumption may not be as high. If the proper statistic is account for the export, it is likely that the level of rice consumption in Laos is at best staying the same or even declining.

6.4 Picture of Rice Surplus and Deficit by Region ⁹

From the estimation of 300 consumption of paddy per capita, we can map the surplus and deficit region of Laos as shown in the table below. Of the overall picture, Laos has surplus rice of approximate 573,000 and 630,000 tons in 1999 and 2000, respectively. Northern region comprising of 7 provinces experience rice deficit every year. This is, however, not to say the population has no rice to eat, but they has no rice availability due to various factors e.g. limited planting area or those are area which emphasize on livestock promotion. Average rice deficit is 5-6 months.

Rice Surplus/ Deficit by Region (Unit: tons)				
Region	1997	1998	1999	2000
Northern	(56,290)	(62,844)	(46,470)	(59,061)
Central	173,180	208,346	413,801	449,061
Southern	89,430	38,922	208,154	245,700
Total	204,323	182,426	573,486	633,700

7. Rice/Paddy Price

Rice price in Laos varies from province and region. Market price in Vientiane is generally higher than that in other rural areas. It is noticeable that Non-Glutinous rice price is higher than glutinous rice price.

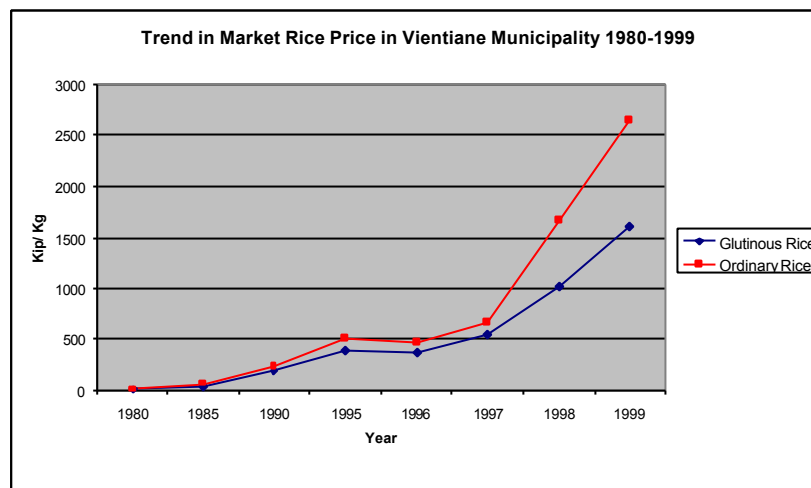
The disparity in price between the provinces is from 14% to 24.6% for glutinous rice and from 14.5% to 41.7% for non-glutinous rice. The number of population in one part and the large number of industries/businesses and agencies on the other part justify higher demand and price in Vientiane Municipality.

This price difference is also due to domestic consumption pattern, that majority of the population

⁹ Data on production and population is received from Ministry of Agriculture and Forestry, Lao PDR. Refer to Annex for calculation.

prefers Glutinous rice to Non-Glutinous rice. Another point can be noticed is that Thai non-glutinous rice price is much higher than Lao glutinous rice price.¹⁰

Imported rice from Thailand is reported in 5 market localities. The price of imported rice is higher than the local rice from 9.6% in Vientiane Municipality to 68% in Pakse. There has been no records on the import of rice by the municipal and provincial trade offices, therefore almost Thai rice have been smuggled and it is a serious shortcoming influencing the rice market.



William E Worner, the Lecturer in Economics University of Western Sydney, Nepean studied the comparison of retail glutinous rice prices in Vientiane and in Thailand under assumption that rice is an important wage good so the price of rice impacts on the real wage of workers in the monetary sector. The study reveals the findings that the market price of glutinous rice in Vientiane approximates the price in the Northeast of Thailand, at least in the long run. Any short run divergence between the two prices in response to exogenous shocks in one or both of the markets, such as drought or domestic macroeconomic policies, could be expected but the forces of competitive arbitrage would eventually set them on a convergent path.¹¹ His finding was supported by statistical comparison of price indexes in two economies.

8. Food Aid

Between 1975 and 1990, total foreign aid to Laos, including grants and loans, was approximately US\$2.3 billion. Of this sum, only 65 % had been spent as of 1989, of which grants and loans made up approximately equal quantities. 55 % of spent aid derived from the nonconvertible currency area, 17.8 % from convertible currency area countries, and 27.2 % from international organizations and financial institutions.¹²

¹⁰ See detail rice price in Annex

¹¹ Worner, William E. The Retail Glutinous Rice Price in Vientiane

¹² Library of Congress. Federal Research Division. Country Studies. Area Handbook Series. Laos

Other kinds of aid are provided by international organizations such as the UNDP, the Asian Development Bank, the International Development Association, and the IMF. Multilateral organizations provide large loans in support of government reforms--in 1990 and 1991, the IMF and the Asian Development Bank made loans worth US\$37 million for this purpose. Aid to Laos covers a wide range of activities, including technical and capital assistance for such projects as hydroelectric power stations (Sweden), a livestock vaccination program (the UNDP), and scholarships for agricultural study (Thailand).

Other types of aid include loan forgiveness: in 1991 Japan and Germany forgave loan liabilities worth US\$32.3 million. Despite the country's continued striving to reach food self-sufficiency, it relies on food aid for its domestic needs during years of poor harvest. In 1988 and 1989, for example, 140,000 tons of food aid were donated or sold to Laos to make up for shortfalls caused by drought. Food aid in cash or in kind was donated to Laos in 1991 by the Food and Agriculture Organization and the UNDP, and by the United States, Australia, Thailand, and the Netherlands. ¹³

8.1 Food Assistance Needs in 2001

Although the rice balance prepared by FAO/WFP special mission year 1999 indicates that in 2001, Laos will have a satisfactory rice situation overall, however, the food security situation in any given year remains susceptible to natural catastrophes such as floods and droughts and, therefore, precarious for large numbers of vulnerable people who are on the borderline between subsistence and food insecurity.

8.2 Analysis of Food Insecurity in Laos

The FAO/WFP Special Mission in 1999 analyzes the food insecurity in Laos as follows: ¹⁴

Food insecurity in Laos is primarily defined in terms of rice self-sufficiency as the crop constitutes the main staple and accounts for almost all cereal consumption in the diet. Although nationally there is no problem of rice this year, there are large spatial variations in the production and access to rice. Nine out of 18 provinces and 69 out of 141 districts still face food supply shortages. Combined with weak infrastructure, and low non-farm/natural resource based income opportunities, the purchasing power of food deficit populations is highly constrained.

A preliminary draft of a household survey, estimates that some 27 % of households face rice shortages annually, whilst the LECS II 1997/98 study estimated that about 30 % of the households are below the food poverty line. In addition, health and nutrition indicators point to serious problems amongst sizeable segments of the population. Over 40 % of the children are malnourished, and the infant mortality rate is 82 per 1000 live births.

¹³ Ditto

¹⁴ Special Report FAO/WFP Crop and Food Supply Assessment Mission to Lao PDR 15 March 2001

As in most developing countries, rice/food access and hence vulnerabilities (or lack thereof) are largely based on natural resources and geography especially for the rural poor. Laos can be broadly classified into six food economy/access areas based on geography. These areas are primarily selected on differences in access to food.

8.3 Types of Food Aid Intervention

Study by FAO/WFP indicates that Laos still need food aid intervention. This is being served through the WFP food for work mechanism. This scheme helps villagers plan their priorities and uses food assistance to enable them to implement activities identified by the community (roads, canals, etc.). WFP works closely with the Ministry of Labor and Social Welfare to implement its projects and NGO's/other bilateral and international agencies.

The Ministry and WFP jointly decide on areas of intervention. Appropriate NGO's who can bring in complementary resources are also involved in the planning and implementation of the projects. A joint list of districts and villages are decided upon and a village planning exercise decides on the type of intervention.

In addition, WFP has set up a decentralized coordination structure with Provincial departments of Rural Development, Labor and Social Welfare, Agriculture and others. This group in conjunction with govt. district officers makes decisions at village level for food aid interventions. Detailed analysis of crop loss, and coping strategies are done both using quantitative data at central level and qualitative analysis at Province level and the overlaps between them are chosen.

8.4 Rice Aid in Year 1992 - 2001

A key operation of rice aid in Laos is under the World Food Program. Statistically, Laos received rice aid from 1992-2001 total of 73,549 MT, or equal to average of 8,200 MT.

Year	Rice Distributed (MT)	Year	Rice Distributed (MT)
1992	11,000	1997	27,807
1993	2,986	1998	3,410
1994	9,680	1999	-
1995	4,284	2000/01	4,492
1996	9,890	Total	73,549

Source: World Food Program

In 2001, Laos received food aid, specifically, 4,100 MT rice aid from United States of America. This amount was in form of rice via the World Food Program, which worth 1.086.50 thousand dollar. ¹⁵

¹⁵ Foreign Agricultural Service, Food Aid Statistics, USDA, Online Edition

Several other projects of food aid via World Food Program to Laos include: ¹⁶

- Primary Education for Girls and Boys in Remote Areas of Laos (1 August 2001-31 July 2004)
- Improvement of household food security (3 years, through July 2003)
- Emergency operation under Assistance to Flood Affected People in Laos (November 2000 to March 2002)
- Emergency operation under Support for Worst Affected Flood Victims (1 October 2000- 31 December 2000)

In most programs above, rice will be bought from Thailand, Vietnam or China. Other parts will be source locally where there is surplus in rice.

Summary of Aid to Laos via World Food Program

Name of Program	Duration	Type of Aid	Total Commitments (tons)
Primary Education for Girls and Boys in Remote Areas of Laos	36 Months (August 2001 - July 2004)	Morning Snacks Take home ration including rice Weekly ration	7,306
Improvement of Household Food Security	3 years, through July 2003	Remuneration in food as wage Ration of 5 KG of rice The long-term objective of the project is to assist food-insecure villagers to become more self-reliant through village-based community development	Rice: 8,644
Assistance to Flood Affected People in Laos	Nov. 2000 - March 2002	Glutinous Rice (30 KG per person)	Glutinous Rice: 8,160
Support for Worst Affected Flood Victims	Three months (Oct. 2000 - 31 Dec. 2000)	Glutinous Rice (30 KG per person)	Glutinous Rice:520

Source: World Food Program, WFP-Assisted Projects, Laos.

¹⁶ World Food Program, Projects –Laos, WFP assisted projects, Online Edition

9. Poverty

Laos is considered as a least developed country. It received several aids from foreign donors specifically Japan, and USA. 46.1 % of population is below the poverty line. Information from Asian Development regarding the poverty situation is shown in the table below:

	1990	Most recent	
Population, mid-year, Million	4.1	5.1	(1999)
Annual Growth Rate, 1990 - 1999 (%)		2.4	
Life Expectancy at Birth (Years)			
<i>Female</i>	51	55	(1998)
<i>Male</i>	49	53	(1998)
Per Capita GNP (US\$)	400 (1996)	280	(1999)
Poverty Incidence (National Poverty Line)	...	46.1	(1993)
<i>Rural</i>	...	53.0	
<i>Urban</i>	...	24.0	
Income Ratio: Highest 20% / Lowest 20%	...	4.2	(1992)
Gini Coefficient	...	0.30	(1992)
Adult Literacy Rate (%)			
<i>Female</i>	39	49	(1996)
<i>Male</i>	65	74	(1996)
Gross Primary School Enrollment Ratio (%)			
<i>Girls</i>	92	101	(1996)
<i>Boys</i>	118	123	(1996)
Maternal Mortality Rate (per 100,000 live births)	...	650	(1990-98)
Infant Mortality Rate (per 1,000 live births)	108	96	(1998)
Child Malnutrition (% of children under 5)	37 (1980-85)	40	(1992-98)
Population with Access to Safe Water (%)			
<i>Rural</i>	...	39	(1990-96)
<i>Urban</i>	...	40	(1990-96)
Population with Access to Sanitation (%)			
<i>Rural</i>	...	13	(1990-96)
<i>Urban</i>	...	70	(1990-96)

Source: Selected poverty and related indicators, Asian Development Bank (Main source of poverty data: World Bank, World Development Indicators 2000)

The IRRI, provides projected population of Laos in the next 50 years as follow. The number of population is expected increased 70% for 1998 to 2020, and more than 100% from 1998 to 2050.

Given the situation of existing poverty, Laos has requested aids from international organization such as World Bank, International Monetary Fund (IMF), World Food Program, etc. The policy paper regarding poverty reduction appears in the Country Poverty Reduction Strategy Paper, which was prepared by each country's government.

Population (million)			Infant Mortality (Per 1000 live births) 1998	Life expectancy at birth (Years)	GNP per capita	
Estimated	Projected				1998 (\$)	Average annual growth rate (%) 1990-1998
Year 1998	Year 2020	Year 2050				
5.2	8.8	13.3	96	53.7	320	3.5

Source: www.riceweb.org, IRRRI

In 2001, the government of Laos submitted the Interim Poverty Reduction Strategy Paper to the IMF and International Development Association, based on five-year National Socio-Economic Development Plan (NSED) for 2001-2005. The Interim Poverty Reduction Strategy Paper (I-PRSP) summarizes the government's key objectives and policies to reduce poverty in the long run and highlights the participatory process followed in preparing the document, especially on consultations with various national groups and development partners.¹⁷

¹⁷ International Monetary Fund, Assessment of the Interim Poverty Reduction Strategy Paper, Poverty Net Library

10. National Food Security Policy

The attempts to reduce poverty and stabilize food security were witnessed in form of National Agricultural Policy and Food Security Policy. Even though there is no separate Food Security Policy, the government's concern of food security is reflected from New Economic Mechanism, which aims to improve agricultural production as well as expand market integration.

Most recently, the policy matrix in the government Interim Poverty Reduction Strategy Paper (I-PRSP) submitted to the IMF on March 20, 2001 emphasizes several policies of Laos to be taken during 2001-2003. Below is the excerpt from the matrix regarding agricultural policy:

Policy Area	Objective	Strategies and Measures	Timing
Agricultural and Rural Development	Ensure food security, Promote market-based farming, Reduce disparities between lowland and sloping land farming	Promote the area based on decentralized development	2001-03
		Develop comprehensive network of Focal Sites as a key tool to develop potentialities in the rural areas: Intensify rice production through improved support to farmers Improve and diversify farming systems with increased and diversified cash crop, livestock and fisheries production. Promote value added agro-processing industries, especially SMEs Promote catchment area-based integrated and participatory development in the uplands Intensify efficient small-scale irrigation schemes Develop road systems, particularly in the focal sites Reduce shifting cultivation in particular area	2001-03
		Improve research and extension system including rural finance to promote diversification and intensification of agriculture.	2001-03

Source: IMF, Laos: Interim Poverty Reduction Strategy Paper (I-PRSP): POLICY MATRIX

In addition, the draft of Food Security Strategy, Ministry of Agriculture and Forestry Y2000 reveals the objectives of 10-year food security plan of Laos as below:

- Year 2000-2005: To produce enough and stabilize food production at an average of 450-500 kg. of paddy caput (average yield will be 2.7-3 million tons by 2005), basically to solve a problem of food distribution in the remote areas, and to improve level of food security for household scale. Daily energy requirement is expected no less than 2,300 kcal per capita.
- Year 2005-2010: To achieve foodstuff security in the aspects of an average of 500 kg of paddy per capita (paddy equivalent yield of approximately 3.5-4 million tons by the year 2010), daily energy requirement is expected in between 2,400-2,500 kcal per capita and satisfaction of other foodstuff demands.
- Year 2010-2020: To achieve nutrition security in the aspects of sustaining proper daily intake and daily requirement would be 2,600-2,700 kcal per capita.

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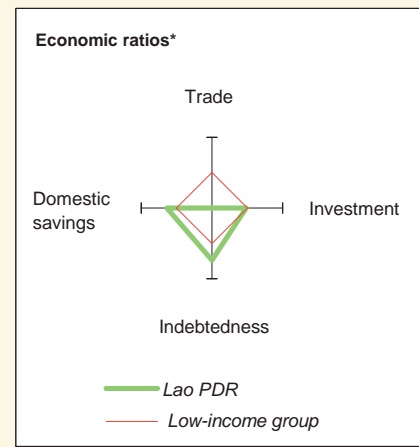
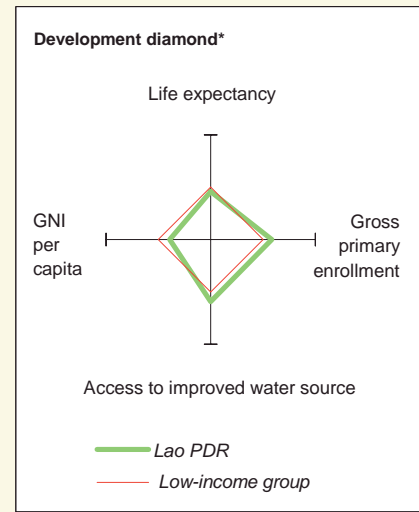
Annexes

1. Lao PDR at a glance & Social Indicators (World Bank Data)
2. Rice (paddy) Production by region, 1976 - 2000
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18. Agricultural Census 1998/99

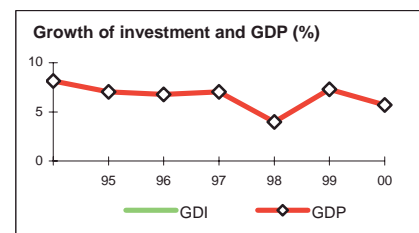
Lao PDR at a glance

9/21/01

	Lao PDR	East Asia & Pacific	Low-income		
POVERTY and SOCIAL					
2000					
Population, mid-year (<i>millions</i>)	5.2	1,853	2,459		
GNI per capita (<i>Atlas method, US\$</i>)	330	1,060	420		
GNI (<i>Atlas method, US\$ billions</i>)	1.7	1,964	1,030		
Average annual growth, 1994-00					
Population (%)	2.5	1.1	1.9		
Labor force (%)	2.2	1.4	2.4		
Most recent estimate (latest year available, 1994-00)					
Poverty (% of population below national poverty line)	..	..	..
Urban population (% of total population)	24	35	32		
Life expectancy at birth (<i>years</i>)	54	69	59		
Infant mortality (<i>per 1,000 live births</i>)	93	35	77		
Child malnutrition (% of children under 5)	40	13	..		
Access to an improved water source (% of population)	90	75	76		
Illiteracy (% of population age 15+)	51	14	38		
Gross primary enrollment (% of school-age population)	112	119	96		
Male	123	121	102		
Female	101	121	86		
KEY ECONOMIC RATIOS and LONG-TERM TRENDS					
	1980	1990	1999	2000	
GDP (<i>US\$ billions</i>)	..	0.86	1.8	2.1	
Gross domestic investment/GDP	22.7	20.4	
Exports of goods and services/GDP	..	11.3	24.7	22.9	
Gross domestic savings/GDP	
Gross national savings/GDP	16.4	14.6	
Current account balance/GDP	..	-11.8	-5.2	-4.6	
Interest payments/GDP	..	0.3	0.5	0.5	
Total debt/GDP	..	204.5	143.8	116.4	
Total debt service/exports	..	8.7	7.1	7.5	
Present value of debt/GDP	78.9	..	
Present value of debt/exports	267.2	..	
	1980-90	1990-00	1999	2000	2000-04
<i>(average annual growth)</i>					
GDP	..	6.5	7.3	5.7	6.6
GDP per capita	..	3.8	4.7	3.3	4.0
Exports of goods and services



	1980	1990	1999	2000
STRUCTURE of the ECONOMY				
<i>(% of GDP)</i>				
Agriculture	..	61.2	53.5	52.9
Industry	..	14.5	22.5	22.8
Manufacturing	..	10.0	16.9	17.2
Services	..	24.3	24.0	24.3
Private consumption	..	..	..	..
General government consumption	..	..	..	..
Imports of goods and services	..	24.5	..	..
	1980-90	1990-00	1999	2000
<i>(average annual growth)</i>				
Agriculture	3.5	4.9	8.2	5.0
Industry	6.1	11.0	8.0	7.6
Manufacturing	8.9	11.7	7.1	7.8
Services	3.3	6.6	6.7	6.0
Private consumption	..	..	..	..
General government consumption	..	..	..	..
Gross domestic investment	..	..	..	..
Imports of goods and services	..	..	..	..

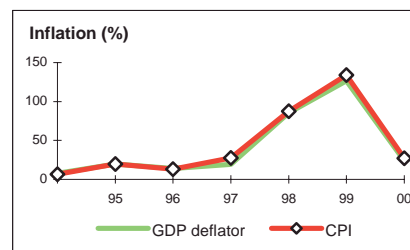


Note: 2000 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

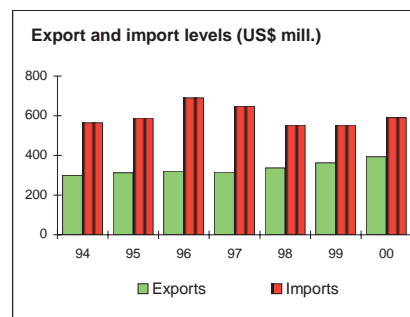
PRICES and GOVERNMENT FINANCE

	1980	1990	1999	2000
Domestic prices (% change)				
Consumer prices	134.0	27.1
Implicit GDP deflator	..	38.0	126.5	23.8
Government finance (% of GDP, includes current grants)				
Current revenue	..	10.0	19.6	19.4
Current budget balance	9.6	8.9
Overall surplus/deficit	-6.2	-5.7



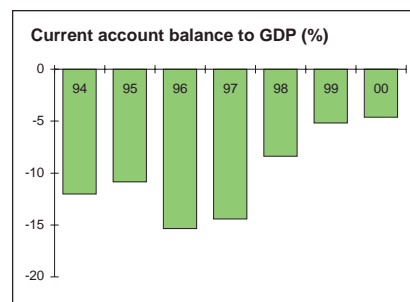
TRADE

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Total exports (fob)	363	393
Wood products	106	120
Agriculture	8	13
Manufactures	100	88
Total imports (cif)	554	591
Food
Fuel and energy
Capital goods	147	74
Export price index (1995=100)
Import price index (1995=100)
Terms of trade (1995=100)



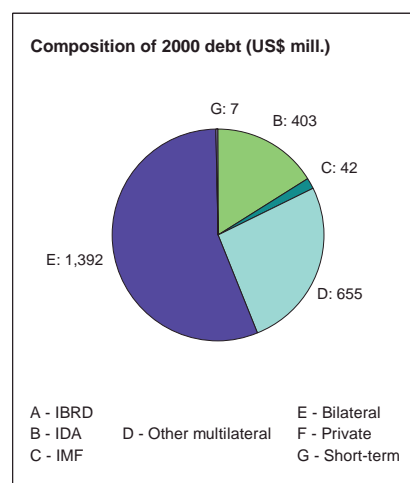
BALANCE of PAYMENTS

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Exports of goods and services	..	102	509	544
Imports of goods and services	..	214	601	636
Resource balance	..	-111	-93	-93
Net income	..	-1	-28	-37
Net current transfers	..	11	30	30
Current account balance	..	-102	-91	-99
Financing items (net)	..	135	94	143
Changes in net reserves	3	-34	-3	-44
Memo:				
Reserves including gold (US\$ millions)	..	0	106	140
Conversion rate (DEC, local/US\$)	10.2	708.6	5,864.4	6,280.8



EXTERNAL DEBT and RESOURCE FLOWS

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Total debt outstanding and disbursed	350	1,768	2,527	2,499
IBRD	0	0	0	0
IDA	6	131	405	403
Total debt service	3	9	37	42
IBRD	0	0	0	0
IDA	0	1	5	7
Composition of net resource flows				
Official grants	16	47	56	65
Official creditors	54	146	61	55
Private creditors	0	0	0	0
Foreign direct investment	0	6	79	30
Portfolio equity	0	0	0	0
World Bank program				
Commitments	13	48	2	0
Disbursements	5	32	21	20
Principal repayments	0	0	2	4
Net flows	5	32	19	17
Interest payments	0	1	3	3
Net transfers	5	31	16	14



Lao PDR Social Indicators

	Latest single year			Same region/income group	
	1970-75	1980-85	1993-99	East Asia & Pacific	Low-income
POPULATION					
Total population, mid-year (millions)	3.0	3.6	5.1	1,836.6	2,417.1
Growth rate (% annual average for period)	2.2	2.3	2.6	1.2	1.9
Urban population (% of population)	11.4	15.6	22.9	34.5	31.4
Total fertility rate (births per woman)	6.5	6.7	5.4	2.1	3.7
POVERTY					
<i>(% of population)</i>					
National headcount index	..	..	46.1	..	..
Urban headcount index	..	..	24.0	..	..
Rural headcount index	..	..	53.0	..	..
INCOME					
GNI per capita (US\$)	..	..	290	1,010	420
Consumer price index (1995=100)	..	..	619	136	138
Food price index (1995=100)	..	..	..	..	..
INCOME/CONSUMPTION DISTRIBUTION					
Gini index	..	..	37.0	..	..
Lowest quintile (% of income or consumption)	..	..	7.6	..	..
Highest quintile (% of income or consumption)	..	..	45.0	..	..
SOCIAL INDICATORS					
Public expenditure					
Health (% of GDP)	..	..	1.2	1.7	1.2
Education (% of GNI)	..	0.4	2.1	2.9	3.3
Social security and welfare (% of GDP)	..	..	..	..	..
Net primary school enrollment rate					
<i>(% of age group)</i>					
Total	..	..	72	100	..
Male	..	..	76	100	..
Female	..	..	69	100	..
Access to an improved water source					
<i>(% of population)</i>					
Total	..	..	90	75	76
Urban	..	..	59	93	88
Rural	..	..	100	66	70
Immunization rate					
<i>(% under 12 months)</i>					
Measles	..	6	71	83	64
DPT	..	4	56	82	70
Child malnutrition (% under 5 years)	..	..	40	12	..
Life expectancy at birth					
<i>(years)</i>					
Total	42	47	54	69	59
Male	41	46	53	67	58
Female	44	49	56	71	60
Mortality					
Infant (per 1,000 live births)	139	115	93	35	77
Under 5 (per 1,000 live births)	218	200	143	44	116
Adult (15-59)					
Male (per 1,000 population)	610	531	376	184	288
Female (per 1,000 population)	510	439	317	141	258
Maternal (per 100,000 live births)	..	..	650	..	..
Births attended by skilled health staff (%)	..	..	60	..	..

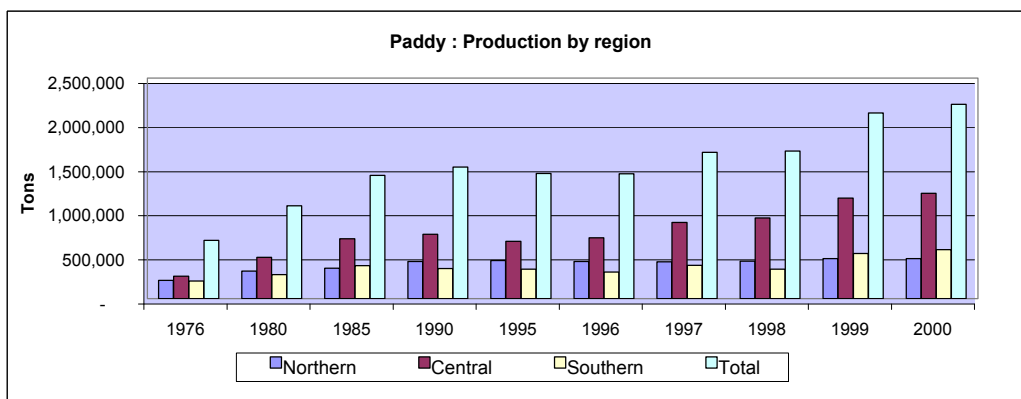
Note: 0 or 0.0 means zero or less than half the unit shown. Net enrollment ratios exceeding 100 indicate discrepancies between the estimates of school-age population and reported enrollment data. Latest year for access to improved water source data is 2000.

2. Lao PDR : Rice (paddy) Production by region, 1976 - 2000

Unit: Tons

Region	Year									
	1976	1980	1985	1990	1995	1996	1997	1998	1999	2000
Northern	206,244	313,720	344,615	420,713	431,720	419,873	417,980	423,333	451,860	451,839
Central	253,347	468,785	677,362	730,887	650,734	690,941	863,720	916,169	1,139,321	1,193,061
Southern	201,347	270,623	373,200	339,895	335,375	302,686	378,300	334,998	511,634	556,800
Total	660,938	1,053,128	1,395,177	1,491,495	1,417,829	1,413,500	1,660,000	1,674,500	2,102,815	2,201,700

Source: Ministry of Agriculture and Forestry, Lao PDR

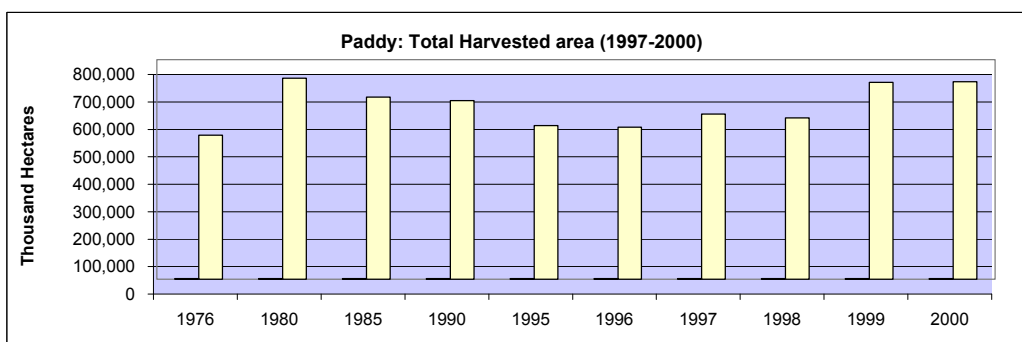


3. Lao PDR : Rice (paddy) Harvested area by region, 1976 - 2000

Unit: Thousand ha

Region	Year									
	1976	1980	1985	1990	1995	1996	1997	1998	1999	2000
Northern	185,030	254,170	232,750	224,080	195,920	191,920	178,330	175,410	194,320	190,220
Central	214,970	309,500	289,980	285,100	228,600	239,970	280,690	298,040	354,040	357,010
Southern	124,570	168,380	140,760	141,120	135,370	121,850	142,270	114,090	169,220	172,140
Total	524,570	732,050	663,490	650,300	559,890	553,740	601,290	587,540	717,580	719,370

Source : Ministry of Agricultural and Forestry, Lao PDR

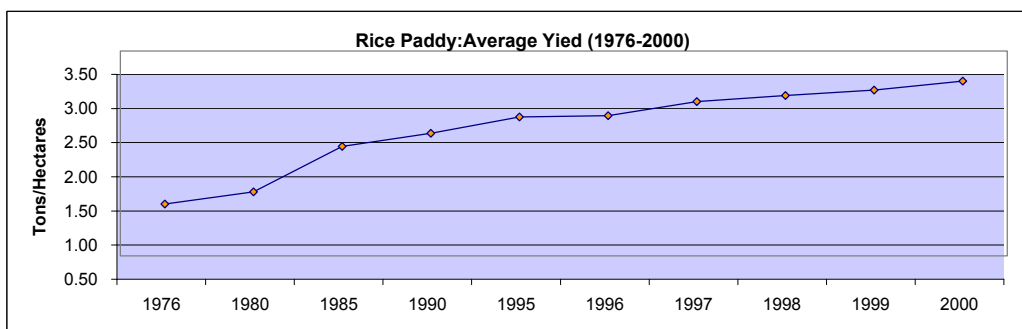


4. Lao PDR : Rice (paddy) Yield by region, 1976 - 2000

Unit: Tons/Hectare

Region	Year									
	1976	1980	1985	1990	1995	1996	1997	1998	1999	2000
Northern	1.11	1.23	1.48	1.88	2.20	2.19	2.34	2.41	2.33	2.38
Central	1.18	1.51	2.34	2.56	2.85	2.88	3.08	3.07	3.22	3.34
Southern	1.62	1.61	2.65	2.41	2.48	2.48	2.66	2.94	3.02	3.23
Average	1.26	1.44	2.10	2.29	2.53	2.55	2.76	2.85	2.93	3.06

Source : Ministry of Agricultural and Forestry, Lao PDR

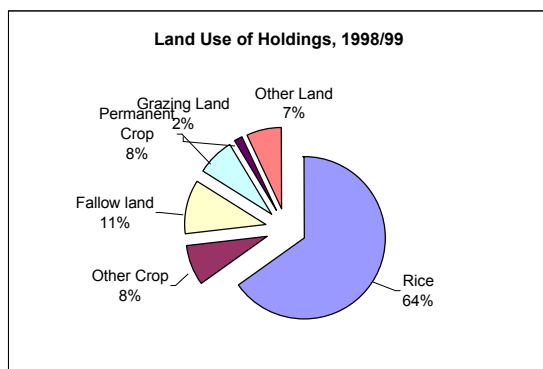


5. Area of holdings and Land used in 1998/1999

Unit: Thousand ha

Region	Area of Holdings	Agricultural Land					Grazing Land	Other Land	Percentage of Land Used					
		Arable Land				Perman ent Crops			Rice	Other Crop	Fallow land	Perman ent Crop	Grazing Land	Other Land
		Temporary Crop		Fallow Land	Total Arable Land									
		Rice	Other											
Northern	324.4	205.3	40.7	50.4	296.4	11.9	0.8	15.0	20%	4%	5%	1%	0%	1%
Central	455.2	308.6	34.1	39.4	382.1	14.8	15.0	43.3	29%	3%	4%	1%	1%	4%
Southern	268.2	165.7	10.6	22.4	198.7	54.5	1.5	13.3	16%	1%	2%	5%	0%	1%
Total	1,047.8	679.6	85.4	112.2	877.2	81.2	17.3	71.6	65%	8%	11%	8%	2%	7%

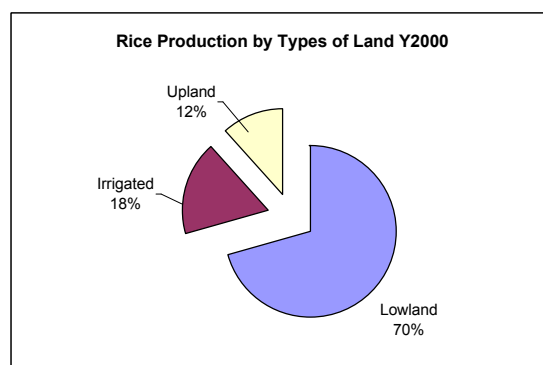
Source: Lao Agricultural Census, 1998/99. Ministry of Agriculture and Forestry, Lao PDR



6. Rice production by types of land, 1998 - 2000

Land Type	Year					
	1998 (Tons)	1999 (Tons)	2000 (Tons)	1998 (%)	1999 (%)	2000 (%)
Lowland	1,248,890	1,502,025	1,552,800	74%	71%	70%
Irrigated	212,110	354,000	390,150	13%	17%	18%
Upland	213,500	246,790	258,750	13%	12%	12%
Total	1,676,498	2,104,814	2,203,700	100%	100%	100%

Source: Ministry of Agriculture and Forestry, Lao PDR



7. Rice production zone in Lao PDR

Major Production Zones	% in total harvested area
Savannakhet	15.41%
Champasak	12.63%
Luang Prabang	10.65%
Vientaine Municipal	7.83%
Saravane	6.90%
Vientaine	6.53%
Oudomxay	5.65%
Houaphanh	4.59%
Khammouane	4.59%
Sayabouly	4.15%
Phongsaly	3.83%
Borikhamxay	3.66%
Xieng Khouang	3.29%
Total of above zones	89.71%

Source: FAO's Country Rice Fact, Lao PRD

8. Rice variety in Lao PDR

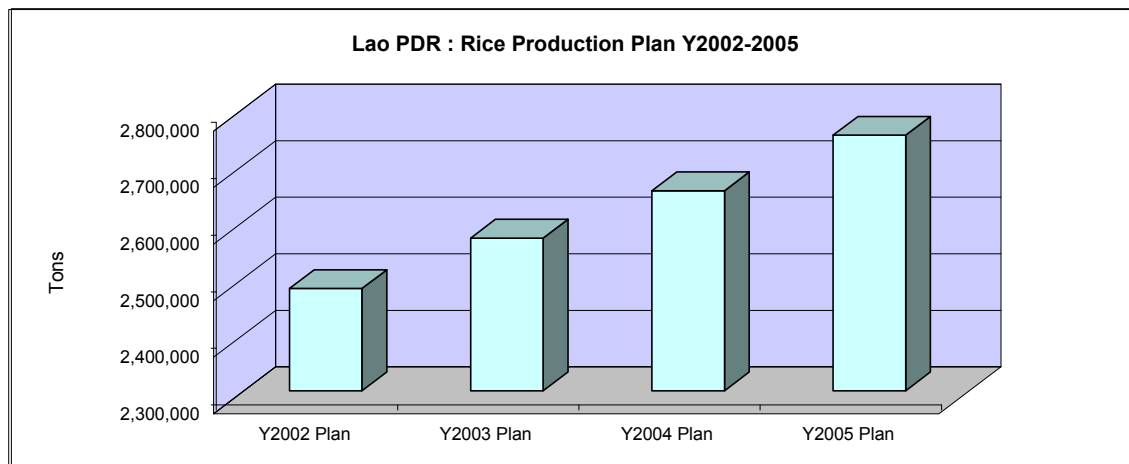
Variety Name	Released period	Growth duration (days)	Varietal type	Other
Thadokkham 1	1993	135-140	Glutinous	Resistant to BPH
Thadokkham 2	1993	135-140	Glutinous	Resistant to blast
Phone Ngam 1	1994	125-130	Glutinous	Resistant to blast
Phone Ngam	1995	Flowering Mid October	Glutinous	Resistant to bacterial leaf blight and blast
Thadokkham 3	1997	130	Glutinous	Resistant to bacterial leaf blight and blast and BPH
Namtane 2	1998	130	Glutinous	Resistant to blast
Thadokkham 4	1998	Flowering Mid October	Glutinous	Resistant to bacterial leaf blight and blast and BPH
Thasano 1	1998	130	Glutinous	Resistant to bacterial leaf blight and blast
1266	1980-95			Resistant to leaf blight
CR203	1980-95	130	non glutinous	Resistant to bacterial leaf blight and blast
Hang yi 71	1980-95			
KMD 105	1980-95		Aromatic	
NSG 19	1980-95			
RD10	1980-95		Glutinous	
RD23	1980-95		Glutinous	
RD6	1980-95		Glutinous	Resistant to blast
RD8	1980-95		Glutinous	Resistant to blast
Dok mai	Traditional		Glutinous	
Dok-tiaw	Traditional		Glutinous	
Hom nang nuan	Traditional		Glutinous	
Lay-keaw	Traditional		Glutinous	
Mak-hing	Traditional		Glutinous	
Mak-yom	Traditional		Glutinous	
Muang-nga	Traditional		Glutinous	Resistant to blast
Nang nuan	Traditional		Glutinous	
Ta-khiat	Traditional		Glutinous	Resistant to blast

Source: FAO. CORIFA (Country Rice Fact). Online Edition.

9. Lao PDR : Rice production in 2001, and Rice production plan for 2002-2005

Item	Achieved in Y2001			Y2002 Plan			Y2003 Plan			Y2004 Plan			Y2005 Plan		
	Harvested Area (ha)	Yield (Ton/ha)	Production (tons)	Harvested Area (ha)	Yield (ton/ha)	Production (tons)	Harvested Area (ha)	Yield (Ton/ha)	Production (tons)	Harvested Area (ha)	Yield (Ton/ha)	Production (tons)	Harvested Area (ha)	Yield (Ton/ha)	Production (tons)
Total of Rice	746,775	3.13	2,334,500	770,900	3.22	2,481,000	782,100	3.29	2,570,000	789,600	3.36	2,654,000	804,400	3.42	2,752,000
Lowland rainfed	486,770	3.33	1,619,700	530,000	3.34	1,770,000	540,000	3.36	1,813,000	550,000	3.39	1,866,000	560,000	3.41	1,907,000
Upland rainfed	55,080	2.00	110,170	57,000	2.02	115,000	59,000	2.03	119,500	62,000	2.05	127,000	65,000	2.05	133,000
Upland Slash and Burn	102,925	1.64	168,430	73,900	1.65	122,000	58,100	1.66	96,500	42,600	1.67	71,000	29,400	1.68	49,500
Irrigated rice	102,000	4.28	436,200	110,000	4.31	474,000	125,000	4.33	541,000	135,000	4.37	590,000	150,000	4.42	662,500

Source: Ministry of Agriculture and Forestry, Lao PDR



10. Daily rice intake per person by region in 1997/1998

Unit : gram/person/day

Region	Total	Urban	Rural with Access to road	Rural without access to road
Lao PDR	582	493	590	608
Northern	644	589	651	650
Central	565	474	575	671
Southern	526	458	544	528

Source: National Statistical Center, Lao Expenditure and Consumption Survey 1997/98 (LECS 2)

Note : LECS 3 is being carried out at the moment.

11. Rice consumption in Asian countries (for reference)

Country	Total rice consumption (rough rice equivalent) (1000 ton)		Milled rice consumption per capita (kg/cap/year)		Daily calorie supply per capita (cal/cap/day)		Rice in total calorie supply (%)	
	1990	1998	1990	1998	1990	1998	1990	1998
Asia	413,723	464,143	89	87	2,540	2,699	35	32
Bangladesh	25,639	28,001	156	150	2,074	2,050	75	73
Cambodia	2,167	2,713	167	169	1,960	2,078	79	75
China (including Taiwan)	162,223	172,507	94	92	2,711	2,972	35	31
India	97,480	118,345	76	80	2,275	2,466	33	32
Indonesia	40,407	46,176	147	149	2,604	2,850	56	52
Japan	11,946	11,361	65	60	2,895	2,874	24	22
Korea, DPR	2,256	2,358	74	67	2,468	1,899	31	37
Korea, Republic of	6,674	6,537	104	95	3,100	3,069	36	33
Lao PDR	1,046	1,333	168	172	2,121	2,175	70	70
Malaysia	2,359	2,937	88	92	2,778	2,901	31	31
Myanmar	12,760	14,222	210	213	2,626	2,832	78	73
Nepal	2,987	3,087	106	90	2,398	2,170	41	38
Pakistan	3,433	3,629	19	16	2,341	2,447	8	7
Philippines	9,104	10,409	100	95	2,396	2,288	41	41
Sri Lanka	2,486	2,550	97	92	2,200	2,314	43	39
Thailand	8,937	9,855	107	109	2,125	2,462	50	44
Vietnam	15,382	19,201	154	165	2,198	2,422	71	67

Source: www.riceweb.org

12. Overview of situation of rice balance by region

Production by region

Unit: Tons

Region	Year			
	1997	1998	1999	2000
Northern	417,980	423,333	451,860	451,839
Central	863,720	916,169	1,139,321	1,193,061
Southern	378,300	334,998	511,634	556,800
Total	1,660,000	1,674,500	2,102,815	2,201,700

Population

Unit: Person

Region	Year			
	1997	1998	1999	2000
Northern	1,580,900	1,620,590	1,661,100	1,703,000
Central	2,301,800	2,359,410	2,418,400	2,480,000
Southern	962,900	986,920	1,011,600	1,037,000
Total	4,847,597	4,968,918	5,093,099	5,222,000

Consumption (if per capita =300 kg/parson/year)

Unit: Tons

Region	Year			
	1997	1998	1999	2000
Northern	474,270	486,177	498,330	510,900
Central	690,540	707,823	725,520	744,000
Southern	288,870	296,076	303,480	311,100
Total	1,455,677	1,492,074	1,529,329	1,568,000

Surplus/ Deficit (Estimate)

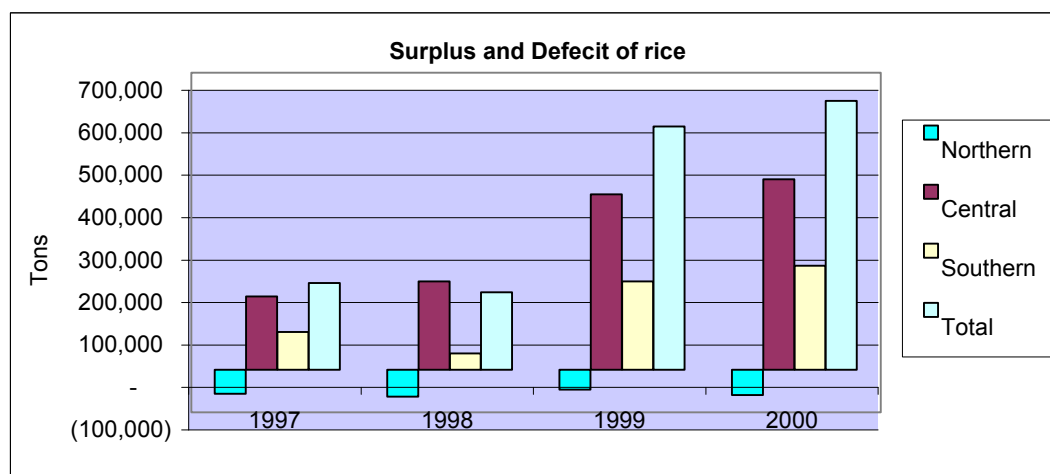
Unit: Tons

Region	Year			
	1997	1998	1999	2000
Northern	(56,290)	(62,844)	(46,470)	(59,061)
Central	173,180	208,346	413,801	449,061
Southern	89,430	38,922	208,154	245,700
Total	204,323	182,426	573,486	633,700

Note*

a) Source: Ministry of Agricultural and Forestry, and National Statistical Center, Lao PDR

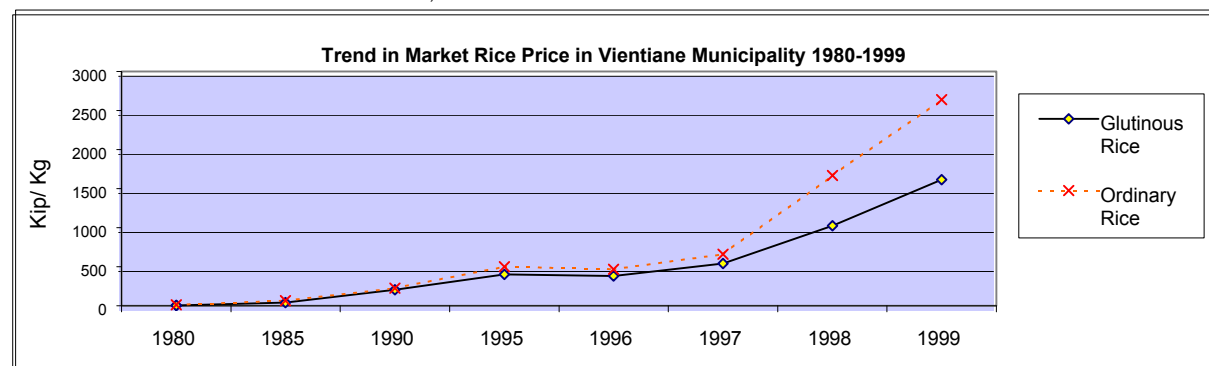
b) Consumption per capita (300kg/person) is estimated value given by Ministry of Agricultural and Forestry, Lao PDR



13. Market price of rice in Vientiane Municipality, 1980-1999

Item	Unit	Year							
		1980	1985	1990	1995	1996	1997	1998	1999
Glutinous Rice	Kip/kg	6	42	203	400	382	540	1,026	1,613
Ordinary Rice	Kip/kg	12	64	225	500	469	661	1,670	2,641

Source: National Statistical Center, Lao PDR



14. Comparison of market prices of rice/paddy (Week of 6-13 March 2002)

Type of rice/paddy	Place	Vientiane Municipality		Savannakhet		Champasack		Luangprabang		Khammuane	
		Unit	2002/3/6	2002/3/13	2002/3/6	2002/1/13	2002/3/6	2002/1/13	2002/3/6	2002/1/13	2002/3/6	2002/1/13
Paddy Rice: Glutinous	Kip/kg	950	950	900	900	800	800	1,000	1,000	1,150	1,150
	%	100%	100%	95%	95%	84%	84%	105%	105%	121%	121%
Paddy Rice: Non-Glutinous	Kip/kg	1,100	1,100	950	950	850	850	1,000	1,000	1,300	1,300
	%	100%	100%	86%	86%	77%	77%	91%	91%	118%	118%
Milled Rice: Glutinous 1	Kip/kg	2,300	2,300	2,175	2,250	1,800	1,800	2,200	2,200	1,900	1,900
	%	100%	100%	95%	98%	78%	78%	96%	96%	83%	83%
Milled Rice: Glutinous 2	Kip/kg	1,950	1,950	1,750	1,750	1,700	1,700	1,800	1,800	1,700	1,700
	%	100%	100%	90%	90%	87%	87%	92%	92%	87%	87%
Milled Rice: Non-Glutinous 1	Kip/kg	2,500	2,500	2,200	2,250	2,000	2,000	2,200	2,200	2,500	2,500
	%	100%	100%	88%	90%	80%	80%	88%	88%	100%	100%
Milled Rice: Non-Glutinous 2	Kip/kg	2,300	2,300	1,875	1,925	1,800	1,800	1,800	1,800	2,200	2,200
	%	100%	100%	82%	84%	78%	78%	78%	78%	96%	96%
Milled Rice: Thai Jasmine	Kip/kg	3,000	3,000	4,250	4,250	1,800	1,800	4,200	4,200		
	%	100%	100%	142%	142%	60%	60%	140%	140%		

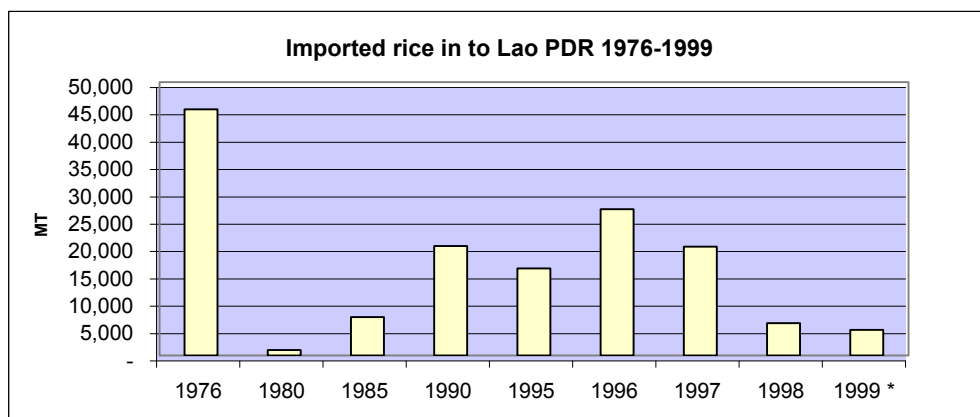
Source: Division of Market Price Protection, Department of Internal Trade, Ministry of Commerce and Tourism, Lao PDR
Vientiane Municipality = 100%

15. Lao PDR : Rice import, 1976 - 1999

Year	1976	1980	1985	1990	1995	1996	1997	1998	1999 *
Import volume (MT)	45,000	1,000	7,000	20,000	15,939	26,731	19,927	5,914	4,707

Source: Department of Customs and Electrical Enterprise of Lao PDR

*Note : Data for 1999 is estimated data.



16. List of Prohibited Crops import to Lao PDR

No.	Commodity/Plants	Common Name	Scientific name/Casual Organism
1	Rice	White tip nematode	Aphelenchoides oryzae
2	Rice	Rice Stem nematode	Ditylenchus angustus
3	Rice	White leaf (hoja blanca)	Virus
4	Rice	Black streaked dwarf	Virus
5	Rice	Stripe	Virus

Source: Department of Agriculture, Ministry of Agriculture and Forestry, 1998

17. Distribution of Rice Aid to Lao PDR Y1992-2001

Year	Rice Distributed (MT)
1992	11,000
1993	2,986
1994	9,680
1995	4,284
1996	9,890
1997	27,807
1998	3,410
1999	-
2000/01	4,492
Total	73,549

Source: World Food Programme (WFP)

(Information received from Ministry of Agriculture and Forestry, Lao PDR)

18. Lao PDR : Agricultural Census 1998/99

#	Items	Units	Amount
1	No. of Agricultural Holdings	000 hh	668.0
2	Agricultural Population	000	4,058.2
	Male		2,001.0
	Female		2,057.2
3	Land Tennure	000 ha	1,047.8
	Owned Land		1,013.3
	Rented Land		26.9
	Other Land		7.6
4	Cultivation Intensity	%	91.0
5	Area of Holding by Land Use	000 ha	1,047.8
	Agricultural Land		958.6
	Arable Land		877.3
	Temporary Crops		765.0
	Fallow Land		112.3
	Permanent Crops		81.3
	Grazing Land		17.6
	Forest Land		54.1
	Other Land		17.5
6	No. of agricultural holding using agricultural machinery	000 hh	275.2
	Genarator		4.4
	Tractor		137.7
	Water pump		25.5
	Thresher, Miller, Grain Dryer		100.3
	Other		7.3
7	No. of agricultural holdings using pesticides/fertilizers	000 hh	347.0
	Use of fertilizers		278.6
	Organic fertilizer only		96.0
	Mineral fertilizer only		64.1
	Both		118.5
	Use of pesticides		68.4
8	Rice Cultivation		
	Wet season lowland, 1998	000 ha	481
	Wet season upland, 1998	000 ha	199
	Dry season, 1998/99	000 ha	56
9	Glutinous rice	% of rice area	93

Source: Agricultural Census 1998/99, Ministry of Agriculture and Forestry

COUNTRY REPORT

Malaysia

1. Introduction

Paddy cultivation is an important and strategic activity in Malaysia as rice is a staple food commodity in the country. In this respect, over the years, the Malaysian government undertook substantial investment to develop the industry. Among the major development programs implemented by the government include the provision of infrastructure facilities, provision of technical and advisory support services and undertaking a price support and fertilizer support scheme. These measures are aimed at sustaining profitability and producer incomes and thereby ensuring that local production is sufficient to meet the country's minimum self-sufficiency level for rice.

Table 1: Rice Balance (Unit: 1,000 tons)

Year	Supply				Demand			
	Beginning Stock	Production (milled rice)	Import	Total	Domestic Use	Export	Ending Stocks	Total
95/96	300	1,270	440	2,010	1,800	-	210	2,010
96/97	210	1,380	480	2,070	1,830	-	240	2,070
97/98	240	1,370	660	2,270	2,010	-	260	2,270
98/99	260	1,280	610	2,150	1,780	-	370	2,150
99/00	370	1,470	550	2,390	2,120	-	270	2,390

Source: Ministry of Agriculture

2. Rice Production

2.1 Land Use

The total physical area in Malaysia for the year 2000 is estimated at 540,000 hectares of which 6 % of the paddy areas are in Peninsular, 7 % of the paddy areas area in Sabah, and 24 % of the paddy areas are in Sarawak. The area under paddy cultivation in 1999 totaled 692,000 hectares. Wet paddy constituted 88 % of the total cultivated paddy areas in the country with the remaining 12 % being made up of dry land paddy. In Peninsular Malaysia, 85 % of the paddy areas are provided with extensive irrigation and drainage facilities while only 19 % of the paddy areas in East Malaysia is under irrigation.

Table 2: Harvested Area

Year	Harvested area (ha)	Year	Harvested area (ha)
1985	654,974	1994	698,624
1986	650,875	1995	672,787
1987	658,954	1996	685,468
1988	671,755	1997	690,975
1989	664,137	1998	674,404
1990	680,647	1999	692,389
1991	683,640	2000	665,000
1992	672,753	2001	672,000
1993	693,434	2002	673,000

Source: Department of Agriculture Malaysia

The harvested area in the country had a net decrease over the past 5 years. More rice land is simply abandoned and left idle, rather than used for other short-term food crops. The government has been encouraging cultivation of rice in large-scale farms to reduce costs and increase farmer incomes.

Table 3: Harvested Area (hectares) by State, 1995 – 1999

State	1995	1996	1997	1998	1999	% Average
Johor	1,303	1,918	1,395	1,134	2,323	0.24%
Kedah	213,356	216,644	211,944	202,126	208,410	30.81%
Kelantan	71,437	79,349	80,689	77,743	79,179	11.37%
Melaka	3,195	2,105	1,096	726	1,261	0.25%
N.Sembilan	1,120	668	640	698	1,409	0.13%
Pahang	2,391	4,865	3,654	5,350	5,772	0.64%
Perak	73,536	70,583	82,123	82,442	81,022	11.41%
Perlis	45,378	45,584	46,907	47,441	48,111	6.83%
P.Pinang	28,236	26,759	28,379	28,560	28,125	4.10%
Selangor	36,254	36,948	36,898	38,074	38,159	5.46%
Terengganu	20,336	18,510	20,922	19,903	19,609	2.91%
Sem. Malaysia	496,542	503,933	514,647	504,197	513,380	74.14%
Sabah	53,095	52,604	49,828	42,623	47,401	7.19%
Sarawak	123,150	128,931	126,500	127,614	131,608	18.67%
MALAYSIA	672,787	685,468	690,975	674,434	692,389	100%

Source: Department of Agriculture Malaysia

2.2 Designating Paddy Producing Areas

Paddy is mainly grown in eight granary areas, which accounts for more than 70 % of the domestic production. These eight granary areas have been designated as permanent paddy producing areas to realize a minimum self-sufficient of 65 %. Suitable areas especially in Sabah and Sarawak have been identified for large-scale commercial paddy production. The yield in these eight areas recorded in increase from 3.3 tonnes per hectare in 1985 to 3.7 tonnes per hectare in 1999.

Table 4: Agricultural Population

Year	Population
1980	13,763,000
1985	15,677,000
1990	17,891,000
1995	20,140,000

Source: Food and Agriculture Organization

Table 5: Use of Farm Machinery

Year	Agricultural tractors (No.)
1980	7,430
1985	12,000
1990	26,000
1995	43,295

Source: Food and Agriculture Organization

2.3 Farming Scale & Number of Farm household

Paddy is produced mainly by small holders with an average farm size of about 1.06 hectares. There are approximately 296,000 paddy farmers of which 116,000 or 39 % are full-time paddy farmers. 65 % of the paddy farmers have farms of less than one hectare while only 4 % have more than 3 hectares.

These small farm units pose constraints in efforts to increase productivity and producer income. It restricts efficient mobilization and utilization of resources leading to inefficiencies in production. Post-harvest losses for rice during harvesting, handling, transportation, drying, milling and storage are estimated to vary between 10 % to 37 % at the different stages.

2.4 Cropping Patterns

About two-thirds of the 400,000 ha of rice in Peninsular Malaysia are irrigated and double-cropped. Not much of the 50,000 ha in Sabah are fully irrigated; most of the 150,000 ha in Sarawak are rainfed and upland. Indica varieties are most common. Cropping season for planting and harvesting in Peninsular Malaysia and East Malaysia are varied as the following table.

Table 6: Cropping Season for Planting and Harvesting

Cropping season / Region	Planting	Harvesting
Main season / Peninsular	September-October	November-March
Main season / Sabah	June-August	January-March
Main season / Sarawak	October-November	March-April

Source: Food and Agriculture Organization

2.5 Use of Fertilizer

In 1950's and 1960's organic fertilizer was the main fertilizer type used in rice cultivation. Since 1970's inorganic fertilizer usage increased from 19 kg/ha to 140 kg/ha presently. This has increased the average rice yield from 1.8 tonnes/ha in 1950 to 3.7 tonnes/ha.

2.6 Rice Environment

The four main rice environments in Malaysia are classified as irrigated, partially irrigated, rainfed lowland, and upland. The irrigated lowland predominates in Peninsular Malaysia; rainfed rice is more common in Sabah and Sarawak where upland rice prevails.

Crop establishment in the irrigated areas is by manual or mechanical transplanting; direct seeding, usually broadcast and only seldom row-sown or drilled; and a double nursery technique. Machine harvesting is common in some irrigated areas such as the Muda irrigation system in Kedah. In the

partially irrigated (upgraded rainfed lowland) area, rice is mostly direct seeded instead of transplanted. Rice is mainly transplanted in the rainfed lowlands, and drill seeded in the uplands.

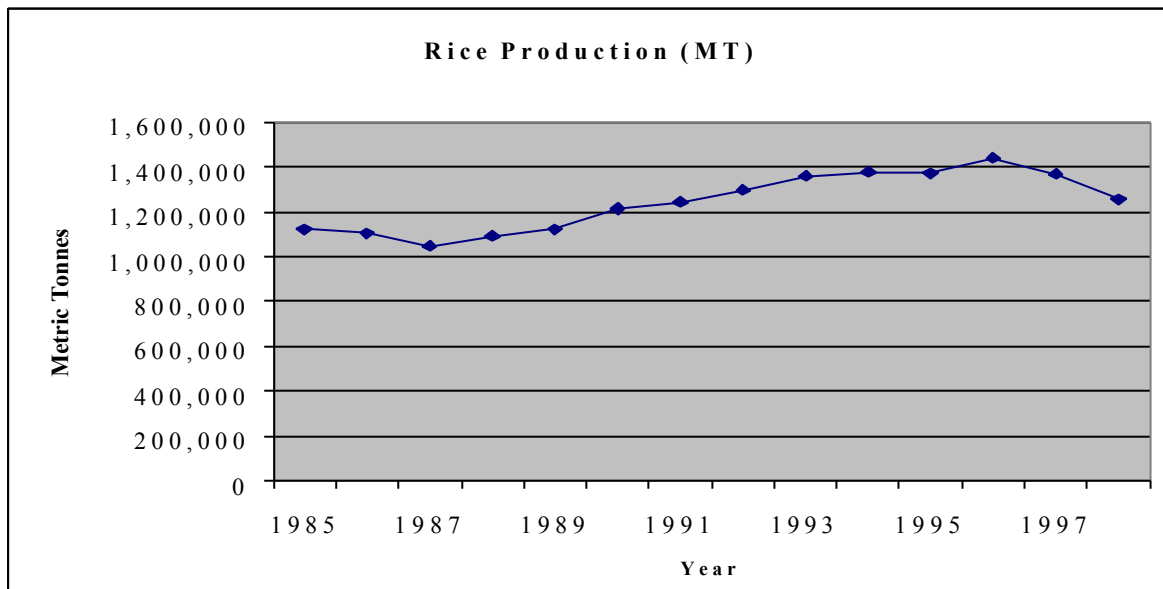
2.7 Rice Production in Malaysia

Table 7: Rice Production (milled rice) in Malaysia

Year	Production (MT)	Year	Production (MT)
1985	1,122,324	1992	1,297,914
1986	1,104,501	1993	1,357,432
1987	1,046,467	1994	1,378,945
1988	1,091,478	1995	1,372,584
1989	1,122,617	1996	1,438,794
1990	1,215,065	1997	1,367,951
1991	1,241,796	1998	1,256,854

Source: Department of Agriculture Malaysia

Figure 1: Rice Production



Malaysia produced 1.34 million tonnes of rice in 2000. This increased production in the midst of declining paddy hectare was due mainly through increasing yields as a result of the government's programs such as increasing farm mechanization, provision of high quality seeds and paddy variety, improvements in water management, intensifying Integrated Pest Management practices and integrating small paddy land for commercial production.

2.8 Production Constraints

One of the main production constraints is fluctuating yield, with strong indication of a gradual decline over time. The shrinking of the areas for rice production overrides any advantage that might be expected from higher yields.

An extreme labor shortage has prompted steps to expedite farm mechanization. Still, the shortage of affordable farm labor has caused a consistent decline in rice area. Periodic drought, irregular rainfall, and seasonal monsoon floods are a threat to the rice crop. Malaysia also experiences shortages of irrigation water.

Topography also plays a role in overall rice production. The intrusion of coastal seawater into areas below sea level is a continuing problem. Ineffective terracing of upland slopes and inefficient, gravity-fed irrigation systems lead to water deficits.

Soil-related constraints include suspected nutrient imbalance and deficiency and low cation exchange capacity. The use of organic materials is limited in favor of the blanket application of chemical fertilizers. Other major constraints faced by the industry include the relatively high cost of production and small farm size which constraint efforts to increase productivity through mechanization.

2.9 Production Cost

While the Government of Malaysia (GOM) targets 70 % self-sufficiency, the local cost of production is much higher than neighboring countries. The cost of production of local paddy is higher than Thailand, Vietnam and Indonesia as the following table .

Table 8: Production Costs by Countries

Country	Cost of Production (US\$/MT)
Malaysia	171
Thailand	144
Vietnam	118
Indonesia	92

Source: Oryza Market Report

2.10 Production Control

The Malaysian rice industry was regulated and promoted by the National Paddy and Rice Board (LPN). In 1994 the LPN was corporatized. The Government took over the regulatory functions on LPN. This move was aimed at reducing the government's direct involvement in commercial activities and further liberalizing the industry.

In recent year, Malaysia has applied a policy consistent with a rice self-sufficiency target of 65 %. In 2000, the target was raised to 70 % and direct assistance to farmers was intensified. In particular, an ambitious program focusing on productivity increases and quality improvements was announced at the end of 2000. The country has kept the level of price support to rice farmers unchanged since 1998, resulting in a 6 % decline in real terms by 2000.

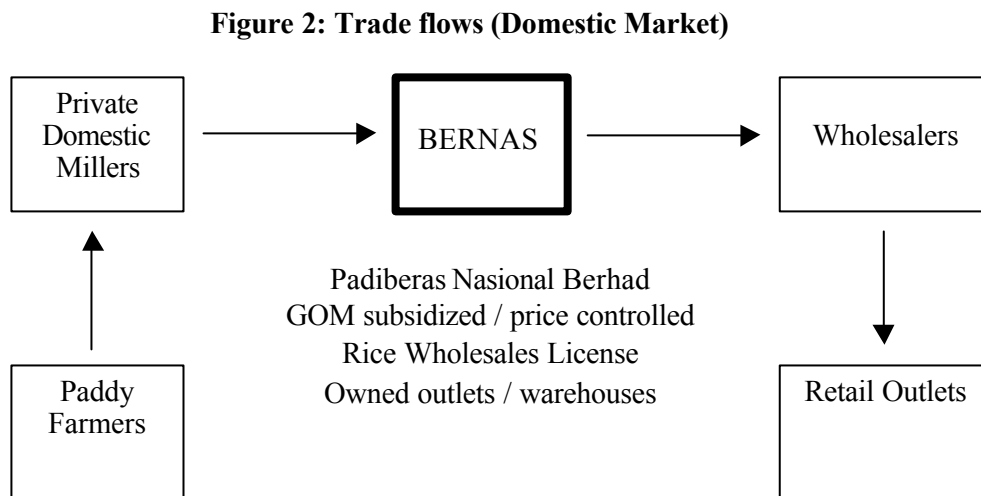
2.11 Production Policy

Strategic Direction : The objectives of the rice industry are to ensure minimum self-sufficiency level of 65 %, to increase production of higher quality, specialty and fragrant rice, and to maintain strategic quantity of rice stockpile .

In order to cut cost of imports, the Government (GOM) is reviewing its rice policy to increase self sufficiency from 65 % to 72 %. However, the target is not within sight unless the GOM is able to address the various issues such as yield improvements, the restructuring of farm production systems including greater mechanization, improved farm management practices, and the reduction of post-harvest losses. It will take some time before any significant increase in hectares take place.

3. Rice Marketing

The three main categories of rice currently marketed in the country consist of white rice, specialty rice and fragrant rice. With increasing income and higher standards of living there is a changing preference towards higher quality rice. At present, it is estimated that the domestic market consists of about 6 % specialty and fragrant rice 80 % of Malaysian Super Grade and the balance of Standard and Premium grade rice.



The marketing and distribution of rice in the country is undertaken by BERNAS¹, a state trading company and other private concerns which operate at the milling, wholesale and retail levels. Presently there are 236 millers in the country of which 32 are owned by BERNAS. However, rice is allowed to be imported only by BERNAS. BERNAS together with other private companies undertake the domestic marketing and distribution of rice.

BERNAS' involvement in local rice production is through its paddy procurement, processing, trading activities as well as providing support services to complement the paddy and rice industry. During

¹ Padiberas Nasional Berhad (BERNAS) web site (reference no. 25)

2000, BERNAS procured 635,000 metric tonnes of paddy, an increment of 25% from 509,000 metric tonnes in 1999, which commands 37% of local paddy market share.

Distribution has been given priority and responsibility to maintain and expand market presence. BERNAS currently manages 29 warehouses serving as distribution centers throughout the country to facilitate the distribution of the Group's imported rice.

From that time on, in keeping with the original philosophy, BERNAS has continued to develop through wholesaling and retailing development and acquisitions, allowing materialization of overseas business ventures in China, Pakistan, Thailand and Africa. Over 6 years, a number of companies amalgamated with BERNAS. An extensive distribution network was established and the company grew through the financial crisis of 1998.

Moreover, the management of the rice stockpile in Malaysia is undertaken by BERNAS, which was privatized as a company in 1996. Through this privatization agreement, BERNAS has to take over the commercial and non-commercial activities of the government. For the non-commercial activities, BERNAS on behalf of the government has to manage the national rice stockpile, the disbursement of the price support payment and the procurement of paddy from farmers as the buyer of last resort. In return BERNAS has been given the exclusive right to import rice into the country. The amount to be imported is based on the shortfall between total rice requirement in the country and the domestic production.

4. Rice Policy

Since rice is an important staple in the Malaysian diet, the government has taken measures to ensure that the country maintains at least a 65 % level of self-sufficiency in rice. The government supports rice farmers by several means, including input subsidies and output incentives. Furthermore, it has assisted paddy farmers in the application of pest control methods, farm management and the consolidation of small farms. Each rice producer is eligible for a fertilizer grant and for loans from the Bank Pertanian Malaysia at a virtually interest-free rate. When the crop is produced, the government guarantees producers a price of \$M 496 (1995 value) per ton of paddy. In addition, each producer is eligible to receive a government "income" supplement.

5. Rice Trade (Overseas)

Table 9: Rice Trade

Year	Imports (MT)	Exports (MT)
Jan – Dec 1997	648,000	-
Jan – Dec 1998	658,000	-
Jan – Dec 1999	611,000	-
Jan – Dec 2000	593,000	6,000 (to Brunei)

Source: GAIN Report, U.S. Department of Agriculture

5.1 Rice Imports ²

Malaysia imports rice in various forms, that is semi milled or wholly milled either polished or glazed and broken rice. Malaysia imports mainly from Thailand, China, Vietnam, Pakistan, USA, Myanmar, Australia and India.

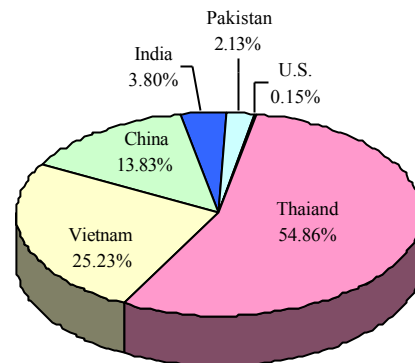
Malaysia's imports slipped 2.6 % in 1998 as millers worked down their stocks. From available statistical data, Thailand dominated 55 % of the rice import market, followed by Vietnam (25%), China (14%) and India (4%). The U.S. managed to export only 1,000 tonnes. As for 1999, Malaysia is likely to increase rice imports to meet growing domestic demand as well as building up stocks for the current year.

With an increase in domestic rice output, Malaysia's rice imports slipped 2.7 % in 1999. From available statistical data, Thailand dominated 46 % of the rice import market, followed by China (26%), Vietnam (20%) and Pakistan (8%). India dropped out off the market. The U.S. managed to export only 1,000 tonnes. As for 2000, Malaysia is likely to decrease rice imports in view of further improvement in domestic rice production as well as working down stocks.

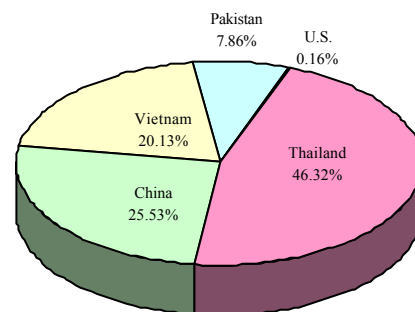
In 1999 importation of rice amounted to 612,466 tonnes valued at RM719.2 million. It was forecasted that the importation of rice would decrease from 612,466 metric tonnes to 550,000 metric tonnes, due to the good production forecasted in year 2000.

With an increase in domestic rice output, Malaysia's rice imports slipped 2 % in 2000. From available statistical data, Thailand dominated 47 % of the rice import market, followed by China (20%), Vietnam (23%) and Pakistan (7%). No sales from U.S. were recorded.

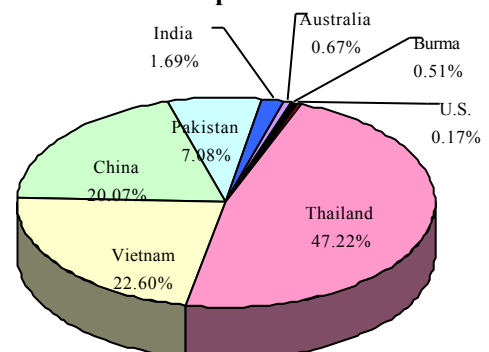
**Figure 3:
1998 Imports Statist**



**Figure 4:
1999 Imports Statistic**



**Figure 5:
2000 Imports Statistic**



² Malaysia Grain and Feed – Annual 1999-2002, GAIN Report, U.S. Department of Agriculture (reference no.6 - 9)

As for 2001, Malaysia is likely to decrease rice imports in view of further improvement in domestic rice production as well as working down stocks. With an increase in domestic rice output, Malaysia's rice imports declined 19 % in 2001. Thailand and Vietnam were the top suppliers followed by Pakistan, Australia and China. Rice sales from U.S. amounted to only 1,000 MT. Since the rice output growth is expected to be insignificant in 2002, rice imports should rebound to 580 TMT in order to meet domestic consumption as well as to rebuild stocks.

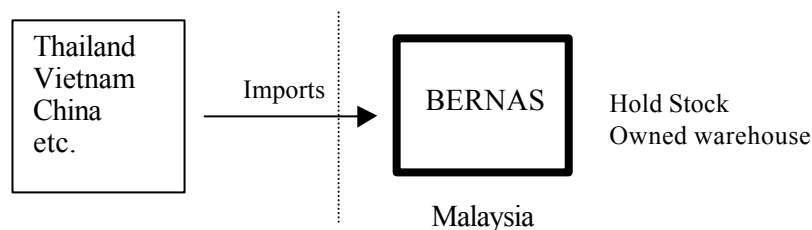
5.2 Bilateral/Multilateral International Agreement on Rice Trade³

In 1999, the government of Malaysia (GOM) signed two Memoranda of Understanding (MOU) for barter trade with China and Burma. Under the MOU with China, Malaysia will be allowed to trade palm oil up to the equivalent value of 150,000 tonnes of rice from China. The deal with Burma enables both parties to trade export commodities up to a value of US\$10 million per annum.

5.3 Government Control System of Import

Rice import policy: The sole authorized importer is a government corporation (BERNAS) with the responsibility of ensuring purchase of the domestic crop and wide power to regulate imports.

Figure 6: Import Procedures



Upon privatisation, BERNAS was also granted the sole right to import rice into Malaysia. To ensure security and sustainability of supply in terms of quality and pricing, BERNAS practices multi-sourcing of rice from different countries. In 2000, BERNAS imported a total of 605,000 metric tonnes of rice, the majority from Thailand, Vietnam, China and Pakistan as well as some new supply option, such as India, Australia, Myanmar, Cambodia, USA and Argentina.

6. Rice Reservation

6.1 Rice Reservation by the Government

To strengthen food security in the country especially in times of unexpected emergencies, the government has established a national rice stockpile. The management of this rice stockpile has been entrusted to BERNAS under an agreement with the government. BERNAS is required to maintain a rice stockpile totaling 92,000 tonnes at all times. This stockpile is maintained in 3 forms,

³ Malaysia Grain and Feed – Annual 2000, GAIN Report (reference no. 7)

namely rice estimated from paddy and rice either from local or imported sources. However the actual amount held by BERNAS normally exceeds this level and will vary depending upon the domestic and global demand and supply of rice. The stockpile held is normally sufficient to cater to the country's requirement for a period of between 1-3 months.

6.2 Quantitative of Reserve

In normal years, Malaysia needs to keep only two to two and a half months of stocks. Being an election year, there was a build-up in stocks during 1999. However, smuggling of rice from Thailand resulted in the build-up in stocks at the end of 2000. Government of Malaysia (GOM) imposed a temporary ban on rice imports in December 2000 as part of measures to clear some of the rice stockpile. Post expects a work-down on stocks in 2000.

Table 10: Quantitative of Reserve

Year	Beginning Stocks (MT)	Ending Stocks (MT)
1995/1996	300,000	210,000
1996/1997	210,000	240,000
1997/1998	240,000	260,000
1998/1999	260,000	370,000
1999/2000	370,000	270,000

Source: Department of Agriculture Malaysia

6.3 Control of Paddy and Rice Act ⁴, 1974 (Ministry of Agriculture)

An Act to control (store and manage) the supply of paddy and rice domestically and ensure a stable price for both farmers and consumers. To ensure adequate supply of rice in any situation, especially during national emergencies.

7. Rice Demand / Consumption

7.1 Per Capita Consumption

The per capital consumption of rice declined from 102.2 kg in 1985 to 78.2 kg in 1999. However the national consumption of rice is projected to increase from 1.8 million tonnes in 1995 to 2.12 million tonnes in 2000 due to population increase. The domestic demand for rice is met through domestic production and importation.

Rice remains the staple food although per capita consumption has dropped from 110 to 78.2 kg over the past 20 years. Despite a population growth that exceeds 2.3% annually, the national requirement for rice has increased less drastically because of declining per capita consumption.

⁴ Issues Related to Competition Laws from APEC (reference no. 17)

7.2 Current Consumption

Domestic consumption increased by about 3.2 % in 1998 to reflect the shift from wheat-based to rice-based products amidst the economic downturn. Domestic consumption increased by about 3.1 % in 1999. The increase in consumption is above the average population growth rate, reflecting an increase in inflows of migrant workers from neighboring countries.

Table 11: Domestic Consumption

Year	Domestic Consumption (MT)
1995/1996	1,800,000
1996/1997	1,830,000
1997/1998	2,010,000
1998/1999	1,780,000
1999/2000	2,120,000

Source: Department of Agriculture Malaysia

Domestic consumption increased by about 1.5 % in 2000. The small increase in consumption is partly due to unofficial rice imports from neighboring Thailand. Domestic consumption is expected to increase by 2.6 % in 2001. The small increase in consumption is partly due to unofficial rice imports from neighboring Thailand.

8. Rice Price

Rice retail prices remain unchanged since 1993, wheat flour prices have seen two hikes since 1996. The government added the local super grade rice to the controlled rice retail price structure in 1998. The ceiling price structure is as follows (in RM per kg):

Table 12: Ceiling Price Structure of Rice

Zone	Standard Grade	Premium	Super
A) Kedah, Kelantan, Perlis, Seberang, Krian K. Selangor & S. Bernam	0.98	0.01	1.65
B) Trengganu, Penang & Perak	0.99	1.06	1.70
C) Federal Territory & Selangor	1.01	1.07	1.75
D) N. Sembilan & Malacca	1.03	1.09	1.75
E) Johor, Gua Musang & Pahang	1.04	1.11	1.80

Source: GAIN Report, U.S. Department of Agriculture

The government has taken measures to stabilize the domestic price of rice through the imposition of a fixed ceiling price of the standard, premium and super grades. The retail ceiling price of standard is fixed at between RM 0.98 and RM 1.04 a kilogram, premium is between RM 1.04 and RM 1.11 and super at 15% broken is between RM 1.65 and RM 1.80. The support prices for padi rice has been increased from RM49.61 to RM55.00 per 100 kg for long grain and from RM46.30 to RM51.69 per

100 kg for medium grain since December 1997. In addition, all rice farmers receive a subsidy of RM25 per 100 kg of padi delivered to a licensed mill or drying facility.

For higher quality rice, specialty and fragrant rice, the government has allowed the price to be freely floated in the domestic market and the domestic price is determined by market demand and supply conditions. The enforcement of the controlled price and other requirements such as grading and labeling is undertaken jointly by the Ministry of Agriculture and the Ministry of Domestic Trade and Consumer Protection.

9. Food Security

To ensure an adequate level of food security relating to the availability of rice at affordable prices, the government is undertaking measures to develop the eight granary areas, which has been designated as permanent paddy producing areas to realize a minimum self-sufficiency level of rice of 65%. In addition new areas especially in Sabah and Sarawak are being identified and utilized for large-scale commercial paddy production by the private sector. The government will continue to undertake programs to increase productivity and paddy yields through increased mechanization, research and development, land consolidation and introduction of better and higher yielding varieties.

The national rice stockpile will continue to be maintained by BERNAS on behalf of the government. As it is not the policy of the government to be 100% self sufficient in rice, the government through BERNAS will continue to source rice in the international market from sources which provides the best offers in terms of price and quality. Sources of supply of rice will be imported from various countries and Malaysia currently imports from Thailand, Vietnam, Australia, China, India, and Pakistan. The present practice of multi-sourcing or diversifying the number of countries, which are import sources will be continued. Reverse investment are also encouraged and this is private sector led in conformity with the government's stated objective of enhancing private sector role in food production.

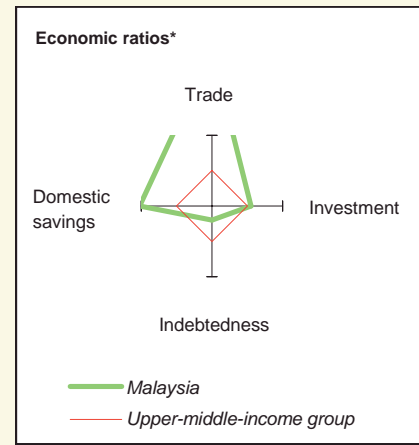
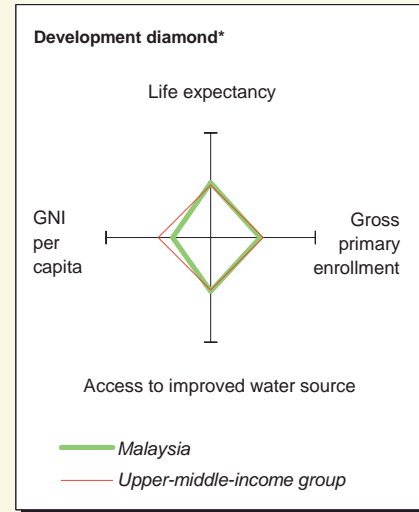
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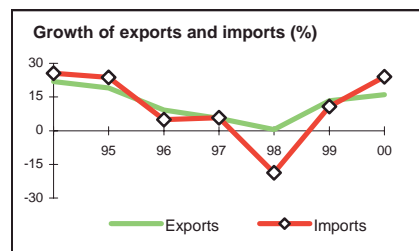
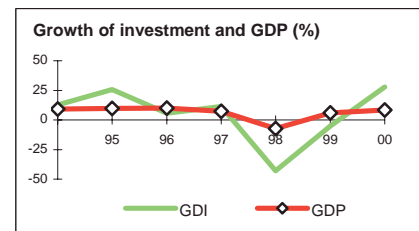
Malaysia at a glance

9/5/01

	Malaysia	East Asia & Pacific	Upper-middle-income		
POVERTY and SOCIAL					
2000					
Population, mid-year (millions)	23.3	1,853	647		
GNI per capita (Atlas method, US\$)	3,370	1,060	4,620		
GNI (Atlas method, US\$ billions)	78.5	1,964	2,986		
Average annual growth, 1994-00					
Population (%)	2.4	1.1	1.3		
Labor force (%)	3.0	1.4	2.0		
Most recent estimate (latest year available, 1994-00)					
Poverty (% of population below national poverty line)	8	..	..
Urban population (% of total population)	57	35	76		
Life expectancy at birth (years)	72	69	69		
Infant mortality (per 1,000 live births)	8	35	28		
Child malnutrition (% of children under 5)	20	13	..		
Access to an improved water source (% of population)	89	75	87		
Illiteracy (% of population age 15+)	13	14	10		
Gross primary enrollment (% of school-age population)	101	119	107		
Male	101	121	106		
Female	101	121	105		
KEY ECONOMIC RATIOS and LONG-TERM TRENDS					
	1980	1990	1999	2000	
GDP (US\$ billions)	24.9	44.0	79.0	89.7	
Gross domestic investment/GDP	27.4	32.2	22.1	25.6	
Exports of goods and services/GDP	56.7	74.5	121.7	125.4	
Gross domestic savings/GDP	29.8	34.3	47.3	45.5	
Gross national savings/GDP	..	30.2	38.2	34.9	
Current account balance/GDP	-1.1	-2.1	15.9	9.3	
Interest payments/GDP	1.4	2.3	2.3	2.5	
Total debt/GDP	26.5	34.8	58.1	49.7	
Total debt service/exports	6.3	12.6	4.8	4.7	
Present value of debt/GDP	59.5	..	
Present value of debt/exports	48.0	..	
	1980-90	1990-00	1999	2000	2000-04
<i>(average annual growth)</i>					
GDP	5.3	7.0	6.1	8.3	5.5
GDP per capita	2.4	4.4	3.6	5.7	2.6
Exports of goods and services	10.6	12.0	13.4	16.0	9.0



	1980	1990	1999	2000
STRUCTURE of the ECONOMY				
<i>(% of GDP)</i>				
Agriculture	22.6	15.2	10.9	8.6
Industry	41.0	42.2	46.4	45.1
Manufacturing	21.6	24.2	31.5	27.7
Services	36.3	42.6	42.7	46.3
Private consumption	54.2	51.9	41.6	43.8
General government consumption	16.0	13.8	11.1	10.6
Imports of goods and services	54.3	72.4	96.6	105.4
	1980-90	1990-00	1999	2000
<i>(average annual growth)</i>				
Agriculture	3.4	0.0	0.4	0.6
Industry	6.8	8.6	8.5	15.3
Manufacturing	9.3	9.8	13.5	21.0
Services	4.9	7.3	5.0	3.1
Private consumption	3.8	3.8	0.8	10.7
General government consumption	2.7	9.2	21.0	8.3
Gross domestic investment	3.1	5.1	-5.1	27.9
Imports of goods and services	6.9	10.3	10.8	24.1

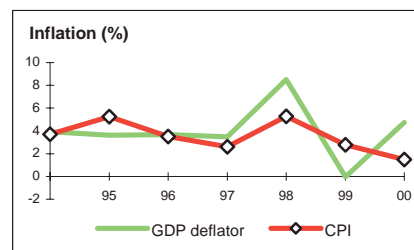


Note: 2000 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

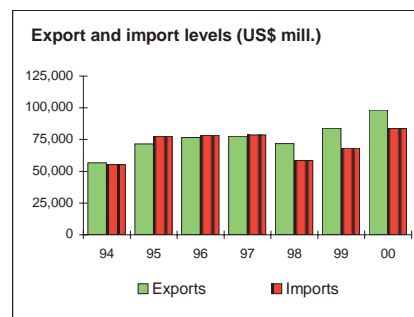
PRICES and GOVERNMENT FINANCE

	1980	1990	1999	2000
Domestic prices (% change)				
Consumer prices	6.7	2.7	2.8	1.5
Implicit GDP deflator	6.9	3.8	0.0	4.7
Government finance (% of GDP, includes current grants)				
Current revenue	25.7	24.3	19.7	18.3
Current budget balance	6.7	2.9	3.4	1.4
Overall surplus/deficit	-6.8	-3.0	-4.1	-4.2



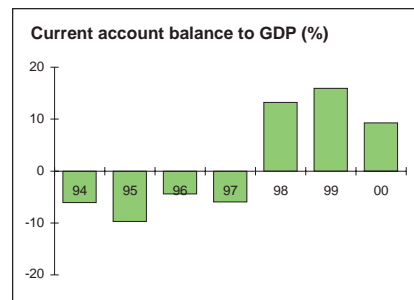
TRADE

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Total exports (fob)	..	28,636	83,933	98,208
Fuel	..	3,932	3,809	2,618
Rubber	..	1,119	859	830
Manufactures	..	17,317	71,508	83,668
Total imports (cif)	..	26,014	68,295	83,707
Food	..	1,694	2,138	3,194
Fuel and energy	..	2,366	1,417	3,628
Capital goods	..	11,497	21,121	53,780
Export price index (1995=100)
Import price index (1995=100)
Terms of trade (1995=100)



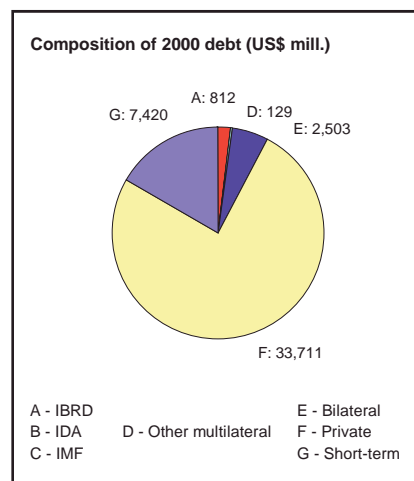
BALANCE of PAYMENTS

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Exports of goods and services	14,098	32,665	96,266	112,359
Imports of goods and services	13,489	31,765	76,614	94,657
Resource balance	609	900	19,652	17,702
Net income	-873	-1,872	-5,336	-7,364
Net current transfers	-21	54	-1,728	-2,000
Current account balance	-285	-918	12,588	8,338
Financing items (net)	753	2,871	-7,876	-7,338
Changes in net reserves	-468	-1,953	-4,712	-1,000
Memo:				
Reserves including gold (US\$ millions)	4,586	10,006	30,853	29,879
Conversion rate (DEC, local/US\$)	2.2	2.7	3.8	3.8



EXTERNAL DEBT and RESOURCE FLOWS

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Total debt outstanding and disbursed	6,611	15,328	45,939	44,575
IBRD	504	1,102	900	812
IDA	0	0	0	0
Total debt service	934	4,333	4,695	5,328
IBRD	65	250	177	166
IDA	0	0	0	0
Composition of net resource flows				
Official grants	6	42	11	10
Official creditors	133	372	358	287
Private creditors	979	-1,856	1,173	1,050
Foreign direct investment	934	2,333	1,553	1,900
Portfolio equity	0	293	522	515
World Bank program				
Commitments	105	154	404	0
Disbursements	80	205	42	15
Principal repayments	26	164	111	100
Net flows	54	41	-69	-86
Interest payments	39	86	67	66
Net transfers	15	-46	-135	-152



Malaysia Social Indicators

	Latest single year			Same region/income group	
	1970-75	1980-85	1993-99	East Asia & Pacific	Upper-middle-income
POPULATION					
Total population, mid-year (millions)	12.3	15.7	22.7	1,836.6	571.5
Growth rate (% annual average for period)	2.4	2.6	2.4	1.2	1.4
Urban population (% of population)	37.7	45.9	56.7	34.5	75.4
Total fertility rate (births per woman)	4.6	4.1	3.0	2.1	2.4
POVERTY					
<i>(% of population)</i>					
National headcount index	..	..	..	..	..
Urban headcount index	..	..	..	..	..
Rural headcount index	..	..	..	..	..
INCOME					
GNI per capita (US\$)	910	1,940	3,390	1,010	4,870
Consumer price index (1995=100)	47	74	115	136	131
Food price index (1995=100)	..	71	125	..	..
INCOME/CONSUMPTION DISTRIBUTION					
Gini index	..	..	49.2	..	..
Lowest quintile (% of income or consumption)	3.5	..	4.4	..	..
Highest quintile (% of income or consumption)	56.1	..	54.3	..	..
SOCIAL INDICATORS					
Public expenditure					
Health (% of GDP)	..	..	1.4	1.7	3.3
Education (% of GNI)	6.0	6.6	5.0	2.9	5.0
Social security and welfare (% of GDP)	0.7	1.0	1.4	..	7.9
Net primary school enrollment rate					
<i>(% of age group)</i>					
Total	88	..	102	100	94
Male	93	..	102	100	..
Female	83	..	102	100	..
Access to an improved water source					
<i>(% of population)</i>					
Total	..	71	89	75	87
Urban	..	..	100	93	94
Rural	..	..	94	66	68
Immunization rate					
<i>(% under 12 months)</i>					
Measles	..	20	88	83	90
DPT	..	59	89	82	88
Child malnutrition (% under 5 years)	..	..	20	12	..
Life expectancy at birth					
<i>(years)</i>					
Total	64	69	72	69	69
Male	63	67	70	67	66
Female	66	71	75	71	73
Mortality					
Infant (per 1,000 live births)	37	21	8	35	27
Under 5 (per 1,000 live births)	63	42	10	44	34
Adult (15-59)					
Male (per 1,000 population)	282	230	183	184	233
Female (per 1,000 population)	230	149	111	141	143
Maternal (per 100,000 live births)	..	..	39	..	..
Births attended by skilled health staff (%)	..	98	98	..	..

Note: 0 or 0.0 means zero or less than half the unit shown. Net enrollment ratios exceeding 100 indicate discrepancies between the estimates of school-age population and reported enrollment data. Latest year for access to improved water source data is 2000.

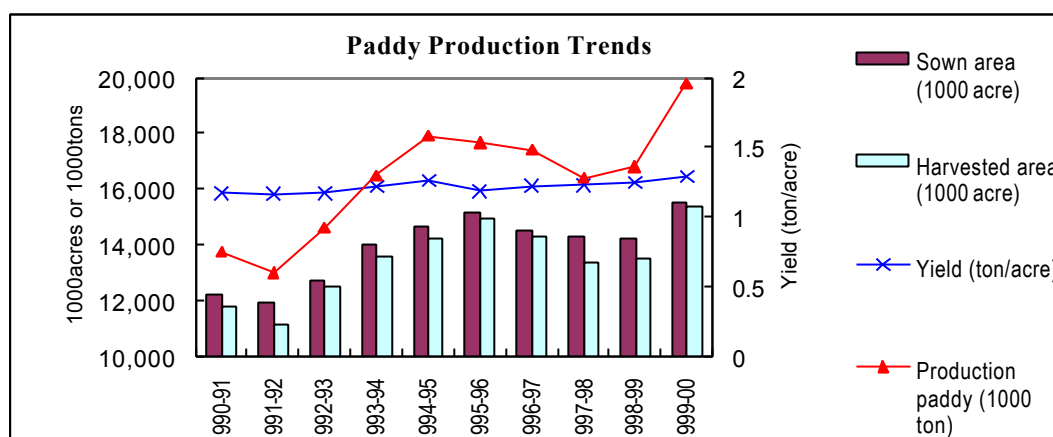
COUNTRY REPORT

Myanmar

1. Rice Production

1.1 Rice Production Trends

The country's total rice sown area in 1999-2000 was at 15.53 million acres of which 82% were sown in rainy season (monsoon rice). Total paddy production was about 20 million tons.



Source: Myanmar Agricultural Statistics, Statistical Year Book 2000

Since the summer paddy program, promotion of dry season paddy production by using short-period (most summer rice varieties have 110 – 150 days growing period) high yield varieties with pump irrigation system, have introduced in 1992, the sown area of summer paddy has been increasing significantly.

Expansion of Paddy irrigated area (Unit :1000 acres)

Year	Total irrigated area	Paddy irrigated area	Paddy sown area
1985-86	3,024	2,119 (90%)	12,114 (96%)
1990-91	2,871	2,148 (91%)	12,220 (96%)
1992-93	3,231	2,366 (100%)	12,684 (100%)
1993-94	4,006	3,307 (140%)	14,021 (111%)
1994-95	4,722	3,933 (166%)	14,643 (115%)
1995-96	5,292	4,365 (185%)	15,166 (120%)
1996-97	4,610	3,793 (160%)	14,518 (114%)
1997-98	4,750	3,848 (163%)	14,294 (113%)
1998-99	5,140	3,937 (166%)	14,230 (112%)
1999-00 (p.a.)	5,799	4,493 (190%)	15,528 (122%)

Source: Myanmar Agricultural Statistics, Statistical Year Book 2000

1992-93 = 100%

1.2 Characteristics of Rice Production

(1) Production Costs of Paddy

Production costs per 1 ton paddy is calculated as USD 34.1 (monsoon rice) and USD39.5 (summer rice) when assume a parallelexchange rate in year 1999-2000 at 400 Kyats per USD. If apply a

official exchange rate, production costs is USD 2,100 and USD 2,433, respectively.

Costs of Cultivation per 10 acres in 1999 - 2000

Type of Works	Monsoon Rice	Summer Rice
	(Kyats)	(Kyats)
1 Nursery preparation	2,700	-
2 Land preparation	24,250	30,000
3 Crop management	26,400	8,000
4 Harvesting	30,100	41,000
5 Inputs	84,503	182,500
6 Fertilizer handling	450	-
7 Bank interest	2,400	2,400
8 Land tax	50	50
Total costs for 10 acres	170,850	263,950
Total costs for 1ha	42,217	65,222
Total costs for 1 ton paddy	13,649 1/	15,815 1/
Total costs for 1 ton paddy (US\$)	34.1 2/	39.5 2/

Source : MOAI

1/ Yield : Monsoon Rice : 60 baskets of paddy/acre (= 3.09 ton/ha)

Summer Rice : 80 baskets of paddy/acre (= 4.12 ton/ha)

2/ Converted by 400 Kyats/USD

Official exchange rate in 2000 : 6.5 Kyats/USD

Market exchange rate in early 2000 : 350 – 500 Kyats/USD (Data source: OMIC Yangon)

(2) Number and Scale of Farm Households

Total number of farm households and holding areas have both increased at 4% during last 20 years, though there is no change in the structure of land holding. The average size of holding area is calculated as 2.25 ha per farm household.

Number of Farm Households by size (Unit: 1000 households, 1000 ha)

Size of land holding	1981 - 1982		1997 - 1998 (p)	
	Number of farm households	Holding area	Number of farm households	Holding area
less 2 ha	2,622.4 (60%)	2,455 (25%)	2,804.0 (62%)	2,721 (27%)
2 - 4 ha	1,052.0 (24%)	3,046 (31%)	1,139.4 (25%)	3,294 (32%)
4 - 8 ha	503.0 (12%)	2,854 (29%)	493.4 (11%)	2,775 (27%)
8 - 20 ha	112.9 (2.6%)	1,244 (13%)	101.0 (2.2%)	1,127 (11%)
20 - 40 ha	2.0 (0.05%)	55 (0.6%)	1.9 (0.04%)	49 (0.5%)
over 40 ha	0.7 (0.02%)	172 (1.8%)	1.1 (0.02%)	243 (2.4%)
Total	4,351.9 (100%)	9,816 (100%)	4,540.8 (100%)	10,210 (100%)

Source : Collected information/data by Embassy of Japan

1.3 Policies on Rice Production

(1) Agricultural Development Plan

Agriculture sector contributes 34% of GDP, 23% of total export earnings, and employs 63% of the labour force. 75% of the total population reside in rural areas and are principally engaged in agriculture, livestock and fishery sector for their livelihood.

The State has laid down 12 political, economical and social objectives in its endeavours to establish a peaceful modern and developed nation. One of the major economic objectives is “development of agriculture as a base and all-round development of other sectors of the economy as well”. Rice is the staple food and is designated as national crop to highlight its importance as the main food of the increasing population. The “achievement of surplus in paddy production” has been set as one of three main objectives in the integrated agricultural development strategy since 1992-93, the Economic Development Year.

Agricultural Development Strategy

Main Objective	(1) To achieve surplus in paddy production (2) To achieve self-sufficiency in edible oil (3) To step up the production of exportable pulses and industrial crops
Policies	- to allow freedom of choice in agricultural production - to expand agricultural land and to safeguard the rights to farmers - to permit commercial production of industrial crops and perennial crops - to encourage the participation of private sector in the distribution of farm machinery and other inputs
Strategic Measures	(1) Development of new agricultural land (2) Provision of sufficient irrigation water (3) Provision and support for agricultural mechanization (4) Application of modern agro-technologies, and (5) Development and utilization of modern varieties

Source : Myanmar Agriculture in Brief, March 2001, MOAI

(2) Production Target

In accordance with National Planning Targets, cultivation of paddy is being implemented, aiming to meet total area of 18 million acres (approx. 7.3 million ha) comprising 14 million acres under monsoon paddy and 4 million acres under summer paddy. Yield per acre is targeted to reach 100 baskets/acre (5.7 tons/ha). To generate increasing production measures are also undertaken in growing high-yield varieties, including introduction of hybrid rice varieties (Myanmar Agriculture in Brief, March 2001, MOAI).

In the Mid-Term Plan (2001-2002 to 2005-2006), the sown area, yield and production are set as follows.

Production Target in the Mid-Term Plan

Fiscal Year	Sown area (1000 ha)	Production (1000 ton)	Yield (ton/ha)
2001/2002	6,600	22,710	3.4
2002/2003	6,708	24,047	3.6
2003/2004	6,815	25,252	3.7
2004/2005	6,924	26,829	3.9
2005/2006	7,038	28,184	4.0

Source : MOAI

Box Hybrid rice production

Some private entrepreneurs and farmers have started to seed hybrid paddy (rice) variety. The local hybrid variety jointly produced by Marubeni and the Myanmar Agriculture Service, an agency under the Ministry of Agriculture and Irrigation and Sima variety from China. The local hybrid variety eating quality is poor. The Sima hybrid seeds are expensive and since the farmers could not follow the agricultural practices as instructed for the Sima variety, the farmers were only able to get 4.64 ton tons per hectare instead of 10.30 tons per hectare as mentioned. Due to the high cost for hybrid seeds, farmers are still reluctant to grow hybrid varieties and there was no significant increase on that area.

(USDA/FAS GAIN Report #BM0008 "Grain and Feed Annual – Revised 2000" May 2000)

(3) Land Reclamation Project

In 1998, Myanmar government adopted a two-pronged strategy to revitalize domestic paddy production, based on land reclamation and large-scale irrigation schemes. The new plan aims at expanding the paddy land base from 5.8 million ha to 7.3 million ha. The private sector is expected to play a key role in achieving these objectives. To stimulate private investments in rice production, the Government has offered 30-year long land leases, free provision of irrigation infrastructure and tax and tariff exemptions on machinery and equipment imports. In addition, large-scale producers were granted the right to export directly up to 50 % of their output. Since 1998, the private sector has also been called upon to participate in the import and distribution of agricultural commodities and basic inputs.

(4) Change to "Quantity" to "Quality"

The official of MOAI expressed that it is necessary to change the nature of Myanmar rice export by putting more emphasis on "quality" rather than on "quantity" considering the current situation/trends of the international rice market, and a change of the rice varieties is necessary to provide a better quality of material for export processing.

(5) Government Support on Rice Production

Myanmar government has been notifying to WTO that Myanmar did not use any domestic support.

2. Demand

2.1 Per Capita Consumption

Per capita consumption of rice is set at 15 baskets of paddy per annum (equivalent to 187.8 kg of rice per annum) in the balance calculations of MOAI.

According to the Household Income & Expenditure Survey 1997, per capita consumption was estimated at 134.2 kg for the urban and 158.5 kg for the rural. Per capita consumption varies depending on the States/Divisions. The largest amount was recorded at Rakhine State, both for urban and rural. Only in Chin State, rice consumption in the rural was smaller than that of the urban.

	Per Capita Rice Consumption (1997) (Unit : Kg per annum)	
	Urban	Rural
Union (whole nation)	134.2	158.5
States & Division	149.5	180.2
Largest State	175.3 (Rakhine State)	219.8 (Rakhine State)
Smallest State	129.6 (Shan State)	134.4 (Chin State)
Yangon City	138.3	--

Source : Report of Household Income & Expenditure Survey (1997)

Monthly household expenditure on rice and cereals for the nation average was estimated as 20% of the monthly household expenditure, 16% for the urban and 22% for the rural.

2.2 Consumer's Preference

Rice prices vary according to variety, quality, new rice and old rice. Each variety also has three different qualities: first quality (a-htat-sa), medium quality (a-lat-sa) and the lowest quality (auk-sa).

Regarding the old-new, consumers prefer old rice (in general 6 to 10 months old after harvest) because new rice is little sticky after cooking and normally price of old rice is higher than that of new rice. Price difference between old and new rice occurs from November to the end of December in the market.

Regarding the variety, Pawsan rice variety is high-priced compare to other varieties. The price of different varieties is highly variable, depending on quality and local preferences. Consumers in the lower part of the country generally prefer slightly sticky varieties and non-sticky varieties is preferred in the central part. In the Northern Shan State area, the local varieties are sticky and , for example, the variety "Immayebaw" from western Bago is preferred.

According to the hearing from the rice wholesalers, rice demand increases in Feb. – May because the people keep some stock for rainy season. But the demand in Yangon City is stable throughout the year.

3. Supply-Demand Balance

3.1 National Balance

National rice balance (paddy utilization) in recent years is estimated as shown in below, according the MOAI's norms for estimation.

National Rice Balance 1996-97 to 1999-00 (Unit : 1000 tons)

	Paddy					Rice	
	Production	Utilization			Total	Deficit / Surplus	
		Seed	Loss	Consumption			
1996-97	17,676	596	596	14,258	15,450	2,223	1,334
1997-98	16,654	594	594	14,520	15,708	943	566
1998-99	17,078	648	648	14,787	16,083	992	595
1999-2000	20,126	682	682	15,060	16,424	3,698	2,219

Source : Myanmar Agricultural Service, MOAI

Norms for estimation used by MOAI (paddy basis) :

Seed use	: 2 baskets per acre	(103 kg per ha)	nation's average
Post-harvest Losses	: 2 baskets per acre	(103 kg per ha)	includes no storage loss
Per capita consumption	: 15 baskets per annum	(187.8 kg of rice per annum)	
Milling recovery	: 60% by weight		

3.2 Regional Balance

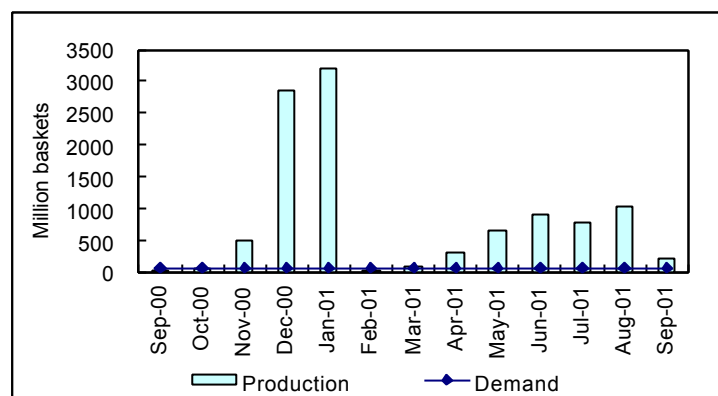
According the Agricultural Statistic data, out of total 14 states/divisions, 10 states/divisions were deficit during the three-year of 1996/97 – 1998/99 and it reduced to 7 states/divisions in 1999/00. State/Division-wise rice balance is shown in ANNEX.

In 1999/00, major deficit areas were in central part of the country, namely Magway, Mandalay Divisions and Shan State. These three state/divisions account for about 90 % of total deficit volume. Major surplus areas were Ayeyarwady, Bago Divisions and Mon, Rakhine State. Ayeyarwady Division has largest surplus in the nation, accounting for about 70% of total surplus volume (2,625 thousand ton of milled rice) in 1999/00.

The volume of surplus is not stable. In 1999-2000, all the States/Divisions has increased the production and surplus volume reached to 2,219 thousand tons, and Sagaing State and Kachin State turned to surplus situation. According the statistic data on production, these changes were brought by the increase of both sown areas and yield.

3.3 Seasonal Balance

Harvest volume is largest during the harvest peak of monsoon rice in December/January. Since the expansion of summer rice, seasonal rice balance has improved and reportedly the seasonal fluctuation in rice prices also have largely stabilized.



Data source : MOAI

4. Rice Marketing

4.1 Paddy Procurement by the Government

Since 1989, economic reform measures have been taken place, which were intended to lead to more liberal market oriented economic structure. Regarding the rice marketing, the government directs involvement have been gradually reduced and is encouraging the private sector to play a larger role.

In case of paddy marketing, rice farmers have a fixed quota for annual delivery (10 – 12 basket/acre = 515 – 618 kg/ha) at government-determined prices to Myanmar Agricultural Produce Trading (MAPT), an agency of the Ministry of Commerce responsible for paddy procurement, rice exports, rice reserve and rice distribution to budgetary groups (military, government employees and social institutions). Farmers who have fulfilled their obligations towards MAPT can sell their surplus paddy freely.

Paddy Procurement and Distribution by MAPT

Year	Paddy Production	Paddy procurement by MAPT		Equivalent Rice		Distribution to the budgetary groups	Rice Export
	(1000MT)	(1000MT)	(%) 2/	(MT)	1/	(MT)	(MT)
1996 - 97	17,676.1	1,521.9	8.6	911,925		837,406	92,200
1997 - 98	16,705.2	932.9	5.6	558,987		780,206	15,754
1998 - 99	17,077.5	2,195.7	12.9	1,315,637		661,633	99,244
1999 - 2000	20,124.0	2,207.4	11.0	1,322,612		685,385	57,702
2000 - 01	21,783.4	2,122.4	9.7	1,271,724		603,810	215,493
total/average	93,366.2	8,980.3	9.6	5,380,885		3,568,440	480,393

1/ Milling recovery rate at 0.599% 2/ Percentage against the production

Source : MAPT

MAPT currently purchases 10 – 12 % of total production which is about 2 million tons of paddy each year to yield about 1.2 million tons of milled rice. Excludes the farmer's consumption for about 30%, remaining 60% which is about 16 million tons of paddy (about 9.6 million tons of milled rice) is marketed by the private sector.

4.2 Major Rice/Paddy Flow

The major rice flows are from the surplus areas in lower part of the country (Ayeyarwady, Bago, Yangon Divisions and Mon State) where account for about 60 % in total country rice area, to the rice deficit areas in the central part (Magway, Sagaing, Mandalay Division) and hilly region (Shan State). A chart of rice/paddy flows is attached to Annex.

Different varieties such as Manawthukha, Zeeya, Shwewahthun, Theethatyin, Inmayebaw from Ayeyarwady, Yangon and Bogo Division are marketed to the deficit area. Nagaya, Ban-kauk and Shwetasoke rice varieties from Mon State are marketed to Mandalay Division.

4.3 Price Trends

The domestic rice market for rice has been insulated from international price movements as a direct effect of the government export monopoly. Paddy and rice prices have been increasing because of the inflation.

Average Retail Prices at Yangon (Unit : Kyats/kg)									
	1990	1992	1993	1994	1995	1996	1997	1998	1999
<i>Nominal Prices</i>									
Ngakywe 38%	6.7	14.2	21.6	22.5	31.0	36.7	41.9	54.1	75.4
Emata 35%	5.6	10.7	18.3	16.9	24.0	27.2	29.4	40.4	59.7
Ngasein 35%	4.8	10.0	17.0	15.7	22.6	25.4	27.9	37.1	50.3
<i>Real Prices (deflated by General CPI 1990=100)</i>									
Ngakywe 38%	6.7	9.0	10.2	8.7	9.4	9.7	8.4	7.2	8.4
Emata 35%	5.6	6.8	8.7	6.5	7.3	7.2	5.9	5.4	6.7
Ngasein 35%	4.8	6.3	8.1	6.1	6.8	6.7	5.6	4.9	5.6

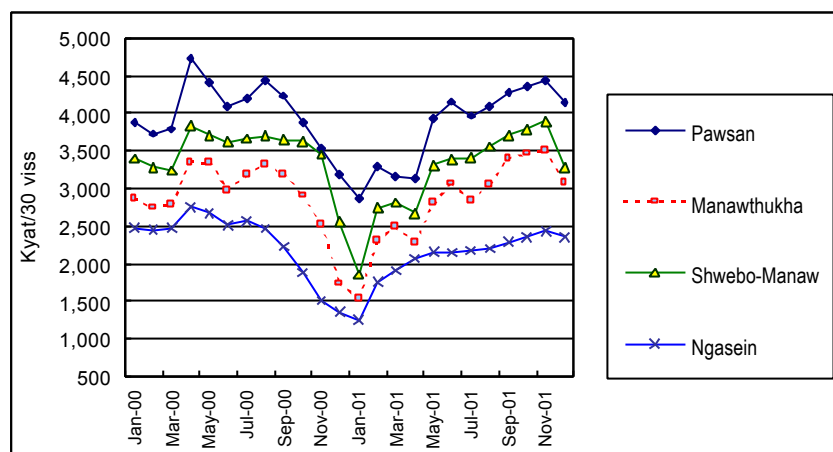
Data source : Central Statistical Organization (Statistical Yearbook 2000)

Seasonal Price Trends

Due to the cropping pattern, paddy and rice prices go up in the rainy season, July-August-September and the prices go down substantially after the harvest of monsoon rice from October to January.

Time of Planting and harvesting of Rice

	Monsoon Rice		Summer Rice	
	Planting	Harvesting	Planting	Harvesting
Lower part	May – Sep.	Nov. – Jan.	Nov. – Feb.	March - May
Central part	July – Sep.	Oct. – Jan.	Jan. - April	Apr. - July
Southern Shan State	June – Sep.	Oct. – Dec.	Mar. - April	Jan. - July



Monthly average wholesale price (Mandalay Market), medium quality

Source : MOAI

4.4 Government Price Control (Rice Price Policy)

(1) Paddy Price Control

MAPT currently purchases 10 – 12 % of total production which is about 2 million tons of paddy each year to yield about 1.2 million tons of milled rice. In general, about 50% of the procurement (about 600,000 tons of milled rice) is allocated for rice distribution to the budgetary groups and another 50 % is allocated for the Nationalreserve, ASEAN Food Security reserve and rice export.

Since 1999, MAPT disburse advance payment loans (which is about 100% of the procurement price) to the contract farmers at the time of cultivation to secure the procurement and to support the farmers. This procurement system is termed as Full Advance Payment Paddy Purchase system. Procurement prices of paddy are set by MAPT and they have been kept in the same prices since year 1998-99 until year 2001-02. In year 2001-02, procurement prices range from the lowest of 14,380 Kyats/ton to the highest of 19,175 Kyats/ton depending on variety and States/Division. MAPT currently do not procure the dry season paddy.

Paddy Procurement Price of MAPT (Unit : Kyats/ton)

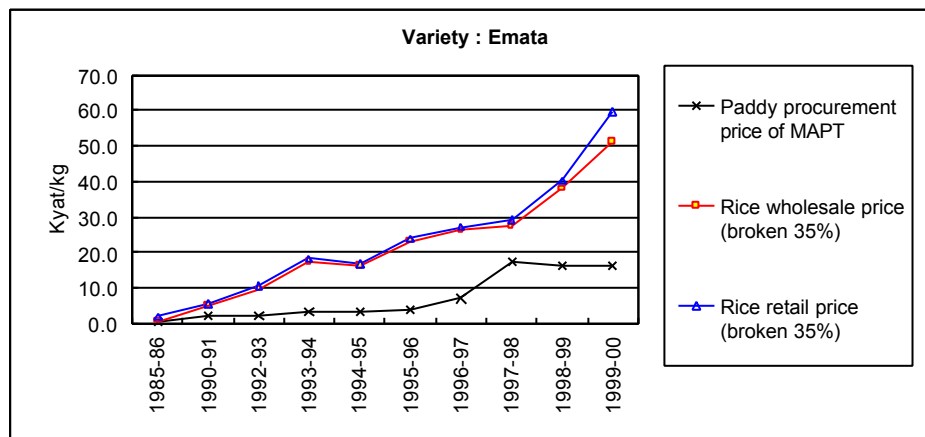
Varieties	Nominal price					Real Prices (deflated by General CPI 1997=100)				
	1996-97	1997-98	1998-99	1999-00	2000-01	1996-97	1997-98	1998-99	1999-00	2000-01
	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/
1.Ngasein	6,711	16,209	15,580	15,580	15,580	6,711	15,794	11,670	10,091	10,268
2.Medone	7,670	18,157	17,977	17,977	17,977	7,670	17,691	13,465	11,643	11,847
3.Emata	7,191	17,448	16,299	16,299	16,299	7,191	17,001	12,208	10,556	10,741
4.Ngakywe	7,670	18,217	19,175	19,175	19,175	7,670	17,750	14,363	12,419	12,637
5.Kauknyin	6,711	19,175	19,175	19,175	19,175	6,711	18,684	14,363	12,419	12,637

1/ Average purchasing price for the whole country.

Data Sources : 1996-97 ; Statistic Year Book 2000 (Table 5.14 Prices of Selected Crops at Harvest time)
: 1999-2000 to 2001-2002 ; Myanmar Agricultural Produce Trading.
: CPI ; Selected Monthly Economic Indicators Mar.-Apr.2001, Central Statistical Organization
1997 =100, 1997-98=102.63, 1998-99=133.51, 1999-00=154.40, 2000-2001=151.74

Although the procurement prices are called as support prices or floor prices by the government, they are lower than the market price. Therefore, under the current MAPT procurement system, better quality paddy is sold to traders or consumed by farmers and the poor quality paddy is generally delivered to the MAPT.

In 1998/99 the price paid for those deliveries was reportedly 50 % below farm gate market prices (Review of Basic Food Policies, FAO 2001). A World Bank study estimated that farmgate prices are substantially below world prices at around 35 % less than the F.O.B. price (World Bank, 1999). The trend of rice prices of Emata variety as well as the paddy procurement prices of Emata is illustrated in the following chart. It is presumed that the procurement price in 1998-99 and 1999-2000 were 1/2 to 2/3 of the market price.

**MAPT Paddy Procurement Price and Rice Price (variety : Emata)**

(2) Milled Rice Price Control (Market intervention)

In principle, rice distribution to the supply/demand imbalance areas is in the hands of the private sector (i.e. marketing mechanism). But MAPT did market interventions, released its rice stock to

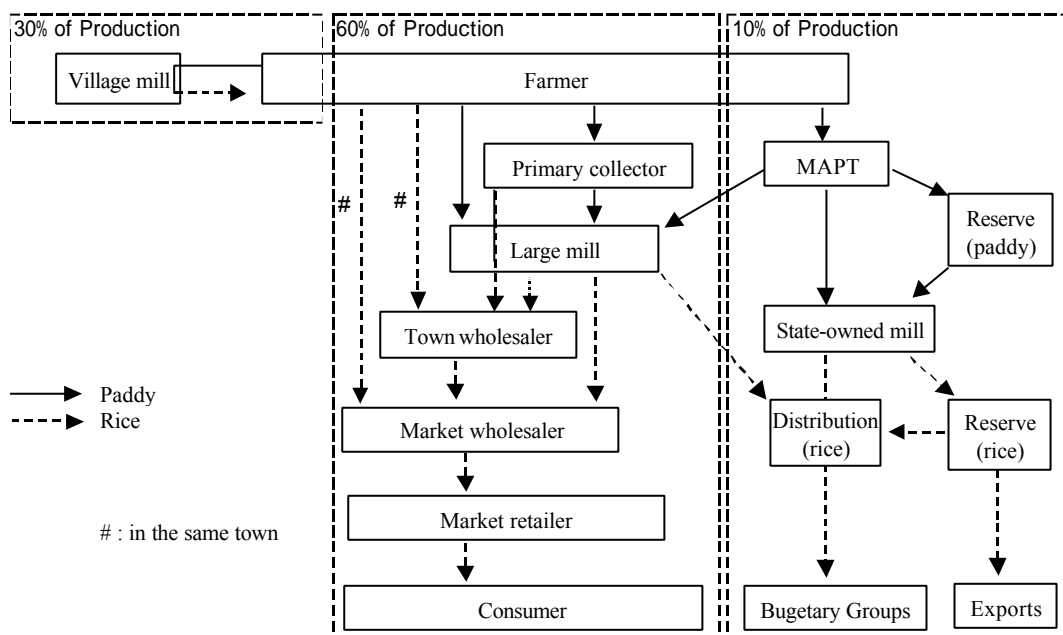
the market through Myanmar Rice & Paddy Wholesaler's Association to lower the rice prices in 1992 and in 1999. The release in 1999 was 70,000 tons from MAPT stock and 5,000 tons from the association's stock and retail price was set as 80 Kyats/kg. Regarding a guideline of the market intervention, no clear information has obtained.

(3) Food Subsidy Program

Myanmar government defines the government employees, military and their family as most vulnerable groups and total of about 600,000 tons rice is distributed to them with very low price (6.8 Kyats/kg, Emata 25% Broken). Amount of rice distribution to the government employee is 25 kg/month/official for unmarried or 30 kg/month/official for married.

4.5 Marketing channels and characteristics of the agents

Marketing channel of paddy/rice is illustrated as follow. Generally, about 30 % of the production is consumed by the farmers and about 10 % is handled by MAPT, remaining 60% is distributed by the private sector.



(Prepared based on a chart in "Agricultural marketing in Myanmar, MOAI" and a chart provided by MAPT)

Marketing Channels of Rice

Farmer : Most farmers sell their crop as paddy. In most cases the farmers do not sell always to the same trader. Farmers store their paddy for home consumption, seed use, labour wage and also with the expectation to sell at a higher price later in season. The period of storage ranges from three to ten months, depending on the price movement and on their financial condition.

Village mill : Small scale village mills are found in large number in the rural areas. They provide milling services both for milling part of farmers' marketable surplus and for milling farmers' home consumption.

Town wholesaler : Most of town wholesalers are involved in inter-State/Division trade. Most of them collect from primary collectors. The period of rice storage varies 2-3 days to 5 months.

Market wholesaler : Mainly sell to market retailers. The selling price varies according to variety and quality. The volume of stock is for 10 days in usual. Sales unit is 50 kg bag.

Market retailer : Most of them buy rice from market wholesalers and town wholesalers. Sales unit is "pyi". (1 pyi = 2.13 kg = 4.69 lbs)

5. Rice Trade

5.1 Rice Export System

Since 1989, economic reform measures have been taken place, which were intended to lead to more liberal market oriented economic structure. Regarding the grain marketing, the government directs involvement have been gradually reduced and export of pulses and other agricultural crops and domestic marketing of rice and oilseeds have been liberalized while the export of rice, sugar, cotton, jute and rubber are still under government control.

MAPT is the only government agency undertaking the rice export. Although the government has allowed to the private entrepreneurs engaged in reclaiming virgin and fallow lands and wet lands to grow paddy to export 50 % of their production, for the time being there are no rice exports from the private sector.

Myanmar Government has given more attention to availability and price stability of rice. Basic stance on rice export is to export only when there is a surplus in the MAPT rice stock. According the hearing from MOAI official, it is observed that government has intention to promote export of other surplus agricultural commodities (neighboring China and India is potential markets) than rice. Due to low prices in the international rice market, also due to it requires a lot of efforts and time to improve rice quality and to take a lost-markets back in hand from Thailand and Vietnam.

Exportable amount is estimated by MAPT and it is authorized within the Ministry of Commerce. 3 kinds of offer prices (selling prices) are set according the destinations and they are publicized through the MAPT's homepage. These prices are set to be a competitive price by looking at the international market conditions, not by looking at the domestic rice prices.

Official Selling Price (effect from 1-1-2002, validity 2 months)

Grade	Market (Destination)			Thai Rice FOB Bangkok in Jan-2002 2/	
	Africa/ Europe/ Middle East	Bangladesh	Other ASEAN		
Emata 25% broken	123	131	127	170	35%
Emata 15% broken	133	141	137	180	15%
Emata 10% broken	143	151	147	185	10%
Emata 5 % broken	153	161	157	188	5%
Emata Super 100%	163	171	167	193	100%C
Ngasein 25% broken (Old Spec) 1/	120	128	124		
Ngasein 25% broken (New Spec) 1/	122	130	126		

Unit : USD per MT FOB Yangon

1/ Old and New specifications are shown in Annex. 2/ Monthly average of BOT Prices of White Rice

Against the government monopoly on rice export, there are opinions that rice export should be liberalized same like pulses export to promote the development of rice industry in the private sector, in both the quality improvement and production increase.

5.2 Recent Trends of Rice Export

Following the ban imposed on rice exports in 1995/96, despite earlier commitment made by the MAPT, Myanmar's traditional rice market such as Indonesia has turned to other sources (USDA GAIN Report #BM9006, 1999). Another major rice importer, NAF of Philippines currently does not put Myanmar in her authorized sources of rice imports. Accordingly Myanmar rice market consists mainly of African markets, accounting for 40% of the total export volume in the last three-years. Out of 266,359 MT of export to Bangladesh, 95,539 MT (36%) were exported through border trade.

Rice export by country of destination in 1999, 2000 & 2001 (Calendar year)

Country	1999		2000		2001		Total volume	
	MT	FOB Value	MT	FOB Value	MT	FOB Value	MT	%
Indonesia	10,143	2.050	-	-	78,180	11.784	88,323	10.7%
Malaysia	180	0.041	2,642	0.574	26,975	3.723	29,797	3.6%
Singapore	13,488	3.039	2,990	0.512	49,979	6.441	66,457	8.1%
China	-	-	-	-	6,119	0.885	6,119	0.7%
India	3,762	0.764	100	0.019	3,070	* 18.316	6,932	0.8%
Maldives	2,000	0.466	-	-	-	-	2,000	0.2%
Bangladesh	14,761	3.259	135,639	22.226	115,959	16.683	266,359	32.3%
Africa	12,603	0.378	-	-	317,441	36.442	330,044	40.0%
Madagascar	-	-	-	-	13,000	1.560	13,000	1.6%
Saudi Arabia	-	-	-	-	200	0.033	200	0.0%
Hungary	3,021	0.739	-	-	415	0.067	3,436	0.4%
U.S.A.	-	-	-	-	12,400	1.488	12,400	1.5%
Total (USD)	59,958	10.736	141,371	23.331	623,738	79.106	825,067	100.0%
(India rupee)		-		-		* 18.316	-	-

Source : MAPT

FOB value: Million USD or * Million India Rupee

5.3 Border Trade

Apart from the trade by ocean shipment, a large variety of agricultural commodities are also exported by road and by coastal shipping. According the MAPT officials, border trade of rice/paddy is in the trend toward expanding.

Rice /paddy export through Boarder Trade in 1999, 2000 & 2001 (Calendar year)

Country	1999		2000		2001		Total volume	
	MT	Value	MT	Value	MT	Value	MT	%
Bangladesh Border	10,044	2.302	34,161	6.518	51,334	7.692	95,539	92.2%
China Boarder	-	-	-	-	4,919	0.720	4,919	4.7%
India Boarder	-	-	100	0.019	3,070	* 18.316	3,170	3.1%
Total (USD)	10,044	2.302	34,261	6.537	59,323	8.412	103,628	100.0%
(India rupee)		-		-		* 18.316		

Source : MAPT

Value: Million USD or * Million India Rupee

Boarder trade of rice/paddy also under government control and MAPT is solo exporter, although it is reportedly that there is some smuggling. Bangladesh is a main country accounting 92% of the total trade volume in the last three-years. Trade with India is settled with Indian Rupee.

5.4 Tax on Export

8% Commercial tax + 2% Income tax (2% Income tax is waived for MAPT)

5.5 Export subsidies

Myanmar government has been notifying to WTO that Myanmar did not use any export subsidies.

5.6 Bilateral/Multilateral Agreements on Rice Trade

Barter trade agreement between MAPT and BERNAS (Malaysia)

Products to be supplied by BERNAS to MAPT are: rice milling machine, equipment and spare parts for upgrading of rice mills. Products to be supplied by MAPT are: rice, onions, spices, garlic oil seeds, pulses and other agricultural produce

Reportedly some portion of the payment for importation of crude oil from PETRONAS (Malaysia) is made by rice.

5.7 Rice / Paddy Import

Importation of commodities are under strict government control. Although no statements/papers have obtained, it assumed that a real import is banned.

6. Rice Reserve by the Government

MAPT currently purchases 10 – 12 % of total production which is about 2 million tons of paddy each year to yield about 1.2 million tons of milled rice. Rice reserve is managed under this MAPT procurement system.

Based on the data obtained from MAPT, annual rice balance (volume of end stocks) in the MAPT procurement system is calculated as shown in the following table. Due to the accumulation of annual balance, MAPT holds over 1 million tons stocks and targets to export the 1 million tons of rice in year 2001 – 2002.

Year	Paddy procurement by MAPT	Equivalent Rice 1/	Distribution to the budgetary groups	Rice Export	Balance
1996 - 97	1,521.9	911.9	837.4	92.2	-17.7
1997 - 98	932.9	559.0	780.2	15.8	-237.0
1998 - 99	2,195.7	1,315.6	661.6	99.2	554.8
1999 - 2000	2,207.4	1,322.6	685.4	57.7	579.5
2000 - 2001	2,122.4	1,271.7	603.8	215.5	452.4
Total	8,980.3	5,380.9	3,568.4	480.4	1,332.1

1/ Milling recovery rate 0.599%

Source : Myanmar Agricultural Produce Trading.

According the hearing from MAPT, rice reserve / stock situation in year 2000 – 2001 is as follows:

National Reserve

MAPT held a stock of 25,000 tons milled rice plus 41,700 tons paddy (approximately 50,000 tons of milled rice in total) as a national reserve in 2000 – 2001.

ASEAN Food Security Reserve (AFSR)

Oblige amount of AFSR is 14,000 ton (milled rice). Rice reservation for AFSR is also managed by MAPT and it is clearly separated from the national reserve. That amount of rice is stored at 14 warehouses (1,000 tons each) in the suburbs of Yangon and is turned over every 3 months to maintain the quality.

7. Food Aids

Myanmar government has no activity to support the poor/vulnerable people by distributing support rice except the rice distribution to the budgetary groups.

WFP has started its operation in the North Rakhine State in 1994, bordering Bangladesh and the returnee comprise approximately 29% of the population of the area. In the year 2000, approx. 8,100 ton of low-grade domestic rice (Emata 35% broken rice) was procured through MAPT and supplied to about 470,000 beneficiaries.

Distributed volume of rice by WFP (Unit : ton)

Year	1997	1998	1999	2000	2001
Distributed volume	4,577	3,670	7,971	8,124	5,276

Source : WFP Myanmar

8. Poverty

The Central Statistical Organization has estimated the parentage of households in poverty on the basis of 1997 Households Income & Expenditure Survey by using the norm of minimum subsistence costs based on nutritional norms of 2,400 calories of energy per person per day and a small allowance for non-food consumption to cover basic items.

Poverty Line in Myanmar (1997) (Unit : Kyats)

	Myanmar	Rural	Urban
Daily food expenditure per person	42.95	40.71	48.47
Daily non-food expenditure per person 1/	10.74	10.18	12.12
Monthly minimum subsistence costs per household 2/	8,456.18	8,015.18	9,542.93

Source : Central Statistical Organization & World Bank

1/ food expenditure x125%

2/ 30 days per month, 5.25 persons per household

(Average monthly household expenditure was 13,784.50 Kyats for Myanmar, 13,091.00 Kyats for the rural and 15,266.00 Kyats for the urban in 1997.)

According to the 1997's data, poverty rate was estimated at 22.9% for the nation, and 23.9% for the urban and 22.4% for rural. Food poverty rate for the nation was estimated at 19.6%. 58% of the households were at below the average household expenditures.

Situation of the Poverty (1997) (Unit : %)

	Urban	Rural	Total
Myanmar	23.9	22.4	22.9
States / Divisions			
Chin State	19.8	47.1	42.1
Magway Division	44.9	36.3	37.9
Kayah State	30.8	37.4	35.4
Sagaing Division	27.6	24.3	24.9
Bago Division	26.6	25.4	24.7
Ayeyarwady Division	47.0	17.3	22.7
Mandalay Division	18.8	23.9	22.3
Rakhine State	34.5	19.2	22.0
Mon State	27.1	16.1	19.9
Yamgon State	16.6	16.7	16.7
Kayin State	11.8	12.8	12.7
Shan State	7.1	13.4	12.0
Kachin State	4.6	11.9	10.1
Tanintharyi Division	9.8	7.4	8.1

Source : The Poverty Ration in Myanmar, Central Statistical Organization

(Paper prepared for UNSD Workshop on Development Indicators, Oct. 2001, Manila)

There is significant regional variation in poverty rates with the highest levels for Chin and Kayah States and Maqway Division. The poverty is not concentrated in outlying regions away from metropolitan area. Some of remote areas such as Kachin State, Shan State have relatively low poverty incidence.

Poverty rates are approximately same in urban and rural areas, but most of the poor, about 70% live in rural areas. A substantial share of the rural poor has either no land or plots that are too small to be available. Rural poverty can therefore be traced to low outputs and low prices for the outputs of small farmers, as well as to the limited availability of off-farm work.

According the Household Income & Expenditure Survey 1997, monthly household expenditure on food and beverages for the nation was 71% of the total monthly household expenditure, 68% for the urban and 72% for the rural.

Conversions Relevant

1 kilogram (kg) = 2.205 pounds (lb)	1 hectare (ha) = 2.471 acres (ac)
1 basket of paddy = 20.86 kg or 46 lb	1 viss = 1.54 kg or 3.6 lb
1 basket of milled rice = 34.01 kg or 75 lb	(30 viss = 1 bag of milled rice)
1 basket of broken rice = 32.65 kg or 72 lb	1 pyi = 2.13 kg or 4.69 lb
1 basket of bran = 20.41 kg or 45 lb	(16 pyi = 1 basket of milled rice)

Exchange Rate (Kyats per US dollar)

Official rate

6.5972 (January 2001), 6.5167 (2000),
6.2858 (1999), 6.3432 (1998), 6.2418 (1997),
5.9176 (1996), 5.6670 (1995)
(source: CIA Country Data)

Parallel rate

Year 2000 :
500 (Jan.), 500 (Feb.), 600 (Mar.), 600 (Apr.),
650 (May), 590 (Jun.), 590 (Jul.), 590 (Aug.),
650 (Sep.), 650 (Oct), 650 (Nov.), 650 (Dec.)
Year 2001 :
500 (Jan.), 500 (Feb.), 800 (Mar.), 740 (Apr.),
700 (May), 700 (Jun.), 650 (Jul.), 650 (Aug.),
650 (Sep.), 750 (Oct), 750 (Nov.), 750 (Dec.)
(source : OMIC Yangon Office)

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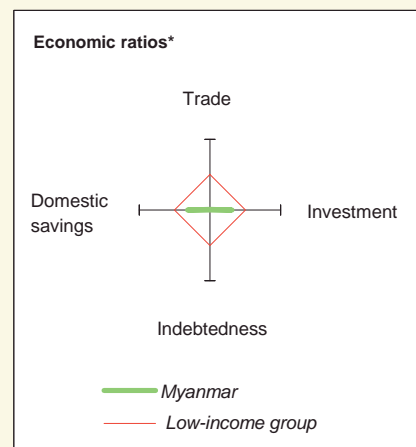
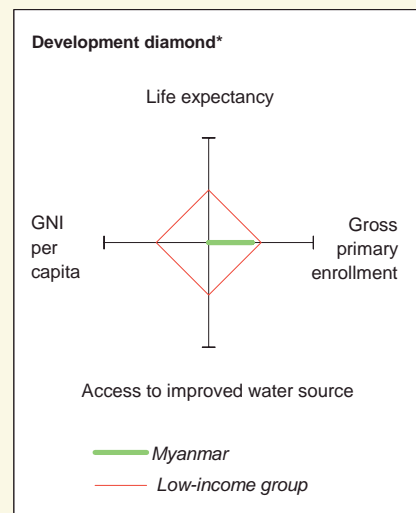
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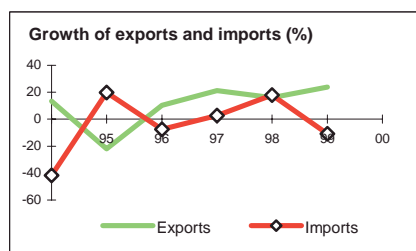
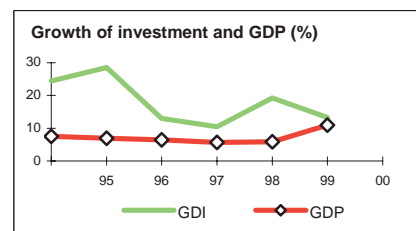
Myanmar at a glance

9/13/01

POVERTY and SOCIAL	Myanmar	East Asia & Pacific	Low-income	
2000				
Population, mid-year (<i>millions</i>)	45.6	1,853	2,459	
GNI per capita (<i>Atlas method, US\$</i>)	..	1,060	420	
GNI (<i>Atlas method, US\$ billions</i>)	..	1,964	1,030	
Average annual growth, 1994-00				
Population (%)	1.2	1.1	1.9	
Labor force (%)	1.5	1.4	2.4	
Most recent estimate (latest year available, 1994-00)				
Poverty (% of population below national poverty line)	..	..	..
Urban population (% of total population)	..	35	32	
Life expectancy at birth (<i>years</i>)	..	69	59	
Infant mortality (<i>per 1,000 live births</i>)	79	35	77	
Child malnutrition (% of children under 5)	..	13	..	
Access to an improved water source (% of population)	..	75	76	
Illiteracy (% of population age 15+)	15	14	38	
Gross primary enrollment (% of school-age population)	80	119	96	
Male	..	121	102	
Female	..	121	86	
KEY ECONOMIC RATIOS and LONG-TERM TRENDS				
	1980	1990	1999	2000
GDP (<i>US\$ billions</i>)
Gross domestic investment/GDP	21.5	13.4	13.2	..
Exports of goods and services/GDP	9.1	2.6	0.4	..
Gross domestic savings/GDP	17.6	11.2	13.0	..
Gross national savings/GDP	13.2	..
Current account balance/GDP
Interest payments/GDP
Total debt/GDP
Total debt service/exports	25.4	9.0
Present value of debt/GDP
Present value of debt/exports
	1980-90	1990-00	1999	2000
<i>(average annual growth)</i>				
GDP	0.6	6.6	10.9	..
GDP per capita	-1.2	4.8	16.6	..
Exports of goods and services	1.9	8.7	23.9	..



STRUCTURE of the ECONOMY	1980	1990	1999	2000
<i>(% of GDP)</i>				
Agriculture	46.5	57.3	59.9	..
Industry	12.7	10.5	8.9	..
Manufacturing	9.5	7.8	6.5	..
Services	40.8	32.2	31.2	..
Private consumption	..	..	..	..
General government consumption	..	..	..	..
Imports of goods and services	12.9	4.8	0.7	..
	1980-90	1990-00	1999	2000
<i>(average annual growth)</i>				
Agriculture	0.5	5.3	11.5	..
Industry	0.5	10.0	15.8	..
Manufacturing	-0.2	7.0	14.5	..
Services	0.8	6.8	9.2	..
Private consumption	..	..	..	..
General government consumption	..	..	..	..
Gross domestic investment	-4.1	15.4	13.3	..
Imports of goods and services	-6.8	5.2	-10.9	..

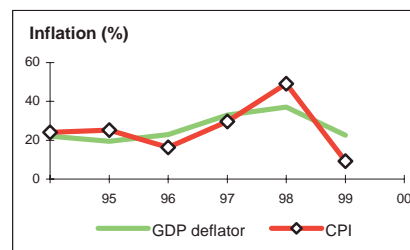


Note: 2000 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

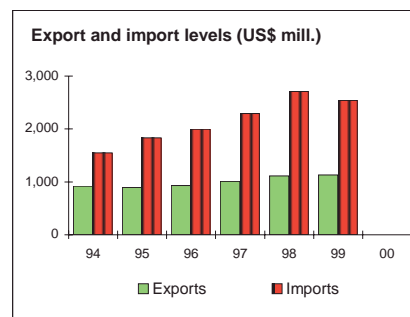
PRICES and GOVERNMENT FINANCE

	1980	1990	1999	2000
Domestic prices				
(% change)				
Consumer prices	..	17.6	9.3	..
Implicit GDP deflator	1.2	18.5	22.7	..
Government finance				
(% of GDP, includes current grants)				
Current revenue	..	10.0	0.2	..
Current budget balance	..	0.0	0.0	..
Overall surplus/deficit	..	0.0	0.0	..



TRADE

	1980	1990	1999	2000
(US\$ millions)				
Total exports (fob)	..	477	1,132	..
Timber	..	161	0	..
Rice	..	28	11	..
Manufactures	..	12	..	..
Total imports (cif)	..	970	2,539	..
Food	..	18	160	..
Fuel and energy	0	..
Capital goods	..	388	1,040	..
Export price index (1995=100)	..	90	..	0
Import price index (1995=100)	..	87	..	0
Terms of trade (1995=100)	..	103	..	..

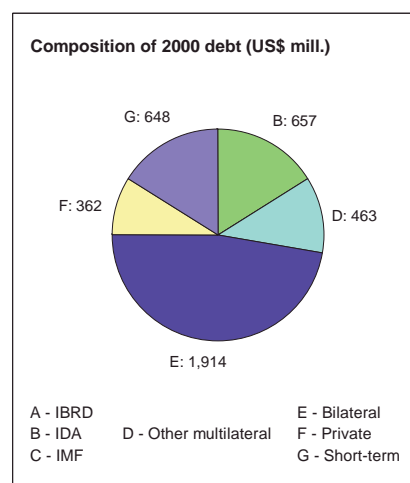


BALANCE of PAYMENTS

	1980	1990	1999	2000
(US\$ millions)				
Exports of goods and services	539	641	..	..
Imports of goods and services	806	1,182	2,539	..
Resource balance	-266	-541	..	..
Net income	-48	-61	..	..
Net current transfers	7	77	581	545
Current account balance	-307	-526	-931	-710
Financing items (net)	346	372	877	..
Changes in net reserves	-39	155	54	..
Memo:				
Reserves including gold (US\$ millions)	..	325	343	..
Conversion rate (DEC, local/US\$)	..	..	..	..

EXTERNAL DEBT and RESOURCE FLOWS

	1980	1990	1999	2000
(US\$ millions)				
Total debt outstanding and disbursed	1,500	4,695	5,999	4,044
IBRD	0	0	0	0
IDA	146	716	723	657
Total debt service	141	60	96	300
IBRD	0	0	0	0
IDA	1	9	0	0
Composition of net resource flows				
Official grants	66	37	29	..
Official creditors	173	86	13	-162
Private creditors	29	-8	-13	-66
Foreign direct investment	0	161	216	..
Portfolio equity	0	0	0	..
World Bank program				
Commitments	146	0	0	0
Disbursements	23	57	0	0
Principal repayments	0	4	0	0
Net flows	23	53	0	0
Interest payments	1	5	0	0
Net transfers	22	48	0	0



Myanmar Social Indicators

	Latest single year			Same region/income group	
	1970-75	1980-85	1993-99	East Asia & Pacific	Low-income
POPULATION					
Total population, mid-year (millions)	30.4	37.5	45.0	1,836.6	2,417.1
Growth rate (% annual average for period)	2.3	2.1	1.2	1.2	1.9
Urban population (% of population)	23.9	24.0	27.3	34.5	31.4
Total fertility rate (births per woman)	5.5	4.2	3.1	2.1	3.7
POVERTY					
<i>(% of population)</i>					
National headcount index	..	..	..	..	..
Urban headcount index	..	..	..	..	..
Rural headcount index	..	..	..	..	..
INCOME					
GNI per capita (US\$)	..	..	..	1,010	420
Consumer price index (1995=100)	8	13	270	136	138
Food price index (1995=100)	..	11	282	..	..
INCOME/CONSUMPTION DISTRIBUTION					
Gini index	..	..	..	..	..
Lowest quintile (% of income or consumption)	8.0	..	..	..	..
Highest quintile (% of income or consumption)	40.0	..	..	..	..
SOCIAL INDICATORS					
Public expenditure					
Health (% of GDP)	..	..	0.2	1.7	1.2
Education (% of GNI)	1.7	2.0	1.2	2.9	3.3
Social security and welfare (% of GDP)	0.6	0.9	0.1	..	..
Net primary school enrollment rate					
<i>(% of age group)</i>					
Total	63	..	..	100	..
Male	65	..	..	100	..
Female	61	..	..	100	..
Access to an improved water source					
<i>(% of population)</i>					
Total	..	27	68	75	76
Urban	..	36	88	93	88
Rural	..	21	60	66	70
Immunization rate					
<i>(% under 12 months)</i>					
Measles	..	..	85	83	64
DPT	..	16	73	82	70
Child malnutrition (% under 5 years)	..	38	28	12	..
Life expectancy at birth					
<i>(years)</i>					
Total	51	54	60	69	59
Male	49	53	58	67	58
Female	52	56	61	71	60
Mortality					
Infant (per 1,000 live births)	117	103	77	35	77
Under 5 (per 1,000 live births)	179	134	120	44	116
Adult (15-59)					
Male (per 1,000 population)	..	384	278	184	288
Female (per 1,000 population)	..	313	228	141	258
Maternal (per 100,000 live births)	..	..	230	..	..
Births attended by skilled health staff (%)	..	57	57	..	..

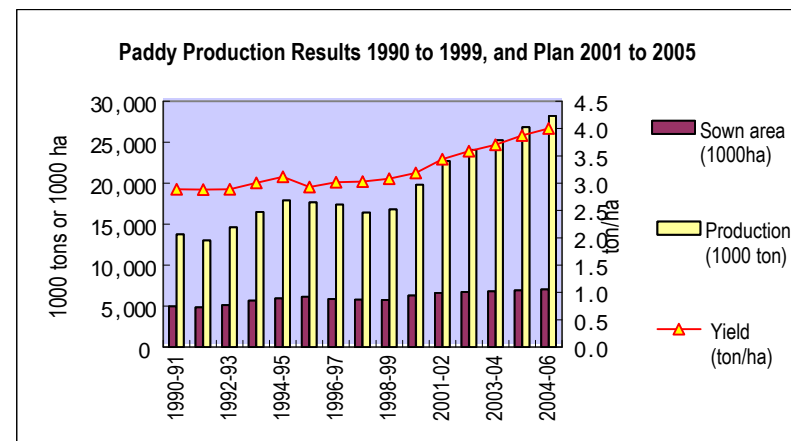
Note: 0 or 0.0 means zero or less than half the unit shown. Net enrollment ratios exceeding 100 indicate discrepancies between the estimates of school-age population and reported enrollment data. Latest year for access to improved water source data is 2000.

2001 World Development Indicators CD-ROM, World Bank

2. Sown/harvested areas and Production of paddy, 1990-91 to 1999-00

	Sown area		Harvested area		Production paddy	Yield
	(1000 acre)	(1000 ha)	(1000 acre)	(1000 ha)	(1000 ton)	(ton/ha)
1990-91	12,220	4,945	11,762	4,760	13,748	2.9
1991-92	11,935	4,830	11,130	4,504	12,993	2.9
1992-93	12,684	5,133	12,494	5,056	14,603	2.9
1993-94	14,021	5,674	13,558	5,487	16,495	3.0
1994-95	14,643	5,926	14,191	5,743	17,908	3.1
1995-96	15,166	6,138	14,907	6,033	17,670	2.9
1996-97	14,518	5,875	14,254	5,769	17,397	3.0
1997-98	14,294	5,785	13,364	5,408	16,391	3.0
1998-99	14,230	5,759	13,488	5,459	16,808	3.1
1999-00	15,528	6,284	15,347	6,211	19,808	3.2

Source: Myanmar Agricultural Statistics, Statistical Year Book 2000



3. Third five-years mid-term Plan (2001/2002 to 2005/2006) for Sown area and Production of paddy

Fiscal year	2001/2002			2002/2003			2003/2004			2004/2005			2005/2006		
	Sown area (1000 ha)	Production (1000 tons)	Yield (ton/ha)	Sown area (1000 ha)	Production (1000 tons)	Yield (ton/ha)	Sown area (1000 ha)	Production (1000 tons)	Yield (ton/ha)	Sown area (1000 ha)	Production (1000 tons)	Yield (ton/ha)	Sown area (1000 ha)	Production (1000 tons)	Yield (ton/ha)
Kachin State	166.7	506.4	3.0	169.2	541.8	3.2	171.2	580.7	3.4	173.6	623.6	3.6	175.6	670.4	3.8
Kayah State	30.8	81.9	2.7	31.2	85.9	2.8	31.6	92.0	2.9	32.0	97.5	3.0	32.8	106.1	3.2
Kayin State	186.6	527.8	2.8	191.4	559.1	2.9	195.1	596.6	3.1	199.9	639.4	3.2	205.2	703.0	3.4
Chin State	43.3	83.4	1.9	43.7	88.4	2.0	44.1	93.5	2.1	44.5	98.7	2.2	45.3	103.8	2.3
Sagaing State	693.2	2,232.4	3.2	705.0	2,385.9	3.4	717.1	2,536.7	3.5	728.9	2,654.9	3.6	740.6	2,803.0	3.8
Taninthayi Division	98.3	304.0	3.1	102.0	321.2	3.1	105.6	337.8	3.2	109.3	353.7	3.2	112.5	368.7	3.3
Bago Division	1,089.8	3,627.7	3.3	1,108.5	3,805.4	3.4	1,129.5	3,921.7	3.5	1,151.4	4,084.8	3.5	1,173.2	4,232.1	3.6
Magway Division	235.5	828.9	3.5	249.3	884.0	3.5	263.1	990.0	3.8	273.2	1,043.5	3.8	283.3	1,094.6	3.9
Mandalay Division	322.1	1,280.4	4.0	331.4	1,381.3	4.2	337.1	1,427.4	4.2	343.6	1,492.0	4.3	351.7	1,570.3	4.5
Mon State	327.0	1,096.5	3.4	329.0	1,175.0	3.6	333.1	1,276.7	3.8	339.5	1,424.9	4.2	342.4	1,558.0	4.6
Rakhine State	387.7	1,265.7	3.3	388.9	1,339.4	3.4	390.9	1,419.8	3.6	394.6	1,507.4	3.8	399.4	1,562.6	3.9
Yangon Division	585.2	2,104.3	3.6	595.7	2,240.4	3.8	605.8	2,369.9	3.9	615.9	2,541.0	4.1	629.7	2,653.0	4.2
Shan State (east)	80.5	248.4	3.1	81.3	263.7	3.2	82.6	276.4	3.3	83.4	297.2	3.6	85.4	318.3	3.7
Shan State (south)	152.2	452.1	3.0	153.8	465.2	3.0	155.8	475.8	3.1	157.4	492.8	3.1	159.0	513.9	3.2
Shan State (north)	165.9	513.6	3.1	173.6	549.2	3.2	181.7	588.1	3.2	190.2	631.7	3.3	198.7	674.3	3.4
Ayeyarwady Division	2,035.2	7,556.3	3.7	2,054.2	7,961.1	3.9	2,070.4	8,268.8	4.0	2,086.6	8,846.4	4.2	2,102.8	9,252.4	4.4
Total	6,600.2	22,709.7	3.4	6,708.2	24,047.0	3.6	6,814.6	25,251.8	3.7	6,923.9	26,829.4	3.9	7,037.6	28,184.4	4.0

Source : Ministry of Agriculture and Irrigation

4. Area of crops under irrigation

(Thousand acres)

Year	Total Irrigated Area	Paddy	Wheat	Maize	Ground-nut	Sesamum	Pulses	Sugar cane	Other food crops	Cotton	Jute	Other non-food crops
1985-1986	3,024.1	2,119.1	44.4	5.3	14.9	280.1	80.4	17.7	269.3	66.0	111.8	15.0
1990-1991	2,871.1	2,147.5	43.5	9.9	8.0	174.6	77.9	21.0	269.6	34.5	67.9	16.7
1992-1993	3,231.1	2,365.5	52.9	12.6	9.9	185.0	98.9	18.0	317.7	52.7	102.0	16.0
1993-1994	4,005.9	3,307.4	48.0	8.9	10.4	145.6	79.6	17.4	277.9	36.5	56.9	17.4
1994-1995	4,722.4	3,933.0	52.2	15.1	11.4	176.0	102.1	17.4	293.8	29.0	73.9	18.5
1995-1996	5,292.2	4,365.2	42.6	13.7	13.4	264.3	102.4	15.7	313.6	42.2	99.6	19.5
1996-1997	4,609.8	3,793.4	42.7	12.4	15.0	142.3	114.4	14.8	326.5	52.3	75.1	20.7
1997-1998	4,750.0	3,847.8	44.6	22.8	26.9	147.8	147.2	14.2	343.2	53.5	67.1	34.9
1998-1999	5,140.5	3,937.5	57.8	16.6	42.1	285.6	192.7	15.7	428.0	61.2	75.1	28.3
1999-2000 (p.a.)	5,799.1	4,493.2	62.9	21.5	37.0	293.9	231.4	18.5	497.7	31.7	79.6	31.7

Source: Settlement and Land Records Department.

(Statistical Yearbook 2000 Table 5.04)

5. Area by type of irrigation

(Thousand acres)

Year	Total Irrigated area		Government Irrigation				Private Irrigation				Wells		Other Sources	
			Canals		Tanks		Canals		Tanks		Acreage	%	Acreage	%
	Acreage	%	Acreage	%	Acreage	%	Acreage	%	Acreage	%				
1985-1986	2,616	100	757	28.9	216	8.3	700	26.8	88	3.4	43	1.6	812	31.0
1990-1991	2,479	100	613	24.7	388	15.6	665	26.8	92	3.8	53	2.1	668	27.0
1992-1993	2,743	100	637	23.2	416	15.2	645	23.5	95	3.5	69	2.5	880	32.1
1993-1994	3,303	100	651	19.7	418	12.6	601	18.2	70	2.1	75	2.3	1,488	45.1
1994-1995	3,843	100	702	18.3	389	10.1	618	16.1	89	2.3	92	2.4	1,953	50.8
1995-1996	4,341	100	685	15.8	350	8.0	608	14.0	94	2.2	99	2.3	2,505	57.7
1996-1997	3,846	100	668	17.4	435	11.3	636	16.5	95	2.5	123	3.2	1,889	49.1
1997-1998	3,933	100	726	18.5	455	11.6	634	16.1	74	1.9	135	3.4	1,907	48.5
1998-1999	4,182	100	761	18.2	408	9.8	600	14.3	44	1.1	164	3.9	2,205	52.7
1999-2000 (p.a.)	4,550	100	806	17.7	462	10.2	611	13.4	34	0.7	199	4.4	2,438	53.6

Source: Settlement and Land Records Department.

(Statistical Yearbook 2000 Table 5.03)

6. Utilization of fertilizers by crop

Crop	Unit	1985-86	1990-91	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000 p
Paddy	MT	324,972	109,098	149,745	248,423	298,488	305,109	262,480	149,922	182,003	168,891
Wheat	MT	8,925	1,155	531	3,315	5,108	4	-	-	-	-
Maize	MT	8,987	5,150	3,983	2,562	2,859	7	435	166	-	-
Millet	MT	1,714	331	30	-	-	-	-	-	-	-
Groundnut	MT	15,662	2,970	888	-	-	6,000	1,810	817	519	792
Sesamum	MT	12,925	2,753	3,697	861	1,031	7,300	2,419	1,313	2,360	1,955
Oil Palm	MT	1,105	214	200	-	-	794	398	357	40	123
Sunflower	MT	9,447	2,808	158	477	862	5,300	1,849	837	1,172	1,121
Cotton	MT	8,469	1,667	1,276	581	913	14,751	16,077	9,324	9,825	10,454
Jute	MT	6,066	7,462	4,339	2,362	2,583	7,656	7,944	5,347	3,852	4,002
Rubber	MT	2,173	1,111	975	179	214	1,698	2,051	886	778	720
Pulses	MT	5,103	9,098	2,092	486	612	7,002	1,895	2,639	1,642	1,870
Potato	MT	1,204	-	400	-	-	-	-	-	-	-
Tobacco	MT	33	267	72	-	-	-	-	-	-	-
Sugarcane	MT	7,115	1,358	1,504	380	438	13,244	14,038	6,798	7,013	3,696
Fruits and Vegetables	MT	20	1,212	1,588	798	1,054	-	290	178	76	34
Others	MT	1,310	4,911	7,083	1,002	1,289	624	9,586	10,376	765	4,719
TOTAL	MT	415,108	151,565	178,561	261,426	315,451	369,489	321,272	188,960	210,045	198,377

Source: Myanma Agriculture Service.

(Statistical Yearbook 2000 Table 5.08)

7. Utilization of pesticides by crop

Crop	Unit	1985-86	1990-91	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000 p
Paddy	pound gallon	516,307 27,472	105,662 20,232	24,570 35,871	109,595 33,724	66,968 67,845	127,670 71,568	95,907 37,064	134,653 41,038	91,898 34,459	65,597 70,962
Wheat	pound gallon	43,405 2,450	2,948 202	- 645	902 272	1,857 356	1,615 822	3,344 333	- 245	- 26	220 578
Maize	pound gallon	120,009 1,922	28,442 -	961 1,127	- 2,031	2,510 3,855	1,496 2,364	5,685 2,686	- 1,467	- 445	2,860 3,622
Groundnut	pound gallon	528,945 13,198	42,544 5,930	9,805 1,439	19,180 1,218	26,224 2,404	15,096 5,163	27,126 5,543	2,739 5,794	2,319 4,523	17,334 8,802
Sesamum	pound gallon	63,089 711	26,195 1,460	3,080 889	1,417 865	1,760 1,978	990 3,682	2,200 2,933	- 2,763	- 2,356	220 4,000
Sunflower	pound gallon	76,300 319	8,664 300	3,076 994	- 547	1,639 2,460	660 3,381	880 1,967	- 2,368	- 2,222	1,100 4,989
Pulses	pound gallon	17,514 9,605	20,172 1,549	968 1,668	2,394 910	7,805 5,158	10,890 12,936	2,528 5,682	2,200 9,123	29,275 10,519	24,869 23,431
Cotton	pound gallon	127,922 9,927	22,838 9,358	- 23,735	- 36,634	- 22,882	2,860 50,175	49,753 30,633	25,476 40,454	101,105 23,946	63,628 24,088
Jute	pound gallon	7,168 1,263	638 2,051	1,184 1,556	- 1,504	- 156	- 503	- 444	- 274	- -	- -
Sugarcane	pound gallon	129,623 1,471	27,665 716	6,435 222	16,544 407	4,444 -	770 752	508 476	95 58	205 152	- 43
Potato	pound gallon	20,100 35	8,400 37	3,590 75	18,792 477	22,480 1,027	16,892 1,640	14,120 378	319 210	93 7	392 526
Fruits and Vegetables	pound gallon	14,342 1,551	6,750 962	1,470 2,187	7,359 2,795	12,309 5,543	9,123 11,748	4,803 5,553	1,212 8,095	306 2,494	- 11,482
Others	pound gallon	42,624 2,660	7,546 1,103	2,050 811	119 550	3,025 4,862	4,376 2,134	1,923 6,225	1,206 2,181	389 3,977	70 9,748
TOTAL	pound gallon	1,707,348 72,590	308,464 43,900	57,189 71,218	176,302 81,934	151,021 118,526	192,438 166,868	208,776 99,918	167,900 114,067	225,590 85,126	176,290 162,271

Source: Myanma Agriculture Service.

(Statistical Yearbook 2000 Table 5.09)

8. Data on Pappy Procurement by MAPT

(1) Trends of Procurement Prices

(Kyat per 100 baskets)

Varieries	1985-86	1990-91	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
								1/	1/	1/	1/	1/
1.Ngasein	900	4,700	4,700	7,000	7,000	8,000	14,000	33,812	32,500	32,500	32,500	32,500
2.Medone	940	5,000	5,000	8,500	8,500	9,500	16,000	37,875	37,500	37,500	37,500	37,500
3.Emata	955	4,900	4,900	7,500	7,500	8,500	15,000	36,397	34,000	34,000	34,000	34,000
4.Ngakywe	1,090	5,200	5,200	9,000	9,000	10,000	16,000	38,000	40,000	40,000	40,000	40,000
5.Kauknyin	900	4,700	4,700	7,000	7,000	8,000	14,000	40,000	40,000	40,000	40,000	40,000

1/ Average purchasing price for the whole Union.

1 basket of paddy = 20.86 Kg or 46 lb

Data Source : 1985-86 to 1989-99 = Statistic Year Book 2000 (Table 5.14 Prices of Selected Crops at Harvest time)

: 1999-2000 to 2001-2002 = Myanmar Agricultural Produce Trading.

(2) Procurement Prices according to States and Division in 2001-2002

(Kyat per 100 baskets)

	Ayeyawady, Bago, Yangon, Rakhine (surplus areas)	Kachin, Kayah, Kayin, Sagaing, Taninthayi, Magway, Mandalay, Mon, Shan (deficit/self-sufficient areas)
1.Ngasein	30,000	35,000
2.Medone	35,000	40,000
3.Emata	32,000	36,000
4.Ngakywe	40,000	40,000
5.Kauknyin	40,000	40,000
6. Special Emata	35,000	(no production)

Source : Myanmar Agricultural Produce Trading.

(3) Procured Volume

Year	Paddy Production (1000MT)	Paddy procurement by MAPT		Equivalent Rice (MT)	Distribution to the budgetary groups (MT)	Rice Export (MT)	Balance (MT)
	3/	(1000MT)	(%)	1/			
1996 - 97	17,676.1	1,521.9	8.6%	911,925	837,406	92,200	-17,681
1997 - 98	16,705.2	932.9	5.6%	558,987	780,206	15,754	-236,973
1998 - 99	17,077.5	2,195.7	12.9%	1,315,637	661,633	99,244	554,760
1999 - 2000	20,124.0	2,207.4	11.0%	1,322,612	685,385	57,702	579,525
2000 - 2001	21,783.4	2,122.4	9.7%	1,271,724	603,810	215,493	452,421
Total	93,366.2	8,980.3	9.6%	5,380,885	3,568,440	480,393	1,332,052

1/ Milling recovery rate 0.599%

2/ Percentage in production

3/ Figures are not same with the production data of MOAI.

Source : Myanmar Agricultural Produce Trading.

9. Data on Paddy and Rice Prices

(1) Paddy Procurement Price of MAPT

Variety	Unit	1985-86	1990-91	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
1.Ngasein	Kg	0.43	2.25	2.25	3.36	3.36	3.84	6.71	16.21	15.58	15.58
2.Medone	Kg	0.45	2.40	2.40	4.07	4.07	4.55	7.67	18.16	17.98	17.98
3.Emata	Kg	0.46	2.35	2.35	3.60	3.60	4.07	7.19	17.45	16.30	16.30
4.Ngakywe	Kg	0.52	2.49	2.49	4.31	4.31	4.79	7.67	18.22	19.18	19.18
5.Kauknyin	Kg	0.43	2.25	2.25	3.36	3.36	3.84	6.71	19.18	19.18	19.18

1/ Average purchasing price for the whole Union.

Data Source : 1985-86 to 1989-99 = Statistic Year Book 2000 (Table 5.14 Prices of Selected Crops at Harvest time)

: 1999-2000 to 2001-2002 = Myanmar Agricultural Produce Trading.

Note : Procurement prices in 2000-01 and 2001-2002 were same with 1999-00

(2) Average Wholesale Prices of Rice in Yangon

Specification	Unit	1985	1990	1992	1993	1994	1995	1996	1997	1998	1999
Ngakywe 38%	Kg	1.00	6.46	13.52	21.10	21.74	28.34	40.04	41.26	54.36	72.16
Emata 35%	Kg	0.92	5.34	9.80	17.34	16.38	23.28	26.38	27.72	38.00	51.12
Ngasein 35%	Kg	0.86	4.66	8.98	15.88	14.82	21.90	23.74	23.92	35.48	46.72

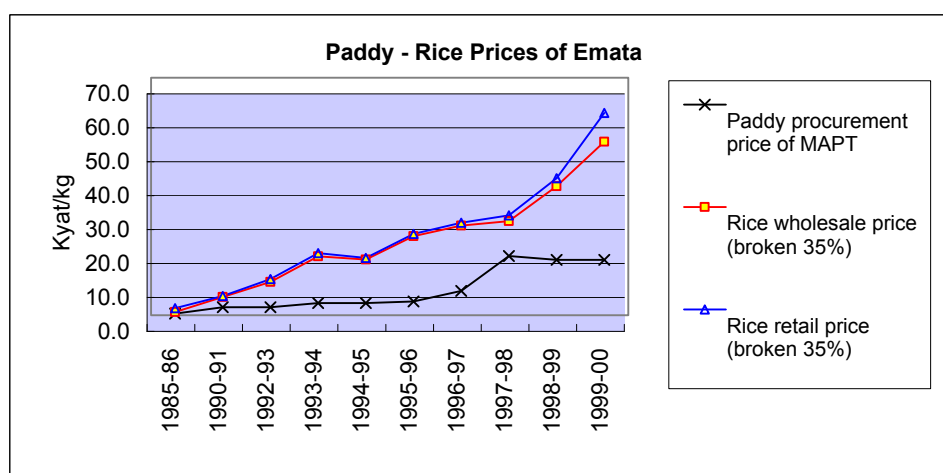
Source: Central Statistical Organization. (Statistical Yearbook 2000 Table 11.02)

Note: Up to 1985 prices of rice were controlled prices.

(3) Average Retail Prices of Rice in Yangon

Specification	Unit	1985	1990	1992	1993	1994	1995	1996	1997	1998	1999
Ngakywe 38%	Kg	3.4	6.7	14.2	21.6	22.5	31.0	36.7	41.9	54.1	75.4
Emata 35%	Kg	2.1	5.6	10.7	18.3	16.9	24.0	27.2	29.4	40.4	59.7
Ngasein 35%	Kg	1.8	4.8	10.0	17.0	15.7	22.6	25.4	27.9	37.1	50.3

Source :Central Statistical Organization. (Statistical Yearbook 2000 Table 11.01)



10. MAPT's rice mills, owned and hired by State/Division

State / Division	Number of rice mills			Milling capacity of rice (ton/day)		
	Owned	Hired	Total	Owned	Hired *	Total
Ayeyarwady	19	113	132	1,960	3,765	5,725
Yangon	11	27	38	960	846	1,806
Bago	16	47	63	1,400	1,275	2,675
Mon	-	31	31	-	915	915
sub total	46	218	264	4,320	6,801	11,121
Sagaing	6	68	74	150	1,467	1,617
Mandalay	-	52	52	-	970	970
Magway	2	17	19	40	363	403
Kayin	1	-	1	25	-	25
Kayah	1	-	1	25	-	25
Rakhine	12	1	13	496	25	521
Kachin	-	12	12	-	206	206
Tanintharyi	-	8	8	-	126	126
sub total	22	158	180	736	3,157	3,893
Total	68	376	444	5,056	9,958	15,014

Source : MAPT (Agricultural Marketing in Myanmar, MOAI)

* including cooperative mill

11. Capacity of rice mills owned by MAPT

State / Division	Milling capacity (rice, ton per day (16 hrs. operation per day))										Total
	250	150	100	70	60	50	30	25	15	8	
Ayeyarwady	1	1	14	-	1	2	-	-	-	-	19
Yangon	-	1	7	-	1	1	-	-	-	-	10
Bago	1	-	8	1	-	5	1	-	-	-	16
Mon	-	-	-	-	-	-	-	-	-	-	0
sub total	2	2	29	1	2	8	1	0	0	0	45
Sagaing	-	-	-	-	-	-	-	6	-	-	6
Magway	-	-	-	-	-	-	-	1	1	-	2
Rakhine	-	-	3	-	-	1	-	4	2	2	12
Kayin	-	-	-	-	-	-	-	1	-	-	1
Kayah	-	-	-	-	-	-	-	1	-	-	1
sub total	0	0	3	0	0	1	0	13	3	2	22
Total	2	2	32	1	2	9	1	13	3	2	67

Source : MAPT (Agricultural Marketing in Myanmar, MOAI)

12. Regional rice balance in 1999-2000

Unit : 1000 tons

State /Division	Paddy					Rice	
	Production	Utilization			Total	Deficit / Surplus	
		Seed	Loss	Consumption			
Kachin State	453	17	17	391	425	28	16.8
Kayah State	59	3	3	81	87	-28	-16.8
Kayin State	482	19	19	457	495	-13	-7.8
Chin State	77	4	4	148	156	-79	-47.4
Sagaing State	1,875	67	67	1,685	1,819	56	33.6
Taninthayi Division	269	10	10	415	435	-166	-99.6
Bago Division	3,366	112	112	1,569	1,793	1,573	943.8
Magway Division	631	26	26	1,397	1,449	-818	-490.8
Mandalay Division	987	36	36	2,016	2,088	-1,101	-660.6
Mon State	1,000	34	34	765	833	167	100.2
Rakhine State	1,162	39	39	844	922	240	144.0
Yangon Division	1,828	59	59	1,712	1,830	-2	-1.2
Shan State	1,041	40	40	1,495	1,575	-534	-320.4
Ayeyarwady Division	6,892	216	216	2,085	2,517	4,375	2,625.0
Total	20,126	682	682	15,060	16,424	3,698	2,218.8

Source : Myanmar Agricultural Service, MOAI (Agricultural Statistics)

13. Trends of paddy/rice balance by State/Division

State /Division	Paddy				Rice			
	1996-97	1997-98	1998-99	1999-00	1996-97	1997-98	1998-99	1999-00
Kachin State	-75	-75	-33	28	-45	-45	-20	17
Kayah State	-4	-5	-49	-28	-2	-3	-29	-17
Kayin State	-5	-36	-33	-13	-3	-22	-20	-8
Chin State	-82	-84	-86	-79	-49	-50	-52	-47
Sagaing State	-117	-245	-605	56	-70	-147	-363	34
Taninthayi Division	-171	-187	-183	-166	-103	-112	-110	-100
Bago Division	1,294	798	949	1,573	776	479	569	944
Magway Division	-778	-817	-950	-818	-467	-490	-570	-491
Mandalay Division	-1,037	-1,126	-1,356	-1,101	-622	-676	-814	-661
Mon State	128	39	80	167	77	23	48	100
Rakhine State	64	88	131	240	38	53	79	144
Yangon Division	-90	-276	-122	-2	-54	-166	-73	-1
Shan State	-537	-617	-661	-534	-322	-370	-397	-320
Ayeyarwady Division	3,633	3,486	3,910	4,375	2,180	2,092	2,346	2,625
Total	2223	943	992	3,698	1,334	566	595	2,219

14. Rice export by country of destination in 1999, 2000 & 2001 (Calendar year)

Country	1999		2000		2001	
	Net weight (ton)	FOB Value (US\$ million)	Net weight (ton)	FOB Value (US\$ million)	Net weight (ton)	FOB Value (US\$ million)
Indonesia	10,143	2,050	-	-	78,180	11,784
Bangladesh	14,761	3,259	135,639	22,226	115,959	16,683
Singapore	13,488	3,039	2,990	0,512	49,979	6,441
Africa	12,603	0,378	-	-	317,441	36,442
Malaysia	180	0,041	2,642	0,574	26,975	3,723
China	-	-	-	-	6,119	0,885
Saudi Arabia	-	-	-	-	200	0,033
Madagascar	-	-	-	-	13,000	1,56
Hungary	3,021	0,739	-	-	415	0,067
U.S.A.	-	-	-	-	12,400	1,488
India	3,762	0,764	100	0,019	3,070	* 18,316
Maldives	2,000	0,466	-	-	-	-
Total	59,958	10,736	141,371	23,331	623,738	79,106
						US\$
						* 18,316
						India Rp

15. Rice export by month in 1999, 2000 & 2001

Month	1999		2000		2001	
	Net weight (ton)	FOB Value (US\$ million)	Net weight (ton)	FOB Value (US\$ million)	Net weight (ton)	FOB Value (US\$ million)
January	2,500	0,611	3,416	0,682	13,725	1,958
February	1,000	0,290	4,052	0,778	37,611	5,195
March	16,365	1,141	10,141	2,052	40,395	5,407
April	5,968	1,431	7,999	1,413	24,817	3,697
May	1,912	0,407	4,880	0,852	15,162	1,936
June	7,595	1,996	3,182	0,603	6,891	2,629
July	5,453	0,762	18,631	3,057	44,171	5,505
August	4,535	0,921	31,022	5,123	72,022	8,384
September	8,505	1,943	26,738	3,999	90,625	11,268
October	896	0,187	16,688	2,452	114,495	11,381
November	2,308	0,452	1,629	0,310	102,225	11,835
December	2,921	0,595	12,993	2,010	61,599	9,911
Total	59,958	10,736	141,371	23,331	623,738	79,106
						US\$
						18,316
						India Rp

16. Rice export by Sector/Exporter in 1999, 2000 & 2001 (Calendar Year)

Importers	1999	2000	2001
	Net weight (ton)	Net weight (ton)	Net weight (ton)
Government Sector (total)			
1) MAPT	59,958	141,371	623,738
2) Others			
Private Sector (total)	0	0	0
Total	59,958	141,371	623,738

17. Rice Export by Grade/Type of White Rice in 1998 - 2001

Year	1998	1999	2000	2001	Total
TYPE (Variety) & GRADE					
Miller Rice Emata					
Super 100%	1,900	4,605	2,642	8,480	17,627
Broken 25%	84,673	41,605	114,631	546,004	786,913
Broken 15%			9,419	14,730	24,149
Broken 10%		4,987			4,987
Broken 5%		140			140
Milled Rice Zeera					0
Super 100%	1,000	1,400		200	2,600
Broken 35%			508	110	618
Broken 25%		1,280	1,960	14,180	17,420
Broken 10%			80		80
Broken 5%				100	100
Milled Rice Ngasein					0
Broken 35%		3,841	9,002	8,257	21,100
Broken 25%		100	1,323	20,352	21,775
Parboiled	3,900	2,000	1,806	11,325	19,031
Total	91,473	59,958	141,371	623,738	916,540

18. Rice Export through Boarder Trade in 1999 - 2001

	1999		2000		2001	
	MT	US\$ million	MT	US\$ million	MT	US\$ million
Bangladesh Border	10,044	2,302	34,161	6,518	51,334	7,692
China Boarder	-	-	-	-	4,919	0,720
India Boarder	-	-	100	0,019	3,070	* 18,316
Total	10,044	2,302	34,261	6,537	59,323	8,412
						US\$
						* 18,316
						India Rp

All data obtained from MAPT on Feb. 2002

19. Myanmar : Rice Export by country of destination, 1985-86 to 1999-2000

(Kyat million)

(Quantity in thousand)

Country of Destination	Unit	1985-86	1990-91	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000 p.a.
SOUTH EAST ASIA	K	225.34	17.07	5.07	14.13	743.86	323.36	63.27	2.08	97.94	23.62
Malaysia	K	64.28	10.46	-	-	-	-	-	-	0.09	0.49
Indonesia	K	-	-	-	-	717.45	204.03	15.95	-	76.89	14.88
Singapore	K	-	6.61	5.07	12.81	26.41	0.25	17.44	2.08	20.96	8.25
Cambodia	K	14.65	-	-	-	-	-	-	-	-	-
Philippines	K	-	-	-	1.32	-	119.08	29.88	-	-	-
Vietnam	K	146.41	-	-	-	-	-	-	-	-	-
Others	K	-	-	-	-	-	-	-	-	-	-
REST OF ASIA	K	204.25	81.12	92.36	63.93	107.99	54.65	28.79	35.34	28.32	14.06
China	K	98.10	-	-	-	-	23.56	-	-	-	0.29
Sri Lanka	K	53.74	66.98	79.68	38.88	66.44	-	-	14.61	-	-
India	K	-	-	-	4.33	-	-	-	-	-	3.51
Maldives	K	9.41	14.14	12.68	11.99	8.06	6.86	28.79	4.99	12.42	-
Korea, Republic of	K	-	-	-	-	-	-	-	-	-	-
Bangladesh	K	43.00	-	-	-	33.49	24.23	-	15.69	15.27	10.26
Others	K	-	-	-	8.73	-	*	-	0.05	0.63	-
MIDDLE EAST	K	-	5.49	9.46	3.63	-	-	0.64	-	-	-
Iran	K	-	-	-	-	-	-	0.52	-	-	-
Oman	K	-	5.49	8.54	-	-	-	-	-	-	-
Others	K	-	-	0.92	3.63	-	-	0.12	-	-	-
AMERICA	K	27.78	14.59	-	-	13.68	33.76	-	-	0.05	-
United States	K	-	-	-	-	13.68	-	-	-	-	-
Others	K	27.78	14.59	-	-	-	33.76	-	-	0.05	-
EUROPE	K	37.43	-	-	7.30	11.44	-	1.98	0.09	5.13	27.26
Belgium	K	4.42	-	-	-	-	-	-	-	-	-
Netherlands	K	6.37	-	-	-	-	-	0.04	0.09	-	-
Yugoslavia	K	6.77	-	-	-	-	-	-	-	-	-
Others	K	19.87	-	-	7.30	11.44	-	1.94	-	5.13	27.26
AFRICA	K	267.99	53.89	142.32	178.67	288.82	28.03	31.10	0.20	35.35	-
Sierra Leone	K	4.14	-	-	-	-	-	-	-	-	-
Mauritius	K	15.56	-	27.04	-	-	12.60	12.88	-	-	-
Gambia	K	4.06	-	0.75	-	-	-	-	-	-	-
Ivory Coast	K	4.11	-	34.51	28.42	9.95	-	-	-	-	-
Guinea	K	-	-	5.06	10.17	-	-	-	-	-	-
Others	K	240.12	53.89	74.96	140.08	278.87	15.43	18.22	0.20	35.35	-
OCEANIA	K	-	-	-	-	-	-	-	-	-	-
TOTAL	K	762.79	172.16	249.21	267.66	1165.79	439.80	125.78	37.71	166.79	64.94
SOUTH EAST ASIA	M.T.	182	15	4	16	635	261	47	1	66	20
Malaysia	M.T.	40	10	-	-	-	-	-	-	*	*
Indonesia	M.T.	-	-	-	-	613	169	12	-	52	12
Singapore	M.T.	-	5	4	14	22	*	12	1	14	8
Cambodia	M.T.	11	-	-	-	-	-	-	-	-	-
Philippines	M.T.	-	-	-	2	-	92	23	-	-	-
Vietnam	M.T.	131	-	-	-	-	-	-	-	-	-
Others	M.T.	-	-	-	-	-	-	-	-	-	-
REST OF ASIA	M.T.	149	66	75	57	99	44	20	27	20	23
China	M.T.	73	-	-	-	-	18	-	-	-	*
Sri Lanka	M.T.	40	56	65	35	59	-	-	11	-	-
India	M.T.	-	-	-	4	-	-	-	-	-	6
Maldives	M.T.	7	10	10	10	7	6	20	4	8	-
Korea, Republic of	M.T.	-	-	-	-	-	-	-	-	-	-
Bangladesh	M.T.	29	-	-	-	33	20	-	12	11	17
Others	M.T.	-	-	-	8	-	*	-	*	1	-
MIDDLE EAST	M.T.	-	3	6	3	-	-	*	-	-	-
Iran	M.T.	-	-	-	-	-	-	*	-	-	-
Oman	M.T.	-	3	5	-	-	-	-	-	-	-
Others	M.T.	-	-	1	3	-	-	*	-	-	-
AMERICA	M.T.	20	10	-	-	15	26	-	-	*	-
United States	M.T.	-	-	-	-	15	-	-	-	-	-
Others	M.T.	20	10	-	-	-	26	-	-	*	-
EUROPE	M.T.	43	-	-	11	16	-	1	*	3	12
Belgium	M.T.	5	-	-	-	-	-	-	-	-	-
Netherlands	M.T.	22	-	-	-	-	-	*	*	-	-
Yugoslavia	M.T.	4	-	-	-	-	-	-	-	-	-
Others	M.T.	12	-	-	11	16	-	1	-	3	12
AFRICA	M.T.	210	40	114	174	276	23	25	*	31	-
Sierra Leone	M.T.	3	-	-	-	-	-	-	-	-	-
Mauritius	M.T.	10	-	22	-	-	10	10	-	-	-
Gambia	M.T.	3	-	1	-	-	-	-	-	-	-
Ivory Coast	M.T.	4	-	28	24	10	-	-	-	-	-
Guinea	M.T.	-	-	4	12	-	-	-	-	-	-
Others	M.T.	190	40	59	138	266	13	15	*	31	-
OCEANIA	M.T.	-	-	-	-	-	-	-	-	-	-
TOTAL	M.T.	604	134	199	261	1041	354	93	28	120	55

includes broken rice

 Source : Statistical Year Book 2000 Table 10.04 DIRECTION OF RICE EXPORT TRADE
 (original data source : Myanma Agricultural Produce Trading)

K = Kyat

M.T. = Metric Ton

20. (1) New Specifications for Myanmar Rice

Sr.No	Particulars	E 25%	E 15%	E 10%	E 5%	E 100%
1	Grain Composition					
	(a)Whole Grain	-	45%	52%	55%	55%
	(b)Average length	5.2-6.2mm	5.2-6.2mm	5.2-6.2mm	5.2-6.2mm	
	(c)Whole Kernels &Head Rice	70-75%				
	(d)Head Rice & Big Broken		40%	38%	40%	40%
	(e)Broken	28%	17%	12%	7%	5%
	(f)Size of Broken	0.25-0.50	0.30-0.65	0.33-0.70	0.30-0.75	0.5-0.75
	(g)Small Broken & Chips	2%	0.10%			
2	Maximum Allowance for Rice					
	(a)Chalky Kernels	8%	4%	3%	2.50%	2%
	(b)Yellow Kernels	1-2%	1.00%	1.00%	0.50%	0.50%
	(c)Damaged Kernels	2%	1.00%	0.75%	0.50%	0.10%
	(d)Immature Kernels	0.50%	0.20%			
	(e)Red & Red Streaked Kernels	3.00%	3.00%	2.00%	2.00%	0.50%
	(f)Foreign Matter	0.50%	0.20%	0.20%	0.50%	0.50%
3	Moisture	14%	14%	14%	14%	14%
4	Paddy	30 Grains Per KG	25 Grains Per KG	20 Grains Per KG	15 Grains Per KG	15 Grains Per KG
5	Milling Degree	W.M	W.M	W.M	W.M	E.W.M

20. (2) Old Specifications for Myanmar Rice

No.	Particulars	E25%	E15%	E10%	E5%	E100%
1	Grain Composition					
	(a) Whole Kernels & Head Rice	-	70%	75%	80%	96%
	(b) Rice	75%	-	-	-	-
	(c) Big Broken	-	13%-17%	13%-17%	3%-17%	4%
	(d) Broken	25%	13%-17%	8%-12%	3%-7%	-
	(e) Size of Big Broken		0.60-(-)0.75	0.625-(-)0.75	0.625-(-)0.75	0.625-(-)0.75
	(f) Size of Broken	0.25-0.50	0.25-0.60	0.33-(-)0.625	0.33-(-)0.625	-
	(g) Small Broken & Chips	2%	0.10%	-	-	-
2	Maximum Allowance for Rice					
	(a) Chalky Kernels	8%	4%	3%	2.50%	0.50%
	(b) Yellow Kernels	1-2%	1-2%	0.5-1%	0.5-1%	0.1-0.5%
	(c) Damaged Kernels	2%	3.00%	2.00%	2.00%	0.10%
	(d) Red & Red Streaked Kernel	3.00%	3.00%	2.00%	2.00%	1.00%
	(e) Foreign Kernel	-	5%	8%	3.00%	3.00%
	(f) Foreign Matter	1.00%	1.00%	0.50%	0.50%	0.50%
	(g) Split Kernel	-	-	0.50%	-	-
3	Moisture	14%	14%	14%	14%	14%
4	Paddy	4 Grains Per 100CC	30-40 Grains Per KG	25-35 Grains Per KG	22-33 Grains Per KG	15 Grains Per KG
5	Milling Degree	R.W.M	W.M	W.M	W.M	E.W.M

Remark : The grain with a length of 0.75 and above shall be not less than 60%

Source : http://www.myanmar.com/commerce/mapt/invite_bid.htm#

21. Per capita consumption of rice in 1997

Unit : KG

	Month		Annum	
	Urban	Rural	Urban	Rural
Union	11.2	13.2	134.2	158.5
States & Division	12.5	15.0	149.5	180.2
Kachin State	11.7	14.8	140.3	177.1
Kayah State	13.4	14.9	160.3	178.9
Kayin State	10.9	14.0	130.6	167.4
Chin State	12.3	11.2	147.7	134.4
Sagaing Division	12.5	15.7	149.8	188.1
Tanintharyi Division	11.8	15.8	141.9	189.1
Bago Division	11.0	15.6	131.6	187.1
Magway Division	14.2	14.4	170.7	172.3
Mandalay Division	12.3	14.3	147.7	172.0
Mon State	14.1	16.1	169.0	193.7
Rakhine State	14.6	18.3	175.3	219.8
Yangon State	11.8	15.6	141.1	186.8
Shan State	10.8	14.7	129.6	175.9
Ayeyarwady Division	13.1	15.0	157.4	179.4
Yangon City	11.5		138.3	
Mandalay City	13.0		155.9	

Source : Household Income and Expenditure Survey (1997)

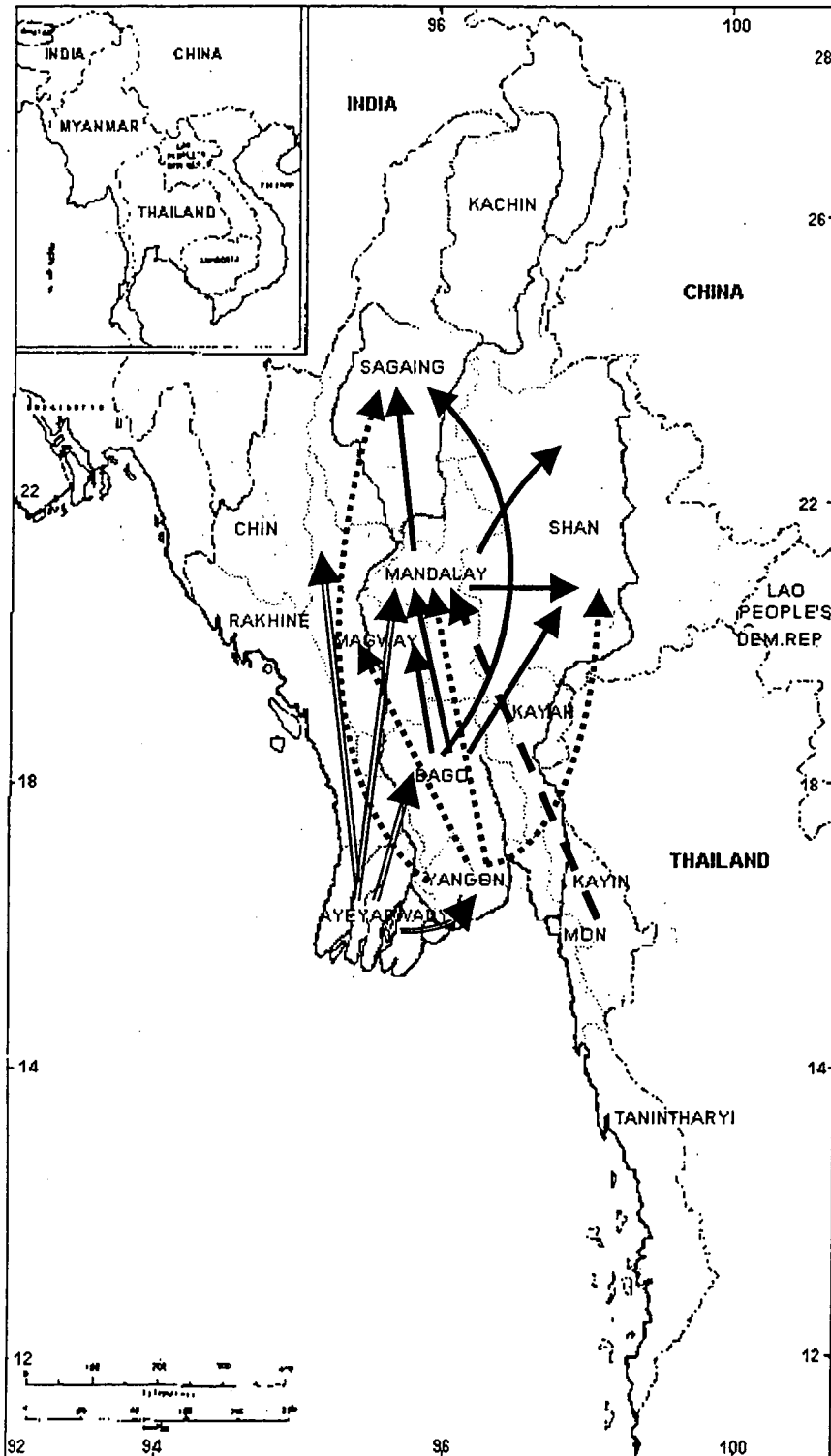
Cropping Pattern In Lower Myanmar

Land	Crops			Cultivation Calendar												
	First Crop	Second Crop	Third Crop	May	June	July	Aug:	Sep:	Oct:	Nov:	Dec:	Jan:	Feb:	Mar:	Apri:	
Lowland	Paddy	Paddy	Pulses / Oilcrops			Paddy				Paddy						
	Paddy	Pulses	Paddy			Paddy					Pulses			Pulse/ oil		
	Paddy	Paddy	Jute	Jute			Paddy				Paddy			Jute		
	Jute	Paddy	Pulses	Jute			Paddy				Pulses			Jute		
	Paddy	Vegetable	Paddy			Paddy								Paddy		
	Paddy	Paddy					Paddy									
	Paddy	Pulses														
	Paddy	Oilcrop														

Cropping Pattern In Upper Myanmar

Land	Crops			Cultivation Calendar														
	First Crop	Second Crop	Third Crop	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	April			
Lowland	Oil Crop	Paddy	Pulses	Oil crop					Paddy				Pulses					
	Paddy	Pulses	Paddy			Paddy				Pulses				Paddy				
	Pulses	Paddy	Pulses		Pulses				Paddy					Pulses				
	Oil Crop	Paddy	Oil Crop		Oil Crop				Paddy					Oil Crop				
	Per-monsoon Cotton	Paddy	Pluses	Pre-monsoon Cotton			Pad dy				Pulses			Pre monsoon Cotton				
	Paddy	Paddy	Pluses		Paddy				Paddy						Pulses			
	Sesamum	Cotton+							Cotton									
		Oil Crop+			Se samum					+								
		Pulses								Oil crop	+Pulses							
		Pulses	Vegetable				Paddy				Pulses				Veget able			

THE MAJOR INTERSTATE/DIVISION TRADE FLOW
(RICE)



COUNTRY REPORT

Philippines

1. Rice Production

1.1 Basic Information on Rice Production

(1) Production of Rice

The following tables show the basic statistics on agriculture/ rice production in Philippines.

Agricultural Production (MT)

	1996	1997	1998	1999	2000P
Crops	69,128,500	68,301,400	57,931,500	68,124,600	68,112,100
Cereals	15,434,900	15,601,400	12,378,000	16,371,200	16,900,500
Paddy	11,283,600	11,269,000	8,554,800	11,786,600	12,389,400
Corn	4,151,300	4,332,400	3,823,200	4,584,600	4,511,100

Source: Selected Statistics on Agriculture, June 2001 P- Preliminary

Paddy Production by Type and Half-term (MT)

	1996R	1997R	1998R	1999R	2000P
TOTAL	11,280,000	11,270,000	8,550,000	11,790,000	12,390,000
Irrigated	8,230,000	8,480,000	6,680,000	8,920,000	9,410,000
Rain-fed	3,050,000	2,790,000	1,870,000	2,870,000	2,980,000
JANUARY-JUNE	4,950,000	4,840,000	3,550,000	5,270,000	5,440,000
Irrigated	3,980,000	3,960,000	3,140,000	4,330,000	4,510,000
Rain-fed	970,000	880,000	410,000	940,000	930,000
JULY-DECEMBER	6,330,000	6,420,000	5,000,000	6,520,000	6,950,000
Irrigated	4,250,000	4,520,000	3,540,000	4,590,000	4,900,000
Rain-fed	2,080,000	1,910,000	1,460,000	1,930,000	2,050,000

Source: Selected Statistics on Agriculture, June 2001 R- Revised

Paddy Area by Type and Half-term (ha)

	1996R	1997R	1998R	1999R	2000P
TOTAL	3,950,000	3,840,000	3,170,000	3,990,000	4,040,000
Irrigated	2,480,000	2,500,000	2,180,000	2,660,000	2,710,000
Rain-fed	1,470,000	1,340,000	990,000	1,330,000	1,330,000
JANUARY-JUNE	1,660,000	1,620,000	1,280,000	1,740,000	1,740,000
Irrigated	1,160,000	1,150,000	1,000,000	1,270,000	1,270,000
Rain-fed	50,000	47,000	28,000	47,000	47,000
JULY-DECEMBER	2,290,000	2,220,000	1,890,000	2,250,000	2,230,000
Irrigated	1,320,000	1,350,000	1,180,000	1,390,000	1,440,000
Rain-fed	970,000	87,000	71,000	86,000	86,000

Source: Selected Statistics on Agriculture, June 2001

Paddy Yield by Type and Half-term 1/ (MT/ ha)

	1996R	1997R	1998R	1999R	2000P
TOTAL	2.86	2.93	2.70	2.95	3.07
Irrigated	3.31	3.39	3.06	3.35	3.48
Rain-fed	2.08	2.08	1.90	2.15	2.23
JANUARY-JUNE	2.97	2.98	2.77	3.02	3.13
Irrigated	3.42	3.45	3.15	3.41	3.56
Rain-fed	1.93	1.86	1.46	2.00	1.98
JULY-DECEMBER	2.77	2.90	2.65	2.89	3.02
Irrigated	3.22	3.35	2.99	3.29	3.41
Rain-fed	2.16	2.19	2.07	2.23	2.37

Source: Selected Statistics on Agriculture, June 2001

1/ Yield per hectare derived prior to rounding off figure on production

R- Revised due to change in MRR from 65.4% to 65.0% and update on import data

(2) Land Use**Land Classification (ha)**

	1999	2000
Land classification	30,000,000	30,000,000
Alienable and disposable	14,145,027	14,145,078
Forest land	15,854,973	15,854,922
Classified	14,765,804	14,765,804
Unclassified	1,089,169	1,089,118

Source: 2001 Philippine Statistical yearbook

Philippines has approximately 4.0 million ha of rice-lands, with an average yield of 3.0 MT per ha per crop.

Agricultural Crop Area ('000 ha)

	1996	1997	1998	1999	2000P
Harvested area	13,015.6	13,024.7	11,664.6	13,074.4	12,891.6
Cereals	6,686.8	6,568.2	5,524.2	6,642.0	6,548.4
Paddy	3,951.1	3,842.3	3,170.0	3,999.8	4,038.1
Corn	2,735.7	2,725.9	2,354.2	2,642.2	2,510.3
Major crops	5,133.7	5,269.8	5,476.1	5,888.2	5,858.7
Other crops	1,195.1	1,186.7	664.3	544.2	484.5

Source: Selected Statistics on Agriculture, June 2001

P- Preliminary, except for paddy and corn

(3) Number of Farm household

No statistics on number of farm household. It is said that a large number of landless farmers work for land owners as agricultural laborers.

(4) Agricultural Population

In 2000, the country's population stood at 76.5 million. About 40% of them were dependent on agriculture for their livelihood. The agriculture employed an average of 10.9 million in the last 10 years. Agricultural employment was decreasing, although slow at the rate of 0.05%. It shares to total employment was likewise going down, from about 45% in the early 90s, the sector's share dropped to 37% in 2000.

Population (Million persons)

	1996	1997	1998R	1999R	2000P
Philippines	69.95	71.55	73.15	74.74	76.50
Male	35.25	36.05	36.85	37.65	-----
Female	34.70	35.50	36.30	37.09	-----
Employment in Agriculture	11.64	11.31	10.93	10.77	10.18

Source: Selected Statistics on Agriculture, June 2001

(5) Farming Scale**Number of farms (Million farms)**

	1960	1971	1980	1991
ALL FARMS	2.17	2.35	3.42	4.61
Under 1.00 ha	0.25	0.32	0.78	1.68
1.00 to 2.99 ha	1.10	1.12	1.58	1.96
3.00 to 4.99 ha	0.40	0.56	0.59	0.52
5.00 to 9.99 ha	0.29	0.24	0.36	0.32
10.00 ha & over	0.12	0.12	0.12	0.10

Source: Selected Statistics on Agriculture, June 2001

Area by size (Million ha)

	1960	1971	1980	1991
ALL FARMS	7.77	8.49	9.73	9.97
Under 1.00 ha	0.12	0.16	0.37	0.72
1.00 to 2.99 ha	1.80	1.89	2.52	3.03
3.00 to 4.99 ha	1.43	2.01	2.07	1.84
5.00 to 9.99 ha	1.85	1.55	2.24	2.04
10.00 ha & over	2.58	2.88	2.52	2.32

Source: Selected Statistics on Agriculture, June 2001

(6) Use of Fertilizer/ Chemicals

There was no discernible trend or pattern in fertilizer supply of the country. Domestic production accounted for 45.6 - 60% of total supply in recent years.

Fertilizer (all grades)

	1996	1997	1998R	1999R	2000P
Total Supply (MT) 1/	2,815,300	2,568,000	1,968,700	2,390,100	2,315,300
Production (MT)	1,607,400	1,321,900	1,181,300	1,167,700	1,055,400
Production to Total Supply Ratio (%)	57.1	51.5	60.0	48.9	45.6
Import (MT)	1,207,900	1,246,100	787,400	1,222,400	1,259,900
Import to Total Supply Ratio (%)	42.9	48.5	40.0	51.1	54.4

Source: Selected Statistics on Agriculture, June 2001

1/ Total of local production and imports

(7) Cropping Patterns

Generally single crop cultivation in rain-fed area, and double crops in irrigated area.

(8) Rice Cropping Intensity**Estimated Paddy Production (MT) of All Types of Irrigated and Rain-fed**

	Jan-Mar	Apr-Jun	Jan-Jun	Jul-Sep	Oct-Dec	Jul-Dec	Jan-Dec
1994	2,288,317	2,090,216	4,378,533	1,876,635	4,282,886	6,159,521	10,538,054
1995	2,272,045	2,045,286	4,317,331	1,785,510	4,437,808	6,223,318	10,540,649
1996	2,523,794	2,427,116	4,950,910	2,116,498	4,216,160	6,332,658	11,283,568
1997	2,563,757	2,282,704	4,846,461	1,788,141	4,634,361	6,422,502	11,268,963
1998	2,220,968	1,338,008	3,558,976	1,284,443	3,711,405	4,995,848	8,554,824
1999	2,996,188	2,275,865	5,272,053	2,248,702	4,265,870	6,514,572	11,786,625
2000	2,856,356	2,586,140	5,442,496	2,412,610	4,534,306	6,946,916	12,389,412
2001	2,813,930	2,753,901	5,567,831	2,405,187	4,981,852	7,387,039	12,954,870

Source: NFA

Paddy harvest quantity relatively averaged in the year round for an agricultural product as per 22% during Jan.~Mar., 21% during Apr.~Jun., 19% during Jul.~Sep., 38% during Oct.~Dec. in 2001 as a quarterly base because of various types of cultivation locally.

Estimated Paddy Area harvested (ha) of All Types of Irrigated and Rain-fed

	Jan-Mar	Apr-Jun	Jan-Jun	Jul-Sep	Oct-Dec	Jul-Dec	Jan-Dec
1994	851,510	631,820	1,483,330	674,000	1,494,200	2,168,200	3,651,530
1995	856,561	644,847	1,501,408	636,695	1,620,588	2,257,283	3,758,691
1996	913,607	752,876	1,666,483	768,295	1,516,358	2,284,653	3,951,136
1997	919,289	704,952	1,624,241	625,002	1,593,027	2,218,029	3,842,270
1998	834,414	448,783	1,283,197	446,723	1,440,122	1,886,845	3,170,042
1999	1,016,030	726,996	1,743,026	808,719	1,448,094	2,256,813	3,999,839
2000	971,294	766,329	1,737,623	797,624	1,502,838	2,300,462	4,038,085
2001	932,225	796,871	1,729,096	779,519	1,556,826	2,336,345	4,065,441

Source: NFA

(9) Farmers Organization

Cooperative Development Incentive Fund is designed to enhance farmers' productivity and marketing of their produce by giving monetary incentives to farmers who sell their produce to NFA. But the present organization ratio of farmers is not reported so far.

Post-Harvest Facility Services by NFA is to provide farmers with priority access to post-harvest facilities at reasonable service rates.

(10) Production Costs

Average Costs and Returns of Paddy Production (Peso/ha)

	All Types	Irrigated	Non-Irrigated
Gross Returns	25,853	29,214	18,710
Cash Cost	9,132	10,362	6,301
Non-Cash Cost	5615	7,097	2,200
Imputed Cost	6,987	7,401	6,106
Total Cost	21,733	24,861	14,606
Net Returns	4,119	4,353	4,104
Net Profit Cost Ratio	0.19	0.18	0.28

Source: Selected Statistics on Agriculture, June 2001 (data for year 2000 Crop)

The both prices of farmers-gate and consumer are comparatively higher than in other ASEAN countries. Consequently, domestic rice production in future may come across less competitiveness in price.

(11) Subsidy/ loan (Production promotion)

The government promotes to increase rice production through the activities by NFA. The most important system is paddy procurement program by NFA for individual and organized farmers at support prices, and Local Food Security Program provides production loan (max. P14,000/ ha) in

the form of farm inputs and other support services to farmer-beneficiaries.

As direct intervention programs, NFA grants to an accredited farmer organization Cooperative Development Incentive Fee and Emergency Assistance Pay. As indirect intervention, NFA operates the programs of Grain Inventory Financing Technique, Farmer's Grains Exchange, Farmer's Incentive Rice Purchase, Farmer's Option to Buy-Back, Post-Harvest Facility Assistance, etc.

(12) Production Control

The government control to reduce production is not needed totally for the time being because of rice shortage of in the country.

(13) Other

Production is not stable. For ex. Typhoon and the draught in 1995 damaged about 5% of total production, and El Niño and the draught in 1998 caused serious production damage of about 8%.

The government aimed to produce enough of the Chinese hybrid rice seeds for planting in some 135,000 ha in the country in 2002, and plan to cover 200,000 ha in 2003, and 300,000 ha in 2004. Hybrid seed PSBRC-72H expecting yield of 200 cavans (8 ton/ha) is released by Philrice.

1.2 National Agricultural Development Plan (latest plan)

The Medium-Term Development Plan 2001-2004 is under implementation. In terms of budgetary support to the agricultural sector during the last 10 years, about 3 to 5% of total national government expenditures went to agriculture. In 2000, agricultural expenditures at P30,016 million accounted for 4.62% of total expenditures.

As targets an average of 3.12 – 4.02% stable annual growth in gross value added in agriculture and fisheries. One million new jobs generated in agriculture and fisheries. Strategic program targets in the sector are Irrigation and water management, Farm-to-market roads and related infrastructure, Post-harvest facilities that is expected to reduce current losses from 11 to 15% in grains.

Table shows the range of production targets for rice that is necessary to attain targets. Comprehensive packages of targeted and specific production and marketing assistance support shall be provided to strategic commodities such as rice.

Paddy Production Targets, 2001 – 2004 ('000 MT)						
	1999 *	2000*	2001	2002	2003	2004
Low Scenario	11,786.63	12,389.40	12,637.19	12,763.56	13,018.83	13,344.30
High Scenario	11,786.63	12,389.40	12,699.14	12,953.12	13,276.95	13,741.64

Source: Medium-Term Philippine Development Plan, 2001-2004

*- result

2. Rice Marketing

2.1 Marketing Channels

The stakeholders concern many steps of rice marketing from farmers as a producer to consumers. Modernization of marketing channels is not developed well. This probably causes a retail price rather expensive. General channels of rice marketing from farmers to the consumers are stated as below;

Farmers

Assembly traders or agents

These are the traders who deal directly with the farmers who are specially located at “barangays” far from milling areas.

Paddy buying stations

These are also called “paddy traders” as this group do not have mills to process the paddy, but only sell paddy. Their investment is more on warehousing and transportation facilities.

Rice mills

They are classified as custom and commercial millers. (a) Custom millers operate with a single pass milling equipment to process the rice requirement of farmers and small traders. Milling fees are either paid in kind or cash with the bran taken by the client. (b) Commercial millers have bigger capital for procurement and a sizeable amount of fixed assets such as warehouse, multi-pass milling equipment and big trucks. Traders, rather than individual farmers comprise the bulk of their source of paddy.

Haulers

Haulers transport the rice from different provinces to the town center or city where rice is traded.

Wholesaler

These are licensed wholesalers or so-called “rice traders” as they only buy and sell rice at the demand areas. Their investments are similar to the paddy traders.

Wholesalers/ Retailers

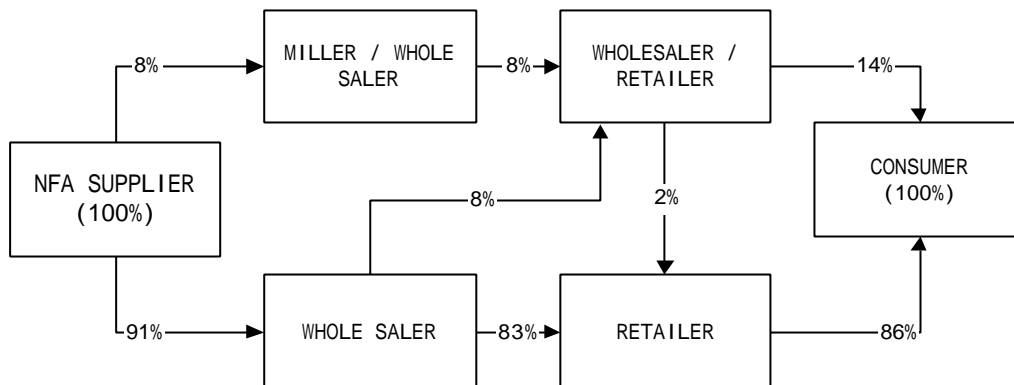
This group transacts business on a medium scale that is licensed for wholesale operation. They dealt on per bag sale rather than on a per kilogram basis.

Retailers

This is the retail store in the markets. They can easily identified with their rice boxes and corresponding price tags.

2.2 Trade Flows

Distribution channels for NFA (imported) rice are illustrated below;



Source: Agricultural Marketing Services Statistics Analysis Division, BAS

2.3 Rice Milling

Majority of commercial rice mills are still equipped with obsolete machines. And custom-mills generally operate “one-pass type” milling machine. Standard recovery shows 63% for well milling, and 65% for regular milling from paddy on the basis of 97% purity and 14% MC .

2.4 Transport

Domestic transportation means are normally by truck. It costs 20 P/bag(50 kg) for the distance of 300 km from Nueva Ecija to Manila.

2.5 Storage

Storage covers management of storage facility, warehouses constructed by NFA and equipped with basic administrative and post harvest facilities for farmers/ farmers’ organizations that commit to sell paddy to the agency. The warehouses are designed to provide local farmers with solar drying pavement to serve not only as storage but also as food security depot.

Stocks shall be positioned in provinces susceptible to emergencies and isolation. They are positioned in the 80 provincial and 14 regional offices.

The Municipal Level Grains Center is 2500 bag capacity warehouse with a 120 m² solar drying pavement designed to serve as food security depots of selected municipalities.

2.6 Marketing Costs & Margins

Rice Traders Association estimates the marketing margins as 0.5-1.0 Peso/kg for assembly trader or agent, max.0.5 Peso/kg for paddy buying station, 2% or 90 Peso/bag(50 kg) for miller, 3-30 Peso/bag for wholesaler, 50-100 Peso/bag for retailer.

2.7 Characteristics of Marketing Agencies

Monitoring and enforcing of rules and regulations governing grains business. Licensing and registration of all grains businessmen for the purpose of acquiring industry information and ensuring rationalized development of grains business harmonious and productive interrelationship among grains industry stakeholders to achieve institutional efficiency and growth.

Licensed Grains Business per Line of Activity	
Business Type	No. of Registered and Licensed
Retailing	76,286
Wholesaling	3,589
Retailing/wholesaling	11,365
Milling	10,444
Warehousing	10,622
Threshing	1,111
Shelling	329
Mechanical Drying	471
Transporting	5,051
Others	2,226
Total	121,494

(As of December 31, 2000)

Source: BDPD-Statistics, Corporate Profile, NFA

Informal imports of rice mainly from Vietnam are not recorded though it might be a substantial big amount. Recently the incident of 10,000 MT was exposed in Luzon.

2.8 Outline of Traders' Association

Rice traders' association was established in 1950. About 5,800 members presently register to the association out of about 11,000 that register to NFA as rice millers and traders. It has activities in issuing position papers of the sector to the government and public. Recent papers insist on the opposition of rice trade liberalization, ex. The abolition of quantity restriction and abolition of the import control by NFA. And it also requires special low rate of electricity for rice mills, and consistent rice policy.

2.9 Rice Procurement and Distribution by Government (police/ army)

The government through NFA operates rice procurement and distribution system with support prices. The below table shows monthly paddy procurement by NFA from 1997 to 2001. It resulted in 4.8%(1999)-5.4%(2000) against country production.

NFA Monthly Total Paddy Procurement, 1997-2001 (MT)

	1997	1998	1999	2000	2001
January	15,531	2,908	6,789	22,522	35,817
February	1,459	466	8,850	7,257	16,404
March	348	1,352	16,373	24,595	38,396
April	735	1,753	43,821	76,828	69,655
May	2,340	337	58,857	100,807	79,112
June	1,078	92	36,318	56,969	28,471
July	35	29	16,085	7,795	6,993
August	-	8	21,921	15,794	6,285
September	207	356	28,208	24,202	8,711
October	10,046	9,355	84,382	90,271	44,390
November	46,352	23,200	132,600	140,549	90,943
December	22,496	21,852	106,299	95,737	52,264
Total	100,627	61,708	560,503	663,326	477,441

Source: NFA

Executive Order No.51 directs all government agencies/ bureaus/ units to purchase their employees' rice from NFA. The table shows NFA rice distribution by month.

NFA Monthly Total Rice Distribution, 1995-2000 (MT)

	1995	1996	1997	1998	1999	2000
January	3,870	30,283	10,852	38,369	114,228	106,272
February	4,475	59,321	18,590	43,694	137,621	60,559
March	6,589	70,448	24,194	58,019	122,044	94,914
April	4,223	60,877	17,353	106,809	74,301	58,091
May	5,805	69,374	23,528	185,974	64,568	73,077
June	4,161	84,417	63,505	191,109	106,325	94,143
Jan.- June	29,123	374,720	158,022	623,974	619,087	487,056
July	7,072	132,106	141,956	247,078	133,306	126,065
August	63,041	119,321	144,320	245,290	177,199	150,396
September	66,368	62,017	91,446	190,698	101,916	145,586
October	59,060	20,911	43,089	123,972	94,210	105,129
November	20,033	13,234	22,142	97,315	99,296	74,479
December	11,988	10,597	21,809	98,416	147,315	68,025
Jul.- Dec.	227,562	358,186	464,762	1,002,769	753,242	674,680
Total	256,685	732,906	622,784	1,626,743	1,372,329	1,161,736

Source: NFA

2.10 Roles of concern Administrative Government Agencies

National Food Authority (NFA) was created as National Grains Authority through Presidential Decree No.4 on September 26, 1972. On January 14, 1981, NGA was transformed into NFA through Presidential Decree No.1770. In 1986 NFA was reorganized, and efforts were geared towards achieving four missions; namely stabilization, marketing development, industry regulation and corporate administration.

NFA acts as the sole agency of the government support price, and is the custodian of a government rice buffer stock for food security and stabilization purposes. For procurement system, NFA mandate by the government to undertake domestic paddy procurement for food security and price/ supply stabilization purposes. Distribution program involves selling rice direct to institutional or

individual consumers or indirectly through licensed and accredited retailers. Under the helm of NFA, rolling stores are being deployed nationwide to distribute/ sell reasonably priced rice and other basic commodities to depressed areas.

2.11 Rice Quality Inspection/ Standard

NFA implements National Grains Standards throughout the country through continuing advocacy campaigns particularly among farmers, retailers, grains businessmen and consumers on grains quality, weighing and packaging.

The Consumers Act of Philippines mandated to establish and enforce the national grains standards (Primer on Philippine Grains Standardization Program, 1998). National Grains Standards takes full effect starting January 1, 1998. The grain commodities initially covered by the National Grains Standards for Rice and Corn as mandated by NFA Letter Circular No. AO-97-08-001, are paddy, milled rice, shelled corn and corn grits. Philippine Grains Standardization Program (PGSP) officially launched in May 1996.

2.12 Market Information System

To be able to serve the information needs of marketing participants, the Bureau of Agricultural Statistics (BAS) by virtue of Republic Act 4148 implemented in 1968 the Agricultural Marketing News Service (AMNEWSS). For years, the implementers have followed the procedures for collecting, processing, analyzing and disseminating agricultural marketing information as specified by AMNEWSS.

In the early 1990s, BAS has formulated an improvement in the delivery of the information service through Agricultural Marketing Information System (AGMARIS). AGMARIS provides the mechanism that addresses limitations of AMNEWSS. The design will balance the information needs of farmers, agribusiness community and the consumers with the statistical requirements for government policy makers as responsiveness required to adopt the changes in the marketing environment.

2.13 Other

NFA operates Special Marketing Programs in the activities as follows;

- Executive Order No. 51 directs all government agencies/ bureaus/units to purchase their employees' rice requirement from NFA.
- Executive Order No. 88 grants rice allowance to soldiers on combat duty in Mindanao.
- Grains Exchange Program (PHI5478), the Australian government through AUSAID donated to Philippines 122,270 bags of Australian rice, with DILG as project beneficiary. To cover more beneficiaries, Australian rice is being swapped with NFA rice at a ratio of 1 bag of Australian

rice to 1.3 bags of NFA rice.

- Street and Urban Working Project is a project where NFA sells rice DILG for the street children.
- Enhanced Retail Access Program.
- Rolling Stores, NFA rolling/ mobile stores carrying basic food commodities are fielded in areas without Sari-Sari Stores and/ or when the need arises.
- Palengkeng Bayan, it is a retail store carrying basic food commodities, located inside public/ private markets in cities, towns or urban areas, which is operated by either Bigasang Bayan Operator or Grains Retailer.
- Sari-Sari Stores, these retail stores carry/ basic food commodities, located in depressed/ remote barangays, which is operated by barangay entrepreneur, FO of LGU.
- Tinda Bangka, it is NFA motor boat carrying basic food commodities, which is deployed in areas along seashores and river banks.
- NFA-Operated SSS, this is NFA-owned stationary retail store carrying basic food commodities.

3. Rice Price Policy

3.1 Price Policy & Government Price Control System

(1) Price Policy

NFA is mandated to ensure food security during emergencies/ calamities and provide the nation with adequate and continuous food supply at a stabilized price.

The pricing policy for rice of the government is designed to specifically protect both farmers and consumers. The government support price for paddy is one of the main marketing support mechanisms implemented by the government through NFA grains procurement program. It specially aims to safeguard farmers from several price fluctuations. In setting the government support price, an Inter-Agency Committee on Rice and Corn (IACRC) conducts a quarterly study and evaluation of the demand, supply and appropriateness of the existing government price considering the following factors:

- Cost of production
- Consumer price index and inflation rate
- Domestic/ world market situation
- Government capability to implement

(2) Price Mechanism

The government employs basic strategies in attaining the objective of stabilization by means of price support, buffer stock and procurement and distribution.

Pricing policy for rice of the government is designed to specifically protect both farmers and

consumers. In stabilizing the supply and price of rice, the government aims to keep farm gate prices at levels that provide reasonable returns and at the same time maintain consumer prices within affordable levels. This means ensuring farm-gate price levels that enable farmers to derive reasonable returns (21%/1998) on their production investment on the one hand, and ensuring reasonable prices for consumers on the other.

The government is constrained to implement a two-tiered pricing scheme in the procurement of paddy. This is in accordance with the terms and conditions of the Grain Sector Development Program under ADB loan.

Grains Sector Development Program, the government signed a Memorandum of Understanding with ADB, on policy and institutional changes which are largely grains marketing- related, in exchange for \$175 million loan to finance largely production-related technology. Among the changes called for by the loan is for NFA: to peg its procurement price at current levels and eliminate cash incentives granted to farmers; increase its rice selling price at close to market prices except for target subsidy areas; limit its local and imported procurement volumes to only what is needed to build its 30 day buffer stock; lift quantitative restrictions on rice imports; divest itself of facilities and services that have nothing to do with rice and corn; adopt tariff on rice imports based on FOB instead of C&F price; and privatize NFA grains trading functions.

(3) Price Interventions

Intervention can be either direct or indirect. Direct intervention is the procurement of stocks in quantities and in locations as required in order to maintain and manage buffer stocks for stabilization. Indirect intervention is the strategy of controlling or causing the procurement of stocks through the provision of marketing support services. Such support services include NFA programs aimed at developing the marketing/ entrepreneurial skills of farmers.

Distribution is done when consumer prices go beyond the desired or affordable levels. When commercial prices of rice are beyond the reach of consumers, this signals NFA to inject its stocks into the market through the accredited grains retailers/ wholesalers nationwide.

Direct market intervention strategy effects of allowing NFA to engage in actual grains procurement and distribution using government buffer stock and subsidized pricing system as main intervention instruments.

- Procurement program involves actual procurement from individual and organized small farmers at the following government support price:

Wet season (September – February)	P9.00/ kg
Dry season (March – August)	P10.00/ kg
- The objectives of rice distribution program are to adequate supply of rice especially in deficit

areas and during lean periods and to stabilize commercial prices at reasonable levels. Distribution program involves selling rice direct to institutional or individual consumers or through licensed and accredited retailers at the following release prices.

(Retail price indicates normally min. 1.8 times of paddy procurement price, but release price is actually subsidized for consumers):

	Well Milled	Regular Milled
Wholesale price	P15.00/ kg	P14.00/ kg
Retail price	P16.00/ kg	P15.00/ kg

This strategy allows NFA to engage in actual procurement and distribution using government Buffer Stock and Stabilizing Pricing System as main intervention instruments.

(4) Prices

From 1991 to 2000, average prices received by agricultural producers had moved up by 5.5%. Last year's performance however was characterized by a relative weakening of prices with farm-gate prices inching up by merely 1.28%. Farmers had to contend with the faster increment in the prices of consumer goods. Consumer prices recorded a 10-year average of 7.5% and 4.39% in 2000.

Historical Support Price for Paddy (P/ kg)

	Affectivity	Support Price	Remarks															
1974	January 18	0.80	LOI-157															
	November 28	1.00	LOI-228															
1976	May 29	1.10	LOI-413															
1979	April 1	1.30	LOI-904															
1980	July 1	1.40	Unnumbered LOI															
	October 21	1.45	LC No.11															
1981	June 17	1.55	LOI No.1147															
1982	May 22	1.70	LC No.48															
1983	October 1	1.80	LC No.10															
	November 28	2.10	LC No.16															
1984	May 26	2.35	LC No.19															
	June 9	2.65	LC No.															
	October 20	2.90	LC No.															
	December 8	3.35	LC No.25															
1985	June 6	3.50	LC No.10															
1989	October 1	4.50	Memo No.159															
	November 1	5.00	Memo No.173															
1990	October 1	6.00	Memo No.121															
1996	February 1	8.00+0.50 CDF	NFA Council REs. No.157-96															
1999	February 1	9.0 10.0	Main crop Sep.- Feb. Summer crop, Mar. - Aug. Plus incentives:															
			<table> <tr> <td></td> <td>Main</td> <td>Summer</td> </tr> <tr> <td>Drying</td> <td>0.15</td> <td>0.15</td> </tr> <tr> <td>Delivery</td> <td>0.10</td> <td>0.10</td> </tr> <tr> <td>CDIF</td> <td>0.25</td> <td>0.25</td> </tr> <tr> <td>APIF</td> <td>0.50</td> <td>0.50</td> </tr> </table>		Main	Summer	Drying	0.15	0.15	Delivery	0.10	0.10	CDIF	0.25	0.25	APIF	0.50	0.50
	Main	Summer																
Drying	0.15	0.15																
Delivery	0.10	0.10																
CDIF	0.25	0.25																
APIF	0.50	0.50																

Source: NFA

All support prices apply to clean and dry stocks only at 14% MC

APIF(Angat Pinoy Incentive Fee) granted in the form of fertilizer and/or certified seeds until Dec. 2000

4. Rice Trade (Overseas)

4.1 Export/ Import

Philippines Rice Import, 1992 - 2001

Year	Country of Origin	Thailand	Vietnam	Myanmar	China	India	Pakistan
1992	Volume (MT)	0					
	Value (mil. USD)						
1993	Volume (MT)	209,994					
	Value (mil. USD)	38.24					
1994	Volume (MT)	0					
	Value (mil. USD)						
1995	Volume (MT)	138,966	60,680			23,230	
	Value (mil. USD)	42.21	18.60			6.67	
1996	Volume (MT)	157,100	364,180	121,920		159,573	68,650
	Value (mil. USD)	123.72	53.25	26.11		23.24	41.20
1997	Volume (MT)	212,485	335,445		170,046		
	Value (mil. USD)	63.75	101.21		65.37		
1998	Volume (MT)	211,098	578,752		1,306,912	28,900	
	Value (mil. USD)						
1999	Volume (MT)	53,400	474,541		224,901	28,875	
	Value (mil. USD)	65.55	138.67		9.13	8.17	
2000	Volume (MT)		496,323		60,920		
	Value (mil. USD)		95.33		11.25		
2001	Volume (MT)	157,015	480,902				
	Value (mil. USD)	22.84	72.27				

(Continued)

	Country of Origin	Australia	USA (PL480)	Thailand (Japan Aid)	Sub Total	Imported by Private	Grand Total
1992	Volume (MT)	0					
	Value (mil. USD)						
1993	Volume (MT)	209,994					
	Value (mil. USD)	38.24					
1994	Volume (MT)	0					
	Value (mil. USD)						
1995	Volume (MT)	4,310		30,077	257,263		257,263
	Value (mil. USD)	Grant		8.70	76.18		76.18
1996	Volume (MT)		21,521		892,944	710	893,654
	Value (mil. USD)		11.44		278.96		278.96
1997	Volume (MT)		12,734		730,710	2,670	733,380
	Value (mil. USD)		3.77		234.10		234.10
1998	Volume (MT)				2,125,662	869	2,126,531
	Value (mil. USD)						
1999	Volume (MT)				781,717	52,206	833,923
	Value (mil. USD)				221.52		221.52
2000	Volume (MT)		59,275		616,518	19,788	636,306
	Value (mil. USD)		20.15		126.73		126.73
2001	Volume (MT)		107,461		745,378	17,537	762,915
	Value (mil. USD)		37.84		132.95		132.95

Source: NFA

Import Arrivals by Month, 1995 – 2002 (MT)

	1995	1996	1997	1998	1999	2000	2001	2002
January	0	90,925 ^{2/}	0	180,627	233,704	2,060	746 ^{6/}	19,782 ^{7/}
February	0	120,295	0	168,841	188,175	4,058	104,311 ^{7/}	
March	0	286,058	91,634 ^{3/}	168,375	131,918	53,137	0	
April	0	209,476	228,957	187,324	90,567	26,858	120,700	
May	0	112,825	168,874	214,767	102,703	67,322	185,595	
June	0	39,000	185,025	271,284	34,650	11,570	162,695	
Jan - Jun	0	858,579	674,490	1,191,218	781,717	165,005	574,047	
July	10,300	0	45,720	209,800	0	104,019	91,850	
August	94,000	0	0	214,270	0	40,193	52,400	
September	80,559	12844	0	145,178	0	151,636	24,677	
October	54,994 *	21521	0	135,914	0	108,595	0	
November	0	-	0	112,134	0	27,382	1,575	
December	13,100	-	10,500 ^{4/}	117,147	0	19,688	1,575	
Jul - Dec	252,953	34,365	56,220	934,443	0	451,513	172,077 ^{7/}	
Total	252,953 ^{1/}	892,944	730,711	2,125,662 ^{5/}	781,717	616,518	746,124 ^{7/}	
Private	0	710	2,670	869	52,206	19,788	17,537	

Source: NFA

* - Includes 30,077 MT Thai rice imports as Japan Food Aid

1/ Excludes 4,310 MT Australian Donation

2/ Includes 13,000 MT which arrived Dec. 30, 1995

3/ Includes 12,783 MT contracted in 1996

4/ Part of the 1998 contract

5/ Includes 209,897 MT which is part of the 1999 contract of 950,000 which arrived Oct.- Dec.

6/ Part of 2000 PIRC Contract

7/ US PL480

4.2 Bilateral/ Multilateral International Agreement on Rice Trade

There is no specific bilateral agreement on rice trade. MA rice is subject to import under WTO agreement, starting 3% for the first year, and up to 5%.

4.3 System of Rice Export/ Import

NFA monitors the countrywide stock that inclusive of farmer level and commercial marketing level as well. Adjustment of demand/ supply for at whole country level is implemented by import quantity by the government. The supply and demand adjustment of the whole country is carried out by the amount of the importation plan quantity of the government every year.

The world rice situation under continuous surplus conditions works for importing countries advantageously in respect of a price mechanism. However, it becomes an impediment factor to domestic rice producers.

(1) Basic Stance

Recent 5 years figures show that the country imported rice at an average of about 1 million tons per

year from Asia includes Vietnam, China and Thailand, and also imported rice from US. In principle the government imports rice with own budget, but also imports American rice under USA PL 480 Title 1 Agreement as commodity loan.

Although the insufficient volume of domestic production has been imported by NFA, it is also examined to change into privatization. It is not decided specifically, although lean months (Jul. ~ Sep.) are getting close.

(2) Management of Imports/ Exports

Philippines under the GATT/ WTO was granted the privilege to maintain quantitative restrictions (QR) on rice. In place of this QR, the government shall allow the importation of rice equivalent to the Minimum Access Volume (MAV) commitment of the country. Executive Order No.1028 provides NFA the exclusive authority to undertake rice importation in the country. However, in cases when there is a shortage in production, NFA may undertake importation beyond the MAV but subject to the approval of the President. This aims to meet the country's requirement for stabilization and food security purposes. Moreover, the advent of the free market paved the way for changes in NFA charter. NFA may now allocate rice import quotas among certified and licensed rice importers. Initially, what is allowed are the premium grade/ fancy/ glutinous type of rice. In order to protect the local market, the government shall impose an equalization fee to equalize the selling of such imported stocks with the normal prevailing domestic prices.

- Inter-Agency Committee on Rice and Corn (IACRC) proposes the necessary import quantity after assessment of supply/demand situation.
- Import duties 50% on rice was set by EO334 on January 3, 2001.
- NFA imports rice exclusively, and provide issues Import Quota to private importers. Import Quota for 23,000 MT of quality rice such as Thai fragrant rice was issued in 2001.
- Rice imports by NFA in principle require to be completed by May by taking account of lean months (Jul.-Sep.) and difficulties of domestic transportation in rain season.
- House Bill No.3339 that aims to replace QR with tariff as early as 2002 and with finality for by 2005, this would place the country more depending on foreign sources.
- Rice is listed in AFTA CEPT: highly sensitive product, and AFTA CEPT ending tariff: not fixed yet.
- The government started to announce the planed import quantity under the conditions of ADB Loan for GSDP. Import quantity is to be announced by March 1 in case of over 300,000 MT, and by April 1 in case of less 300,000 MT. 390,000 MT for 2002 has been noticed already.
- NFA will submit to the Cabinet its proposal for allowing other sectors to import rice.
- Philippine International Trading Corp. (PITC) will start importing rice on behalf of NFA. All 390,000 tons (rice import quota for 2002) will be imported by PITC. PITC will invite tenders from state firms in Thailand, Vietnam, Malaysia, India, China and Pakistan for 25% broken rice.
- The government will lift the monopoly of NFA on rice imports from the rice import year of 2002, starting in March 2002.

- For replacing the monopoly, Quantitative Restriction system will be introduced to protect domestic producers from excess rice imports.
- The cheaper rice from the neighbor countries is in tendency to flow into the country topographically.

5. Rice Reservation by the Government

5.1 Quantity of Reserve

The table shows rice inventory stock by sector for 1999 and 2000. Paddy seems accumulated without conversion from paddy to rice.

Rice Inventory (MT)

Sector & Rice	As of December 31	
	2000	1999
NFA	483,900	761,300
Paddy	233,100	408,100
Milled Rice	250,800	353,200
Imported	198,700	341,000
Local	52,100	122,000
Commercial	521,200	540,000
Household	1,337,900	1,263,100
Total	2,343,000	2,564,400

Source: NFA annual report, 2000

Monthly Rice Inventory by Sector, 1998-2002 (1,000 MT)

Sector	Month	1998	1999	2000	2001	2002
NFA	January	443.1	909.3	726.6	461.1	795.6
	February	575.7	968.6	612.2	466.5	
	March	685.2	1,088.7	552.5	533.9	
	April	810.5	1,121.3	479.3	530.5	
	May	880.1	1,161.1	497.9	589.7	
	June	886.7	1,246.1	550.1	776.9	
	July	929.8	1,234.1	506.3	833.4	
	August	897.2	1,106.1	461.9	875.8	
	September	911.4	950.4	358.0	796.7	
	October	855.6	860.7	343.9	728.3	
	November	859.4	820.5	402.9	700.7	
	December	908.2	806.9	467.8	714.7	
Commercial	January	448.2	414.5	488.2	492.4	473.7
	February	397.4	389.7	420.6	487.1	
	March	408.1	303.9	381.0	485.6	
	April	521.0	359.2	441.2	502.7	
	May	534.4	503.5	509.6	610.1	
	June	524.1	488.1	485.5	631.0	
	July	419.8	461.5	456.8	498.1	
	August	334.3	511.5	359.1	408.7	
	September	325.8	401.9	326.4	424.1	
	October	305.4	436.8	410.8	440.3	
	November	358.9	488.9	410.3	524.7	
	December	500.4	540.0	471.9	524.5	

(continue..)

Sector	Month	1998	1999	2000	2001	2002
Household	January	1,088.1	955.5	1,149.7	1,212.6	1,111.8
	February	898.0	786.3	1,009.5	920.3	
	March	754.8	768.1	832.2	845.3	
	April	890.2	939.3	954.4	1,088.9	
	May	856.1	1,046.3	1,060.0	1,080.4	
	June	708.7	839.9	800.3	859.9	
	July	595.3	685.5	665.5	723.3	
	August	492.3	603.6	551.9	586.7	
	September	417.0	533.8	510.6	503.9	
	October	549.7	735.4	730.4	713.7	
	November	853.6	1,131.5	1,197.6	1,371.9	
	December	1,005.0	1,263.1	1,337.9	1,365.2	
Total	January	1,979.4	2,279.3	2,364.5	2,166.1	2,381.1
	February	1,871.1	2,144.6	2,042.3	1,873.9	
	March	1,848.1	2,160.7	1,765.7	1,864.8	
	April	2,221.7	2,419.8	1,874.9	2,122.1	
	May	2,270.5	2,710.9	2,067.5	1,280.2	
	June	2,119.5	2,574.1	1,835.9	2,267.8	
	July	1,944.9	2,381.1	1,628.6	2,054.8	
	August	1,723.8	2,221.2	1,372.9	1,871.2	
	September	1,654.2	1,886.1	1,195.0	1,724.7	
	October	1,710.7	2,032.9	1,485.1	1,882.3	
	November	2,071.9	2,440.9	2,010.8	2,597.3	
	December	2,413.6	2,610.0	2,277.6	2,604.4	

Source: NFA

5.2 System of Rice Reservation

(1) Responsible Agency

The government through NFA shall be the custodian of a government rice buffer stock for food security and stabilization purposes.

(2) Procurement System

The rice buffer stock shall be built up through domestic procurement and/or when warranted, through importation. NFA is mandated by the government to undertake domestic paddy procurement for food security and price/ supply stabilization purposes. Funds for domestic procurement is realized through legislation. The actual procurement from individual and organized small farmers is at government support price and calibrated to provide farmers reasonable returns on investment.

(3) Distribution/ sales System

This involves selling rice direct to institutional or individual consumers or indirectly through licensed and accredited retailers. Under the helm of NFA, rolling stores are being deployed nationwide to distribute/ sell reasonably priced rice and sugar and other basic commodities to

depressed areas.

(4) Management of Storage Facilities

Warehouses constructed by NFA and equipped with basic administrative and post-harvest facilities for farmers/ farmers organizations who commit to sell paddy to NFA. The warehouse is designed to provide local farmers produce with solar drying pavement to serve not only as storage but also as food security depot.

(5) Total Capacity of Storage Facilities

There are more than 400 NFA-owned/ leased warehouses around the country, which hold around 2,000,000 MT of stocks.

(6) Quality Control

Quality control program is a multi- sector effort spearheaded by NFA to implement National Grains Standards throughout the country through continuing advocacy campaigns particularly among farmers, retailers, grains businessmen and consumers on grains quality, weighing and packaging.

(7) Reserve Strategies

The government through NFA is the custodian of government rice buffer stock which is built up through domestic procurement and/or when warranted, through importation. Thus, NFA has embarked on an all-year round activity of properly positioning the staple.

The government buffer stock shall be at the following mandatory level and time schedule:

- (a) Strategic Rice Reserve – this is equivalent to a minimum of 15 days national rice consumption maintenance year-round in government depot for Food Security purposes in times of calamity and emergency.
- (b) Rice Buffer Stock – this is equivalent to at least 30 days national rice consumption by July 1 of every year, inclusive of the 15 day Strategic Rice Reserve for stabilization purposes in deficit areas and during lean months (July-September). Relations require to replenish rice within 90 days when stock level becomes less than 15 days.
- (c) Reserve for national level shall be 90 days consumption (24,400 MT/day in 2001), i.e. 30 days by the government through NFA, 15 days as buffer stock by commercial sector and 45 days by household level.
- (d) Stocks shall be positioned in provinces susceptible to emergencies and isolation. There are more than 400 NFA-owned/ leased ware houses around the country, which can hold around 2,000,000 ton of stocks for emergencies. There are positioned in the 80 provincial and 14 regional offices.

5.3 Rice Reservation for ASEAN Food Security Reserve (AFSR)

The commitment to AFSR as actual reserve quantity is 12,000 MT that is based on milled rice even though inclusive of National Reserve. National reserve and AFSR of rice is not clearly divided.

6. Rice Demand/ Consumption

6.1 Amount of Domestic Consumption

Regarding the rice self-sufficiency, the population was 12 million in 1945 and that reached 30 millions in the beginning of 1970's, and became in the importing country of rice in this point. It is the place where is maintaining self-support somehow yet, although then HYV, is introduced and the self-support of the rice is achieved once again and the present is exceeding 70 million people.

Production Utilization, Philippines (MT)

Year	Food Use				Total Use	Production	Surplus (Deficit)	Population
	Total	Per Capita (kg)	Seed	Feed and Wastes				
1980	4,453,043	92.18	169,188	323,065	4,945,296	4,970,220	24,924	48,305,682
1981	4,588,597	92.81	166,673	334,231	5,089,501	5,141,982	52,481	49,440,243
1982	4,646,807	91.83	163,369	352,097	5,162,275	5,416,927	254,652	50,602,207
1983	4,634,422	89.49	148,718	309,163	5,092,303	4,756,283	(336,020)	51,787,071
1984	5,165,021	97.45	155,114	332,806	5,652,940	5,120,089	(532,851)	53,001,511
1985	5,156,027	95.05	162,181	374,327	5,692,536	5,758,860	66,324	54,243,571
1986	5,228,011	94.17	169,919	393,081	5,791,012	6,047,471	256,459	55,513,809
1987	5,393,304	94.93	159,701	363,032	5,916,036	5,585,062	(330,974)	56,813,507
1988	5,497,025	94.54	166,405	381,360	6,044,791	5,867,056	(177,735)	58,143,310
1989	5,620,297	94.45	171,533	402,011	6,193,841	6,186,035	(7,806)	59,503,818
1990	5,919,574	97.21	162,780	396,159	6,478,513	6,094,807	(383,706)	60,895,734
1991	5,519,580	88.57	167,986	411,183	6,098,749	6,326,647	227,898	62,315,557
1992	5,816,151	91.21	156,854	388,055	6,361,061	5,970,327	(390,734)	63,769,137
1993	6,025,078	92.33	160,032	399,025	6,584,135	6,132,410	(451,725)	65,256,326
1994	6,110,132	91.50	201,965	479,500	6,791,597	6,850,368	58,771	66,778,103
1995	6,445,311	94.32	231,985	513,825	7,191,121	6,851,422	(339,699)	68,335,375
1996	6,990,303	99.95	243,985	586,720	7,821,008	7,334,320	(468,688)	69,935,753
1997	6,996,159	97.75	248,978	622,625	7,867,762	7,324,826	(542,936)	71,574,263
1998	6,711,329	91.62	211,980	500,400	7,423,709	5,560,635	(1,863,074)	73,251,794
1999	7,411,005	98.85	285,991	727,832	8,424,828	7,661,307	(763,521)	74,974,342
2000	7,782,398	101.40	288,726	765,049	8,836,173	8,053,117	(783,056)	76,747,430

Source: NFA

6.2 Seasonal Balance of Supply-Demand

Supply-Use and Related Statistics (MT)

Item	1996R	1997R	1998R	1999R	2000P
SUPPLY					
Carryover Stock	1,422,000	1,797,000	1,976,000	2,284,000	2,355,000
Production	7,334,000	7,325,000	5,560,000	7,662,000	8,053,000
Imports 1/	862,000	722,000	2,171,000	834,000	617,000
TOTAL	9,618,000	9,844,000	9,707,000	10,780,000	11,025,000
USE					
Exports					
Seeds 2/	244,000	249,000	212,000	286,000	289,000
Feeds & Wastes 3/	587,000	623,000	500,000	728,000	765,000
Apparent Consumption	6,990,000	6,996,000	6,711,000	7,411,000	7,782,000
TOTAL	7,821,000	7,868,000	7,423,000	8,425,000	8,836,000
PER CAPITA (KG)	100.2	98.3	92.5	100.1	103.0
RICE STOCKS					
TOTAL					
January 1	1,422,200	1,797,100	1,976,500	2,284,100	2,355,500
July 1	1,602,100	1,818,000	1,927,100	2,380,900	1,632,400
HOUSEHOLD					
January 1	1,019,900	1,015,800	1,088,100	955,500	1,149,700
July 1	714,500	683,900	595,300	685,500	665,500
COMMERCIAL					
January 1	325,100	465,600	448,200	413,000	488,200
July 1	362,400	394,800	419,900	461,500	456,800
NFA					
January 1	77,200	315,700	440,200	915,600	717,600
July 1	525,200	739,300	911,900	1,233,900	510,100

Source: Selected Statistics on Agriculture, June 2001

1/ NSO figures 2/ Updated based on seeding rate 3/ Updated based on post-harvest losses

6.3 Regional Balance of Supply-Demand

Rice Production and Use Estimates, by Province, 2000 (MT)

Region	Food Use	Per Capita (kg/year)	Seed	Feed & Wastes	Total Use	Production	Surplus (Deficit)	Population (persons)
Philippines	7,782,398	101.40	288,726	765,049	8,836,173	8,053,117	(783,056)	76,747,430
Metro Manila	938,950	94.37	0	0	938,950	0	(938,950)	9,950,090
Car	159,308	116.34	6,084	15,797	181,189	166,282	(14,907)	1,369,351
Ilocos	495,619	117.58	25,113	74,586	595,318	785,129	189,811	4,215,247
Cagayan Valley	310,755	110.71	35,244	110,232	456,231	1,160,339	704,108	2,807,046
Central Luzon	851,556	105.48	37,880	116,609	1,006,045	1,227,469	221,424	8,073,523
Southern Tagalog	1,210,196	101.99	29,137	74,533	1,313,866	784,535	(529,331)	11,865,759
Bicol	533,945	113.89	20,722	41,515	596,182	436,990	(159,192)	4,688,055
Western Visayas	741,625	119.14	40,946	99,316	881,887	1,045,419	163,532	6,224,800
Central Visayas	345,499	60.33	7,236	13,288	366,023	139,875	(226,148)	5,727,039
Eastern Visayas	409,145	113.05	15,658	31,959	456,762	336,412	(120,350)	3,619,262
Western Mindanao	261,643	84.34	11,003	27,659	300,305	291,152	(9,153)	3,102,349
Southern Mindanao	528,710	101.44	14,690	43,812	587,212	461,175	(126,037)	5,211,873
Nothern Mindanao	231,462	83.94	6,832	20,766	259,060	218,582	(40,478)	2,757,405
Central Mindanao	231,071	99.99	19,239	54,760	305,070	576,422	271,352	2,310,961
Armm	299,854	110.09	10,556	-	331,604	223,093	(108,511)	2,723,628
Caraga	233,060	110.93	8,386	19,023	260,469	200,243	(60,226)	2,101,042

Source: NFA

6.4 Problem/ Constraints on Rice Supply-demand situation

The country has been consistently relying on importation to supplement domestic production of rice. To wit, the country's self-sufficiency ratio for rice averaged 92.93 % for the last decade.

The general policy of the government is to produce rice for self-sufficiency. Moreover, importation shall only be resorted to as the last recourse to meet an impending or actual deficit in rice supply. The production output is until now short of attaining self-efficiency. With the present population annual growth rate, the country's rice supply trails behind, considering the increasing local rice requirements.

With the passage of a House Bill No.3339 that aims to replace quantitative restrictions with tariffs as early as 2002 and with finality by 2005, this would place the county more dependent on foreign sources.

7. Rice/ Paddy Price

7.1 Rice prices in the major urban markets

Domestic Rice Price (Peso/ kg)

Classification			1996	1997	1998R	1999R	2000P
Farm	Paddy	Special	8.13	7.92	8.11	7.87	8.39
Wholesale	Rice	Special	17.39	16.88	17.40	17.46	17.77
Retail	Rice	Special	19.00	18.55	19.03	19.16	19.45

Source: Selected Statistics on Agriculture, 2001

Monthly Wholesale Prices for Special Rice, Philippines and Metro Manila (Peso/ kg)

Year Month	1997		1998		1999		2000		2001	
	Phil.	M.Mla	Phil.	M.Mla	Phil.	M.Mla	Phil.	M.Mla	Phil.	M.Mla
January	16.18	17.16	16.93	17.73	17.66	18.49	17.38	18.44	17.59	18.70
February	16.51	17.69	17.18	16.78	17.74	18.49	17.57	18.43	17.54	18.79
March	16.85	17.17	17.12	17.18	17.68	18.49	17.64	18.44	17.55	18.67
April	16.77	17.00	17.09	17.18	17.57	18.08	17.62	18.44	17.51	18.67
May	16.68	16.97	17.24	17.32	17.46	18.08	17.75	18.44	17.48	18.67
June	16.80	17.75	17.46	17.47	17.53	18.31	17.86	18.44	17.65	18.67
July	17.19	17.56	17.39	17.47	17.68	18.49	18.13	18.51	17.89	18.35
August	17.81	17.68	17.90	18.23	17.65	18.10	18.31	18.78	18.00	19.04
September	17.46	18.16	17.95	18.49	17.42	18.10	18.16	18.78	17.78	19.14
October	17.02	17.57	17.56	18.49	17.07	18.10	17.74	18.78	17.45	18.85
November	16.71	17.34	17.47	18.49	16.94	18.10	17.56	18.80	17.37	18.89
December	16.66	17.85	17.41	18.49	17.08	18.03	17.51	18.73	17.44	18.60
Average	16.88	17.49	17.39	18.49	17.46	18.24	17.77	18.58	17.60	18.75

Source: BAS

Monthly Retail Prices for Special Rice, Philippines and Metro Manila (Peso/ kg)

Year Month	1997		1998		1999		2000		2001	
	Phil.	M.Mla	Phil.	M.Mla	Phil.	M.Mla	Phil.	M.Mla	Phil.	M.Mla
January	17.98	21.43	18.58	21.81	19.24	21.50	19.00	21.56	19.37	21.64
February	18.16	21.26	18.72	21.81	19.37	21.41	19.12	21.60	19.36	21.62
March	18.40	21.16	18.66	21.38	19.32	21.49	19.22	21.68	19.36	21.65
April	18.39	21.25	18.72	21.50	19.26	22.21	19.21	21.70	19.29	21.62
May	18.34	21.22	18.84	21.52	10.23	21.63	19.27	21.60	19.33	21.87
June	18.41	21.66	19.00	21.78	19.20	21.63	19.38	21.59	19.45	21.90
July	18.68	21.48	19.11	21.46	19.24	21.57	19.74	21.62	19.61	21.91
August	19.08	21.00	19.42	21.49	19.26	21.52	19.99	21.66	19.68	21.89
September	19.47	21.36	19.57	21.49	19.10	21.51	19.96	21.70	19.57	21.93
October	18.73	21.75	19.32	21.51	18.94	21.52	19.64	21.69	19.47	21.97
November	18.46	20.92	19.24	21.40	18.87	21.58	19.48	21.64	19.30	21.92
December	18.47	21.92	19.08	21.37	18.83	21.50	19.37	21.59	19.31	21.89
Average	18.55	21.00	19.02	21.54	19.16	21.59	19.45	21.64	19.43	21.82

Source: BAS

7.2 Paddy price in some provinces**Paddy Prices in Major Producing Provinces (Peso/ kg)**

Province	1997	1998	1999	2000	2001P
Pangasinan	8.53	8.92	8.94	9.17	8.92
Isabela	7.99	8.63	8.43	8.77	8.76
Cagayan	8.48	9.18	8.62	8.95	8.73
Nueva Ecija	8.37	8.98	8.72	8.64	9.44
Bulacan	7.94	8.44	7.66	8.47	9.02
Camarines Sur	7.35	7.04	7.11	7.47	7.37
Iloilo	8.98	8.25	8.09	8.48	8.32
Zamboanga Sur	7.50	7.98	7.46	8.33	7.98
North Cotabato	8.49	8.43	8.10	8.68	8.67

Source: BAS, P- preliminary

Average of Selling Price by Fancy Varieties (Peso/ kg)

Domestic	Dec. 2001	Jan. 2002	Imported	Dec. 2001	Jan. 2002
IR64	22.58	-	Japanese rice	75.28	75.55
Maharlika	24.15	-	Jasmine Thai rice	54.75	54.94
Fancy Laon	36.75	37.50	Jasmine rice (Milagrosa)	51.84	51.98
Azucena	30.51	30.87	Koshihikari	83.22	83.25
Intan	22.31	22.66	Fragrant rice	52.25	52.25
Standard	24.38	24.52	Calrose	54.73	53.89
Dinorado	31.18	31.35			
Premium	25.66	25.75			
Milagrosa	28.65	28.73			
C4	23.96	24.02			
Candaba	26.46	26.47			
California rice	23.39	23.39			
Bitbit Bigas	24.78	24.78			
Fancy rice	31.38	31.38			
Healthy rice	23.12	23.12			
Organically grown B. rice	30.58	30.58			
Premium long grain	27.60	27.60			
Red rice	34.33	34.33			
Super special	29.00	29.00			
Wagwag	36.90	36.90			
Fancy long grain	30.08	30.03			
Sinandomeng	28.95	28.77			

Source: NFA

Paddy Farm Prices in Philippines (other varieties), (Peso/ kg)

	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Ave.
1999	8.20	8.64	8.66	8.52	8.32	8.52	8.24	7.90	7.41	7.40	7.48	7.62	7.87
2000	8.08	8.61	8.66	8.84	8.87	8.93	9.01	8.77	8.23	7.96	7.79	7.88	8.42
2001	7.99	8.09	8.24	8.25	8.35	8.67	8.83	8.67	8.13	7.70	7.66	7.95	8.21

Paddy Farm Prices in Iloilo (other varieties), (Peso/ kg)

	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Ave.
1999	8.08	8.58	8.57	7.86	8.48	9.16	8.96	7.26	6.98	7.64	8.09	-	8.09
2000	8.52	8.49	-	9.46	9.40	9.61	9.33	8.69	7.59	7.57	7.92	7.65	8.48
2001	7.66*	7.58*	7.94*	7.83*	9.25	9.05	10.02	8.02	7.78	7.46	7.74	7.98	8.19

* Adjusted to 14% MC because reported prices were for fresh and skin dry form

Paddy Farm Prices in Cagayan (other varieties), (Peso/ kg)

	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Ave.
1999	8.84	10.22	9.52	9.52	9.11	9.06	9.76	8.08	7.27	7.40	6.96	7.66	8.62
2000	7.63	8.65	9.46	9.60	9.59	10.54	10.02	-	8.68	7.95	8.42	7.94	8.95
2001	-	8.44	-	9.12	9.28	9.42	10.14	8.89	8.69	8.05	7.26	7.87	8.72

Note: For the provinces 1999 prices are for "as it is where is" form

Paddy Farm Prices in Isabela (other varieties), (Peso/ kg)

	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Ave.
1999	9.20	8.58	9.03	8.67	8.75	8.93	8.50	8.29	7.03	7.11	6.73	7.10	8.43
2000	8.65	8.51	-	9.11	9.26	9.95	10.10	8.68	9.21	7.84	7.96	7.66	8.77
2001	7.92	-	8.40	8.56	8.57	9.04	8.63	8.58	8.39	8.12	7.51	8.19	8.36

Paddy Farm Prices in Nueva Ecija (other varieties), (Peso/ kg)

	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Ave.
1999	10.00	10.00	9.08	8.72	9.40	10.00	10.00	9.91	-	8.26	-	7.92	8.72
2000	9.46	9.73	9.54	8.88	8.41	10.07	-	-	8.84	8.38	8.39	-	8.64
2001	8.84	9.33	9.83	8.08	8.17	9.17	9.44	10.00	7.38	8.00	8.31	9.28	8.82

Paddy Farm Prices in Pangasian (other varieties), (Peso/ kg)

	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Ave.
1999	9.31	9.50	9.98	9.15	8.91	9.36	9.51	9.22	8.45	7.78	7.52	8.02	8.94
2000	9.41	9.46	9.26	9.39	9.55	9.85	-	9.71	8.95	8.17	-	8.59	9.17
2001	9.08	9.08	9.18	9.14	9.22	9.60	9.40	9.10	8.96	8.15	7.91	7.78	8.88

Rice Wholesale Prices in Metro Manila (special), (Peso/ kg)

	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Ave.
1999	18.49	18.49	18.49	18.08	18.08	18.31	18.49	18.10	18.10	18.10	18.10	18.03	18.23
2000	18.44	18.44	18.44	18.44	18.44	18.44	18.51	18.78	18.78	18.78	18.80	18.82	18.56
2001	18.73	18.79	18.67	18.67	18.67	18.67	18.35	19.04	19.14	18.85	18.89	18.60	18.76

Rice Retail Prices in Metro Manila (special), (Peso/ kg)

	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Ave.
1999	21.50	21.41	21.49	21.61	21.63	21.68	21.57	21.52	21.51	21.52	21.58	21.50	21.54
2000	21.56	21.61	21.68	21.70	21.60	21.59	21.62	21.66	21.70	21.69	21.64	21.59	21.64
2001	21.64	21.62	21.65	21.62	21.77	21.90	21.91	21.89	21.93	21.97	21.92	21.89	21.81

Source: NFA

7.3 Problem/ Constraints on the Rice/ Paddy Price

From 1991 to 2000, average prices received by agricultural producers had moved up by 5.5 %. Last year's performance, however was characterized by a relative weakening of prices with farm-gate prices inching up by merely 1.28 %. Farmers had to contend with the faster increment in the prices of consumer goods. Consumer prices recorded 10-year average increase of 7.5% and 4.39 % in

2000.

Farmer groups/ cooperatives are requesting for the adoption of only one support price of P10.00/ kg and maintain all incentives to procure more. However, as a policy government believes maintaining the two-tiered pricing scheme will encourage the farmers to plant more during the dry season thereby improving supply during the lean months season (July–September). As a result, there will be lesser volatility in prices in the market.

8. Food Aid

8.1 Received Amount of Food Aid

In 1995 Japanese government assisted 30,000 MT of Thai rice with soft-loan. And also USA PL 480 assisted rice as shown in the table. WFP has no activity so far in this field.

Rice Assistance under USA PL 480

Year	Rice (MT)
1996	21,521
1997	12,734
2000	59,275
2001	107,461

8.2 Rice Procurement System of Food Aid Organizations

As part of the poverty alleviation program, NFA has launched the Targeted Rice Distribution Program and the Coconut Farmers Food Access Program which will cater directly to the poorest of the poor and the small time coconut farmers, respectively. This time, NFA's low-priced but good quality rice will only be distributed for the food needs of the beneficiaries identified by the Department of Social Welfare and Development and the Philippine Coconut Authority.

In responses to calamities/ Emergencies, Relief Operations in 2000, rice releases to the following agencies for relief operations totaled to 9,576.75 tons for Philippine National Red Cross, Dept. for Social Welfare & Development, Non-Government Organizations, National Disaster Coordinating Center, Local Government Units, Legislators, Other Government Agencies.

Lingap-Enhanced Sari-Sari Store (Lingap-ESSS) : aims to make rice and other basic food commodities available and accessible to the beneficiaries at affordable prices.

Lingap Emergency Relief Assistance Project : To ensure immediate response to the rice needs of the beneficiaries in times of calamities/ emergencies.

Lingap Rice Subsidy Project : To provide support services to the target beneficiaries who are engaged in marginal farming or those who are in marginally farmed areas.

Lingap Rice Subsidy Project : is intended to provide NFA rice to 16,600 target beneficiaries or

830 clusters (20 families per cluster) at a lower, subsidized price or a discount of P3.00/ kg. Each family beneficiary is granted a minimum rice subsidy allocation of 2.3 kg per day for a period of 90 days. It makes it large in the meaning of the degree that pulls the foot of the market prices in subsidy P3.00/kg, and, whether or not there is not a meaning

Lingap Farmers' Alleviation Project : is to provide support services to the target beneficiaries who are engaged in marginal farming or those who are in marginally famed areas.

9. Poverty

9.1 Situation of Poverty

Poverty incidence or the proportion of families (a family of 6 members) with per capita incomes below the poverty threshold increased from 31.8% in 1997 to 33.7% in 2000. As a proportion to the population, poverty incidence was placed at 39.4% in 2000.

Poverty Incidence (%)						
	1985	1988	1991	1994	1997	2000
Population, country	49.3	49.5	45.3	40.6	36.8	39.4
urban	37.9	34.3	35.6	28.0	21.5	24.3
rural	56.4	52.3	55.1	53.1	50.7	54.0

Source: Family Income and Expenditure Surveys, National Statistics Office

9.2 Policy and Projects on Poverty Alleviation

To effectively concretize Presidential Poverty Eradication Program, Executive No.22 in 1998 was issued authorizing NFA to intervene in the stabilization of the price and supply of basic food commodities.

Subsidized rice with low price is distributed for poor people in 2002 under Targeted Rice Distribution Program of ADB loan / Grain Sector Development Program.

It targets 1 million people (equivalent to 0.2 million house-household) will get distributed 5 kg/person/week of P14/kg, under Targeted Rice Distribution Program of one of ADB loan / Grain Sector Development Program conditions.

NFA's TGL Program is an integrated distribution program designed to provide rice and other basic food commodities to the poor sector. TGL Program aims to provide market access to consumers with affordable quality rice and other basic food commodities.

It is comparatively expensive still for the poverty layer, although the subsidized price sales is carried out. Also, there is the restriction of a budget, although Poverty Alleviation Retail Price is applied to the targeted poverty layer.

10. National Food Security Policy

The country has been consistently relying on importation to supplement domestic production of rice. To wit, the country's self-sufficiency ratio for rice averaged 92.93 % for the last decade. The Philippines' nature and a high population growth rate of 2.35% per annum almost equal to the growth in rice productivity underscore the need for the government to put into place a system that will ensure food security for the nation.

The general policy of the government is to produce rice for self-sufficiency, but is not attained so far. Population reached 30 million in 1970s, Philippines became a rice importing country. After introducing HYV the self-sufficiency for some years were attained. However Philippines' population exceeded 70 million, and consumption by individual person is increasing recently. This is another reason why rice self-sufficiency is getting difficult for the country.

Food security is making readily available and adequate supply of food for the entire population at affordable prices in times and places of calamity or emergency, both natural or man-made. This connotes a social responsibility in which the incurrence of additional costs is necessary and inevitable for effective implementation of a given food security program/ policy, since it involves voluminous required stocks which range from half to one million metric tons rice to be sustained in time.

Food security is a core government function. NFA is required to maintain a year-round food security stocks or strategic rice reserves to address any impending national and/or man-made emergency and calamity. NFA maintains rice buffer stocks inclusive of the food security stocks for stabilization purposes in deficit areas at any given time.

NFA is mandated to provide the nation with adequate and continuous food supply of the staple in times and places of natural or man-made calamity/ emergency.

- 48 hours response time to staple cereal requirements in calamity/ emergency stricken areas.
- Restore or maintain within 2 weeks staple cereal supply and prices at levels immediately prior to a calamity or emergency.

The following measures were outlined to address the food security concern of the nation:

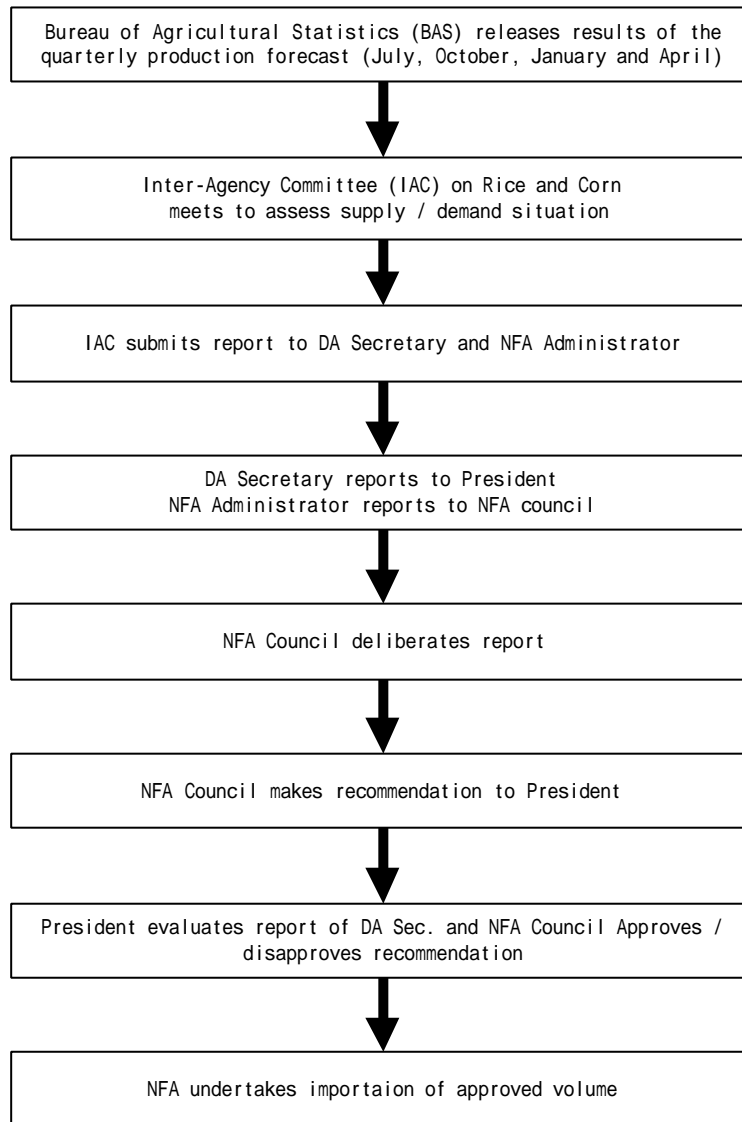
- Launch a nationwide program for sustained increase on domestic production (Gintong Ani Program) through productivity-enhancing measures,
- Stabilize price and supply,
- Creation of the Executive Committee and a Technical Working Group on Food Security through Executive Order No.381.

The government is encountering constraints in achieving and maintaining food security. This is due to a stagnant production that was mainly caused by:

- Lack of effort to improve research and development

- Lack of agricultural infrastructure such as farm-to-market roads, irrigation and post-harvest facilities.

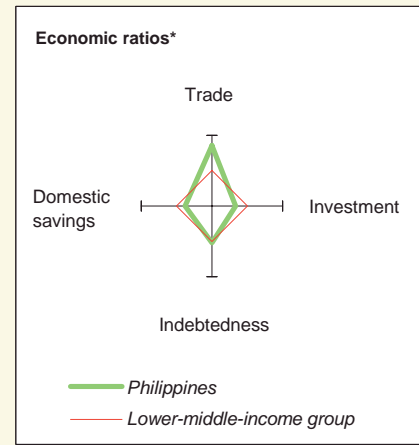
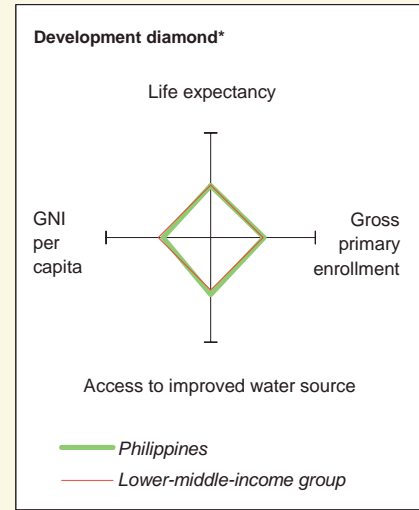
Existing Food Security / Productivity Decision Process



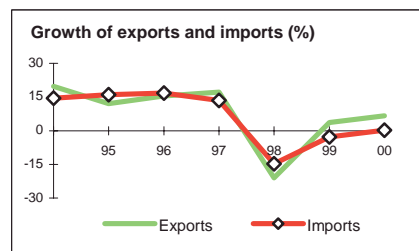
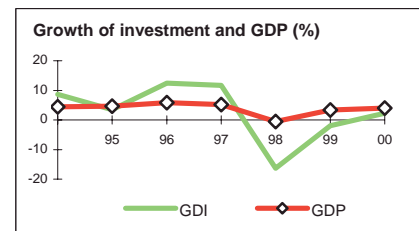
Philippines at a glance

10/3/01

	Philippines	East Asia & Pacific	Lower-middle-income		
POVERTY and SOCIAL					
2000					
Population, mid-year (<i>millions</i>)	75.6	1,853	2,046		
GNI per capita (<i>Atlas method, US\$</i>)	1,040	1,060	1,140		
GNI (<i>Atlas method, US\$ billions</i>)	78.8	1,964	2,327		
Average annual growth, 1994-00					
Population (%)	2.1	1.1	1.0		
Labor force (%)	2.6	1.4	1.3		
Most recent estimate (latest year available, 1994-00)					
Poverty (% of population below national poverty line)	37	..	..
Urban population (% of total population)	59	35	42		
Life expectancy at birth (<i>years</i>)	69	69	69		
Infant mortality (<i>per 1,000 live births</i>)	31	35	32		
Child malnutrition (% of children under 5)	..	13	11		
Access to an improved water source (% of population)	87	75	80		
Illiteracy (% of population age 15+)	5	14	15		
Gross primary enrollment (% of school-age population)	117	119	114		
Male	..	121	116		
Female	..	121	114		
KEY ECONOMIC RATIOS and LONG-TERM TRENDS					
	1980	1990	1999	2000	
GDP (<i>US\$ billions</i>)	32.5	44.3	76.2	74.7	
Gross domestic investment/GDP	29.1	24.2	18.8	17.8	
Exports of goods and services/GDP	23.6	27.5	51.5	56.3	
Gross domestic savings/GDP	24.2	18.4	19.2	24.0	
Gross national savings/GDP	..	19.5	24.7	30.3	
Current account balance/GDP	-5.9	-5.8	9.0	12.3	
Interest payments/GDP	1.8	3.5	2.7	3.3	
Total debt/GDP	53.6	69.0	68.3	69.4	
Total debt service/exports	26.6	27.0	14.4	13.7	
Present value of debt/GDP	68.1	..	
Present value of debt/exports	111.0	..	
	1980-90	1990-00	1999	2000	2000-04
<i>(average annual growth)</i>					
GDP	1.0	3.3	3.4	4.0	..
GDP per capita	-1.2	1.0	1.5	2.2	..
Exports of goods and services	3.5	7.3	3.6	6.6	..



	1980	1990	1999	2000
STRUCTURE of the ECONOMY				
<i>(% of GDP)</i>				
Agriculture	25.1	21.9	17.1	15.9
Industry	38.8	34.5	30.6	31.1
Manufacturing	25.7	24.8	21.6	22.6
Services	36.1	43.6	52.2	52.9
Private consumption	66.7	71.5	68.0	63.2
General government consumption	9.1	10.1	13.1	12.8
Imports of goods and services	28.5	33.3	51.3	50.2
	1980-90	1990-00	1999	2000
<i>(average annual growth)</i>				
Agriculture	1.0	1.6	6.5	3.3
Industry	-0.9	3.2	0.9	3.9
Manufacturing	0.2	3.0	1.6	5.6
Services	2.8	4.0	4.0	4.4
Private consumption	2.2	3.9	0.4	1.4
General government consumption	0.6	3.4	6.7	-1.1
Gross domestic investment	-2.1	3.1	-2.0	2.3
Imports of goods and services	3.4	7.7	-2.8	0.2

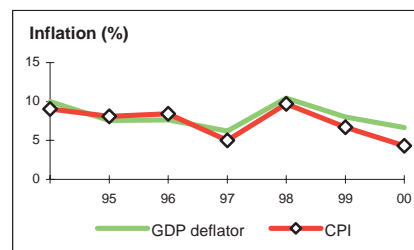


Note: 2000 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

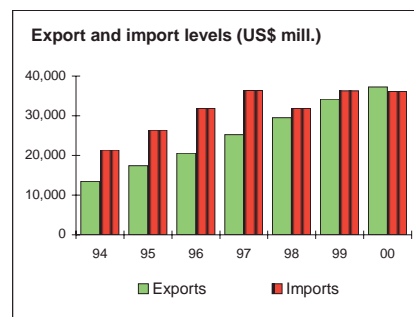
PRICES and GOVERNMENT FINANCE

	1980	1990	1999	2000
Domestic prices (% change)				
Consumer prices	..	14.2	6.7	4.3
Implicit GDP deflator	14.3	13.0	8.0	6.7
Government finance (% of GDP, includes current grants)				
Current revenue	..	16.8	25.7	23.4
Current budget balance	..	0.3	2.8	1.9
Overall surplus/deficit	..	-3.5	-2.7	-3.6



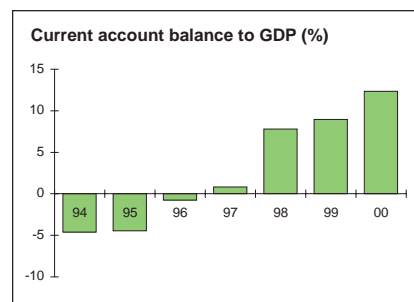
TRADE

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Total exports (fob)	..	8,186	34,210	37,295
n.a.
Manufactures	..	5,706	31,097	33,394
Total imports (cif)	..	12,206	36,276	36,102
Food	..	656	1,982	1,256
Fuel and energy	..	1,842	3,395	4,524
Capital goods	..	3,122	14,555	15,011
Export price index (1995=100)	..	86	..	..
Import price index (1995=100)	..	94	..	..
Terms of trade (1995=100)	..	92	..	..



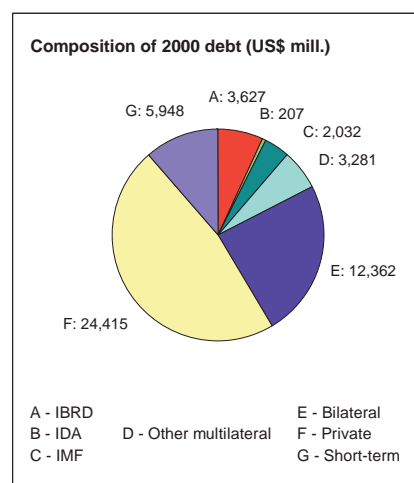
BALANCE of PAYMENTS

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Exports of goods and services	7,236	11,430	39,012	41,473
Imports of goods and services	9,147	13,967	36,767	36,464
Resource balance	-1,911	-2,537	2,245	5,009
Net income	-439	-744	4,104	3,786
Net current transfers	447	714	481	430
Current account balance	-1,903	-2,567	6,830	9,225
Financing items (net)	2,794	2,474	-2,889	-9,645
Changes in net reserves	-891	93	-3,941	420
Memo:				
Reserves including gold (US\$ millions)	..	2,048	14,987	14,910
Conversion rate (DEC, local/US\$)	7.5	24.3	39.1	44.2



EXTERNAL DEBT and RESOURCE FLOWS

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Total debt outstanding and disbursed	17,417	30,580	52,022	51,872
IBRD	926	3,943	4,040	3,627
IDA	34	101	206	207
Total debt service	2,183	3,590	6,732	6,832
IBRD	106	597	641	572
IDA	0	2	4	5
Composition of net resource flows				
Official grants	59	362	170	..
Official creditors	367	935	-130	-215
Private creditors	946	109	3,920	2,138
Foreign direct investment	-106	530	573	..
Portfolio equity	0	0	422	..
World Bank program				
Commitments	695	1,008	208	255
Disbursements	230	507	164	162
Principal repayments	33	302	387	352
Net flows	197	206	-223	-190
Interest payments	73	297	258	225
Net transfers	124	-91	-481	-415



Philippines Social Indicators

	Latest single year			Same region/income group	
	1970-75	1980-85	1993-99	East Asia & Pacific	Lower-middle-income
POPULATION					
Total population, mid-year (millions)	43.1	54.7	74.3	1,836.6	2,093.0
Growth rate (% annual average for period)	2.8	2.5	2.2	1.2	1.1
Urban population (% of population)	35.6	43.0	57.7	34.5	42.9
Total fertility rate (births per woman)	5.2	4.5	3.5	2.1	2.1
POVERTY					
<i>(% of population)</i>					
National headcount index	..	52.0	36.8	..	..
Urban headcount index	..	42.0	21.5	..	..
Rural headcount index	..	58.0	50.7	..	..
INCOME					
GNI per capita (US\$)	370	520	1,050	1,010	1,200
Consumer price index (1995=100)	10	43	135	136	137
Food price index (1995=100)	..	45	130	..	..
INCOME/CONSUMPTION DISTRIBUTION					
Gini index	..	..	46.2	..	..
Lowest quintile (% of income or consumption)	5.0	..	5.4	..	..
Highest quintile (% of income or consumption)	56.0	..	52.3	..	..
SOCIAL INDICATORS					
Public expenditure					
Health (% of GDP)	..	..	1.7	1.7	2.3
Education (% of GNI)	2.0	1.4	3.4	2.9	4.8
Social security and welfare (% of GDP)	..	..	..	..	..
Net primary school enrollment rate					
<i>(% of age group)</i>					
Total	97	96	101	100	99
Male	94	97	..	100	100
Female	99	96	..	100	99
Access to an improved water source					
<i>(% of population)</i>					
Total	..	65	87	75	80
Urban	..	..	92	93	94
Rural	..	..	80	66	69
Immunization rate					
<i>(% under 12 months)</i>					
Measles	..	49	87	83	87
DPT	..	59	87	82	87
Child malnutrition (% under 5 years)	50	33	30	12	9
Life expectancy at birth					
<i>(years)</i>					
Total	59	63	69	69	69
Male	58	61	67	67	67
Female	61	65	71	71	72
Mortality					
Infant (per 1,000 live births)	58	46	31	35	32
Under 5 (per 1,000 live births)	90	72	41	44	40
Adult (15-59)					
Male (per 1,000 population)	376	323	193	184	191
Female (per 1,000 population)	314	259	146	141	133
Maternal (per 100,000 live births)	..	..	170	..	..
Births attended by skilled health staff (%)	46	57	56	..	..

Note: 0 or 0.0 means zero or less than half the unit shown. Net enrollment ratios exceeding 100 indicate discrepancies between the estimates of school-age population and reported enrollment data. Latest year for access to improved water source data is 2000.

2001 World Development Indicators CD-ROM, World Bank

COUNTRY REPORT

Singapore

1. Background

Singapore does not have any production of rice. There are some private investors from Singapore who invest in rice production in Myanmar and Vietnam and importing into Singapore. For the purpose of this study, this will not be counted as Singapore's production. However, this is an interesting development which could have an impact on the future arrangement for trade and investment.

2. Population

Singapore has about 4.1 million people. The statistic shows that there is an increase in the population during the past 5 years. The increase in the foreigner is an interesting component of the population increase.

3. Rice Consumption

The estimated rice consumption per capita in 2001 is about 68 kg. annum which is about the same as in Japan. The total consumption is about 447 thousand tons. level of consumption is However, this method of calculation may not be totally reflective of the amount of rice consumed in Singapore because import and export statistics to certain country are not reflected in the annual statistics.

Table 1: Rice Balance in Singapore (Unit : 1,000 tons)

	Supply				Demand			
	Beginning Stock	Production	Import	Total	Consumption	Export	Ending stock	Total
1998/1999	37	-	404	441	400	4	44	448
1999/2000	44	-	355	399	352	3	42	397
2000/2001	42	-	448	490	447	1	51	499

Source: Import/Export - Trade Development Board.

4. Rice Marketing Channel

The import and distribution of rice in Singapore is governed by the **Price Control Act** (See Annex).

The marketing system for rice consist of importer, wholesalers, packers and retailers. The distribution chain is dominated by rice importers who often also act as the wholesaler due to the small domestic market. There are less than 30 rice importers/wholesalers in Singapore. With the exception of 1 or 2 large retailers who import directly, most of the retailers purchase their rice from the importer/wholesaler who will also pack the rice for retailers' in-house brands. The importers will packed the rice overseas prior to importing to Singapore in view of the high cost of labour in Singapore.

Most of the rice importers are private companies but there are some government linked companies (e.g. NTUC) as well.

There is a rice association in Singapore. It serves mainly as a platform for the rice traders to network among themselves and with the visiting delegations.

A government official opined that the importers in Singapore seldom rely on any pricing mechanism in the commodities future market. Instead, importers count on their long standing relationship with the suppliers in price negotiation. As the Singapore importers are relatively small in size compared to other international players, they are usually a price taker.

5. Rice Imports

About 400 thousand tons of rice is imported (see Table 1). About one third of the rice import is Fragrant rice and another third are broken rice. The broken is mostly used for further processing into food (such as noodle) and disserts.

This patter of consumption is associated with the high income level of the Singapore population. It is interesting to observe that the proportion of glutinous rice consumed is high (almost 10 times that of Basmati). This could be the consumption of migrant worker (from Thailand) and also from the increase in its use for disserts.

Table 2: Import of Rice by Types

	1999		2000		2001	
	Quantity	Value	Quantity	Value	Quantity	Value
Fragrant Rice	162.43	129.27	159.37	139.85	163.23	109.43
Glutinous	35.07	19.37	23.99	12.22	24.05	10.93
Basmati	3.36	3.99	3.29	3.65	3.50	3.89
Broken	90.59	34.71	80.33	25.67	171.30	48.44
5%	31.51	13.62	26.27	9.54	23.83	7.64
10%	12.43	5.62	7.57	2.83	4.89	1.54
Others	96.24	57.28	73.03	42.79	80.30	40.83
Total	431.64	263.87	373.84	236.55	471.10	222.69

Quantity in 1,000 tons

Value in million \$

Source: Trade and Development Board.

6. Import/Export Control System

An importer or wholesaler of rice is required to apply for a license from Singapore Trade Development Board (TDB). TDB issues 3 type of licenses:

- a) import for re-export
- b) import for local consumption
- c) wholesaler

Importers and wholesalers are licensed separately. In other words, an importer needs to apply for a wholesaler license to conduit wholesale activities.

All applicants for rice license, have to be a business entity registered in Singapore. An importer for local consumption needs to meet additional criteria of having a minimum PUC of S\$ 40,000 and local ownership (Singaporean & Singapore Permanent Resident) of at least 51%. Foreign companies will be considered on a case by case basis.

License holders have to report to TDB movement of rice in and out of Singapore. They also have to report their inventory levels to TDB on a regular basis.

7. Price Control

The Price Control Act provides the legal basis on which the government controls the prices, movement of goods, dealing in goods, display of prices and punitive actions. Rice of all descriptions is declared as a controlled item requiring license to import and wholesale under Price Control Order.

Government intervention on rice prices

Although the Singapore Government can control the prices, it has never been practiced. The provision is included in preparation for emergency situations. The prices of the rice in Singapore have been fairly stable and prices are set by market forces.

8. Reserve Stock

The Price Control Order also lists participation in stockpile as a condition of the license. The importers of rice for local consumption have to participate in the Rice Stockpile Scheme (RSS) and sign the Rice Stockpile Agreement. The RSS is operated under the legal framework of Price Control Act (Cap 244) and Price Control Order 1990.

Type of rice

Not all types of rice need to be stockpiled. In general all types and grades of white rice except Basmati rice need to be stockpiled.

Quantities

Under the RSS, stockpile participant pre-commit on the quantity they wish to import monthly for local distribution. The minimum quantity is 50 tonnes. In addition, they are required to stockpile twice the monthly import in a government-designated warehouse as their contribution to the national stockpile. Participants are allowed to adjust their monthly import upon written application to TDB.

Participants are expected to rotate their stockpile or the costs of replacing the damaged rice from the stockpile will be borne by them. The designated warehouse operator is responsible for checking the quality of the rice.

Cost

The title of the rice while under stockpile belongs to the participants. The costs of storing and other charges (e.g. fumigation) related to the stockpile is also borne by the importers. In addition, the importer has to lodge a banker's guarantee of S\$100 for every tonne of its pre-committed import or S\$5000, whichever is higher. As provided in the Rice stockpile agreement, the government has the right to buy rice from the participants at a fair & reasonable price.

Control

To maintain control, TDB will conduct spot-check on the stockpile and on the participants in addition from operational reports from the designated warehouse operator. Offender can be compounded or charged under the Act.

The importers are required to join the RSS for at least 6 months before they can terminate the licenses. They need to give 2 months notification of the termination. Only upon the expiry of the notice, can they sell half of their stockpile quantity/trading stock. And the other half, one month thereafter.

Storage

The current designated warehouse operator is Singapore Storage & Warehouse Pte Ltd. Other than the required stockpile quantity, importers are free to keep their trading and excess stock in other warehouses.

Level of Reserve

The level of reserve is varied depending on the supply and demand of the domestic rice market. It is estimated to range between 3 to 6 months of domestic consumption.

9. Government Commitment**Bilateral arrangement**

General agreement with Thailand to facilitate the sale of rice to Singapore at market price when needed.

Commitment in WTO

As a member of WTO, Singapore has bound the import tariff rate at 10% compared to the base rate of 27%.

Rice	Country	Tariff Rate %
HS 1006.10	Base	27
	Bound	10
HS 1006.20	Base	27
	Bound	10
HS 1006.30	Base	27
	Bound	10
HS 1006.40	Base	27
	Bound	10

Annexes

1. Singapore at a glance & Social Indicators (World Bank Data)
2. Price Control Act (Chapter 244)

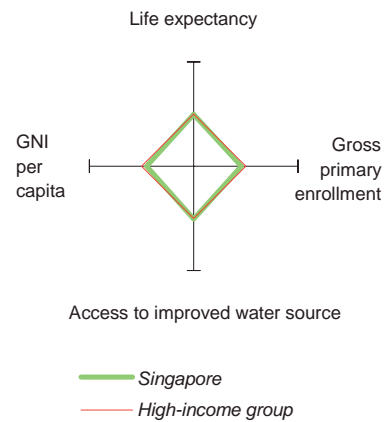
Singapore at a glance

9/19/01

POVERTY and SOCIAL

	Singapore	High-income
2000		
Population, mid-year (<i>millions</i>)	4.0	903
GNI per capita (<i>Atlas method, US\$</i>)	24,740	27,510
GNI (<i>Atlas method, US\$ billions</i>)	99.4	24,829
Average annual growth, 1994-00		
Population (%)	2.7	0.7
Labor force (%)	2.6	0.9
Most recent estimate (latest year available, 1994-00)		
Poverty (% of population below national poverty line)	..	..
Urban population (% of total population)	100	77
Life expectancy at birth (<i>years</i>)	78	78
Infant mortality (<i>per 1,000 live births</i>)	3	6
Child malnutrition (% of children under 5)	..	..
Access to an improved water source (% of population)	100	99
Illiteracy (% of population age 15+)	8	< 5
Gross primary enrollment (% of school-age population)	94	103
Male	95	104
Female	93	103

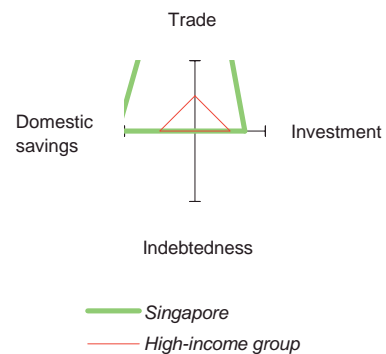
Development diamond*



KEY ECONOMIC RATIOS and LONG-TERM TRENDS

	1980	1990	1999	2000	
GDP (<i>US\$ billions</i>)	11.7	36.7	83.8	92.3	
Gross domestic investment/GDP	46.3	36.6	32.4	31.3	
Exports of goods and services/GDP	215.4	201.8	..	..
Gross domestic savings/GDP	38.1	43.6	51.8	49.8	
Gross national savings/GDP	33.0	45.1	58.3	..	
Current account balance/GDP	-13.3	8.5	25.4	..	
Interest payments/GDP	..	..	..	..
Total debt/GDP	..	..	..	..
Total debt service/exports	..	..	..	..
Present value of debt/GDP	..	..	..	..
Present value of debt/exports	..	..	..	..
	1980-90	1990-00	1999	2000	2000-04
(<i>average annual growth</i>)					
GDP	6.7	7.8	5.9	9.9	..
GDP per capita	4.7	4.7	5.1	8.1	..
Exports of goods and services

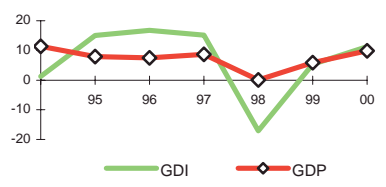
Economic ratios*



STRUCTURE of the ECONOMY

	1980	1990	1999	2000
(% of GDP)				
Agriculture	1.6	0.4	0.2	0.1
Industry	37.7	34.4	34.6	34.3
Manufacturing	29.1	27.1	25.1	26.5
Services	60.8	65.3	65.2	65.6
Private consumption	52.2	46.2	38.4	39.8
General government consumption	9.8	10.2	9.8	10.5
Imports of goods and services	223.6	194.9	..	..
	1980-90	1990-00	1999	2000
(<i>average annual growth</i>)				
Agriculture	-5.3	-1.6	-1.1	-1.5
Industry	5.2	7.9	7.1	10.2
Manufacturing	6.6	7.1	13.6	15.2
Services	7.6	7.8	5.2	9.8
Private consumption	6.7	5.2	5.0	9.7
General government consumption	6.6	8.6	5.0	13.7
Gross domestic investment	3.1	7.8	5.3	11.2
Imports of goods and services	..	..	..	..

Growth of investment and GDP (%)



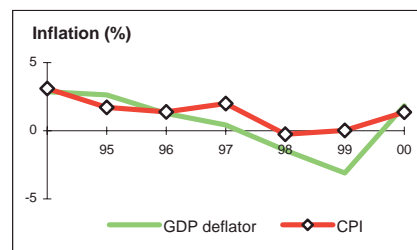
Note: 2000 data are preliminary estimates.

This table was produced from the Development Economics central database.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

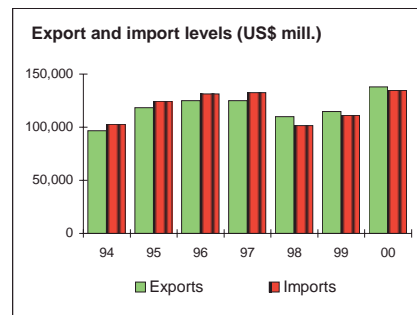
PRICES and GOVERNMENT FINANCE

	1980	1990	1999	2000
Domestic prices				
(% change)				
Consumer prices	8.5	3.5	0.0	1.4
Implicit GDP deflator	11.5	4.8	-3.1	1.8
Government finance				
(% of GDP, includes current grants)				
Current revenue	..	..	..	..
Current budget balance	..	..	..	..
Overall surplus/deficit	2.1	10.8	..	..



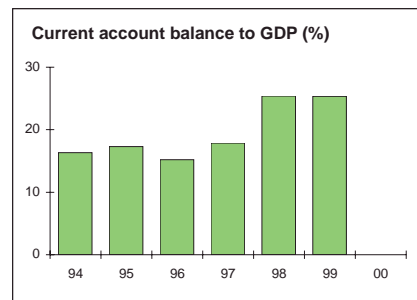
TRADE

	1980	1990	1999	2000
(US\$ millions)				
Total exports (fob)	19,376	52,752	114,689	137,953
Food and agricultural raw materials	3,563	4,089	..	..
Fuels, ores, and metals	5,359	10,220	..	..
Manufactures	9,048	37,718	..	..
Total imports (cif)	24,007	60,899	111,060	134,675
Food	2,035	3,675	..	..
Fuel and energy	6,882	9,631	..	..
Manufactures	12,990	44,412	..	..
Export price index (1995=100)	103	96	..	..
Import price index (1995=100)	84	86	..	..
Terms of trade (1995=100)	122	111	..	..



BALANCE of PAYMENTS

	1980	1990	1999	2000
(US\$ millions)				
Exports of goods and services	24,285	67,489	139,333	..
Imports of goods and services	25,312	64,953	123,216	..
Resource balance	-1,027	2,537	16,117	..
Net income	-429	1,006	6,300	..
Net current transfers	-106	-421	-1,163	..
Current account balance	-1,563	3,122	21,254	..
Financing items (net)	..	..	..	..
Changes in net reserves	..	..	..	..
Memo:				
Reserves including gold (US\$ millions)	6,567	27,748	76,843	80,127
Conversion rate (DEC, local/US\$)	2.1	1.8	1.7	1.7



EXTERNAL DEBT and RESOURCE FLOWS

	1980	1990	1999	2000
(US\$ millions)				
Total debt outstanding and disbursed
IBRD
IDA
Total debt service
IBRD
IDA
Composition of net resource flows				
Official grants
Official creditors
Private creditors
Foreign direct investment	1,236	5,575	6,984	..
Portfolio equity
World Bank program				
Commitments
Disbursements
Principal repayments
Net flows
Interest payments
Net transfers

Singapore Social Indicators

	Latest single year			Same region/income group
	1970-75	1980-85	1993-99	High-income
POPULATION				
Total population, mid-year (millions)	2.3	2.7	4.0	896.3
Growth rate (% annual average for period)	1.7	2.5	2.9	0.7
Urban population (% of population)	100.0	100.0	100.0	76.8
Total fertility rate (births per woman)	2.1	1.6	1.5	1.7
POVERTY				
<i>(% of population)</i>				
National headcount index	..	..	..	..
Urban headcount index	..	..	..	..
Rural headcount index	..	..	..	..
INCOME				
GNI per capita (US\$)	2,770	6,870	24,150	26,440
Consumer price index (1995=100)	59	83	103	107
Food price index (1995=100)	..	89	105	..
INCOME/CONSUMPTION DISTRIBUTION				
Gini index	..	..	..	..
Lowest quintile (% of income or consumption)	..	..	..	..
Highest quintile (% of income or consumption)	..	..	..	..
SOCIAL INDICATORS				
Public expenditure				
Health (% of GDP)	..	..	1.2	6.1
Education (% of GNI)	2.9	4.4	3.0	5.5
Social security and welfare (% of GDP)	0.3	0.4	0.2	9.8
Net primary school enrollment rate				
<i>(% of age group)</i>				
Total	101	99	93	95
Male	101	100	93	95
Female	100	99	92	95
Access to an improved water source				
<i>(% of population)</i>				
Total	..	100	100	..
Urban	..	100	100	..
Rural	..	..	..	..
Immunization rate				
<i>(% under 12 months)</i>				
Measles	..	75	86	89
DPT	..	78	94	91
Child malnutrition (% under 5 years)	..	..	..	..
Life expectancy at birth				
<i>(years)</i>				
Total	70	73	78	78
Male	68	70	76	75
Female	72	76	80	81
Mortality				
Infant (per 1,000 live births)	14	9	3	6
Under 5 (per 1,000 live births)	27	13	4	6
Adult (15-59)				
Male (per 1,000 population)	232	199	130	125
Female (per 1,000 population)	138	115	72	63
Maternal (per 100,000 live births)	..	..	6	..
Births attended by skilled health staff (%)	..	100	100	..

Note: 0 or 0.0 means zero or less than half the unit shown. Net enrollment ratios exceeding 100 indicate discrepancies between the estimates of school-age population and reported enrollment data. Latest year for access to improved water source data is 2000.

2001 World Development Indicators CD-ROM, World Bank

Annex

PRICE CONTROL ACT

(CHAPTER 244)

Short title.

1. This Act may be cited as the Price Control Act.

Interpretation.

2. In this Act, and in any rule or order made thereunder, unless the context otherwise requires —

"commission agent" means a person who acts as agent for another in relation to the purchase or sale of goods and is remunerated or to be remunerated by way of commission on the price, and includes an agent remunerated or to be remunerated partly by commission and partly in some other manner;

"controlled article" means any goods or classes of goods declared to be controlled articles under section 5 (a);

"goods" includes all chattels personal other than things in action and money;

"maximum price" means the maximum price at which, under the provisions of this Act, goods may be sold;

"offence under this Act" includes any act or omission declared to be an offence under this Act by any order or rule made under sections 5 and 18;

"Price Controller" means an officer appointed Price Controller under section 3 and includes any person appointed by the Minister to act in the place of the Price Controller during the Price Controller's absence from Singapore or his inability from illness or other causes to perform the duties of his office;

"Price Inspector" means any person appointed under section 3 (2) and includes a Chief Price Inspector and an Assistant Price Inspector;

"price-regulated goods" means goods in respect of which maximum prices have been fixed under section 4 and includes services for which a maximum has been fixed under that section;

"officer of customs" has the same meaning as in the Customs Act;

Cap. 70.

"sell" , with its grammatical variations and cognate expressions, includes an agreement to sell and an offer to sell, and an offer to sell shall be deemed to include the exposing of goods for sale, the

publication of a price list, the furnishing of a quotation, or any other act or notification whatsoever by which willingness to enter into any transaction of sale is expressed;

"selling price" means the actual net price charged to the purchaser of the goods concerned, less all discounts or other allowances;

"trader" includes any person who carries on the business of selling goods and any person carrying on business in the course of which he supplies goods for the purpose of, or in pursuance of a contract made by him for work, labour and materials.

Appointment of Price Controller and other officers.

3. —(1) The Minister may appoint a Price Controller and such Deputy Price Controllers and Assistant Price Controllers as he may think fit.

(2) The Price Controller may appoint such chief price inspectors, price inspectors or assistant price inspectors for such areas as he may think fit.

(3) The Minister may appoint advisory committees to advise the Price Controller on questions relating to the exercise of all or any of the powers conferred on the Price Controller by sections 4, 5 and 8.

Prices and charges.

4. —(1) The Price Controller may from time to time by order published in the *Gazette* —

(a) fix maximum prices, which may include charges for delivery, for the sale of any goods either by declaring the maximum sale price, or by prescribing that the sale price of the goods shall not exceed the price which they cost the seller, plus a stated sum or a stated percentage of that cost price, or by prescribing the manner in which the maximum sale price of the goods shall be ascertained;

(b) fix the maximum charge that may be made by any person for any service in relation to the supply, repair, maintenance, packing, carriage or storage of goods, which shall include the provision of such materials as may be specified in the order;

(c) fix the maximum price, or prescribe the manner in which the maximum price shall be ascertained, of any secondhand goods, whether for sale by persons who trade in those goods, or by the private owners of those goods; and

(d) prescribe what shall constitute a wholesale or retail quantity or transaction either generally or in respect of any special class or classes of goods.

(2) Under this section the Price Controller may fix a maximum price or charge for service in respect of any goods for one area which differs from the maximum price or the charge for services fixed for another area in respect of like or similar goods.

Control of movement, export and import of and dealing in specified goods.

5. The Price Controller with the prior approval of the Minister may by order published in the *Gazette*

-
- (a) declare any goods or classes of goods to be controlled articles;
 - (b) prohibit the purchase, sale or barter of any controlled article for the purpose of resale in or export from any area specified without his written permission;
 - (c) prohibit or control the import or export of any controlled article for the purpose of resale in or export from any area specified without his written permission;
 - (d) prohibit or control the movement of controlled articles between any specified areas;
 - (e) limit the wholesale or retail dealing in any controlled article to persons holding licences or permits therefor under this Act or any rules made thereunder;
 - (f) restrict the sale of any controlled article either by any individual or generally by all persons dealing in the article in any manner in which he thinks fit;
 - (g) prescribe such forms as he may think necessary in connection with the matters referred to in paragraphs (a) to (f); and
 - (h) declare any act or omission in contravention of the provisions of any order to be an offence under this Act and prescribe penalties therefor provided that no penalty so prescribed shall exceed the maximum penalty prescribed by section 16 in corresponding circumstances.

Orders to be presented to Parliament.

6. Any order made by the Price Controller under section 4, 5 or 8 shall be published in the *Gazette* and shall be presented to Parliament as soon as possible after publication and if a resolution is passed pursuant to a motion notice whereof has been given for a sitting day not later than the first available sitting day of Parliament next after the expiry of one month from the date when an order was so presented annulling the order or any part thereof as from a specified date, the order or such part thereof, as the case may be, shall thereupon become void as from that date but without prejudice to anything previously done thereunder or to the making of a new order.

Seller to display list of prices.

7. Any person who deals in any price-regulated goods shall display in English and in any other language ordered by the Price Controller, in a prominent manner and in a conspicuous position so that it can be easily read and is clearly legible to customers in those parts of his business premises where price-regulated goods are dealt in, a list of the current maximum prices of the price-regulated goods in which he deals and any such person who fails to do so shall be guilty of an offence.

Controller may order display of prices of any goods or class of goods.

8. The Price Controller may by order published in the *Gazette* from time to time require any person who sells by retail any goods or class of goods specified in the order to exhibit clearly and conspicuously in such manner as may be prescribed the price demanded by him for the sale of those goods and any person failing to comply with any such order shall be guilty of an offence.

Offence to sell above fixed price.

9. —(1) Any person who sells any price-regulated goods or performs any service at a price which exceeds the maximum price fixed therefor shall be guilty of an offence.

(2) Any person who knowingly purchases or offers to purchase any price-regulated goods or who knowingly pays or offers to pay for a service a charge which exceeds the maximum charge fixed therefor shall be guilty of an offence.

Refusal to sell goods.

10. Any person carrying on a business in the course of which price-regulated goods are normally sold and who has in his possession a stock of such goods, who —

(a) falsely denies that he has those goods in his possession; or

(b) refuses, except with the permission of the Price Controller, to sell those goods in reasonable quantities,

shall be guilty of an offence:

Provided that it shall be a good defence to a charge under paragraph (b) that the accused had reasonable grounds for believing that the purchaser was unable or unwilling to make immediate payment of the price of the goods in cash.

General powers of Price Controller.

11. The Price Controller or any Deputy Price Controller or any person authorised in writing by any of them is hereby empowered —

(a) to enter and inspect any premises in the occupation or under the control of any trader, manufacturer, producer, commission agent, clearing and forwarding agent or auctioneer;

(b) to examine any books, accounts or other documents relating to the trade or business of any trader, manufacturer, producer, commission agent, clearing and forwarding agent or auctioneer, and to require a copy of any such book, account or other document or of the record of any transaction duly certified by the trader, manufacturer, producer, commission agent, clearing and forwarding agent or auctioneer to be produced to him, and further to require that any of those books, accounts or other documents be deposited at his office for examination; and where any of those books, accounts or other documents or records are in a language other than the English language and he is satisfied that the trader, manufacturer, producer, commission agent, clearing and forwarding agent or auctioneer can provide or obtain a translation thereof in the English language, to require such a translation;

(c) to require in such manner as he may consider sufficient, any trader, manufacturer, producer, commission agent, clearing and forwarding agent or auctioneer to furnish verbally or in writing and in such form as may be required any information in relation to his trade or business; and

(d) to require any trader, manufacturer, producer or commission agent to submit to him samples of any goods in which he deals.

Powers of arrest and seizure.

12. —(1) A price inspector if so authorised by the Price Controller or any Deputy Price Controller in writing or any police officer or officer of customs if so authorised by the Price Controller in writing may —

(a) arrest without warrant any person whom he reasonably suspects of having committed an offence under this Act if such person refuses to furnish his name and address or furnishes an address outside Singapore or there are reasonable grounds for believing that he has furnished a false name or address or that he is likely to abscond:

Provided that when any person has been arrested as aforesaid he shall be thereafter dealt with as provided by section 32 of the Criminal Procedure Code; and

Cap. 68.

(b) seize any article which he considers it necessary to seize in relation to the evidence necessary to establish the commission of any such offence.

(2) A price inspector if so authorised by the Price Controller or a Deputy Price Controller and any police officer not below the rank of sergeant may without the order of the Public Prosecutor exercise the special powers in relation to police investigations given by the Criminal Procedure Code in any seizable case.

34/73.

(3) Any prosecution in respect of an offence under this Act may be conducted by the Public Prosecutor or by a Deputy Public Prosecutor or by the Price Controller or by any officer appointed under this Act or under the Control of Essential Supplies Act or by any police officer not below the rank of sergeant.

21/73.

Cap. 55.

Offence to obstruct authorities.

13. Any person who obstructs any person authorised under this Act to enter and inspect any premises or to examine any books, accounts or other documents, or any person who refuses or delays or fails to produce any books, accounts or other documents or certified copies or translations thereof relating to his trade or business, or who refuses to furnish any information or furnishes false information upon

demand being made by a person authorised by this Act, or any person who fails to comply with any order given under this Act, shall be guilty of an offence.

Saving.

14. No proceedings shall be instituted under this Act against any person duly authorised in that behalf by the Price Controller who has knowingly purchased goods at a price in excess of that fixed, or in excess of the permitted price, or who has paid a charge for a service in excess of the fixed charge, with the intention of procuring evidence for the purpose of prosecuting the seller for an offence under this Act.

Attempts and abetments.

15. —(1) Any person attempting to commit or abetting the commission of an offence under this Act shall be guilty of an offence.

(2) The expressions “attempting to commit” and “abetting the commission of” an offence used in subsection (1) have the same meaning as they have in the Penal Code.

Cap. 224.

Penalties.

16. —(1) Any person, other than a body corporate, but including a director or officer of a body corporate, who commits an offence under this Act shall be liable, where no other penalty is specifically provided for such an offence, to a fine not exceeding \$2,000 or to imprisonment for a term not exceeding 2 years or to both, and in the case of a second or subsequent offence to a fine not exceeding \$20,000 or to imprisonment for a term not exceeding 5 years or to both.

(2) Any body corporate which commits an offence under this Act shall be liable on conviction to a fine not exceeding \$10,000 and in the case of a second or subsequent offence to a fine not exceeding \$20,000.

(3) Where a trader or commission agent is convicted of an offence under this Act the court by which he is so convicted may, in addition to any other penalty, make an order debarring him or any firm of which he is a partner or any corporation of which he is an officer, from carrying on business for such period as the court may determine. Any person who fails to comply with any such order shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$20,000 or to imprisonment for a term not exceeding one year or to both.

(4) Where a person charged with an offence under this Act is a body corporate every person who, at the time of the commission of the offence, was a director or officer of the body corporate may be charged jointly in the same proceedings with the body corporate, and where the body corporate is convicted of the offence, every such director or officer shall be deemed to be guilty of that offence unless he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of the offence.

(5) In any proceedings under subsection (4) jointly against a body corporate and a director or officer thereof for an offence under this Act any evidence that the body corporate was guilty of the offence shall be deemed to be evidence that the director or officer was guilty of that offence.

(6) Any person who would have been liable under any of the provisions of this Act to any penalty for anything done or omitted if the thing had been done or omitted by him personally shall be liable to the same penalty if the thing has been done or omitted by his partner, agent or servant, unless he proves to the satisfaction of the court that he took all reasonable precautions to prevent the doing or omission of the thing.

(7) A District Court shall have power to try any offence under this Act and may impose the full penalty provided by this Act or by any order or rule made under this Act.

Delegation of powers.

17. The Price Controller may in writing delegate all or any of his powers, duties or functions under the provisions of this Act to any Deputy Price Controller, Assistant Price Controller, or any other person approved by the Minister, and may at any time revoke or vary such a delegation:

Provided that no such delegation shall be deemed to divest the Price Controller of all or any of his powers, duties or functions and he may if he thinks fit exercise such powers, duties or functions, notwithstanding the fact that he has so delegated them.

Rules.

18. —(1) The Minister may from time to time make rules generally to give effect to the provisions of this Act and by such rules may confer upon the Price Controller such powers as he thinks fit.

(2) Without prejudice to the generality of subsection (1) the Minister may by such rules —

(a) provide for the keeping of books of account and other records relating to any trade or business in the course of which price-regulated goods or controlled articles are sold;

(b) prescribe the manner in which such books and records shall be disposed of or preserved;

(c) prescribe such invoices as he may think fit to be supplied to purchasers by any person selling price-regulated goods or controlled articles;

(d) empower the Price Controller to certify any fact in relation to any sale of price-regulated goods or controlled articles and provide for the admissibility of any such certificate in evidence in any proceedings instituted under this Act;

(e) prescribe marks or labels to be affixed to price-regulated goods or controlled articles or containers of such price-regulated goods or controlled articles indicating the quality, grade, price or place of origin of such price-regulated goods or controlled articles; and

(f) declare any act or omission in contravention of the provisions of any rule to be an offence under this Act and prescribe penalties therefor:

Provided that no penalty so prescribed shall exceed the maximum penalty prescribed by section 16 in corresponding circumstances.

(3) Any rules made by the Minister under this Act shall be published in the *Gazette*.

(4) Such rules shall be presented to Parliament as soon as possible after publication.

(5) Such rules shall remain in force until disapproved or altered by a resolution of Parliament.

(6) Any rule altered by a resolution of Parliament shall come into force as altered from the date of the passing of the resolution and shall have the same force and effect as if enacted in this Act.

Forms.

19. The Price Controller may prescribe forms for use under this Act.

COUNTRY REPORT

Thailand

1. Rice Production

Thailand in 2001/02, ranks sixth in the world in terms of rice production volume, trailing behind China, India, Indonesia, Bangladesh, and Vietnam.

World Rice Production (1998/99 – 2001/02)

Country	1998/99	1999/00	2000/01	2001/02
China	198,714	198,480	187,910	186,000
India	129,013	134,223	129,463	130,513
Indonesia	50,791	52,919	50,633	51,424
Bangladesh	29,784	34,602	36,004	35,254
Vietnam	30,467	31,706	31,106	31,818
Thailand	23,000	25,000	25,500	1/ 25,607
Burma	16,034	17,000	17,000	17,000
Philippines	10,268	11,957	12,454	12,462
Japan	11,201	11,470	11,863	11,676
Brazil	11,582	11,424	10,368	10,588
United States	8,530	9,345	8,657	8,991
Korea, South	6,800	7,066	7,199	7,211
Pakistan	7,012	7,735	7,051	6,751
Egypt	4,198	5,826	6,000	6,000
EU	2,694	2,702	2,462	2,701
Taiwan	1,859	1,986	1,906	1,965
Australia	1,362	1,101	1,761	1,399
Others	42,252	42,879	41,448	41,850
World Total	585,589	607,431	588,785	589,210

Units : Thousand metric tons

Source: USDA, Foreign Agricultural Services (FAS), August 2001

1/ Thailand Ministry of Agriculture and Cooperative (MOAC)

In general, after a drop in world's rice production in 2000/01 crop year, global rice output will gradually pick up the speed. In 2001/02, the USDA predicts a slight increase in global rice production to 589.103 million metric tons, up from 588.785 million metric tons. While Thai rice production in 2001/02, according to MOAC is expected to slightly increase at 25.607 million metric tons.

2. Rice Consumption

Thailand consumes 9.9 million metric tons in 2000/01 and is predicted to increase the consumption to approximately 10 million metric tons in 2001/02. The Thai consumption trend is in line with the world rice consumption that has increased for the last three years. This upward trend is predicted to continue in 2000/01, when the world will consume up to 405.856 million metric tons of rice up from 400.971 million metric tons. China, the world's most populous country, produces and also consumes the most rice. In general, rice consumption has increased in every country from year to year.

World Rice Consumption (1998/99 – 2001/02)

Country	1998/99	1999/00	2000/01	2001/02
China	136,000	133,763	134,337	136,110
India	81,160	82,450	83,500	85,000
Indonesia	35,504	25,400	35,877	36,358
Bangladesh	20,750	23,666	23,950	24,025
Vietnam	16,613	16,767	16,958	17,100
Burma	9,276	9,330	9,350	9,450
Japan	9,100	9,450	9,300	9,300
Thailand	8,900	9,600	9,900	10,000
Philippines	8,000	8,400	8,750	8,815
Brazil	8,180	7,956	7,958	8,000
World Total	388,792	398,518	400,971	405,856

Unit: Thousand metric tons

Source: USDA, Foreign Agricultural Service (FAS), August 2001.

3. Exports

Thailand is projected to remain the world's top rice exporter for the year 2001, according to the USDA. Following closely behind is Vietnam while the United States is ranked third. Thai rice exports were expected to reach 7.55 million metric tons in 2001, representing a 14.4 percent increase from 6.54 million tons recorded in 2000. However, in value terms, rice exports generated just US\$ 1.57 billion, an 8.8 per cent drop when compared with US\$ 1.72 billion recorded in 2000. This is being attributed to the global decline in prices during 2001. The growth in export volume during 2001 can be attributed to several factors. Regular sales and shipments were made to long established markets in Africa and the Middle East, while there was a high level of production and plenty of stocks. The price of Thai rice became more competitive when compared with Vietnamese rice, while the government stepped in to the market through its paddy intervention program that is budgeted at Baht 20,000 million (US\$ 450 million) annually.

World Rice Export (1998-2002)

Country	1998	1999	2000	2001	2002
Thailand	6,367	6,679	6,610	1/ 7,550	1/ 7,000
Vietnam	3,776	4,555	3,370	4,000	4,300
United States	3,165	2,650	2,756	2,650	2,650
Pakistan	1,800	1,837	2,026	2,250	2,000
China	3,734	2,708	2,951	1,800	2,000
India	4,491	2,554	1,449	800	1,000
Uruguay	639	685	642	700	650
Australia	542	661	617	675	700
Burma	94	57	159	350	250
EU	346	350	308	350	350
Argentina	589	654	473	275	250

Country	1998	1999	2000	2001	2002
Guyana	250	300	167	175	150
Others	1,477	1,372	785	940	524
World Total	27,270	25,062	22,939	2,255	22,439

Units: Thousand metric tons

Source: USDA, Foreign Agricultural Service (FAS), August 2001.

1/ Thailand, Ministry of Commerce, as of December

Thailand has historically competed with the United States when it comes to export of higher varieties to the E.U, the Middle East and South Africa, while Vietnam, India and Pakistan are Thailand's greatest rivals when it comes to exporting low to medium quality varieties.

Due to many emerging markets and an increasingly intense global market competition, Thailand's major importers have changed positions from 1999 to 2000. Thailand's biggest customer, Indonesia, had abandoned its switch from importing rice from Thailand to Vietnam. As a result, in 2000, Indonesia's imports dropped tremendously from 1,119,826 metric tons to a mere 250,361 metric tons. Nigeria, Senegal, and Iran, in 2000, had taken the first, second and third places as Thailand's biggest export destinations. In 2001, most of Thailand's biggest customers will be in the African region.

Thai Rice Export Classified by Destinations

Country	1997	1998	1999	2000	2001(Est.)
Nigeria	584,567	517,828	683,880	574,151	1,600,000
Senegal	90,500	174,339	368,711	625,766	820,000
Iran	361,785	369,179	335,895	611,198	320,000
South Africa	186,593	293,218	321,082	428,910	340,000
Malaysia	485,032	354,905	317,997	330,519	350,000
Iraq	187,055	160,150	214,983	288,225	
China, P.R.	320,887	254,799	174,087	272,298	
Singapore	274,150	254,365	285,040	263,167	290,000
Hong Kong	248,042	228,098	257,154	254,215	270,000
Indonesia	513,944	1,736,452	1,119,826	250,361	450,000
U.S.A	214,836	224,298	243,548	243,705	280,000
Japan	169,320	69,565	140,146	143,617	
Yemen	68,900	89,829	89,829	140,650	
United Arab Emirate	28,748	44,643	209,756	140,098	
Benin	50,604	26,540	122,159	100,250	
Ghana	30,342	46,130	94,439	93,255	
Saudi Arabia	66,686	66,146	72,733	67,705	
Ivory coast	16,664	70,033	119,201	57,005	310,000
Togo	132,323	212,993	211,519	53,076	
Philippines	11,924	89,750	93,477	26,644	

Quantity(Metric tons)

Source: Department of Foreign Trade, Thailand Ministry of Commerce

Export prospects for 2002

The volume of rice traded worldwide in 2002 is expected to reach 23 million tons. Despite intense competition in the world market, Thailand's rice exports should continue to grow. Lower output will lead to a decrease in rice stocks worldwide amid an increase in consumption. Moreover, China's accession into the World Trade Organization (WTO) should favor Thai rice exports through a much larger quota. In light of this, Thailand's total rice exports this year are unlikely to fall below 7.00 million tons, according to Thailand's Ministry of Commerce.

4. Rice Stock**Thai Rice Stock Balance (paddy basis)**

Year	Supply			Demand			
	Beginning Stock	Production	Total	Local Consumption	Export	Ending Stock	Total
1996/97	3.344	22.332	25.676	13.719	7.886 (5.025)	4.071	25.676
1997/98	4.071	23.580	27.651	13.651	9.992 (6.597)	4.008	27.651
1998/99	4.008	22.999	27.007	13.389	10.093 (6.661)	3.525	27.007
1999/00	3.525	24.172	27.697	13.600	9.232 (6.093)	4.865	27.697
2000/01	4.865	25.608	30.473	14.163	10.590 (6.989)	5.720	30.473
Inc.(%)	6.24	1.67	3.50	0.60	5.24	9.13	3.50

Unit: Million tons in paddy

Note: In () milled rice basis

Source: Thai Chamber of Commerce

With the global market share of 23%, Thailand produced approximately 25 million metric tons of rice in the year 2000/01. Local consumption consumed 55% of production or 14.16 million metric tons of paddy rice. About 10.59 million metric tons of paddy rice or an equivalent of 6.989 million metric tons of milled rice were expected to export. Thai rice reserve at the end of 2000/01 is expected at 5.72 million tons of paddy rice.

5. Present Situation of Rice in Thailand**5.1 Rice Growing**

In 2001, Thailand's Rice Growing area amount to 65.639 million rai (6.25 rai = 1 hectare). Rice production is scattered throughout the country's six major regions:

Upper northern: This region concentrates on glutinous rice cultivation, although the land is also dedicated to growing other varieties of rice.

Lower northern: The second largest production plain, this region is suitable for growing many variety of rice, including White rice and Jasmine rice. Because of the fertile land, the lower northern region produces high quality rice in a large quantity.

Central plain: Thailand's largest rice production area resides in the central plain. Rice production continues all year round, circulating through all 3 possible production cycles in a year. The central plain benefits from a massive irrigation systems and enriched land pieces. Most of the rice grown in this region is for exports.

Upper northeastern and Lower northeastern: This region is well known for cultivating both glutinous and fragrant rice. However, due to unpredictable climate as draughts and floods, the upper and lower northeastern region is not suitable for a year round rice production.

Southern: The smallest rice growing area in the country. In this region, rice is mostly grown in a small scale, only for regional consumption.

5.2 Growing Seasons

For North, Northeast and Central regions, growing season starts in May and ends in July, the harvesting season begins in November and ends in December. In the South and other regions, growing season is between November and December; the harvesting season starts from March and ends in May.

	Land Use and Rice Production						
	Area (Million hectares)			Production (Million metric tons)			Yield (ton/ha)
	In season	Out of season	Total	In season	Out of season	Total	
1992	8.828	0.719	9.547	17.518	2.882	20.400	2.14
1993	9.007	0.665	9.672	17.302	2.615	19.917	2.06
1994	8.984	0.496	9.480	16.483	1.965	18.448	1.95
1995	9.020	0.688	9.708	18.161	2.950	21.111	2.17
1996	9.185	0.951	10.136	17.729	4.286	22.015	2.17
1997	9.167	1.030	10.196	17.782	4.550	22.332	2.19
1998	9.113	1.157	10.270	18.789	4.791	23.580	2.30
1999	8.998	1.033	10.032	18.663	4.336	22.999	2.29
2000	9.053	1.258	10.311	19.016	5.156	24.172	2.34
2001	9.108	1.395	10.502	19.552	6.055	25.607	2.44

Source: Ministry of Agriculture and Cooperative

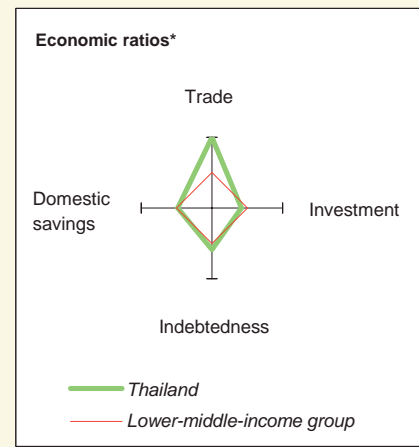
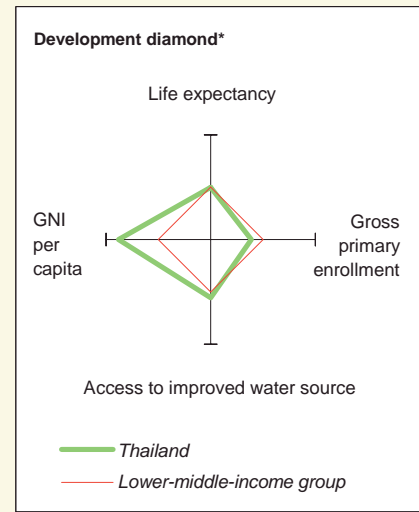
Thailand's land use in rice production has shown an increasing trend, the total land devoted to rice production increased to 10.502 million hectares (1 hectare = 6.25 rai) in 2001. Productivity also increased tremendously from 20.14 million metric tons in 1992 to 25.6 million metric tons in 2001 (19.6 million tons of main crop or in season and 6.0 million tons of second crop or out of season), represented 2.44 metric ton per hectare.

The 2002 rice output is expected to be 25.0 million tons (19.0 million tons of main crop and 6.0 million tons of second crop). The 2002 main rice crop production in the Northeast is estimated to be slightly than 2001 record production as the rainfall pattern will not be as ideal as last year.

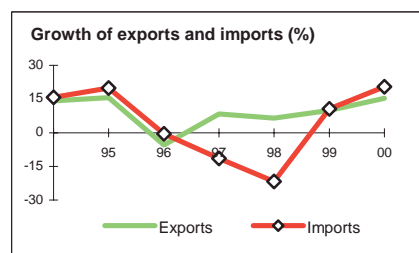
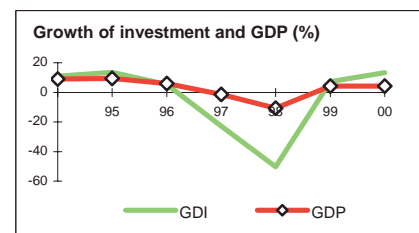
Thailand at a glance

9/6/01

	Thailand	East Asia & Pacific	Lower-middle-income		
POVERTY and SOCIAL					
2000					
Population, mid-year (millions)	60.7	1,853	2,046		
GNI per capita (Atlas method, US\$)	2,010	1,060	1,140		
GNI (Atlas method, US\$ billions)	121.8	1,964	2,327		
Average annual growth, 1994-00					
Population (%)	0.7	1.1	1.0		
Labor force (%)	1.2	1.4	1.3		
Most recent estimate (latest year available, 1994-00)					
Poverty (% of population below national poverty line)**	16	..	..
Urban population (% of total population)	20	35	42		
Life expectancy at birth (years)	69	69	69		
Infant mortality (per 1,000 live births)	28	35	32		
Child malnutrition (% of children under 5)	..	13	11		
Access to an improved water source (% of population)	89	75	80		
Illiteracy (% of population age 15+)	5	14	15		
Gross primary enrollment (% of school-age population)	89	119	114		
Male	..	121	116		
Female	..	121	114		
KEY ECONOMIC RATIOS and LONG-TERM TRENDS					
	1980	1990	1999	2000	
GDP (US\$ billions)	32.4	85.3	122.1	121.9	
Gross domestic investment/GDP	29.1	41.4	19.9	22.4	
Exports of goods and services/GDP	24.1	34.1	58.5	66.4	
Gross domestic savings/GDP	22.9	33.8	32.6	30.6	
Gross national savings/GDP	22.7	32.8	30.1	30.4	
Current account balance/GDP	-6.4	-8.4	10.2	7.5	
Interest payments/GDP	1.5	1.6	4.6	2.6	
Total debt/GDP	25.6	33.0	78.9	65.8	
Total debt service/exports	18.9	16.9	21.8	14.9	
Present value of debt/GDP	77.3	..	
Present value of debt/exports	125.3	..	
	1980-90	1990-00	1999	2000	2000-04
<i>(average annual growth)</i>					
GDP	7.6	4.2	4.2	4.3	3.7
GDP per capita	5.7	3.3	3.4	3.5	2.2
Exports of goods and services	14.1	9.5	9.9	15.4	6.1



	1980	1990	1999	2000
STRUCTURE of the ECONOMY				
<i>(% of GDP)</i>				
Agriculture	23.2	12.5	11.2	10.5
Industry	28.7	37.2	39.3	40.1
Manufacturing	21.5	27.2	31.1	31.9
Services	48.1	50.3	49.5	49.4
Private consumption	64.8	56.8	56.1	57.8
General government consumption	12.3	9.4	11.3	11.6
Imports of goods and services	30.4	41.7	45.8	58.1
	1980-90	1990-00	1999	2000
<i>(average annual growth)</i>				
Agriculture	3.9	2.1	2.6	2.2
Industry	9.8	5.3	9.8	5.1
Manufacturing	9.5	6.4	11.9	5.9
Services	7.3	3.7	-0.1	4.1
Private consumption	6.2	4.2	2.6	1.2
General government consumption	4.2	5.1	0.9	6.5
Gross domestic investment	9.5	-4.1	7.2	13.2
Imports of goods and services	11.3	4.3	10.6	20.4



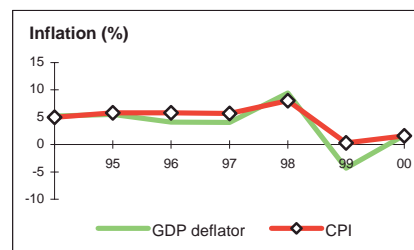
Note: 2000 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

** Poverty data is for the year 1999, at \$1.50 a day.

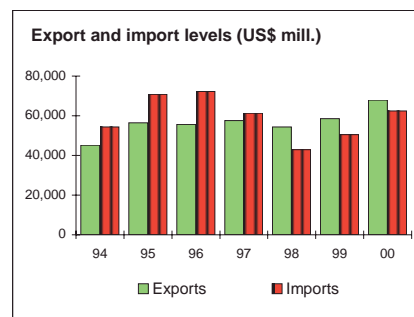
PRICES and GOVERNMENT FINANCE

	1980	1990	1999	2000
Domestic prices (% change)				
Consumer prices	19.8	5.9	0.3	1.6
Implicit GDP deflator	12.7	5.8	-4.3	1.7
Government finance (% of GDP, includes current grants)				
Current revenue	14.2	18.4	15.5	15.1
Current budget balance	-0.1	7.2	-3.7	-4.4
Overall surplus/deficit	-4.6	4.5	-4.6	-5.4



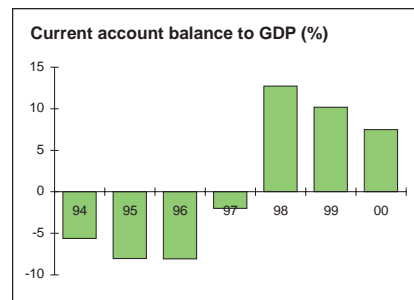
TRADE

(US\$ millions)	1980	1990	1999	2000
Total exports (fob)	6,449	22,881	58,549	67,942
Rice	953	1,089	1,952	1,640
Rubber	603	925	1,162	1,525
Manufactures	..	16,588	49,339	59,766
Total imports (cif)	9,215	33,006	50,434	62,423
Food	356	1,526	1,990	2,003
Fuel and energy	2,868	3,062	4,340	6,833
Capital goods	..	12,808	24,021	29,942
Export price index (1995=100)	..	115	87	85
Import price index (1995=100)	..	125	93	99
Terms of trade (1995=100)	..	92	94	86



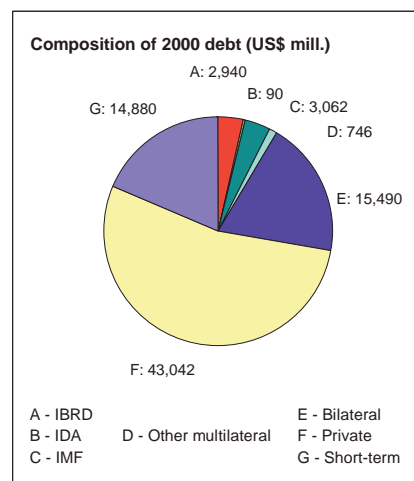
BALANCE of PAYMENTS

(US\$ millions)	1980	1990	1999	2000
Exports of goods and services	7,939	29,301	71,410	70,221
Imports of goods and services	9,996	35,803	56,345	65,932
Resource balance	-2,057	-6,502	15,065	4,289
Net income	-229	-854	-2,991	3,766
Net current transfers	216	212	354	1,083
Current account balance	-2,070	-7,144	12,428	9,138
Financing items (net)	1,909	10,929	-7,183	-11,258
Changes in net reserves	161	-3,785	-5,245	2,120
Memo:				
Reserves including gold (US\$ millions)	3,026	14,273	34,781	32,661
Conversion rate (DEC, local/US\$)	20.5	25.6	37.8	40.1



EXTERNAL DEBT and RESOURCE FLOWS

(US\$ millions)	1980	1990	1999	2000
Total debt outstanding and disbursed	8,297	28,165	96,335	80,250
IBRD	671	2,421	2,723	2,940
IDA	32	109	93	90
Total debt service	1,617	5,295	16,380	11,948
IBRD	79	396	353	396
IDA	1	2	4	4
Composition of net resource flows				
Official grants	75	193	..	..
Official creditors	548	98	2,168	457
Private creditors	1,274	1,506	-6,269	-6,856
Foreign direct investment	..	2,542	3,562	2,812
Portfolio equity	0	449	946	897
World Bank program				
Commitments	632	174	1,000	0
Disbursements	150	174	806	456
Principal repayments	26	209	183	185
Net flows	124	-35	623	272
Interest payments	54	189	174	179
Net transfers	70	-224	450	92



Thailand Social Indicators

	Latest single year			Same region/income group	
	1970-75	1980-85	1993-99	East Asia & Pacific	Lower-middle-income
POPULATION					
Total population, mid-year (millions)	41.4	51.1	60.2	1,836.6	2,093.0
Growth rate (% annual average for period)	2.9	1.8	0.7	1.2	1.1
Urban population (% of population)	15.1	17.9	21.3	34.5	42.9
Total fertility rate (births per woman)	4.5	2.8	1.9	2.1	2.1
POVERTY					
<i>(% of population)</i>					
National headcount index	..	..	..	..	..
Urban headcount index	..	..	..	..	..
Rural headcount index	..	..	..	..	..
INCOME					
GNI per capita (US\$)	390	810	2,010	1,010	1,200
Consumer price index (1995=100)	32	65	121	136	137
Food price index (1995=100)	..	59	126	..	..
INCOME/CONSUMPTION DISTRIBUTION					
Gini index	..	..	41.4	..	..
Lowest quintile (% of income or consumption)	5.6	..	6.4	..	..
Highest quintile (% of income or consumption)	49.6	..	48.4	..	..
SOCIAL INDICATORS					
Public expenditure					
Health (% of GDP)	..	..	1.9	1.7	2.3
Education (% of GNI)	3.5	3.8	4.8	2.9	4.8
Social security and welfare (% of GDP)	0.7	0.6	0.8	..	..
Net primary school enrollment rate					
<i>(% of age group)</i>					
Total	..	..	..	100	99
Male	..	..	..	100	100
Female	..	..	..	100	99
Access to an improved water source					
<i>(% of population)</i>					
Total	..	66	80	75	80
Urban	..	..	89	93	94
Rural	..	..	77	66	69
Immunization rate					
<i>(% under 12 months)</i>					
Measles	..	22	94	83	87
DPT	..	47	97	82	87
Child malnutrition (% under 5 years)	..	..	19	12	9
Life expectancy at birth					
<i>(years)</i>					
Total	61	66	69	69	69
Male	59	63	67	67	67
Female	63	68	71	71	72
Mortality					
Infant (per 1,000 live births)	60	42	28	35	32
Under 5 (per 1,000 live births)	102	58	33	44	40
Adult (15-59)					
Male (per 1,000 population)	327	280	240	184	191
Female (per 1,000 population)	259	210	147	141	133
Maternal (per 100,000 live births)	..	..	44	..	..
Births attended by skilled health staff (%)	..	52	95	..	..

Note: 0 or 0.0 means zero or less than half the unit shown. Net enrollment ratios exceeding 100 indicate discrepancies between the estimates of school-age population and reported enrollment data. Latest year for access to improved water source data is 2000.

2001 World Development Indicators CD-ROM, World Bank

COUNTRY REPORT

Vietnam

1. Rice Production

Paddy is the most important food tree of Vietnam. Paddy is planted in over 50% of agricultural land and more than 60% of annual cultivation areas. Rice production accounts for 43% of the gross value of agricultural products and influences all social aspects of rural life. Renovation process in the direction of maximizing self-determination of farmers in production and free trade has made great incentive for encouraging for rice production and export development.

1.1 Overview

Production Area :	The Red River Delta in the north : nearly 85% of the area is irrigated. The Mekong River Delta in the south : farmers in some irrigated areas grow 3 rice crops a year. New canals built in the region have converted more than 300,000 hectares of floating rice areas to irrigation, but more than 60% of the south's ricelands remain rainfed with shallow to medium flood depths, or tidal wetlands.
Cropping Pattern :	There are different methods of rice cultivation according to the climatic region. <ol style="list-style-type: none"> 1. Dry paddy method Farmers in the north, where the temperature is milder, grow their rice by the dry paddy method. 2. Wet paddy method In the south, where the climate is tropical, the rice is grown using the wet paddy method. The hot, wet and humid climate of the south Mekong Delta support the growing of three crops per year. The growing process used by the rice farmers determines the varieties of rice grown.
Major Crops :	Vietnam produces three major crops a year. <ol style="list-style-type: none"> 1. 10-month crop Accounting for nearly 30% of production and is harvested between November and February in the south. This crop is declining in area and is the lowest yielding of Vietnam's three crops. 2. Winter-spring crop Accounting for more than 45% of total production and is harvested in February – March.⁶ The winter-spring crop has expanded more than 75% since 1988/89 and has the highest yield of the three crops. The winter-spring crop accounts for the bulk of Vietnam's export. 3. Summer-autumn crop Accounting for more than 24% of annual production and is harvested in July through September.
Paddy Sown Area :	Increase from 6 million ha in 1990 to 8.3 million ha in 1997 or even 8.9 million ha in 1999.

⁶ The harvest dates are for production occurring in southern Vietnam. Harvest dates differ in the north, but most rice production occurs in the south.

Crop and Seasonality Structure :	<p>Since 1999, crop and seasonality structure has been positively changed towards increasing land area for planting paddy :</p> <ul style="list-style-type: none"> - Winter-spring paddy → increased from 2.1 to 2.89 million ha - Summer-autumn paddy → increased from 1.2 to 2.35 million ha - Winter paddy (low yielding) → decreased from 2.74 to 2.4 million ha <p>New rice varieties have been applied over 87% of the planting area.</p>
Production :	<p>1999/00 crop : 20.30 million tons (milled basis) 2000/01 crop : 20.90 million tons (milled basis) Severe flood in late summer and early fall in 2000 is estimated to have reduced plantings of Vietnam's 2001/02 10-month crops and will likely delay planting of the country's main winter-spring crop as well. The year 2000 saw serious flooding in some areas, affecting 6% of the summer crop but destroying less than 1% of the crop.</p>
Paddy Yield :	<p>Higher intensive farming and more advanced technologies have made paddy yield increase stably, from 3.69 tons/ha in 1995 to 4.1 tons/ha in 2000. Overall food production in Vietnam increased by 19% between 1996 and 2000. Vietnam produced 32.6 million tons of rice paddy in 2000, up from 26.4 millions in 1996 (increase of 23%). As a result, paddy production per head increased from 361 kg in 1996 to 419 kg per head in 2000.</p>
Rice output & Supply :	<p>The supply of rice in Vietnam is seasonal with food shortages historically being experienced just before the Winter-spring harvest in the first few months of the year.</p>
Government Control System :	<p>Vietnam implementing comprehensive reform pointed out by the 6th Session of Vietnam Communist Party (Dec 1986) with its core of economic reform, agricultural sector has made great changes in the agricultural contracted system (1988), land distribution to farmers, considering farmers' households as economic units. As a result, from a rice importer of 450,000 tons in 1988, Vietnam became an exporter of 1 million tons of rice in 1989, making kick start for the appearance of rice and other agricultural products of Vietnam in the world market. Further by the 7th and 8th session of Vietnam Communist Party, agriculture sector has experienced prompt, robust and comprehensive transformation, from a self-sufficient economy to commercial one.</p>

Table 1 : Area of Food Crop Growing and Rice Production (Unit : 1000ha, 1000tons)

	1996	1997	1998	1999	2000 (prel.)	2001 (est.)
Yearly food crop growing area	8,217.3	8,330.4	8,586.8	8,868.4	N/A	N/A
Of which rice	7,003.8	7,099.7	7,362.7	7,648.1	7,654.9	7,400
Food production	29,217.9	30,618.1	31,853.9	34,253.9	N/A	N/A
Of which rice	26,396.7	27,523.9	29,145.5	31,393.8	32,554.0	31,900

Source : Ministry of Agriculture and Rural Development's 5-year Plan (2001-2005),
Part I on situation of agricultural and rural areas during 1996-2000

1.2 Paddy Yield

Rice yield in Vietnam is relatively high because of the extensive adoption of the high yielding varieties. The push toward increase in production has accomplished its target. There are still limited high quality rice cultivation with low yield.

Table 2 : Area, Yield and Production of Paddy Rice

Year Parameters	1997	1998	1999	2000 (Preliminary)	2001 (Estimated)
Area ('000 ha)	7,099.7	7,362.7	7,653.6	7,654.9	7,400
Yield (MT/ha)	3.88	3.96	4.10	4.25	4.31
Production (million MT)	27.523	29.145	31.393	32.554	31.90

Notes : production data are in Rough basis

Source : 1. Vietnam's Statistical Year Book 2000

2. Vietnam's Country Paper on Domestic Rice Policy, submitted to the First Technical Meeting on Rice Reserve (TMRR) in Bangkok, 19 April 2002

1.3 Cropping Seasons

There are three cropping seasons in Vietnam.

Table 3 : Cropping Seasons

Cropping Season	Planting	Harvesting
Lua Mua Crop	May - Aug	Sep – Dec
Winter – Spring Crop	Dec – Feb	Apr – Jun
Summer – Autumn Crop	Apr – Jun	Aug – Sep

Source : Food and Agriculture Organization (FAO)

2000/01 Lua Mua Crop²

In the North, the harvest of the Lua Mua crop will completed by the middle of December. According to the Ministry of Agricultural and Rural Development (MARD)'s statistical data, the harvested Lua Mua area in 2001 was 1,260 thousand hectare of which 525 thousand hectares were in the Red River Delta. The crop yield was estimated at 4.05 metric tons per hectare (MT/ha).

In the South, the Lua Mua crop is being harvested. As of Jan 5, 2002, 620 thousand hectares of Lua Mua rice area had been harvested in the southern provinces, accounting for 70% of the southern planted area. The Lua Mua area harvested in the Mekong River Delta was 200 thousand hectares or

² Source : Oryza Market Report – Vietnam (as at Jan 17, 2002)

about 50% of the Mekong River Delta Lua Mua growing area. MARD estimates the southern crop yield at 2.85 mt/ha.

2002's Winter-Spring Crop

In the North, a small area (about 14 thousand hectares) of the early winter-spring paddy was planted in Ha Tinh and Thua Thien Hue provinces of the North Coastal region. The remainder of the winter-spring crops will be sown over the next two months.

In the South, the 2002's winter-spring rice is being sown. As of Jan 5, 2002, farmers in the southern provinces have sown 1,535 thousand hectares of which 1,319 thousand hectares is in the Mekong River Delta. By the middle of January, the sowing of the winter-spring rice crop will be completed in the Mekong River Delta. Mekong River Delta provinces plan to grow about 1.49 million hectares of winter-spring paddy with an estimated production of 8 million tons.

Table 4 : Production Zones (by region)

Production Zone	Region	Harvested Area (% of total harvested area)	Production (unit : million ton, milled basis)			
			1997/98	1998/99	1999/00	2000/01
Production (overall)			18.94	20.40	20.30	20.90
Dac Lac	Central Highlands	1.16%	0.22	0.24	0.24	0.24
Gia Lai		0.92%	0.17	0.19	0.19	0.19
Kon Tum		0.29%	0.05	0.06	0.06	0.06
		Total	0.45	0.48	0.48	0.50
An Giang	Mekong River Delta	6.17%	0.01	1.26	1.25	1.29
Kien Giang		5.81%	0.01	1.19	1.18	1.21
Dong Thap		5.61%	0.01	1.14	1.14	1.17
Can Tho		5.55%	0.01	1.13	1.13	1.16
Long An		5.13%	0.01	1.05	1.04	1.07
Minh Hai		4.79%	0.01	0.98	0.97	1.00
Tien Giang		4.31%	0.01	0.88	0.87	0.90
Soc Trang		4.31%	0.01	0.88	0.87	0.90
Vinh Long		2.71%	0.01	0.55	0.55	0.57
Tra Vinh		2.70%	0.01	0.55	0.55	0.56
Ben Tre		1.50%	0.00	0.31	0.30	0.31
			Total	0.11	9.91	9.86	10.16
Thanh Hoa	North Central Coast	3.96%	0.01	0.81	0.80	0.83
Nghe An		2.99%	0.01	0.61	0.61	0.62
Ha Tinh		1.71%	0.0038	0.35	0.35	0.36
Thua Thien Hue		0.78%	0.0017	0.16	0.16	0.16
Quang Binh		0.73%	0.0016	0.15	0.15	0.15
Quang Tri		0.67%	0.0015	0.14	0.14	0.14
		Total	0.02	2.21	2.20	2.27
Ha Bac	North Mountain & Midland	2.98%	0.01	0.61	0.60	0.62
Vinh Phu		2.19%	0.00	0.45	0.44	0.46
Bac Thai		1.20%	0.00	0.24	0.24	0.25
Lai Chau		0.78%	0.00	0.16	0.16	0.16

Production Zone	Region	Harvested Area (% of total harvested area)	Production (unit : million ton, milled basis)			
			1997/98	1998/99	1999/00	2000/01
Quang Ninh		0.73%	0.00	0.15	0.15	0.15
Lang Son		0.70%	0.00	0.14	0.14	0.15
Hoa Binh		0.70%	0.00	0.14	0.14	0.15
Son La		0.69%	0.00	0.14	0.14	0.14
Tuyen Quang		0.63%	0.00	0.13	0.13	0.13
Yen Bai		0.61%	0.00	0.12	0.12	0.13
Cao Bang		0.53%	0.00	0.11	0.11	0.11
Lao Cai		0.52%	0.00	0.11	0.11	0.11
Ha Giang		0.48%	0.00	0.10	0.10	0.10
		Total	0.03	2.60	2.59	2.66
Hai Hung	Red River Delta	3.83%	0.0084	0.78	0.78	0.80
Nam Ha		3.74%	0.0082	0.76	0.76	0.78
Thai Binh		2.70%	0.0059	0.55	0.55	0.56
Ha Tay		2.66%	0.0058	0.54	0.54	0.56
Hai Phong		1.50%	0.0033	0.31	0.30	0.31
Ninh Binh		1.09%	0.0024	0.22	0.22	0.23
Ha Noi		0.89%	0.0020	0.18	0.18	0.19
		Total	0.04	3.35	3.33	3.43
Quang Nam	South Central Coast	1.92%	0.0042	0.39	0.39	0.40
Da Nang		1.92%	0.0042	0.39	0.39	0.40
Binh Dinh		1.45%	0.0032	0.30	0.29	0.30
Quang Ngai		0.94%	0.0021	0.19	0.19	0.20
Phu Yen		0.93%	0.0020	0.19	0.19	0.19
Binh Thuan		0.62%	0.0014	0.13	0.13	0.13
Khanh Hoa		0.48%	0.0011	0.10	0.10	0.10
		Total	0.02	1.69	1.68	1.73

Source : FAO on the harvested area percentage

1.4 Current Situation in Rice Production

(1) Reduction in rice planted area

In 2001, Vietnam has restructured the agricultural production pattern by transforming 130,000 hectares of low productivity rice area in coastal provinces like Ca Mau and Soc Trang in the Mekong River Delta into shrimp farming. Because of better economic returns from this new pattern, farmers along the coast has shifted from rice product to aquaculture farming, causing a shrink in the rice planted area, particularly the Summer-Autumn cropping area.

Table 5 : Vietnam Rice Supply and Utilization (Unit : million tons)

Description	1997/98	1998/99	1999/00	2000/01
Beginning stocks	3.69	4.35	5.42	7.06
Production (milled)	18.94	20.40	20.30	20.90
Import	0	0	0	0
Total Supply	22.63	24.70	25.67	27.50
Domestic use	14.58	14.82	15.06	16.75
Export	3.70	4.51	3.60	4.00
Ending stocks	4.35	5.42	7.06	7.21
Population (million)	76.52	77.52	78.50	79.94
Consumption per capita	0.19	0.19	0.19	0.21

Notes : Data in the above table are in milled basis.

Source : ASEAN Food Security Reserve Board's Country Paper, submitted in the 22nd AFSRB Meeting in Phnom Penh, Cambodia, 28-29 June 2001.

(2) Risks, hazards and shocks affecting rice productions

Typhoons that regularly strike central Vietnam during June to December each year causes heavy rains and brings flooding to all parts of the country, causing widespread damages to its rice crop, particularly Summer/Autumn crop. In each typical year, up to 10% of the summer/autumn crop is affected by floods. However, much of the crop can be recovered with only 1-2% of the crop is completely destroyed. Serious flooding in 1996 and 1997 caused at least 10% crop loss while the damage in the 2000 flooding reportedly caused less than 1% of total crop.

Key indicators of risks, hazards and shocks in Vietnam

Indicator	1996	2000
Summer paddy affected by flood (% of area)	17.6%	5.6%
Summer paddy lost by flood (% of area)	4.7%	0.4%

Source : The State of Food Security in Vietnam, by Food Security Information Unit, MARD

1.5 Relevant Laws

Decree 199/2001/OD-Ttg : Exemption of land use tax for farmer

In order to assist farmers to obtain higher returns from agricultural production, Vietnam Government (by the Prime Minister), on December 28, 2001, signed the **Decree 199/2001/OD-Ttg** to exempt land use tax for farmers. Accordingly, poor farmers (who meet the criteria defined in Decision 1143/QDLLD-TBXH signed on Nov 11, 2000 by Ministry of Labor) are exempted from agricultural land use tax. A 50% reduction in the tax will be applied to other farmers for their agricultural land which meets the conditions set by Vietnam's Land Law. This is one of the Vietnam Government's actions to assist farmers to obtain higher returns.

1.6 Government Support on Rice Production

To support and sustain the agricultural sector which is one of the most important sector contributing major income to the country, Vietnam government has allocated the capital construction investment resources from the State budget to agriculture activities as follows :

Table 6 : State Budget allocated to Rice Production

	1996	1997	1998	1999	2000
Irrigated area for whole year (1000 ha)	5,919	6,105	6,321	6,507	6,690
Of which - Spring-winter rice crop	2,457	2,579	2,688	2,751	2,860
- Autumn-summer rice crop	1,780	1,817	1,921	2,088	2,190
- Summer rice crop	1,682	1,709	1,712	1,668	1,640

Unit : Billion Vietnam Dong (VND)

Source : Agriculture and Rural Development 5-year Plan, Situation of agriculture and rural area (1996-2000)

1.7 International Support on Rice Production

Vietnamese farmers have received the support from the Australian Agency for International Program through the FAO Integrated Pest Management (IPM) program. The aim is to limit the use of pesticides and increase the rice production. The mechanism is through educating Vietnam rice farmers to learn how to select, adapt and apply a sustainable farming technology which limits the use of pesticides which eventually contributes to the increase in rice production.

1.8 Agriculture and Rural Development 5-Year Plan (2001-2005)

(1) Plan on Food Production

- Ensuring the firm food security at national level and household level as well as increasing food resources for export;
- Continue to develop irrigation, combine with seed production, post harvest storing and processing technologies;
- Seeking for stable market in order to encourage farmers to invest to intensive farming, increased productivity, producing much rice with high quality and low price;
- Invest to small irrigation structures, transfer new varieties and advanced farming technologies in order to supply farmers in upland areas, expanding areas for rice production, raising capacity of food supply on the spot, and reduce and gradually stop deforestation for slash and burn cultivation.

(2) Plan on Agriculture in Red River Delta

- Develop commodity-oriented agriculture;
- Plan of high yielding rice areas;
- Forming export rice producing areas in the provinces of Hai Duong, Ha Tay and other provinces in south of Red River Delta.

2. Rice Marketing

2.1 Rice Marketing Overview³

Before the Renovation, Vietnam had ever been a big importer of rice and other food commodities. The marketing system in the country then were driven by state-run companies. Since the Renovation process, the economic has shifted to market mechanism and agricultural land were re-allocated to farmers. The production after then marks with significant and continuous growth (about 4.3% average for last decade) and Vietnam becomes a second largest rice exporter. In order to promote the rice production and diversify its marketing, the Government of Vietnam had removed quota and any other related to rice marketing legislative barriers. Rice business in local market is carrying out by multi-sectoral rice buying and supply network, and private, small business remained a key factor. However, buying from farmers, processing and export of rice is carrying out by big state-owned enterprises.

2.2 Past policy Restrictions on Rice Flows across Regions

Due to the problem of food deficiency in northern part of Vietnam, the government historically controlled the supply of rice from southern region to the north in order to ensure the food security of their people. Food and rice from the south was then distributed through public agencies only. The government restrictions on inter-provincial movements of rice seriously limit the flow of rice from south to north, equivalent to implicit taxes on rice movement, causing the higher gap of the rice price in north and south region.

Only 42% of the price gap is explained by cost of transportation and marketing. The remaining 58% is the result of various constraints, notably the restrictions on the inter-regional movement of rice. Regional price differences were in excess of transportation and marketing costs, therefore the government's liberalization of the domestic rice market would substantially reduce the regional price differences.

2.3 Rice Market Reforms and Distribution System in Vietnam

Before 1989: Ministry of Foods controlled all distribution activities of The Food Corporations of the State from central to local level in order to balance foods between provinces and transferred 0.5 million tons per year from South to North. If there is a shortage of foods, the Ministry requested the Government to import from overseas.

Quota for purchasing and distribution for each province were planned under the Government's Ordinances. The Food Corporations of the State were

³ Source : Vietnam's Country Paper on Domestic Rice Policy, submitted to the First Technical Meeting on Rice Reserve (TMRR), held in Bangkok on 19 April 2002.

responsible for importing and distributing foods to provinces based on the approved plan.

The monopoly of food distribution during this period caused delay, vastly waste, production hold back, competition between localities and central, poor foods securities, etc.

By mid-1990s: The domestic market was still partially liberalized and the export market remained a public monopoly, causing the unsustainable growth in rice sector. Thus, the initial high growth rate for rice production and the low quota for rice exports had already acted as a disincentive for rice producers. In addition, only a few large state enterprises had access to capital and trade, while a multitude of small and medium-sized private enterprises had only limited access to credit and world market.

1995: Vietnam imposed an *Export Quota* of 2 million tons of rice. The conventional wisdom was that higher exports would endanger the food security of the country in general and of the poor in particular. In effect, the quota system served as a tax of about 25% on domestic producers and a rent for state-owned enterprises equivalent to about US\$130 million per year.

1997 – 1998: Vietnam government increased the Rice Export Quota to 3.5 and 4 million tons respectively. This decisions helped increase in the national income and contributed to a mild reduction in rural poverty.

In addition, the government greatly increased the opportunities for private enterprises to export rice. The number of rice exporters then increased from about 15 (licensed by the government) in 1995 to more than 30 in 1997.

Major source of rice comes from the provinces with rice surplus in the Mekong River Delta. Despite the liberalization of rice trade, the market information on rice trade in Vietnam was still scare for both private and public sectors, resulting a high costs in missed opportunities and inappropriate or delayed decisions.

Realizing this problem, the government decided to establish an *Agricultural Market Monitoring Unit* within the Ministry of Agriculture, aiming to establish a system to trace the trade movement and prices of domestic, border and international prices of about 10 agricultural commodities through the use of national and international databases and electronic sources.

Current Situation (2002): The distribution system undergone dramatic changes. The monopoly in distribution was eliminated and to be replaced by the liberalization of food distribution. Together with state's owned enterprises, private companies and individuals are permitted to carry out rice trading and distribution business.

However, despite the private sector plays an important role in purchasing rice from farmers, the State authority is responsible for proportionate rice for domestic areas and for export.

2.4 Rice Marketing in the Mekong Delta

Being the country's biggest rice production area, the Mekong River Delta becomes a major source of rice supply for Vietnamese people and the world market. The paddy production from this region is about 16.29 and 16.69 million tons in 1999 and 2000 respectively, accounting for 50% of total paddy production of the country. In addition to supply within the region, the rice surplus from the Mekong River Delta will be allocated both across-region (i.e. the north of Vietnam) and export. The report from the Mekong River Conference 99 revealed that the rice surplus is about 5 million tons per year, with 3 million tons allocated for export (equivalent to 15-18% total rice export in the world).

Historically, the high production and demand of rice from this region however did not improve the life of the Delta farmers at a satisfactory level for many decades, particularly since 1975. One of the major causes came from the abnormal and irrational system of rice marketing. The followings are the chronological situations of rice marketing in the Mekong River Delta as reported in the Mekong River Conference 99⁴.

Chronological situations of rice marketing in the Mekong River Delta

1960 – 1974 (<i>under Free Market Economy and Wartime</i>)	Rice marketing, in South Vietnam, was functioned under the free-market economy. Government assisted the farmers through the different programs, such as : <ul style="list-style-type: none"> - Subsidized agricultural inputs, - Guaranteed minimum paddy rice, - Low interest credits, - Etc.
1975 – 1986 (<i>under Communist/Socialist Economy</i>)	Government totally controlled and managed all steps of paddy/rice collection and distribution. Low rice production. Supply was not sufficient to meet domestic demand.
1987 – present (<i>Market oriented economy</i>)	Paddy production increase and farmers may sell paddy in the free market. Private dealers (mostly Chinese Vietnamese) participate in the rice marketing system and contribute to the improvement of rice market in the Mekong Delta.
	The government dominates the rice market and directly manages rice export. In 1998, Vietnam exported 3.2 million tons of rice (approx. US\$700M). However, the farmers' share is only 16% in revenues of rice export.
	Remarks on Rice Marketing under Market-Oriented Economy <ul style="list-style-type: none"> - Paddy rice is very low and unstable - The lost of paddy and rice is extremely high, about 20% - There is a lack of storage and other facilities - State enterprises hold a lion share of profits/revenues of rice (farmer labor value) - Investments to the Mekong Delta have been very limited.

⁴ Source : Mekong River Conference 99 : Abstract

2.5 Key Participants in Rice Marketing System

Central to the rice marketing system of Vietnam is the complex web of relationships among its key participants, namely farmers, traders, millers and state-owned enterprises. The overall purpose of these channels is to transport and store the paddy produced by farmers, to transform paddy into milled rice, and to distribute it to consumers, both for domestic consumption and exports.

(1) Farmers (north & south)

- Small production per household, therefore, not worth selling direct to Vinafood subsidiaries. Farmers then sell their paddy rice to small traders/agents in that provinces.
- If producing in a considerable high quantity, farmers may sell direct to Vinafood subsidiaries who provide the transport to pick up rice from farmers, hence reducing transportation & selling costs occurred by the farmers.

(2) Rice traders/agents

- Buy paddy rice (in small quantity) from various farmers and consolidate.
- Sell paddy rice to Vinafood subsidiaries by grades.
- If having their own rice mill, traders will sell rice to Vinafood subsidiaries in a milled basis.

(3) VINAFOOD1 Subsidiaries (northern)

- Have their own facility e.g. warehouse, rice mill and transportation.
- Buy both paddy rice and milled rice from traders/agents in the northern provinces and from VINAFOOD2 subsidiaries in the southern region.
- Mill the rice if bought in paddy form.
- Sort milled rice by grade, and then distribute :
 - High grade --> export
 - Medium / low grade --> domestic consumption (within northern region)
- Make profits through the difference in buying and selling prices (buy in paddy form at low price, esp during the peak harvest in the Mekong River Delta & sell in milled rice at a higher price with economy of scale).

(4) VINAFOOD2 Subsidiaries (southern)

- Buy both paddy rice and milled rice from traders/agents in the Mekong River Delta & southern provinces.
- Mill the rice if bough in paddy form.
- Sort milled rice by grade, and then distribute :
 - High grade --> export & supply to Vinafood1 subsidiaries for further export.
 - Medium / low grade --> domestic consumption within northern regions & supply to Vinafood2 subsidiaries for domestic consumption in northern provinces.

(5) VINAFOOD1 and VINAFOOD2

- Both are state-owned enterprises (SOE) who possess the administrative power and manage the supplying & marketing of rice in Vietnam for both domestic and export markets.
- At present, VINAFOOD1 has 26 subsidiaries throughout the northern region
- VINAFOOD2 has 36 subsidiaries under their umbrella in the southern region

Prices of rice sold between Vinafood1 subsidiary and Vinafood2 subsidiary are not controlled by the government, rather depending on the economic and market condition/mechanism (i.e. supply & demand).

(6) Food Association

Food Association, despite under the government control, are managed by the Board of Association selected by members. Member of Food Association are both state-owned companies and private companies. Food Association helps the government in collecting information, providing expertise, suggesting the prices and following up both international and local rice situation.

2.6 Use of Rice Mill

There are 127 rice milling operations with a capacity of over 10 ton/shift scattered around Vietnam. The largest concentration is in the Mekong Delta, where 50 mills have been identified with a capacity of more than 5 tons per hour.

In 1995, some 27 million tons of rice were produced in Vietnam, to a large extent in the Mekong Delta. Rice milling is mostly done in one of the numerous small rice mills, but some large rice mills do exist.

Companies supplying rice milling machines

- Saigon Industrial Company : supplying rice milling machines with capacity of 1-10 tons.
- Tan Phu Lam Private Enterprise For Production & Commerce : rice polishing machines.
- Etc.

2.7 Marketing costs, Profitability and Investment

The private sector has lower marketing costs than state-owned enterprises (SOEs). Unit costs of SOEs in the Mekong River Delta are approximately US\$44/ton whereas they are US\$6.55/ton for large millers. Even after taking into account the higher taxes paid by SOEs with respect to the private sector, SOE costs are about five times higher. The main components of these higher costs for SOEs are higher labor and transportation costs.

Market reforms have promoted marketing activities and improved the profitability of various marketing agents as witnesses by the surge in investment of the private sector at the beginning of

the 1990s. Millers have responded earlier with investment in new machinery, particularly in the NFS and Mekong River Delta.

2.8 Market Intervention by Government ⁵

Refer to the Ministry of Trade's expected rice export of 4 million tons in 2002, in order to reach such export target, which is 320,000 tons higher than exports last year, the Ministry has asked the Government to buy one million ton of rice from producers in March and keep it in storage for 4-6 months. An estimated VND40 billion could be spent on the acquisition.

3. Rice Price Policy

The price of rice in Vietnam is affected by the relationship between the supply and demand of the rice market. Despite of no explicit intervention, the Vietnam Government has monitored and controlled the rice prices through the economic tools such as national reserves, reserve funds, purchasing), the aim of which is to regulate the supply, demand and price of rice in order to ensure the food security and benefits of the rice producers.

3.1 Rice Price Situation

The improving rice harvests over the last few years have helped to stabilise rice supplies and few shortages now occur. However, there are still significant price fluctuations throughout the year. Food prices in the first quarter are often more than 15% higher than later in the year. The price of rice is often 20-30% higher in January/February than during the main rice harvest in October. Price fluctuations are less in Ho Chi Minh City (Mekong River Delta) than in Hanoi (Red River Delta)

In the last two years, world-wide surpluses of rice and many other food crops have seen food prices come down. In 2000, the Consumer Price Index (CPI) for food declined by 9%, and the average retail price of paddy declined by 18%.

Table 7 : Key Food Supply Stability Indicators in Vietnam

Indicator	1996	2000
Annual variability of retail food prices	16%	14%
Consumer Price Index – food (1996 = 100)	100.0	106.8
Average export rice price (US\$/ton)	\$250	\$192

Source : The State of Food Security in Vietnam, by Food Security Information Unit, MARD

⁵ Source : Vietnam News, as at Jan 28, 2002, <http://vietnamnews.vnagency.com.vn>

Table 8 : Statistic of Retail Rice Prices (1996-2000)

	1996	1997	1998	1999	2000
Domestic food prices					
Consumer Price Index, food (1996 = 100)	100.0	96.5	114.5	117.9	106.8
Average retail price of paddy (Dong / kg)	2,031	1,866	2,190	2,250	1,853
Export prices					
Export price – Viet rice (US\$ / ton)	250	244	275	221	192

Source : General Statistical Office (GSO)

3.2 Quotes of Rice Prices

In January 2002, the price quotes for high quality Vietnam rice have been on par with similar qualities from Thailand. Thai quotes have stabilized over the past four weeks (Dec 2001) due to consistent demand, while quotes out of Vietnam have changed many times throughout the month for a variety of reasons – flooding in the Mekong Delta, tight supplies, and increase port loading.

Price of paddy and rice increased continuously in almost provinces over the country and reached 1.9% in comparison with previous month⁶. In Northern provinces, due to piercingly cold weather, selling volume decreased, paddy price was then increased. In Mekong River Delta area, despite of harvest period, price was still high at VND1,900-1,950/kg. (increased VND50/kg).

Table 9 : Comparison of the average price levels of Vietnam rice (2001)

Rice Grade	1 st – 3 rd Quarter of 2001 (US\$/ton)	4 th Quarter of 2001 (US\$/ton)
5%	\$199	\$168
10%	\$194	\$163
15%	\$190	\$157

Source : Food Market Exchange's Article " Rice : A review of the news in 2001", 21 January 2002

The above table refers, Vietnam's rice exports fared well during the first three quarter of 2001, but were then stalled by a supply shortage during the final quarter of the year. This led to an abrupt hike in prices, resulting in Vietnamese rice losing price competitiveness to rival exporters, such as Thailand and India. Vietnam's rice prices are presently \$14-16/ton higher than Thai prices. In order to deal with the supply situation, the Vietnamese government, in Nov 2001, ordered exporters to suspend the signing of any new contracts until the middle of February 2002.

⁶ Source : Vietnam's Ministry of Trade Webster (updated Jan 2002)

3.3 Domestic Prices

In the North : To celebrate the TET (Lunar New Year) holiday, farmers need cash so they are in a rush to sell their rice. Consequently, paddy prices in the northern provinces were slightly down to VND1,700-1,800/kg in the first week of Jan 2002, a drop of VND50-100/kg compared with prices in December 2001. In early Feb 2002, paddy prices in all northern provinces slightly increased to VND2,400-2,500/kg compared to prices quoted in Jan.

In the South : As at Jan 08, 2002, rice prices are still at very high levels. Paddy prices in most of the Mekong River Delta's provinces were recorded at VND1,900-1,950/kg and the raw white price was quoted at VND2,350-2,450/kg. In February, rice prices begin slightly softening due to increased supplies from the harvest of Lua Mua and Winter-Spring crop. Paddy prices, on Feb 08, 2002 paddy prices in most of the Mekong River Delta provinces are at VND1,850-1,900/kg and the raw white rice price are quoted at VND2,350-2,400/kg, a tiny drop compared with last month's prices.

Table 10 : Domestic Price of Vietnam Rice (unit : VND/kg)

Region & Data	North		South (Mekong River Delta)	
	Jan 2002	Feb 2002	Jan 2002	Feb 2002
Paddy rice	1,700 – 1,800	2,400 – 2,500	1,900 – 1,950	1,850 – 1,900
Raw white rice	N/A	N/A	2,350 – 2,450	2,350 – 2,400
Unhusked rice	N/A	N/A	1,800 – 1,950	1,850 – 2,000

Source : Oryza Market Report - Vietnam

3.4 Export Prices

Export prices of Vietnam rice have been stable and are remaining at a fairly high level during the first two weeks of Jan 2002. Comparing with Thai rice, Vietnam rice prices are higher than Thai prices by \$22/ton (for 5% broken rice) and \$28/ton (for 25% broken rice).

In February, the levels of high quality Vietnam rice (5% & 10% broken) are moving closer to Thai price levels for the same categories. However, prices of Vietnam's 25% broken rice are still higher than Thai rice by US\$8-10/MT.

In overall, traders predict a slight reduction in both domestic and export prices as rice supplies from the harvest of the Winter-Spring crop in the Mekong River Delta is increasing, especially in March 2002 when the harvest will be in peak season.

Table 11 : Export Price of Vietnam Rice /1 (unit :US\$/MT)

	Nov 2001	Jan 2002	Feb 2002
5% broken	183 - 185	200	190
10% broken	175 - 177	190	186
25% broken	165 - 168	185	175

1/ Long Grain White Rice, FOB/Ho Chi Minh City

Table 12 : Cash Market Prices (unit : FOB US\$/MT)

Type of Rice	Vietnam	Thailand	Pakistan
5% DP	179	N/A	N/A
5% broken	176	193	N/A
10% broken	171	189	N/A
15% broken	166	185	155
25% broken	159	175	148

Notes : All prices are in US\$ per metric ton; FOB origin port; packed 50kg PP bags; conventional shipping.
Source : Oryza – World Cash Market Prices

Table 13 : Global Rice Prices (unit : FOB US\$/MT)

Type of Rice	Vietnam	Thailand	Pakistan
5% broken	185	192	N/A
10% broken	178	N/A	160
15% broken	173	N/A	155
25% broken	166	167	147

Source : Food Market Exchange's Rice Market Report "Global Situation", 25 February 2002

3.5 Government Control over Rice Price

Vietnam Government has no control over the price of rice, both in domestic and export market. Price of rice is driven by market mechanism (supply and demand). Factors causing difference in prices are transportation cost, buying & selling cost, demand and buying interest.

Government support when rice price falls

When there is a situation of high surplus which causes the price of rice fall, the government will help by asking traders (including VINAFOOD) to hold the rice stock for a particular period of time in order to improve the price. Until the rice price increases, the government then advises the traders to release their rice supply. During the rice holding period, the government will pay an "interest" to rice traders to compensate the opportunity cost occurred.

4. Rice Trade (Overseas)

4.1 Overview

Since joining international markets in 1989, the year which Vietnam started exporting rice, quality and scale of Vietnam export rice has been dramatically improved. Rice export volume increased from 1.4 million tons in 1989 to 4.5 million tons in 1999, turning Vietnam the second largest rice exporter in the world. Over the last 10 years, Vietnam exported about 30 million tons of rice, attaining nearly USD 7 billions. Along with the increase in export volume and value, rice market share of Vietnam in the world market has been ever enhanced, from 9% in 1989 to 15% in 1998 and to 21% in 1999.

Table 14 : Statistics on Vietnam Rice Export

Year	Rice Export Volume (million tons)
1996	3.0 million tons
1997	3.5 million tons
1998	3.7 million tons
1999	4.55 million tons
2000	3.50 - 3.60 million tons
2001	4.00 million tons
2002	3.80 - 4.00 million tons

Source : USDA : Rice Situation and Outlook Yearbook / RCS-2001/ Nov 2001

At present, VN government does not impose the “export quota” on rice, traders are free to acquire for the export contract with overseas importers. All companies, except 100% foreign-owned, can sign the export contract with overseas partners.

Major rice exporters of Vietnam are:

- Northern Food Corporation (VINAFOOD1) --> 25-30% of VN total rice export
- Southern Food Corporation (VINAFOOD2) --> 60% of VN total rice export
- Song Hong Food Trading Co., Ltd. (unofficial translation of company name)
- Tien Giang Provincial Food Co., Ltd. (unofficial translation of company name)
- Other exporters e.g. small exporters in Mekong River Delta --> 10% of VN total rice export

Two main markets of Vietnam’s rice export are Asia (including Indonesia, Philippines and Malaysia) and Africa, accounting for 70-80% of total export rice. Those great achievements in Vietnam rice export over the last time have been vivid evidence for the ever improving competitiveness of the very product in international outlet. All of Vietnam’s rice exports are “Indica rice”, mostly intermediate and low quality, competing in various intermediate- and low-quality long grain markets with Thailand, India and Pakistan.

Export Performance

1999	Growth in Vietnam's rice area in the Mekong River Delta over the last decade has resulted from improved irrigation systems, use of new rice varieties, and improved technologies in rice production, enabling Vietnam to consistently produce exportable surpluses and become a major player in global rice trade (2 nd largest rice exporter). In line with the regional recovery, Vietnam increased its rice export to non-Asian countries. Major destinations in 1999 included Indonesia, Africa, Iraq and the Philippines.
2000	Vietnam's rice export in 2000 significantly reduced from the previous year export and far below the target of 4.3 metric tons set by the Government. Main reason behind such export shrink was the lower demand from key rice importing countries like Indonesia and Malaysia. Competitive prices from low cost suppliers, like China and Pakistan, have also put pressure on the market for Vietnam's rice. Low exports will cause a big carry-over stock in 2001. The Government of Vietnam seriously looked for plans to maximize the effectiveness of rice production. Further reform in 2001 will provide the private sector with a greater role in rice exporting.
2001	Rice export performance showed a satisfactory improvement with the increase in the export volume from 3.6 million tons in 2000 to 4.00 million tons in 2001. More than 53% of Vietnam's rice was shipped to Asian countries : the Philippines, Indonesia and Iraq were the three biggest Asian rice markets for Vietnam since each country import more than 500 thousand tons. Africa (as a whole) is the second largest market for Vietnam's rice, since the African countries took more than 23% of Vietnam's rice. Among European countries, Russia was the largest buyer, it bought 106 thousand tons in 2001. Cuba is the sole Caribbean market and imported 286 thousand tons. Vietnam also exported some rice to Australia.
2002	Vietnam plans to increase the rice export volume through harvesting a bumper Winter-spring rice crop. However, the export industry body, i.e. Vietnam Food Association, has forecasted the export shipments only at 3.5 – 3.6 million tons, rather than 3.8 – 4.0 million tons as targeted by the Ministry of Trade. In order to reach the export target, the Ministry of Trade has asked the Government to buy one million tons of rice from farmers in March and keep it in storage for 6 months. An estimated VND40 billion could be spent on this acquisition. ⁷ Estimated volume of Vietnam's rice exports to overseas markets are: Indonesia : 900,000 tons Philippines : 600,000 tons Malaysia : 250,000 tons Africa : 1,000,000 tons Europe : 300,000 tons Russia : 190,000 tons

Table 15 : Proportion & Quality of Vietnam's rice exports

Rice quality	2000 Export Percentage	2001 Export Percentage
High grade (2%, 5%, 10% broken)	42%	55%
Medium grade (15% broken)	28%	14%
Low grade (25%, 25%, 100% broken)	28%	31%
Other	2%	-
TOTAL	100%	100%

⁷ Source : Vietnam news, as at Jan 28, 2002, <http://vietnamnews.vnagency.com.vn>

Table 16 : 2001 Rice Exports by Grades and Destinations (Unit : MT)

	5%	10%	15%	25%	35 %	100% br	Par-boiled	Gluti	Un - known	Total
ASIA	590,201	245,126	266,643	659,088	0	7,180	14,210	5,160	103,150	1,890,758
Iraq	402,929	132,500	0	0	0	0	0	0	0	535,519
Indonesia	40,625	71,672	195,996	127,455	0	6,200	12,640	460	77,000	532,048
Philippines	18,700	5,200	28,047	484,212	0	0	0	0	20,000	556,159
Malaysia	92,833	16,100	13,900	29,321	0	0	450	0	0	153,004
Cambodia	0	0	0	0	0	0	0	0	5,000	5,000
Singapore	10,464	7,950	22,570	14,950	0	983	1,120	0	0	53,034
Palau	3,410	1,100	3,500	2,750	0	0	0	0	0	10,760
Middle East	10,900	0	0	0	0	0	0	0	0	10,900
Yemen	2,640	0	2,630	0	0	0	0	4,700	0	9,970
Japan	5,860	5,014	0	0	0	0	0	0	0	10,874
Laos	400	0	0	0	0	0	0	0	1,150	1,550
Hong Kong	900	0	0	0	0	0	0	0	0	900
North Korea	0	5,500	0	0	0	0	0	0	0	5,500
AFRICA	230,201	69,916	183,309	172,040	0	183,188	0	0	13,000	851,654
West Africa	230,201	61,696	175,891	172,040	0	183,188	0	0	0	823,016
Tanzania	0	8,220	7,418	0	0	0	0	0	0	15,638
Ivory Coast	0	0	0	0	0	0	0	0	13,000	13,000
EUROPE	64,395	114,051	50,450	7,500	0	300	0	0	50	236,746
Poland	10,300	35,894	17,450	6,000	0	0	0	0	0	69,644
Russia	35,995	46,887	22,500	1,500	0	0	0	0	50	106,932
Ukraine	1,500	0	0	0	0	0	0	0	0	1,500
Other EU	16,600	31,270	10,500	0	0	300	0	0	0	58,670
America	410	25,000	0	261,518	0	0	0	0	0	286,928
Cuba	410	25,000	0	261,518	0	0	0	0	0	286,928
Australia	6,305	0	0	0	0	0	0	0	2,700	9,005
Unknown	6,700	2,500	5,710	28,000	0	0	0	0	242,010	284,920
TOTAL	898,212	456,593	506,112	1,128,146	0	190,668	14,210	5,160	360,910	3,560,011

Source : Oryza – Vietnam 2001 Rice Exports

4.2 Updated Situation on Vietnam Rice Trade (as at February 2002)

Vietnam's rice prices have been much higher than Thai rice for several months (since end of 2001) due to short supplies when the Winter-spring rice crop have not yet been harvested. However, the rice supplies will increase when the winter-spring harvest expands across the country, making the Vietnam's rice prices become slightly lower and closer to Thai rice prices, thus enabling Vietnam to improve its competitiveness in the world market for high quality rice. Vietnamese low quality rice is still not competitive with Thai and Indian rice.

The rice market is still very quiet without new major sales. Rice exports in the first quarter of 2002 are mainly based on outstanding sales of Government to Government (G to G) contracts with Iraq, Cuba, Indonesia (a total of 950 thousand metric tons) and commercial sales with Malaysia (50 thousand metric tons). With a total outstanding sales of 1 million metric tons, traders do not see any significant drop in Vietnamese rice prices until the winter-spring crop comes to peak harvest.

Due to a shortage of reserves for its own population as well as to avoid the surges of domestic rice prices, Vietnam's Ministry of Trade had ordered the rice exporters in major rice growing area, i.e. Mekong River Delta area to refrain from signing any new rice export contracts with overseas customers until the middle of the first quarter of 2002 (Feb 2002). This government ban resulted in the unfavorable market conditions with low rice stocks in Vietnam, causing its rice prices uncompetitive when compared to its main rival, Thailand.

On Feb 8, 2002, Vietnam's Trade Ministry has lifted a ban on new rice exports. The lifting of the ban would help support the prices, which will be pressured by an expected bumper crop this year. However, rice traders viewed that rice prices are unlikely to fall significantly as domestic supply is still tight, and if the government buys rice for stockpiling as expected.

4.3 Government Policy on Rice Trade ⁸

- **MARD's Oversea Trade Offices to boost exports**

The Government has urged the Ministry of Trade and MARD to work more closely to set up Overseas Trade Offices with the responsibility of obtaining updated market information and tapping new markets abroad. The Government has allowed MARD to set up agricultural trade office (ATO's) in Russia and Iraq, where there is a great potential for Vietnam's rice.

- **Support fund to produce high quality seeds**

Members of a rice and food association (VIETFOOD) are working on a proposal to establish a support fund for rice seed producers for better quality rice seeds. The financial contribution to the fund will be from rice exporters. The Government is also asked to contribute finance assistance to this project.

- **Vietnam Plans to Coordinate on Rice Donation Program in North Korea**

Vietnam's Prime Minister plans a visit to North Korea in May 2002. Bilateral trade issues, including a rice donation program, will be the main topics to be discussed.

- **Vietnam – Iraq rice processing joint venture waiting for the Government's approval**

According to MARD, the \$12 million Vietnam-Iraq rice processing project has been granted permission by all the relevant ministries and it is waiting for final approval from the Prime Minister (projects over \$10 million are reviewed by the Office of the Prime Minister).

⁸ Source : Oryza Market Report – Vietnam (as at Feb 2002); 2002 USDA Report from Hanoi, Vietnam

4.4 Rice Imports

Despite of no official record of rice importation, it is believed that Vietnam has imported the jasmine rice from Thailand, particularly before the TET holidays. Rice importation from Laos has also been reportedly revealed as two companies in Nghe An province have been granted permission to import the glutinous rice from Laos with the expectation of lower import tariff as a result of the agreement between the two countries.

5. Rice Reservation

5.1 Rice Reservation by the Government

(1) National Reserve : purpose of reserve

Reserve for risk e.g. natural disaster

This is the main purpose of Vietnam Food (& rice) national reserve. Vietnam government wants no Vietnamese citizen to be in hunger in any situation. National reserve is a major mechanism of rice reserve that is directly controlled by the government. The reserve is in the form of both paddy and rice. The current government policy, as discussed with the MARD official in Hanoi, is to reduce the amount of rice reserve and replaced by an increasing amount of *cash reserve*.

Reserve to control the market price of rice

This is an implicit control by the government, by depending on the economic and market situation, in order to control and balance the market price of rice. In 2001, Vietnam Government made the reserve of 1 million tons of rice in order to protect the farmers' benefits/earnings after being affected by the reduced market price.

(2) Reserve for Domestic Circulation

This kind of reserve does not exist in Vietnam nowadays since Vietnam has moved to the Market Economy system

1) Relevant Authorities in Reserve System

Reserve Departments

There are 19 Reserve Departments in major provinces, mainly located in central & northern provinces. There is very few reserve department in the southern provinces due to adequate or even surplus rice supply, hence no need for government's control in rice stocks.

National Reserve Department

National Reserve Department responsible and co-working with the Ministry of Agriculture and Rural Development (MARD) in preparing the Annual Planning for rice reserve. After that, the Annual Planning for rice reserve will than be submitted for the government's approval.

Government Rice Department and Ministry of Finance

After being reported on the rice situation and stocks, Government Rice Department and Ministry of Finance are responsible for planning and fixing the price of rice.

The National Reserve Department/Agency is directly responsible for managing foods reserve funds to issue policies, and guidance on purchasing and sale of reserved foods of each crop in each period.

2) Government Control & Management of Rice Stock

The National Reserve Agency, in an annual basis, will develop a food reserve plan, including other elements such as reserved component (including rice & paddy), buying & purchasing amount and necessary funds required from the State Budget by basing on production situation, food balance, national food security target, quality and quantity of foods being reserved, stocking term and food preservation process. The plan is then submitted to obtain the agreement from Ministry of Planning and Investment and the Ministry of Finance and finally submit to the Government for approval.

In developing the plan, the Agency must actively prepare a schedule for purchasing, selling to ensure the food security requirements and ensure the reserved level stipulated by the government. The level of foods in stock in a national wide range must not be lower than 60% of total regulated level at any time.

The Head of the National Reserve Agency will assign the Provincial Reserve Agencies to implement the approved plan for purchase and sale of rice stocks. Selling and purchasing foods are carried out according to the Policy on Tender issued by the Head of the National Reserve Agency (except for certain cases). If the Agency wants to sell foods but there is no domestic demand, the Agency can export the foods.

5.2 Rice Stocks

Vietnam's rice carry-over stocks are estimated at 883,000 tons⁹. This estimate includes all stocks, such as stocks of seed rice, for national reserves, for household consumption, for animal feed production, for exports, and all other purposes. Official data on the amount of the carry-over rice stocks that could be exported are not available. However, most observers feel exportable stocks are very low since rice exporters are waiting of the new winter-spring harvest before signing any export contracts.

⁹ Source : Oryza Market Report – Vietnam (as at Jan 17, 2002)

- Rice stock for export : approx. 3.5 – 4.5 million tons, depending on market situation
- National reserve stock on rice is approx. 2 millions annually.
- Major purpose of rice reserve is to ensure adequate supply of rice of Vietnamese people. Therefore, the government will release the reserve stock in case of emergency situations e.g. flooding, earthquake, war, etc.

5.3 Rice Reservation for ASEAN Food Security Reserve (AFSR)

The amount of earmarked quantity as allocated by AFSR in contributing to the ASEAN Emergency Rice Reserve Stock is 14,000 metric tons (reserved stock).

6. Rice Demand/Consumption

Rice consumption in Vietnam varies only slightly by income groups, though beyond a certain level of income, additional income is not spent on rice but on higher-value foods such as meat, fat/oil, eggs and on non-food items. From the below table, it shows that in the 1993-1998 period, monthly household consumption of rice (paddy) & other staples (in rice equivalence) per capita has decreased slightly while consumption of higher-value products has increased remarkably.

Table 17 : Monthly Average Consumption per Capita

	All		Urban		Rural	
	1993	1998	1993	1998	1993	1998
Paddy & other staples in rice equivalence (kg)	13.73	13.34	11.40	10.81	14.30	14.06
Meat (kg)	0.58	1.17	0.95	1.58	0.48	1.04
Fat/oil (kg)	-	0.33	-	0.38	-	0.32
Eggs (unit)	1.11	2.35	2.40	4.00	0.80	1.87
Vegetables (kg)	4.24	3.12	4.40	3.61	4.20	2.98

Source : General Statistical Office (2000) : Vietnam Living Standards Survey 1997-1998, Hanoi

Among various commodities produced by the households, rice is always the most important commodity reserved for home consumption, regardless whether they are net sellers or net buyers. For pure buyers who produce no paddy at all, rice is the most important commodity purchased for home consumption. It seems that *rice sufficiency* serves as a safe base for the poor livelihoods diversification. Therefore, it can be said that rice self-sufficiency at household-level is one of the most important determinants of well being and of vulnerability in the remote rural areas of Vietnam.

Percentage of food expenditure on rice (1998)

Total population	13% of total food expenditure
Poorest 20% of population	32% of total food expenditure
Richest 20% of population	6% of total food expenditure

Source : General Statistical Office : Vietnam Living Standards Survey (1998)

Domestic Rice Consumption in Vietnam

- Rice supply for domestic consumption are in lower grade/quality than those for export.
- Domestic consumption does not focus on high quality rice, but rather focus on quantity.
- High income people consume high quality rice and imported rice (mainly from Thailand) e.g. jasmine rice, 5% broken rice.
- Middle income people consume lower quality rice from local supply
- Low income people, mainly in non-farming section, consume low quality rice from local supply e.g. 25% broken rice

7. Food Aid

7.1 Aid Program for Severe Flooding in 1999

Vietnam has received the support from two international organizations when it faced a severe flooding in 1999, they are:

FAO Food Aid Program

Vietnam had been given the funding under the FAO Food Aid Program when a severe flooding occurred in Vietnam in 1999. The aid was provided in the form of money, rather than rice or commodities, so that the Government could allocate the funds to buy the rice and necessary commodities for their people.

Flood Management Agency by International Red Cross

The International Red Cross through its Flood Management Agency has provided money to Vietnam government during the flooding in 1999. The support was not in the form of rice, but rather in a monetary basis in order that Vietnam government can allocate to those in need.

7.2 Aid Program for Severe Flooding in 2000

Emergency supply of rice seeds to flood-affected farm households in An Giang Province¹⁰

In summer and autumn 2000, the Mekong River basin experienced the unusually serious flooding which affected human life and agricultural production in large areas of Thailand, Lao, Cambodia and Vietnam. An Giang Province of Vietnam was one of the most affected by the flood. 3,253 hectares of summer-autumn and third season rice were destroyed while another 116 hectares were partially damaged. Vietnam Government's appeal through the United Nation system launched an appeal to assisting the country in its relief and rehabilitation efforts. The appeal resulted in funds being allocated by OCHA to FAO with a total of USD378,800 for the procurement of rice seeds in support of the most-affected farm households.

¹⁰ Source : Food and Agriculture Organization of the United Nations : FAO Press Release

8. Poverty

8.1 Food Access ¹¹

The key factor limiting people's ability to access food is poverty. Poverty is widespread in Vietnam, but has been significantly reduced during the 1990s, largely as a result of the rapid economic growth. Poverty in Vietnam is concentrated in rural areas. In 1998, 94% of the poor lived in rural areas, an increase from 1993. In 1998, 45% of the rural population were below the poverty line, compared with only 9% of the urban population. As incomes rise, people are able to spend more money on non-food items. Food still represents the majority of the household budget in Vietnam – 47% in 1998. For poor households, expenditure on food predominates – for the poorest 20% of people, average per capita expenditure on food represented 64% of total per capita expenditure, and expenditure on food staples comprised 35% of total expenditure.

Table 18 : Statistics on Poverty in Vietnam

Poverty line & Index	1993	1998
<i>Population below general poverty line</i>		
Total population (% poor)	58	37
Urban population (% poor)	25	9
Rural population (% poor)	66	45
Rural poor as a percent of total poor	91.3	94.3
<i>Population below food poverty line</i>		
Total population (% food poor)	25	15
Urban population (% food poor)	8	2
Rural population (% food poor)	29	18
Rural food poor as a percent of total food poor	94	96
<i>Poverty gap index</i>		
Total population	18.5	9.5
Urban population	6.4	1.7
Rural population	21.5	11.6

Source : The State of Food Security in Vietnam, by Food Security Information Unit, MARD

8.2 Current Situation and Government Development Plan ¹²

In 2000, the whole country has 1.7 million households, of which 8.5 million people belonging to poor and hungry households, lacking food and foodstuff, of which 90% in rural area, mostly concentrating on upland area and ethnic minority areas. By the year 2005, Vietnam government will be taking effective measures to eradicate basically the status of food shortage and reduce considerably the proportion of poor households.

¹¹ Source : The State of Food Security in Vietnam, by Food Security Information Unit, MARD, October 2001

¹² Source : The Agriculture and Rural Development 5-Year Plan (2001-2005), prepared on 22 Aug 2000

9. National Food Security Policy

9.1 Current Status of Food Security¹³

Vietnam has made good progress in reducing hunger since the 1996 World Food Summit. According to the government data, the percent of population below the minimum level of dietary intake decreased from 25% to 15% between 1990-1992 and 2000. Child malnutrition is still high, but has fallen significantly over the last few years.

However, food insecurity still continues to be a problem for vulnerable groups in the population. People in rural areas have high rates of malnutrition. In 2000, 37% of children under five years of age in rural areas and 44% in mountainous areas were underweight, compared with only 27% in urban areas. Infant mortality in rural areas is more than double that in urban areas.

The poorest in the community may face serious food problems. The average annual home consumption of rice for the poorest 20% of the population was 138 kg in 1998, compared with 150 kg overall.

9.2 Past Policies on Food Security¹⁴

In the past, Vietnam government has implemented two major policies in order to provide food security to the country, they are:

- Price Policy : lowering the price of food
- Trade Policy : restricting exports

However, to try to meet the needs of the poor by implementing both policies is generally a self-defeating policy. Lower rice prices and lower exports result in lower agriculture growth, lower national income, and hurt the rural population where most of the poor are found.

¹³ Source : The State of Food Security in Vietnam, by Food Security Information Unit, Department of Planning and Projection, Ministry of Agriculture & Rural Development (MARD), October 2001

¹⁴ Source : IFPRI-MARD Workshop, Hanoi, October 15-17, 1996

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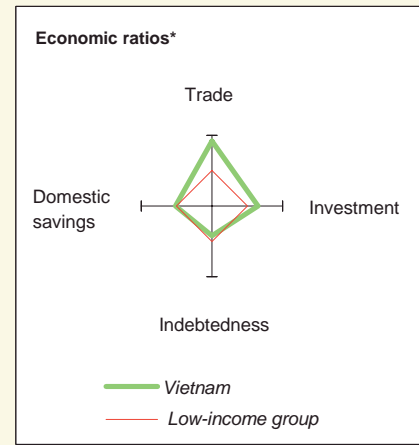
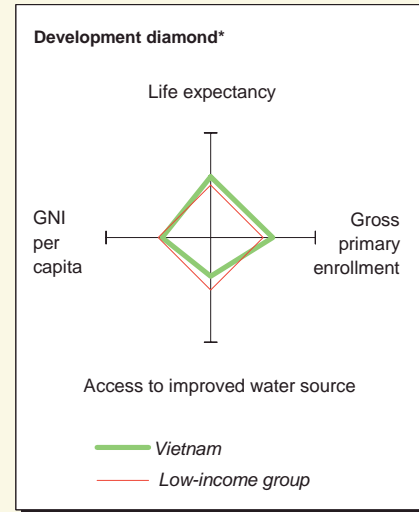
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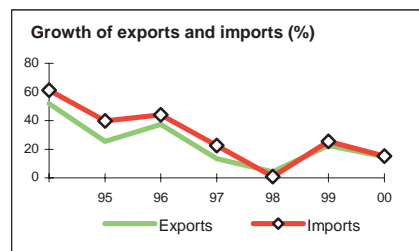
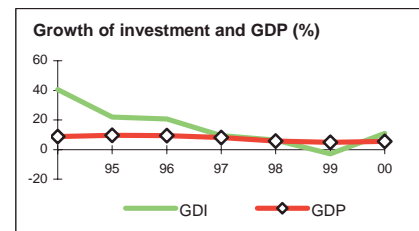
Vietnam at a glance

9/6/01

	Vietnam	East Asia & Pacific	Low-income		
POVERTY and SOCIAL					
2000					
Population, mid-year (<i>millions</i>)	78.5	1,853	2,459		
GNI per capita (<i>Atlas method, US\$</i>)	390	1,060	420		
GNI (<i>Atlas method, US\$ billions</i>)	30.4	1,964	1,030		
Average annual growth, 1994-00					
Population (%)	1.5	1.1	1.9		
Labor force (%)	1.7	1.4	2.4		
Most recent estimate (latest year available, 1994-00)					
Poverty (% of population below national poverty line)	37	..	..
Urban population (% of total population)	20	35	32		
Life expectancy at birth (<i>years</i>)	69	69	59		
Infant mortality (<i>per 1,000 live births</i>)	37	35	77		
Child malnutrition (% of children under 5)	37	13	..		
Access to an improved water source (% of population)	56	75	76		
Illiteracy (% of population age 15+)	7	14	38		
Gross primary enrollment (% of school-age population)	114	119	96		
Male	116	121	102		
Female	111	121	86		
KEY ECONOMIC RATIOS and LONG-TERM TRENDS					
	1980	1990	1999	2000	
GDP (<i>US\$ billions</i>)	..	6.5	28.7	31.3	
Gross domestic investment/GDP	..	13.0	25.4	27.4	
Exports of goods and services/GDP	..	26.4	
Gross domestic savings/GDP	..	6.0	
Gross national savings/GDP	
Current account balance/GDP	..	-5.4	4.0	1.6	
Interest payments/GDP	..	0.7	1.1	1.5	
Total debt/GDP	..	359.6	81.1	49.8	
Total debt service/exports	..	8.9	10.0	7.0	
Present value of debt/GDP	75.6	..	
Present value of debt/exports	153.1	..	
	1980-90	1990-00	1999	2000	2000-04
<i>(average annual growth)</i>					
GDP	4.6	7.9	4.8	5.5	6.8
GDP per capita	2.2	6.0	3.5	4.1	5.4
Exports of goods and services	..	23.4	22.6	14.8	..



	1980	1990	1999	2000
STRUCTURE of the ECONOMY				
<i>(% of GDP)</i>				
Agriculture	..	37.5	25.4	24.3
Industry	..	22.7	34.5	36.6
Manufacturing	..	18.8	17.6	..
Services	..	39.9	40.1	39.1
Private consumption	..	86.5	68.8	66.6
General government consumption	..	7.5	7.1	6.4
Imports of goods and services	..	33.4	..	..
	1980-90	1990-00	1999	2000
<i>(average annual growth)</i>				
Agriculture	4.3	4.8	5.2	4.0
Industry	..	12.1	7.7	10.1
Manufacturing
Services	..	7.8	2.2	5.6
Private consumption	..	10.2	..	..
General government consumption	..	10.9	2.5	..
Gross domestic investment	..	20.2	-3.0	10.9
Imports of goods and services	..	29.4	25.5	15.3

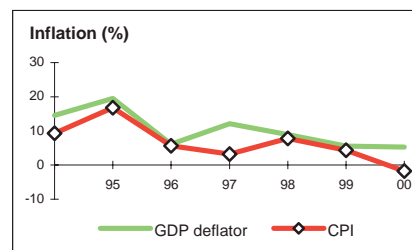


Note: 2000 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

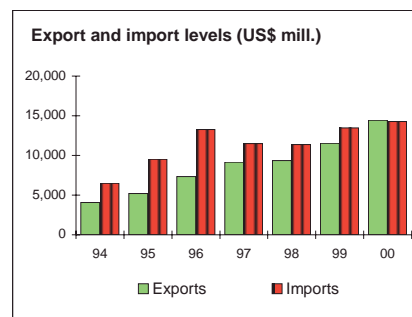
PRICES and GOVERNMENT FINANCE

	1980	1990	1999	2000
Domestic prices (% change)				
Consumer prices	..	36.4	4.3	-1.8
Implicit GDP deflator	..	42.1	5.6	5.3
Government finance (% of GDP, includes current grants)				
Current revenue	..	14.7	19.6	19.6
Current budget balance	..	0.0	5.9	4.8
Overall surplus/deficit	-0.8	-1.8



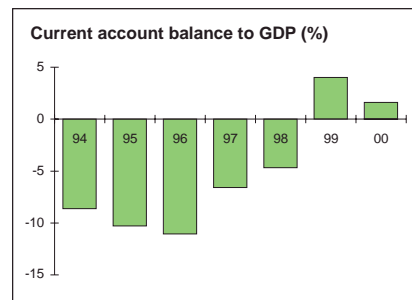
TRADE

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Total exports (fob)	..	1,731	11,540	14,448
Rice	..	272	969	667
Fuel	..	390	2,092	3,548
Manufactures
Total imports (cif)	..	1,901	13,480	14,259
Food	..	86	..	..
Fuel and energy	..	356	..	..
Capital goods	..	561	..	..
Export price index (1995=100)
Import price index (1995=100)
Terms of trade (1995=100)



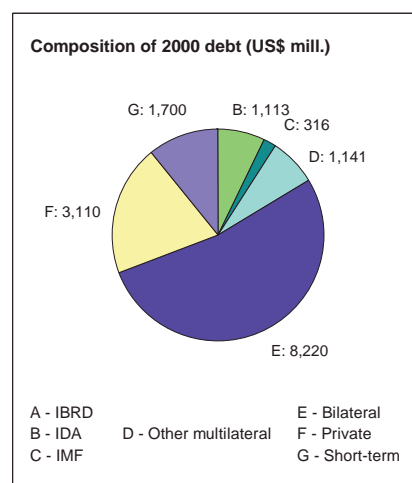
BALANCE of PAYMENTS

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Exports of goods and services	..	1,913	14,010	17,107
Imports of goods and services	..	1,901	13,480	17,344
Resource balance	..	12	530	-237
Net income	..	-412	-427	-597
Net current transfers	..	49	1,050	1,341
Current account balance	..	-351	1,154	507
Financing items (net)	..	510	130	-412
Changes in net reserves	..	-159	-1,284	-95
Memo:				
Reserves including gold (US\$ millions)
Conversion rate (DEC, local/US\$)	..	6,482.8	13,944.0	14,170.0



EXTERNAL DEBT and RESOURCE FLOWS

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Total debt outstanding and disbursed	..	23,270	23,260	15,600
IBRD	0	0	0	0
IDA	2	59	989	1,113
Total debt service	..	174	1,410	1,218
IBRD	0	0	0	0
IDA	0	1	8	9
Composition of net resource flows				
Official grants	..	96	257	..
Official creditors	..	-86	839	973
Private creditors	..	0	-781	-717
Foreign direct investment	..	16	1,609	..
Portfolio equity	..	0	0	..
World Bank program				
Commitments	0	0	318	260
Disbursements	1	0	158	175
Principal repayments	0	1	2	2
Net flows	1	-1	156	173
Interest payments	0	0	7	7
Net transfers	1	-1	150	166



Vietnam Social Indicators

	Latest single year			Same region/income group	
	1970-75	1980-85	1993-99	East Asia & Pacific	Low-income
POPULATION					
Total population, mid-year (millions)	48.0	58.9	77.5	1,836.6	2,417.1
Growth rate (% annual average for period)	2.3	1.8	1.6	1.2	1.9
Urban population (% of population)	18.8	19.6	19.6	34.5	31.4
Total fertility rate (births per woman)	5.7	4.2	2.3	2.1	3.7
POVERTY					
<i>(% of population)</i>					
National headcount index	..	..	50.9	..	..
Urban headcount index	..	..	25.9	..	..
Rural headcount index	..	..	57.2	..	..
INCOME					
GNI per capita (US\$)	..	..	370	1,010	420
Consumer price index (1995=100)	..	..	..	136	138
Food price index (1995=100)	..	..	..	..	..
INCOME/CONSUMPTION DISTRIBUTION					
Gini index	..	..	36.1	..	..
Lowest quintile (% of income or consumption)	..	..	8.0	..	..
Highest quintile (% of income or consumption)	..	..	44.5	..	..
SOCIAL INDICATORS					
Public expenditure					
Health (% of GDP)	..	..	0.8	1.7	1.2
Education (% of GNI)	..	..	3.0	2.9	3.3
Social security and welfare (% of GDP)	..	..	..	..	..
Net primary school enrollment rate					
<i>(% of age group)</i>					
Total	..	91	..	100	..
Male	..	..	..	100	..
Female	..	..	..	100	..
Access to an improved water source					
<i>(% of population)</i>					
Total	..	..	56	75	76
Urban	..	..	81	93	88
Rural	..	..	50	66	70
Immunization rate					
<i>(% under 12 months)</i>					
Measles	..	19	93	83	64
DPT	..	42	93	82	70
Child malnutrition (% under 5 years)	..	52	37	12	..
Life expectancy at birth					
<i>(years)</i>					
Total	60	65	69	69	59
Male	59	63	66	67	58
Female	62	67	71	71	60
Mortality					
Infant (per 1,000 live births)	73	49	37	35	77
Under 5 (per 1,000 live births)	157	105	42	44	116
Adult (15-59)					
Male (per 1,000 population)	320	262	205	184	288
Female (per 1,000 population)	256	204	144	141	258
Maternal (per 100,000 live births)	..	..	160	..	..
Births attended by skilled health staff (%)	..	100	77	..	..

Note: 0 or 0.0 means zero or less than half the unit shown. Net enrollment ratios exceeding 100 indicate discrepancies between the estimates of school-age population and reported enrollment data. Latest year for access to improved water source data is 2000.

COUNTRY REPORT

China

1. Introduction

Rice is one of the main staple food grains for China aside from wheat and corn. The Government places great emphasis on domestic and marketing policies to ensure the continuous supply of these staple food grains. It is a challenge for all the government in China for more than 5,000 years of its history. Production and management of food for 1.3 billion people is no simple task.

There are at least three reasons that make China food policy differs from other countries:

- a) China is very big and any action will have a significant impact on the international rice market, either positively or negatively. These repercussions will subsequently have an impact on China. For example, 1% of total consumption would be about 15% of total world trade in rice. If China were to seek this from the world market, world's rice price will increase.
- b) There are variation in the output due to uncertainties in weather and natural disasters.

2. Rice Production

One of the main objectives of government intervention into China's agricultural economy is to maintain full or near self-sufficiency in grains. As a result, China's government and Communist party leaders place great emphasis on domestic and marketing policies for wheat, corn and rice. This is because these crops typically account for 88 percent of total grain output.¹

2.1 Production Policy

To achieve such objective, a variety of policies have been introduced. Main features of China's institutional and production policies are Household Production Responsibility System (HPRS) and Governors' Grain Bag Responsibility System.

HPRS was introduced in the early 1980's. Under the HPRS, local collectives allocate farmers long-term use rights to agricultural land for up to 30 years. In return for the allocation, farmers are obligated to deliver a grain quota that is bought by state grain bureaus at prices determined by the government. This policy thus provided opportunities for farm households to make their own economic decisions, including allocating product inputs and retaining surplus after filling government quotas or targets.²

Whilst HPRS provided incentives to grow grain, Governor's Grain Bag Responsibility System is intended to put more pressure on provincial leaders to pay greater attention to the development of agriculture and food production including rice. It assigns ultimate responsibility for securing grain

¹ State Trading & Management of Grain Marketing in China, Economic Research Service, U.S. Department of Agriculture.

² Economic Research Service, U.S. Department of Agriculture, published on 27 December 2000

needed in a province to the provincial leadership. According to this policy, it is mandated that the provincial leaders:

- maintain an overall balance of grain supply and demand within their province;
- stabilize grain production area, output, and stocks; and
- use local reserves to regulate markets and stabilize prices.³

Due to the abolishment of official procurement prices for early rice as well as drought condition in northern China, China witnesses a decline in the total sown area of rice especially the sown area of early Indica rice. This had led to a small decrease in the total rice production and stock in China.

2.2 Land Use & Output

Table 1 shows that there is an increase in sown area for rice and wheat for a short period of time but total sown area of rice and wheat have been decreasing gradually from 1997 onwards. This is due to the abolishment in official procurement prices of the early rice, irrigation problem in northern China and government compensation to return the land to pasture or forest.

Table 1: Total Sown Area of Rice and Wheat by Year (Unit: 1000 hectares)

	Total Sown Area	Rice	%	Wheat	%	Others	%
1995	149,879	30,744	20.51	28,860	19.26	90,275	60.23
1996	152,381	31,407	20.95	29,611	19.76	91,363	60.96
1997	153,969	31,765	21.19	30,057	20.05	92,147	61.48
1998	155,706	31,214	20.83	29,774	19.87	94,718	63.20
1999	156,372	31,283	20.01	28,854	18.45	96,235	61.54

Source: National Statistics Bureau, China

According to Table 2, although rice cultivation is scattered throughout the country, it concentrates on two regions (Zone 3 and 4) in the south region of the country. These two regions accounts for about 75% of the total cultivating area. The top 5 provinces - Hunan (12.74%), Jiangxi (9.29%), Guangdong (8.61%), Guangxi (7.8%) and Jiangsu (7.59%) - share about 46% of the production area of rice.

It is interesting to note that major wheat growing areas are also in zone 3 and 4 which accounts for about 51% to total wheat area. However, there are more wheat grown in the Northern region (zone 1) and the higher area (zone 6).

³ Economic Research Service, U.S. Department of Agriculture, <http://www.ers.usda.gov/briefing/china/institution.htm> published on 27 December 2000

Table 2: Sown Area of Crops by Region (Unit: 1000 hectares)

Region	Total Sown Area	Rice	%	% in total rice area	Wheat	%	% in total wheat area
	a	b	b/a		c	c/a	
Zone 1							
Beijing	535	19	3.62	0.06	171	31.98	0.57
Tianjin	578	54	9.41	0.17	153	26.54	0.52
Hebei	9,098	153	1.68	0.49	2,764	30.38	9.28
Shanxi	4,038	6	0.15	0.02	963	23.86	3.24
Inner Mongolia	6,027	118	1.95	0.38	1,093	18.13	3.67
Zone 2							
Liaoning	3,630	496	13.66	1.59	150	4.14	0.50
Jilin	4,062	459	11.30	1.47	75	1.83	0.25
Heilongjiang	9,194	1,567	17.04	5.02	961	10.46	3.23
Zone 3							
Shanghai	556	203	36.54	0.65	104	18.67	0.35
Jiangsu	8,058	2,370	29.41	7.59	2,315	28.73	7.78
Zhejiang	3,920	2,008	51.23	6.43	255	6.51	0.86
Anhui	8,564	2,158	25.20	6.91	2,095	24.46	7.04
Fujian	2,919	1,388	47.55	4.45	55	1.88	0.18
Jiangxi	5,804	2,901	49.98	9.29	66	1.13	0.22
Shandong	11,138	158	1.41	0.50	3,982	35.75	13.37
Zone 4							
Henan	12,567	498	3.97	1.60	4,964	39.50	16.67
Hubei	7,696	2,239	29.10	7.17	1,211	15.74	4.07
Hunan	7,936	3,976	50.10	12.74	145	1.82	0.49
Guangdong	5,540	2,686	48.48	8.61	18	0.32	0.06
Guangxi	6,293	2,434	38.67	7.80	26	0.41	0.09
Hainan	938	389	41.44	1.24	-	-	-
Zone 5							
Chongqing	3,615	795	21.99	2.55	548	15.17	1.84
Sichuan	9,714	2,167	22.31	6.94	1,865	19.19	6.26
Guizhou	4,514	747	16.54	2.39	605	13.39	2.03
Yunnan	5,226	920	17.60	2.95	707	13.52	2.37
Tibet	229	1	0.48	0.00	55	23.98	0.18
Zone 6							
Shaanxi	4,697	160	3.41	0.51	1,611	34.29	5.41
Gansu	3,768	8	0.22	0.03	1,324	35.13	4.45
Qinghai	567	-	-	-	212	37.38	0.71
Ningxia	1,005	67	6.61	0.21	317	31.51	1.06
Xinjiang	3,279	69	2.11	0.22	967	29.49	3.25
Total in 1998	155,706	31,214	20.05	100.00	29,774	19.12	100.00

Source: National Statistics Bureau, China

Table 3 demonstrates trend of rice and wheat output. While the rice output has been decreasing or tends to be decrease from 1997 onwards, output of wheat still fluctuates. As previously mentioned, the decline in rice output primarily stems from the withdrawal of price support programmes.

Table 3: Output of Rice and Wheat by Year

Year	Rice	Wheat
1995	185,226	102,207
1996	195,103	110,569
1997	200,735	123,289
1998	198,713	109,726
1999*	198,500	
2000*	187,600	
2001*	181,500	

(Unit: 1,000 Tons)

Note: * are estimates from USDA.

Source: National Statistics Bureau, China.

Base on Table 4, most of the rice comes from Zone 3 and 4. However, there is big yield difference across regions. Hunan (11.8%) is still the largest production province followed by Jiangxi (10.51%).

It is interesting to observe the variation of yield per ha across the provinces. The largest production province -Hunan- in fact has a relatively low yield (5.9 mt/ha). This is lower than the national average of 6.37 mt/ha. Small production provinces like Ningxia and Shandong carry very high yield per ha. This could reflect the influence of the Household Responsibility System started in 1986 where each household was assigned with the target level of output. And each town is also given a target level of output to attain.

The lower yield in Hunan put some pressure on the effort to expand the production of "hybrid" rice in Hunan and other rice growing area. If this effort is successful, the output of rice in China may be pushed to an unprecedented level.

Table 4: Rice and Wheat Output and Yield (Unit: 1,000 Tons)

	Rice			Wheat		
	Output	%	Yield (ton/ha)	Output	%	Yeild (ton/ha)
Zone 1						
Beijing	133	0.07	6.86	967	0.88	5.65
Tianjin	452	0.23	8.31	761	0.69	4.96
Hebei	992	0.50	6.48	12,536	11.42	4.54
Shanxi	40	0.02	6.56	3,209	2.92	3.33
Inner Mongolia	603	0.30	5.12	2,827	2.58	2.59
Zone 2						
Liaoning	3,789	1.91	7.64	614	0.56	4.09
Jilin	3,855	1.94	8.40	106	0.10	1.42
Heilongjiang	9,258	4.66	5.91	2,852	2.60	2.97
Zone 3						
Shanghai	1,630	0.82	8.02	311	0.28	2.99
Jiangsu	20,892	10.51	8.82	7,597	6.92	3.28
Zhejiang	12,078	6.08	6.02	612	0.56	2.40
Anhui	13,902	7.00	6.44	5,991	5.46	2.86
Fujian	7,288	3.67	5.25	154	0.14	2.80
Jiangxi	14,256	7.17	4.91	92	0.08	1.40
Shandong	1,389	0.70	8.81	20,245	18.45	5.08

	Rice			Wheat		
	Output	%	Yield (ton/ha)	Output	%	Yeild (ton/ha)
Zone 4						
Henan	3,697	1.86	7.42	20,735	18.90	4.18
Hubei	16,332	8.22	7.29	4,093	3.73	3.38
Hunan	23,450	11.80	5.90	257	0.23	1.78
Guangdong	16,141	8.12	6.01	51	0.05	2.87
Guangxi	12,909	6.50	5.30	35	0.03	1.37
Hainan	1,624	0.82	4.18	-	0.00	0.00
Zone 5						
Chongqing	5,158	2.60	6.49	1,306	1.19	2.38
Sichuan	16,437	8.27	7.58	6,011	5.48	3.22
Guizhou	4,764	2.40	6.38	1,089	0.99	1.80
Yunnan	5,375	2.70	5.84	1,513	1.38	2.14
Tibet	5	0.00	4.55	291	0.27	5.29
Zone 6						
Shaanxi	1,013	0.51	6.33	5,042	4.60	3.13
Gansu	58	0.03	6.90	4,126	3.76	3.12
Qinghai	-	0.00		799	0.73	3.77
Ningxia	629	0.32	9.46	938	0.85	2.96
Xinjiang	563	0.28	8.15	4,566	4.16	4.72
Total Production	198,712	100.00	6.37	109,726	100.00	3.69

Source: National Statistics Bureau, China

As demonstrated in the table below, rice production in China can be divided into three major seasons which are early, middle and late. Middle season rice accounts for about 55% which is the highest production proportion. Early and Late double crop account for about 21% and 24% respectively.

Table 5: Output and Sown Areas of Rice, by Cropping Seasons

Item	Sown Area (thousand hectares)		Total Output ten thousand tons		Total Output by percentage	
	1998	1999	1998	1999	1998	1999
Early Rice	7,808.10	7,575.36	4,052.34	4,096.70	20.39	20.64
Middle Rice	14,962.20	15,300.22	10,955.33	10,939.83	55.13	55.12
Late Rice	8,443.68	8,407.98	4,863.57	4,812.31	24.48	24.24
Total	31,213.98	31,283.56	19,871.24	19,848.84	100.00	100.00

Source: China Agriculture Yearbook 1999 & 2000

Whereas early rice is a long grain type (Indica) which tends to be of poorer quality and is not favoured by consumer, farmers used to produce it as they can use early Indica rice to fill the government quotas at procurement price. This explains why State stocks of poor quality rice are reportedly high.

2. Rice Marketing

Currently, domestic grain and rice marketing in China is highly controlled by the government. Central and provincial governments exert considerable control over all aspects of China's food grain sector through government-owned and managed grain bureaus. Of their particular attention are wheat, rice and corn as they typically account for high grain output.

Grain Bureaus, administered under the State Trading Enterprises (STE's), located at province, prefecture and county levels draw up grain supply-and-use tables to determine grain availability and needs for each administrative unit. For instance, geographic units are classified as surplus if grain output exceeds local consumption requirements, self-sufficient if output equals local requirements, or deficit if output is less than requirements.⁴ Such information allows the central and provincial governments to determine the quantities of grain they need to purchase as well as set purchase prices for wheat, rice and corn procurement quotas.

The flow of rice is shown in Annex 6. Farmers (producers) who have been assigned quotas must deliver the specified grains to local Grain Bureaus, which provincial and local governments use to manage the purchase and sale of key grains. Through Grain Bureaus, grains will then be distributed to military units, wholesale markets, feed mills, grain storage facilities, and grain and food processors, and part of the supply for urban residents in large cities.

Whereas governors from each provinces jointly work out the movement of grains across the provincial borders, the local and provincial government leaders work hand in hand in the movement of grain within provinces. The whole system provides the national government leaders with supply-and-use balance sheets which is used to assess grain export opportunities as well as import requirements.

3. Price Policy

Domestic rice price system in China is a combination of planned economy and free market economy. It frequently takes the form of government control over most marketing accompanied by a free market discipline to government institutions. As the development and application of several price policies are significant to the understanding of the current price policy, this section will provide concise overview of each major policy.

The main features of China's rice and other agricultural commodities price policy introduced since 1980 are:

1. **Procurement price policy:** To secure food supply, farmers are required to deliver rice and other grain to the government agencies only and at procurement price set by the government. Normally, each farmer was assigned to deliver grain at specific quota set by the government. The government

⁴ State Trading & Management of Grain Marketing in China, Economic Research Service, U.S. Department of Agriculture (<http://www.ers.usda.gov/publications/agoutlook/jun1999/ao262e.pdf>)

would procure quota grains at the quota procurement price and above-quota grains at above-quota prices.

2. **Procurement contract system**: This system was introduced in 1985. Under this new contract system, the government purchased some grain at prices below the market price for rice within contract quota, but also purchased other grain at negotiated prices and at open market prices for rice that exceeds the contract quota.
3. **Reduction in government procurement quotas** : In order to increase farm income as well as boost production incentives, the government reduced the amount of grain purchased under the contract system in the years after 1985. As a result, farmers could sell more of their grain on the open market at higher prices. At the same time as the government reduced contract grain purchased, the government also increased purchases of grain at the so-called “*negotiated price*” which was sharply higher than the contract price to supply to urban consumers.
4. **Elimination of the urban grain-rationing system**: Under this system, China’s government issued urban consumers coupons giving them the right to buy a specified amount of grain per person at a low price. Grain above the ration amount could be purchased at market price which was usually more expensive. It is reported that the China’s government-set retail price for grain ration remained unchanged for 25 years. Each rise in the procurement prices thus caused the government budget pressure under this urban grain-rationing system. Finally, the coupon-based grain rationing system was eliminated in 1994.
5. **Price support program**: To further bolster farm income and to meet food security goals, the central government launched price support policy and set support price for all grain throughout the country. In addition, the central government and provincial government pays subsidies to the marketing enterprises for grain purchased by state grain trading enterprises at the support price level. By the end of 1997, the central government had incurred a loss of 120 billion RMB (roughly \$15 billion) because of this grain purchasing program.⁵
6. **Grain distribution reform**: In response to the perceived shortcomings in the grain reform program of the 1990’s, the central government introduced even deeper grain distribution reform in May 1998. The grain distribution reform was summarized as “four separations and one improvement”. The four separations set for grain marketing are:
 - separating government policy from commercial business functions,
 - separating central grain reserves from local commercial reserves,
 - separating central and local responsibilities on grain marketing, and
 - separating new debts from old debts.⁶

⁵ Economic Research Service, U.S. Department of Agriculture, <http://www.ers.usda.gov/briefing/china/price.htm> published on 27 December 2000

⁶ Ibid.

The significance of this policy was that quota procurement prices were to be governed by the prevailing market price.

However, only state grain enterprises are allowed to purchase grain from farmers, while private grain dealers are only permitted to sell grain that is bought from government grain-marketing enterprises. The purpose of this change was to allow government grain enterprises to monopolize the country's grain-marketing system so that grain prices would rise above the government protection price. Once that occurred, government debts would be erased and grain marketing would then return to its previous more liberalized method of operation.⁷

In transition from a control system to a free market system is an easy process and it will take more time. For the country as a whole, the grain selling at market price was not yet wholly achieved. Some grain handling enterprises in really implementing the policy of open-end purchasing of surplus grain at the protective price, some low-priced grain flowed into the market, making it difficult for STE's to realize selling at market price.⁸

Further to the financial burden incurred from buying that grain, China's government also runs out of storage space. Therefore, China's government eliminated its price support programme for several grain commodities including early season rice (indica rice) grown in the south of the Yangtze River in 2000 and all rice in Shanxi, Hebei, Shandong and Henan in 2001. By 2002, only mid-and-late indica rice of mid-Yangtze reach provinces and quality japonica rice of Northeastern provinces are under the price support programme. Also, grain market in 8 coastal provinces namely Zhejiang, Shanghai, Fujian, Guangdong, Hainan, Jiangsu, Beijing and Tianjin, China's major rice sales area, were completely liberalised. Unsurprisingly, it is reported that sown area and production of 2001 crops declines.

4. Rice Trade

4.1 Export

Like other countries, China does release excess stock of rice by exporting to other countries. Most of China's rice exports were **indica varieties** from the Yangtze River region, including Jiangxi, Anhui, Hunan, and Jiangsu provinces. The majority of **japonica rice** which accounts for only about 20 per cent of rice stock were mainly exported from the northeastern provinces namely, Liaoning, Heilongjiang and Jilin. This is because there are number of joint-venture farms with investors from Japan and Korea have been producing rice for the export market.⁹

⁷ Ibid.

⁸ "Huang Yanxin The Future of China's Grain Market, Economic Research Service, U.S. Department of Agriculture, "Policies and Reform of the Grain Distribution System" in Editorial Board of China Agriculture Yearbook, eds., China Agricultural Yearbook 1999 (Beijing: China Agriculture Press, 2000), p. 68

⁹ Tradeoffs between quantity and quality of China Rice, Economic Research Service, U.S. Department of Agriculture (<http://www.ers.usda.gov/publications/wrs012/wrs012g.pdf>)

Recently, China has exported increasing quantities of rice to countries outside eastern Asia. These countries include Cote d'Ivoire, Cuba, Russia, Iran and Guinea.

4.2 Import

Whereas exports tend to be low-quality indica rice, imports are likely to be premium grade quality rice from Thailand, the US and Myanmar. Thailand has been the dominant supplier of rice to China's market. In 2000, for instance, Thailand accounted for over 99 percent of rice imported into China. Southern coastal provinces, particularly Guangdong and Hainan, are major rice importers because of their strategic locations and the convenience of transportation systems.¹⁰

Table 6: Rice exports and imports by country, Calendar year 1997-2000 (Unit : 1000 Tons)

Country	1997	1998	1999	2000	4-Year Average	4-Year Shares (%)
Export:						
Philippines	184.4	1,374.7	180.6	64.4	451.0	17.5
Indonesia	9.8	1,326.6	734.2	541.9	662.1	25.6
North Korea	91.8	77.9	86.3	52.7	77.2	3.0
South Korea	13.9	74.6	115.8	131.0	83.9	3.2
Japan	36.3	81.2	75.6	66.4	64.9	2.5
Iraq	124.0	98.7	102.9	169.5	123.8	4.8
Cote d'Ivoire	100.0	179.9	421.1	869.6	392.7	15.2
Cuba	84.6	145.4	226.9	225.5	170.6	6.6
Others	294.3	350.4	759.9	827.0	557.9	21.6
Total	939.3	3,745.4	2,703.2	2,948.1	2,584.0	100.0
Imports:						
Thailand	323.2	242.5	167.6	238.0	242.8	99.4
United States	1.2	0.5	0.6	0.4	0.7	0.3
Myanmar	1.0	0.0	0.0	0.0	0.2	0.1
Others	0.8	0.8	0.1	0.2	0.4	0.2
Total	326.2	243.8	168.3	238.6	244.2	100.0

Source: China Customs statistics¹¹

4.3 Trade Agreement

(1) Bilateral Agreement

US-China Bilateral WTO Agreement on Agriculture

The Agreement would eliminate barriers and increase access for US exports across a broad range of commodities. The commitments include:

- Significant cuts in tariff that will be completed by January 2004. Overall average for agricultural products will be 17.5% and for US priority products 14% (down from 31%).

¹⁰ Ibid., p. 26

- Establishment of tariff-rate quota (TRQ) system for import bulk commodities e.g. wheat, corn, cotton, barley and rice, that provides a share of TRQ for private traders. Specific rules on how the TRQ will operate and increase transparency in the process will help ensure that import occur. Significant and growing quota quantities subject to tariffs that average between 1-3%.
- The right to import and distribute products without going through a state-trading enterprises or middleman.
- Elimination of export subsidiaries on agricultural products. China has also agreed to the elimination of Sanitary and Phytosanitary Standards (SPS) barriers that are not based on scientific evidence.¹²

(2) Multilateral Agreement:

China's Commodity Agreement for WTO Accession:

China's commitment to the WTO on rice are:

- Grant one percent tariff quota of 3.99 million ton of rice in the first year upon entry into that organisation, rising progressively to 5.32 million ton in 2004.
- Grant one percent tariff for rice imported within quota, while the above quota tariff would be reduced from 77 percent to 65 percent by 2004.
- Allocate 50 percent of the import quota rights to private sector from the first implementation year.

4.4 Government Control

China's government conduct trade of many important agricultural commodities through a system of state-owned and state-controlled foreign trade enterprises. This system enables China's government to manage the level and direction of the trade flow of these and other commodities covers rice as well as other grain commodities. The government manages China's foreign trade in grains including rice in three ways.

- It uses annual planned targets to control quantities and varieties of imported or exported grains to insulate the domestic market from fluctuations or shocks in the international market.
- It employs fixed prices in the grain trade to eliminate price transmission effects between internal and foreign markets.
- It uses the domestic price system and other administrative measures for grain trading to promote exports, increase foreign exchange earnings, and reduce foreign exchange expenditures.¹³

¹¹ This table is cited in Tradeoffs between quantity and quality of China Rice, Economic Research Service, U.S. Department of Agriculture (<http://www.ers.usda.gov/publications/wrs012/wrs012g.pdf>)

¹² Supachai Panitchpakdi & Mark L Clifford, China and the WTO: Changing China. Changing World Trade (Singapore: John Wiley & Sons (Asia) Plc. Ltd., 2002), p. 221-222.

Tariff barrier on rice in China is minimal and is not considered a serious barrier to trade in comparison with the non-tariff barrier. China's government applies quota and license system to control the quantities as well as varieties of imported or exported rice.

China's government requires import and export license for rice. All imports and exports are based on quota system set by the government. China's government did not publish the figure of quota prior to its accession to WTO. Last but not least, China has recently implemented sanitary and phytosanitary (SPS) measures that may affect the imports of certain commodities.¹⁴

However, with the liberalisation of grain market in 8 coastal provinces (Zhejiang, Shanghai, Fujian, Guangdong, Hainan, Jiangsu, Beijing and Tianjin), rice trade will be less restricted. More provinces are expected to be included in this scheme. This is a positive development and complement China's commitment in WTO.

4.5 Role of Concern Government Agencies

Despite of the commitment made to the WTO, rice exporting countries often claim that rice imports are still administered under a complex and non-transparent maze of quotas and licences. The key institutional players involved in the administration of quota system are:

The **State Council (SC)**, the highest administrative player, is the primary policy making body. Its responsibility includes determining the quantities of grains to be purchased by the states, the level of procurement prices, stock building and stock use, and the level and direction of grain foreign trade.

The **State Development and Planning Commission (SDPC)** provides economic policy recommendations to the SC. It is also in charged of the overall planning of import and export of grain, deciding the annual rice import quota.

The **State Administration of Grain (SAG)**, a government agency administered under the SDPC, draws up grain balance sheets for the entire country and manages grain reserve strategy.

The **Ministry of Foreign Trade and Economic Cooperation (MOFTEC)** controls and supervises the overall administration of the issuance of import quota and license nation wide. It allocates individual import quotas to **Provincial and Municipal Planning Committees (PMPC)** and **Provincial and Municipal Foreign Trade Commissions (PMFTC)**. PMFTC then distributes quotas to foreign joint ventures and/or wholly owned foreign enterprises.¹⁵

¹³ Economic Research Service, U.S. Department of Agriculture <http://www.ers.usda.gov/briefing/china/tradepolicy.htm> published on 27 December 2000

¹⁴ Chinese rice Market, published by the Australian Trade Commission (http://www.austrade.gov.au/image/China_rice_market.pdf)

¹⁵ Chinese rice Market, published by the Australian Trade Commission.

The **China National Cereals, Oil and Foodstuff Import and Export Corporation (COFCO)** negotiates prices and signs trade contracts, arranges shipping, and ensures shipments pass border inspections. (COFCO) reports to MOFTEC.¹⁶ It should also be noted that COFCO is currently the only agency in China allowed to import rice under the quota system. Foreign and State-owned enterprises with an import quota apply through COFCO to import rice.

The **Grain Bureau**, once a ministry, manages domestic marketing, distributing and stationing of grains at provincial, prefecture and country levels.

5. Rice Reservation by the Government

Food and Agricultural Organization (FAO) recommended that stock-to-utilization ratio of the world grain reserves should be around 17-18 per cent of the world consumption¹⁷ or about 1.5 months of food consumption. FAO believes that this amount will help avoiding chaotic market prices during crop failure.

As rice is a basic staple, the government spent substantial effort in control and manage the stock of rice in each location in the country to ensure its continuous availability. The size of the stock of rice is not public information. The number available is an estimate.

Grain policies set by Chinese government implied that China's stock-to-utilization ratio is much higher than the FAO's recommendation. For instance, Governor's Grain Bag Policy, first implemented in 1995, requires a minimum reserve of 3 months of grain consumption for grain surplus provinces and 6 months for grain-deficit provinces.¹⁸

Although China holds way larger grain stocks than other countries, only small shares of these stocks are likely to enter the market. This stems from the fact that China has a strong preference for self-sufficiency in grain and these grain stocks serve as insurance against catastrophic crop failures or other disruptions that could affect China's food supply or force the country to rely on imported grain.

Table 7: USDA's Estimation of China's Rice Stocks by Crop Year (Milled rice basis)

	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Beginning Stocks	85,500	84,500	88,500	93,000	96,000	98,500
Ending Stocks	84,500	88,500	93,000	96,000	98,500	95,000

Unit: Thousand Metric Tons

Source: U.S. Department of Agriculture, World Agricultural Supply and Demand Estimates¹⁹

¹⁶ State Trading & Management of Grain Marketing in China, Economic Research Service, U.S. Department of Agriculture.

¹⁷ Due to the scarcity of information available on rice reserve in China, some information referred in this section will be based on grain reservation as rice is one of the major grains sown in China.

¹⁸ USDA Revision of China Grain Stock Estimates, Economic Research Service, U.S. Department of Agriculture (<http://www.ers.usda.gov/publications/wrs012/wrs012k.pdf>)

¹⁹ This information is taken from WASDE, U.S. Department of Agriculture (<http://www.usda.gov/oce/waob/wasde/China-rice.xls>)

Rice and other grain stocks, as shown in Table 8, are held by at least five major units, each of which have distinct function in Chinese Society. They are as follows:

1. **Central Government (State) Reserves:** As a result of the reorganization of the State Administration of Grain Reserve (SAGR) in 2000, there was a separation between policy-formulating entities and grain trade business operations. This led to the establishment of 14 grain companies in selected production and consumption areas by the government. These grain companies control and operate approximately 2,800 grain warehouses with an estimated storage capacity of 25 million tons.²⁰
2. **Government Grains in Circulation:** These stocks include grain purchasing at protection (procurement) prices which can also be resold at market prices. Normally, two-thirds of the government procurement amount is circulated each year, including food supplies to military and government facilities. Stock of grain for circulation could be five times higher than the 2-million ton reserved by the government.
3. **Local Government Reserves:** These stocks protect against region-specific grain shortage that may not be immediately alleviated due to the poor transportation infrastructure within China. The government set the target at 20 million tons, equivalent to 1 – to 1.5- month consumption needs.
4. **Retail and Wholesale Grain Stores:** As small private enterprises and retailers can purchase grain directly from farmers at free market price and wholesale grain stores exist in numerous places, grain tends to be fresher and consumers pay premium price for the quality. Hence, rice stock hold by these retailers and wholesalers are considered to be “true market” grain in the commercial pipeline. Unfortunately, there has been no study indicating the estimate stock hold by these retailers and wholesalers.
5. **On-farm storage:** Normally, farmers store their grain at home or at local mills. Statistical publications from China indicate that grain stocks hold by rural households can be as high as 350 to 400 kilograms (770 to 880 pounds) per capita. Survey of farm households also reveals that on-farm storage for cropping year 1995/96 was approximately 90 million tons. That is a 300-percent increase from the early 1980s.

It can be concluded that farm households held most of China’s grain inventories. Some studies indicate that on-farm grain stocks even surpassed 450 million tons in 1994 and 1995. This is due to the fact that farmers are greatly self-sufficient in food and rural food markets are still relatively underdeveloped in rural China. Therefore, there is the need to store adequate grain to satisfy family consumption. It also serves as a buffer against crop failures or natural disasters. Finally, grain serves

²⁰ USDA Revision of China Grain Stock Estimates, Economic Research Service, U.S. Department of Agriculture
<http://www.ers.usda.gov/publications/wrs012/wrs012k.pdf>

as a store of wealth because the poorly developed financial system provides little or no means for farmers to save for retirement or obtain credit when personal financial needs rise.

Table 8: China's Reserve Target by Specific Grain

Grains	Sown Area % of total crops	Production % of total Grain output	Stock level (average 1996-1998) % of total grains	Targeted share of total grain
Rice	22-24	42-44	Indica 40 Japonica 10	30
Wheat	20-23	20-23	40	50
Coarse grain	14-16	18-20	10	20
Total	56-63	80-87	100	100

Source: Dai, Yuanchen et al., Reforms of China's Grain Circulation system, Guangdong Economic Publications, September 1999 ²¹

6. Rice Demand & Consumption

It is reported that about 50 percent of the population in China has rice as their major staple. Domestic consumption of rice has been increasing over the past few years due to population growth. However, several sources stipulate that per capita rice consumption is declining for both urban and rural residents. Primary cause is that consumer has access to more carbohydrate sources as income rises. To some researchers rice is an inferior good in China – a good whose demand falls as consumer incomes rise.

Another factor that affects the consumption of rice is the availability of substitutes (such as bread, meats and fruits) and the change in consumption behavior. These factors are closely associated with urbanization. In the urban areas where population are dense, there are more varieties of food available. At the same time, urban population are usually wealthier (average income is higher than the average income in the rural area). The increase in the urbanization, thus, associates closely with the decline in the consumption of basic staple grains, such as rice.

Table 9 shows that about 30% of the population is in the urban area and its size is increasing slowly (about 1 million person a year). However, this official statistic does not reflect the in-migration of rural workers who works in the household and factories in the urban area. As far as rice consumption is concern, the consumption of rice for this group of population may still high at the beginning but it will decline subsequently.

²¹ Ibid.

Table 9: Population in China* (Unit: 10,000 persons)

Year	Total Population	Urban Population		Rural Population	
			%		%
1996	122,389	35,950	29.37	86,439	70.63
1997	123,626	36,989	29.92	86,637	70.08
1998	124,810	37,942	30.40	86,868	69.60
1999	125,909	38,892	30.89	87,017	69.11

Source: The National Statistics Bureau, China

Table 10: Rice Consumption in China, Milled Basis

Rice	Unit	1989-91	1994-96	2000	2005
Consumption	1,000 tons	126,070	128,479	129,479	129,306
Per capita Consumption	Kilograms	110.4	105.7	102.0	98.4

Source: The Future of China's Grain Market / AIB-730 Economic Research Service/USDA²²

Despite of the decrease in total per capita consumption as consumer's incomes rise, the demand for quality rice grows as consumers become wealthier, particularly from urban residents in coastal cities. Apart from the income factor, consumer preference has traditionally been divided along the Yangtze River. Consumers north of the river prefer the shorter grain, Japonica rice, while the consumers south of the river prefer the long grain, Indica rice.

Humans consumption account for 85 percent of rice produced in China. In the verge of decline in humans consumption, industrial and feed consumption, however, continue to rise. Feed industry and farmers in Southern China are using more rice for feed since procurement price for low quality early rice was eliminated and low quality early rice is cheaper than corn.

7. Rice/Paddy Price

Over the last few years, prices of agricultural products including rice and other grains in China have been falling. In 1999, for instance, China witnessed big drop in the prices of agricultural produce on the drop of the preceding year, as the general level of consumption price index was 1.4% lower and the retail price index was 3% lower than in the preceding year.²³

Since 1995, this trend predominated the wholesale price until mid-2000. Although price has gone up slightly, it was still at low level. In October 2001, for example, the wholesale market price for japonica rice was 1940 yuan/ton (lower than the 1998 price) whereas wholesale price for indica rice was 1470 yuan/ton (lower than 1999 price).

* The information in this table includes military personnel but excludes population of Hong Kong, Taiwan and Macau.

²² The Future of China's Grain Market, Economic Research Service, U.S. Department of Agriculture
<http://www.ers.usda.gov/publications/aib730/aib730ap.pdf>

²³ Cao Hua, "Changes in Market Prices of Farm Produce" in Editorial Department of China Agriculture Yearbook, eds., *China Agriculture Yearbook 2000* (Beijing: China Agriculture Press, 2000), p.85

Table 11: Rice Price Trends (Unit: RMB yuan/ton)

	Dec-00	Dec-99 (+/-)	Dec-98 (+/-)	Dec-95 (+/-)
Japonica (S1)	1800	-5.5%	-19.5%	-39.0%
Indica (S1)	1455	-7.5%	-25.1%	-40.7%

Source: <http://www.agri.gov.cn/ztl/2002/0116/01161.htm>²⁴

Note: S1 = Standard 1

USD 100 = CNY 828.84

Table 12: Rice Price between February 1999 to February 2000

Products	Average price (CNY)	Compared with same period 1999 (%)
Wheat	1,144/ton	-21.57
Rice (Japonica)	1,860/ton	-14.6
Early Rice (Indica)	1,463/ton	-23.5
Late Rice (Indica)	1,568/ton	-23.6

Source: China Development Brief²⁵

The drop in price of rice and grain was the result of excessive supply of low-quality rice and grain. As rice and grain inventories grew, all locations introduced measures to undersell the aged rice and grain. This caused market prices to drop even more. This was worsened by the continued slump of prices of agricultural product in the international market.

It is interesting to note that the price of rice and wheat is declining faster than the price of corn (in

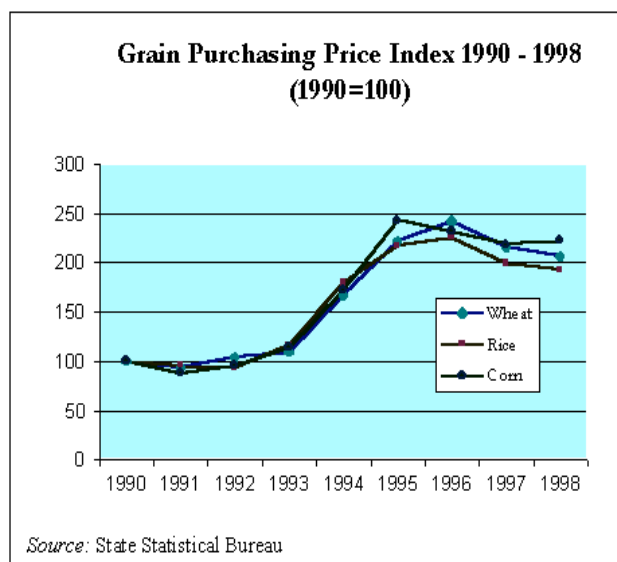
Figure 1

Figure 1). The increase in the consumption of corn for feed has increased (in particular, chicken feed) has prop-up its price. The decrease in the price of rice, especially, the lower quality of rice will find the floor price as the substitute for corn as animal feed. The demand for feed will increase as the consumption of meat increase in respond to income increase and urbanization.

Source: China Development Brief²⁶

²⁴ He Yupeng, "People's Republic of China's Paper on Domestic Rice Policy", the First Technical Meeting on Rice Reserve under the Development Study on East Asia/ASEAN Rice Reserve System, 19 April 2002

²⁵ This information is cited in "From equal poverty to dynamic inequality" published in China Development Brief at <http://www.chinadevelopmentbrief.com>

²⁶ Ibid

However, there is the sign of better prices for better grain. Requirements set by the State Council and the increasing demand for quality grain gradually widens the gap between high quality and low quality rice. For instance, price of a quality variety that sells fast on the market can be 6%-20% higher than common varieties.

8. Food Aid

World Food Programme (WFP), a UN specialised Agency, is one of the major food aid donors to China. China's government has built an increasingly effective partnership by closely matching WFP's contribution with its own contributions over the last two decades.

WFP classified China as a low-income food-deficit country. Despite China's impressive economic progress and near food self-sufficiency, an estimated 34 million rural people continue to live below the Government's austere poverty line of Yuan 635 per person per year (approximately US\$0.66 per day).²⁷ Among this, rural women and children residing in China remote western regions are the most vulnerable and disadvantaged in gaining access to resources particularly in the age when China is undergoing major economic change.

Because of the progressive economic development in China and the success of agricultural policy to be self-sufficient in food, WFP needs to adjust its role in assisting China. With the phasing out WFP food assistance, WFP works with the United Nations Development Assistance Framework (UNDAF) in adopting a Country Programme (CP) aiming to promote sustainable development in China.

The objective of China CP is to bring sustainable improvements in food security for more than 1.7 million poor households over the period 2001–2005. Emphasis will be placed on the reduction of regional and gender disparities by:

- Enable poor households to invest in human capital through education and training;
- Make it possible for poor families to gain and preserve assets; and
- Enable households that depend on degraded natural resources for their food security to make a shift to more sustainable livelihoods.²⁸

9. Poverty

9.1 Situation of Poverty & Poverty Alleviation

Estimate of the extent of poverty can be varied depending on type of indicators one chooses. Based on the government poverty line, number of China's rural poor has been decreasing dramatically. That is from 250 million in 1978 (or about 30% of rural population) to 42 million in 1998 (4.6% of

²⁷ Project 2002 Needs, World Food Programme (http://www.wfp.org/country_brief/index.asp?continent=2)

²⁸ Country Programme, World Food Programme <http://www.wfp.org/index.asp?section=5>

the rural population). By applying a standard international poverty line of 1\$ per day would result in a substantially greater number of absolute poor.

When poverty is measured in terms of nutrition, it often seems similar to that measured by the official income poverty line. A report based on National Bureau of Statistics (NBS) household data found that a quarter of the rural population had less than a minimum level of calorie intake in 1990, while a more recent survey in six poor counties found over one third had a per capita income below the national poverty line.²⁹

Despite of the variation in standard applied to determine poverty in China, all study reveals that poverty in rural China has continuously reduced over the past few decades with the exception of the poor in the western provinces. In fact, trend of poverty in this region has been contradictory to the overall predominant trend as poverty reduction efforts have not been successful in this region.

9.2 Major projects for Poverty Alleviation by the Government and/or Supported by International Organisations/Foreign Donor

A variety of policies and measures introduced by the government accounts for the dramatic poverty reduction in China. These include sweeping rural economic reforms, the introduction of macroeconomic policies encouraging productive agricultural and industrial activities and the encouragement of rural market economy functioning. These policies fostered rapid expansion of agricultural production and family incomes.

Apart from role of government, international aid organisation has also played significant role in supporting the poverty alleviation programme. Of particular importance is the United Nations Development Programme (UNDP) who supports the government in several programmes. The programmes include:

Poverty Reduction Programme: In 1994, Chinese government launched the “8-7 Plan” to guide the poverty reduction activities. This programme is also supported by the United Nations Development Programme (UNDP). This programme aims at eliminating absolute poverty among the remaining 80 million people within 7 years through tax favourable policy, financial support and social economic development measures.

Responsibility System: Government officials at the county, township and village levels are highly involved in this programme. It is required that they have to personally guarantee poverty alleviation loans to one, two and three poor "uncreditworthy" households respectively, while technical personnel provide technical advice and support to up to three poor households in drawing up and implementing household plans for the use of poverty alleviation funds. Further to the financial

²⁹ Poverty in China, UN China http://www.unchina.org/about_china/html/poverty.shtml

commitment from being the guarantor, these officials also have every incentive to help the poor as their career relies on outcome of poverty reduced.

In addition to UNDP, WFP also provides support for poverty alleviation programme in China. Its focus is to integrate agricultural development, targeting assistance to people living in the poorest areas. Activities can be broken into two major categories which are:

- large labour-intensive food-for-work public service projects
- food-for-training human capacity-building activities

As China is a disaster-prone country with substantial potential emergency requirements (for example in the wake of massive flooding in 1998), WFP's development activities are also implemented in areas subject to recurrent natural catastrophes, and projects contain disaster-preparedness components.

10. Conclusions

Meeting the domestic consumption requirement is prime policy target of the Chinese government. The government had implemented many measures to push the production of rice, e.g., the Household Responsibility system. At the same time, consumption per capita is declining because of income increase and urbanization. The self-sufficiency target has essentially been attained in late 1990s. Given the growing quantity of rice, the growing surplus has been flowing into the stock.

China also has a reserve system which is governed by the State Administration of Grain (SAG). SAG will determine the quantity of rice reserve to be held in each province. The provincial administration will in turn set the target for the township, etc. It is likely that the largest rice stockholder is the farmer. The rice stock in China is as high as 100 million Metric tons - about 5 times the size of the world rice market. Managing this stock in the country and participation in the international market will be a challenge for the government.

Although there is rice sufficiency, there are pockets of areas where the supply of food grain is insufficient. World Food Program (WFP) has a few projects in China but the number has been declining since China has become an exporter of rice.

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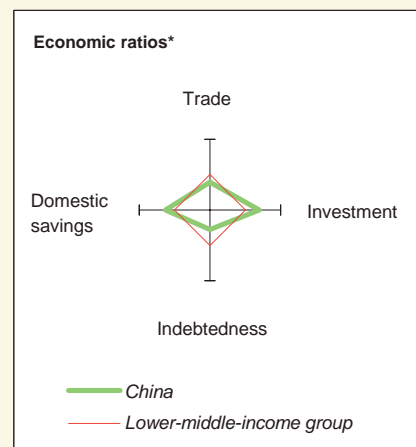
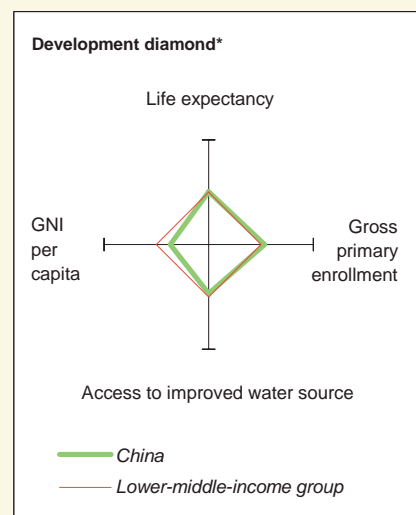
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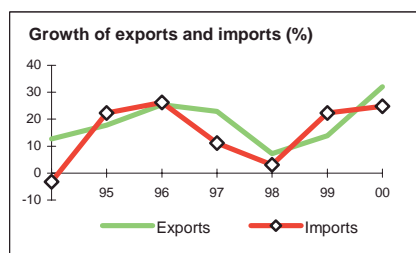
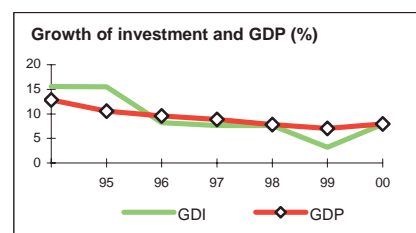
China at a glance

9/6/01

	China	East Asia & Pacific	Lower-middle-income		
POVERTY and SOCIAL					
2000					
Population, mid-year (<i>millions</i>)	1,262.5	1,853	2,046		
GNI per capita (<i>Atlas method, US\$</i>)	840	1,060	1,140		
GNI (<i>Atlas method, US\$ billions</i>)	1,061.2	1,964	2,327		
Average annual growth, 1994-00					
Population (%)	1.0	1.1	1.0		
Labor force (%)	1.2	1.4	1.3		
Most recent estimate (latest year available, 1994-00)					
Poverty (% of population below national poverty line)	5	..	..
Urban population (% of total population)	36	35	42		
Life expectancy at birth (<i>years</i>)	70	69	69		
Infant mortality (<i>per 1,000 live births</i>)	30	35	32		
Child malnutrition (% of children under 5)	9	13	11		
Access to an improved water source (% of population)	75	75	80		
Illiteracy (% of population age 15+)	16	14	15		
Gross primary enrollment (% of school-age population)	123	119	114		
Male	123	121	116		
Female	123	121	114		
KEY ECONOMIC RATIOS and LONG-TERM TRENDS					
	1980	1990	1999	2000	
GDP (<i>US\$ billions</i>)	216.2	363.0	997.5	1,076.9	
Gross domestic investment/GDP	35.2	34.7	37.2	37.3	
Exports of goods and services/GDP	7.6	17.5	22.0	25.9	
Gross domestic savings/GDP	34.9	37.9	40.1	39.9	
Gross national savings/GDP	34.9	38.3	38.7	39.2	
Current account balance/GDP	-0.4	3.8	1.6	1.9	
Interest payments/GDP	0.2	0.7	0.6	0.7	
Total debt/GDP	..	15.2	15.5	13.9	
Total debt service/exports	8.0	9.9	9.0	7.4	
Present value of debt/GDP	13.5	..	
Present value of debt/exports	58.7	..	
	1980-90	1990-00	1999	2000	2000-04
<i>(average annual growth)</i>					
GDP	10.1	10.3	7.1	7.9	7.4
GDP per capita	8.5	9.2	6.1	7.2	6.7
Exports of goods and services	11.0	16.5	13.9	32.0	11.1



	1980	1990	1999	2000
STRUCTURE of the ECONOMY				
<i>(% of GDP)</i>				
Agriculture	30.1	27.0	17.6	15.9
Industry	48.5	41.6	49.4	50.9
Manufacturing	40.5	32.9	33.6	34.5
Services	21.4	31.3	32.9	33.2
Private consumption	50.5	49.9	47.4	47.0
General government consumption	14.6	12.1	12.5	13.1
Imports of goods and services	7.9	14.3	19.1	23.2
	1980-90	1990-00	1999	2000
<i>(average annual growth)</i>				
Agriculture	5.9	4.1	2.8	2.4
Industry	11.1	13.7	8.1	9.6
Manufacturing	11.1	13.4	8.3	9.7
Services	13.5	9.0	7.5	7.8
Private consumption	9.4	8.8	2.6	6.0
General government consumption	9.8	9.4	8.4	12.0
Gross domestic investment	10.8	11.6	3.2	7.9
Imports of goods and services	9.1	16.1	22.3	24.8

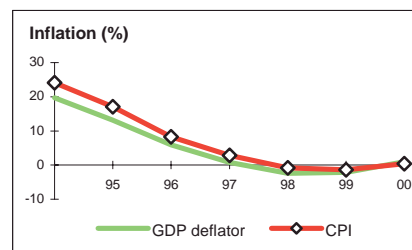


Note: 2000 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

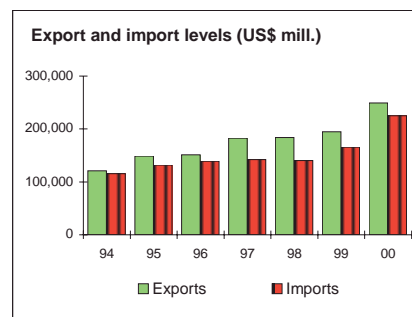
PRICES and GOVERNMENT FINANCE

	1980	1990	1999	2000
Domestic prices				
(% change)				
Consumer prices	6.0	3.1	-1.4	0.4
Implicit GDP deflator	5.6	5.5	-2.2	0.9
Government finance				
(% of GDP, includes current grants)				
Current revenue	25.7	19.7	15.0	15.3
Current budget balance	..	3.0	1.3	0.6
Overall surplus/deficit	-1.5	-0.8	-4.0	-3.6



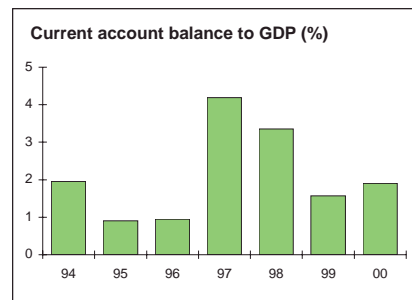
TRADE

	1980	1990	1999	2000
(US\$ millions)				
Total exports (fob)	18,270	62,091	194,931	249,210
Food	2,985	6,609	10,458	12,282
Fuel	4,280	5,237	4,659	7,851
Manufactures	9,005	46,205	174,990	223,752
Total imports (cif)	20,017	53,345	165,699	225,097
Food	2,927	3,335	3,619	4,758
Fuel and energy	203	1,272	8,912	26,037
Capital goods	5,119	16,845	69,469	91,934
Export price index (1995=100)	25	78	69	67
Import price index (1995=100)	22	80	71	75
Terms of trade (1995=100)	116	97	98	90



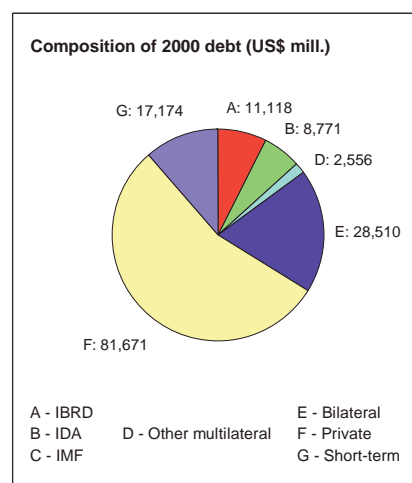
BALANCE of PAYMENTS

	1980	1990	1999	2000
(US\$ millions)				
Exports of goods and services	20,167	67,971	218,496	279,561
Imports of goods and services	20,859	55,537	189,799	250,688
Resource balance	-692	12,433	28,697	28,873
Net income	-100	1,055	-17,973	-14,666
Net current transfers	..	274	4,943	6,311
Current account balance	-792	13,762	15,668	20,519
Financing items (net)	..	-7,673	-7,163	-9,971
Changes in net reserves	..	-6,089	-8,505	-10,548
Memo:				
Reserves including gold (US\$ millions)	..	16,963	161,404	171,753
Conversion rate (DEC, local/US\$)	2.1	5.1	8.2	8.3



EXTERNAL DEBT and RESOURCE FLOWS

	1980	1990	1999	2000
(US\$ millions)				
Total debt outstanding and disbursed	..	55,301	154,223	149,800
IBRD	..	2,865	10,400	11,118
IDA	..	3,016	8,907	8,771
Total debt service	1,652	7,057	20,655	21,728
IBRD	..	416	1,142	1,291
IDA	..	19	117	131
Composition of net resource flows				
Official grants	7	143	201	147
Official creditors	..	1,727	1,706	1,928
Private creditors	..	..	-1,854	1,985
Foreign direct investment	57	3,487	41,015	42,096
Portfolio equity	0	0	1,808	7,814
World Bank program				
Commitments	..	953	2,097	1,536
Disbursements	..	1,098	1,756	1,907
Principal repayments	..	216	558	644
Net flows	..	882	1,198	1,263
Interest payments	..	219	701	778
Net transfers	..	663	497	485



China Social Indicators

	Latest single year			Same region/income group	
	1970-75	1980-85	1993-99	East Asia & Pacific	Lower-middle-income
POPULATION					
Total population, mid-year (millions)	916.4	1,051.0	1,253.6	1,836.6	2,093.0
Growth rate (% annual average for period)	2.3	1.4	1.0	1.2	1.1
Urban population (% of population)	17.4	23.0	31.6	34.5	42.9
Total fertility rate (births per woman)	3.4	2.4	1.9	2.1	2.1
POVERTY					
<i>(% of population)</i>					
National headcount index	..	..	4.6	..	..
Urban headcount index	..	..	<2	..	..
Rural headcount index	..	..	4.6	..	..
INCOME					
GNI per capita (US\$)	200	280	780	1,010	1,200
Consumer price index (1995=100)	..	..	109	136	137
Food price index (1995=100)	..	..	..	..	..
INCOME/CONSUMPTION DISTRIBUTION					
Gini index	..	..	40.3	..	..
Lowest quintile (% of income or consumption)	..	..	5.9	..	..
Highest quintile (% of income or consumption)	..	..	46.6	..	..
SOCIAL INDICATORS					
Public expenditure					
Health (% of GDP)	..	..	2.0	1.7	2.3
Education (% of GNI)	1.7	2.5	2.3	2.9	4.8
Social security and welfare (% of GDP)	..	..	..	..	..
Net primary school enrollment rate					
<i>(% of age group)</i>					
Total	..	..	102	100	99
Male	..	..	101	100	100
Female	..	..	102	100	99
Access to an improved water source					
<i>(% of population)</i>					
Total	..	..	75	75	80
Urban	..	..	94	93	94
Rural	..	..	66	66	69
Immunization rate					
<i>(% under 12 months)</i>					
Measles	..	88	85	83	87
DPT	..	78	85	82	87
Child malnutrition (% under 5 years)	..	..	9	12	9
Life expectancy at birth					
<i>(years)</i>					
Total	65	68	70	69	69
Male	64	67	68	67	67
Female	66	70	72	71	72
Mortality					
Infant (per 1,000 live births)	48	37	30	35	32
Under 5 (per 1,000 live births)	120	65	37	44	40
Adult (15-59)					
Male (per 1,000 population)	249	185	164	184	191
Female (per 1,000 population)	180	148	129	141	133
Maternal (per 100,000 live births)	..	..	55	..	..
Births attended by skilled health staff (%)	..	..	85	..	..

Note: 0 or 0.0 means zero or less than half the unit shown. Net enrollment ratios exceeding 100 indicate discrepancies between the estimates of school-age population and reported enrollment data. Latest year for access to improved water source data is 2000.

2. Total Sown Area, Total Output and Yield of Rice by Region 1998-1999

Region	Total Sown Area (1,000 hectares)		Total Output (10,000 tons)		Per Hectare Yield (KG)	
	1998	1999	1998	1999	1998	1999
Zone 1						
Beijing	19.40	19.20	13.30	12.90	6,855	6,719
Tianjin	54.40	61.10	45.22	40.16	8,312	6,573
Hebei	153.20	154.70	99.20	93.10	6,475	6,018
Shanxi	6.10	5.90	4.00	3.30	6,557	5,593
Inner Mongolia	117.80	116.90	60.30	68.80	5,118	5,885
Zone 2						
Liaoning	496.00	501.50	378.93	414.60	7,639	8,267
Jilin	459.00	465.20	385.50	405.90	8,398	8,725
Heilongjiang	1566.70	1614.90	925.80	944.30	5,909	5,847
Zone 3						
Shanghai	203.30	200.75	163.00	154.32	8,017	7,687
Jiangsu	2369.70	2398.50	2089.20	1937.30	8,816	8,077
Zhejiang	2007.92	1940.40	1207.80	1132.50	6,015	5,836
Anhui	2158.30	2145.50	1390.20	1300.61	6,441	6,062
Fujian	1388.00	1373.20	728.80	712.30	5,250	5,187
Jiangxi	2900.80	3050.01	1425.60	1619.34	4,914	5,309
Shandong	157.60	195.80	138.90	131.30	8,813	6,706
Zone 4						
Henan	498.42	508.47	369.68	332.95	7,417	6,548
Hubei	2239.30	2285.00	1633.21	1685.56	7,293	7,377
Hunan	3976.40	3984.47	2345.00	2360.60	5,897	5,925
Guangdong	2686.06	2557.50	1614.10	1615.50	6,009	6,317
Guangxi	2433.50	2388.70	1290.90	1284.70	5,304	5,378
Hainan	388.50	391.10	162.40	169.00	4,180	4,321
Zone 5						
Chongqing	794.60	788.60	515.80	531.80	6,491	6,744
Sichuan	2167.50	2176.00	1643.70	1687.80	7,583	7,756
Guizhou	746.80	748.00	476.40	457.70	6,379	6,119
Yunnan	919.60	903.00	537.50	551.70	5,844	6110
Tibet	1.10	1.00	0.50	0.60	4,545	6000
Zone 6						
Shaanxi	160.00	154.60	101.30	86.10	6,331	5,569
Gansu	8.40	7.00	5.80	5.50	6,904	7,857
Qinghai						
Ningxia	66.48	70.96	62.90	65.70	9,461	9,259
Xinjiang	69.10	75.60	56.30	42.90	8,147	5,675
Nation Total	31213.98	31283.56	19871.24	19848.84	6,366	6,345

Source: China Agriculture Yearbook 1999 & 2000

3. Rice Mill Machines By Region 1998 & 1999

Region	Rice Mills	
	1998	1999
Zone 1	0.41	0.40
Beijing	0.41	0.40
Tianjin	0.34	0.33
Hebei	7.76	7.91
Shanxi	4.09	4.06
Inner Mongolia	3.17	2.99
Zone 2		
Liaoning	5.54	5.73
Jilin	5.36	5.49
Heilongjiang	3.31	3.24
Zone 3		
Shanghai	0.45	0.45
Jiangsu	7.46	7.60
Zhejiang	7.43	7.63
Anhui	15.40	8.65
Fujian	6.24	6.28
Jiangxi	12.05	12.10
Shandong	5.12	5.49
Zone 4		
Henan	6.87	7.07
Hubei	12.76	13.18
Hunan	35.49	40.21
Guangdong	10.08	10.64
Guangxi	22.64	24.55
Hainan	1.32	1.36
Zone 5		
Chongqing	11.89	14.10
Sichuan	24.25	26.28
Guizhou	15.05	16.64
Yunnan	14.23	14.84
Tibet		
Zone 6		
Shaanxi	5.09	4.82
Gansu	1.06	1.09
Qinghai		
Ningxia	0.59	0.59
Xinjiang	0.49	0.45
Nation Total	245.94	254.18

Source: China Agriculture Yearbook 1999 & 2000

4. Total Sown Area, Total Output and Yield of Wheat by Region 1998-1999

Region	Total Sown Area (1,000 hectares)		Total Output (10,000 tons)		Per Hectare Yield (KG)	
	1998	1999	1998	1999	1998	1999
Zone 1						
Beijing	171.20	168.00	96.70	95.50	5,648	5,685
Tianjin	153.42	143.21	76.06	71.56	4,957	4,997
Hebei	2764.00	2729.90	1253.60	1280.50	4,535	4,691
Shanxi	963.40	919.20	320.90	266.50	3,330	2,899
Inner Mongolia	1092.50	937.90	282.70	273.10	2,587	2,912
Zone 2						
Liaoning	150.18	152.90	61.38	59.20	4,087	3,872
Jilin	74.50	67.50	10.60	16.10	1,422	2,385
Heilongjiang	961.40	953.10	285.20	284.20	2,966	2,982
Zone 3						
Shanghai	103.90	97.24	31.10	38.44	2,993	3,953
Jiangsu	2315.00	2251.70	759.70	1070.80	3,281	4,756
Zhejiang	255.14	257.90	61.17	72.30	2,397	2,803
Anhui	2095.80	2057.08	599.10	852.50	2,858	4,144
Fujian	55.00	50.30	15.40	14.40	2,800	2,863
Jiangxi	65.80	61.50	9.20	9.62	1,398	1,564
Shandong	3982.00	4006.80	2024.50	2117.60	5,084	5,285
Zone 4						
Henan	4963.98	4884.59	2073.53	2291.46	4,177	4,691
Hubei	1211.20	1074.43	409.33	304.67	3,379	2,836
Hunan	144.60	129.73	25.70	22.10	1,777	1,704
Guangdong	17.82	15.22	5.10	4.36	2,861	2,865
Guangxi	25.50	19.80	3.50	2.60	1,372	1,313
Hainan						
Zone 5						
Chongqing	548.30	531.60	130.6	105.80	2,381	1,990
Sichuan	1864.70	1818.30	601.10	543.10	3,223	2,987
Guizhou	604.50	596.30	108.90	107.60	1,801	1,804
Yunnan	706.80	724.90	151.30	158.40	2,140	2,185
Tibet	55.00	54.10	29.10	31.20	5,290	5,767
Zone 6						
Shaanxi	1610.50	1589.50	504.20	405.50	3,130	2,551
Gansu	1323.50	1222.70	412.60	320.30	3,117	2,620
Qinghai	211.90	182.89	79.90	59.37	3,770	3,246
Ningxia	316.80	267.47	93.80	78.21	2,960	2,924
Xinjiang	966.80	888.50	456.60	430.90	4,722	4,850
Nation Total	29775.14	28854.26	10972.57	11387.89	3,685	3,947

Source: China Agriculture Yearbook 1999 & 2000

5. Agricultural and Non-Agricultural Population in China by Region 1998 & 1999

Region	Total Population		Non-Agricultural Population		Agricultural Population	
	1998	1999	1998	1999	1998	1999
Zone 1						
Beijing	10,977,587	11,061,983	7,360,686	7,494,576	3,616,901	3,567,407
Tianjin	9,107,406	9,161,665	5,239,719	5,312,900	3,867,687	3,848,765
Hebei	65,553,063	66,021,579	12,221,950	12,532,121	53,331,113	53,489,458
Shanxi	31,133,340	31,450,808	8,074,136	8,312,434	23,059,204	23,138,374
Inner Mongolia	23,101,949	23,295,364	7,810,069	7,972,614	15,291,880	15,322,750
Zone 2						
Liaoning	40,904,094	41,032,344	18,632,040	18,768,825	22,272,054	22,263,519
Jilin	26,032,348	26,161,000	11,228,695	11,319,131	14,803,653	14,841,869
Heilongjiang	36,420,085	* 36,608,415	16,480,036	* 16,662,615	19,940,049	19,945,810
Zone 3						
Shanghai	13,065,845	13,131,204	9,536,519	9,696,282	3,529,326	3,434,922
Jiangsu	69,830,933	70,090,860	18,768,409	20,294,541	51,062,524	49,796,319
Zhejiang	44,468,558	44,674,607	9,070,789	9,476,674	35,397,769	35,197,933
Anhui	61,521,697	62,055,155	11,522,680	12,043,346	49,999,017	50,011,809
Fujian	32,608,193	32,835,978	6,471,431	6,670,027	26,136,762	26,165,951
Jiangxi	40,706,468	41,170,252	8,877,268	9,065,485	31,829,200	32,104,767
Shandong	88,715,112	89,216,648	22,960,366	23,218,387	65,754,746	65,998,261
Zone 4						
Henan	93,736,583	94,463,428	16,436,909	16,803,803	77,299,674	77,659,625
Hubei	58,905,837	59,424,899	16,209,951	16,457,895	42,695,886	42,967,004
Hunan	64,821,778	65,206,272	12,444,060	12,793,107	52,337,718	52,413,165
Guangdong	71,156,450	72,988,849	22,190,744	22,764,240	48,965,706	50,224,609
Guangxi	46,221,938	46,576,479	8,063,503	8,168,453	38,158,435	38,408,026
Hainan	7,333,090	7,432,124	1,861,171	1,891,184	5,471,919	5,540,940
Zone 5						
Chongqing	30,596,862	30,723,399	6,140,281	6,351,598	24,456,581	24,371,801
Sichuan	83,156,840	83,585,559	14,602,992	15,076,692	68,553,848	68,508,867
Guizhou	35,365,371	35,820,459	5,040,381	5,188,168	30,324,990	30,632,291
Yunnan	39,833,393	40,183,888	5,822,578	6,111,105	34,010,815	34,072,783
Tibet	2,453,869	2,477,195	339,935	341,969	2,113,934	2,135,226
Zone 6						
Shaanxi	35,010,749	35,191,539	7,635,304	7,804,107	27,375,445	27,387,422
Gansu	24,836,369	25,074,457	4,634,741	4,720,493	20,201,628	20,353,964
Qinghai	4,703,437	4,732,420	1,333,700	1,341,702	3,369,737	3,390,718
Ningxia	5,365,666	5,432,891	1,522,159	1,553,961	3,843,507	3,878,930
Xinjiang	17,335,965	17,633,656	6,116,834	6,213,222	11,219,131	11,420,434
Nation Total	1,214,980,875	1,224,915,376	304,650,036	312,421,657	910,290,839	912,493,719

Source: China Agriculture Yearbook 1999 & 2000

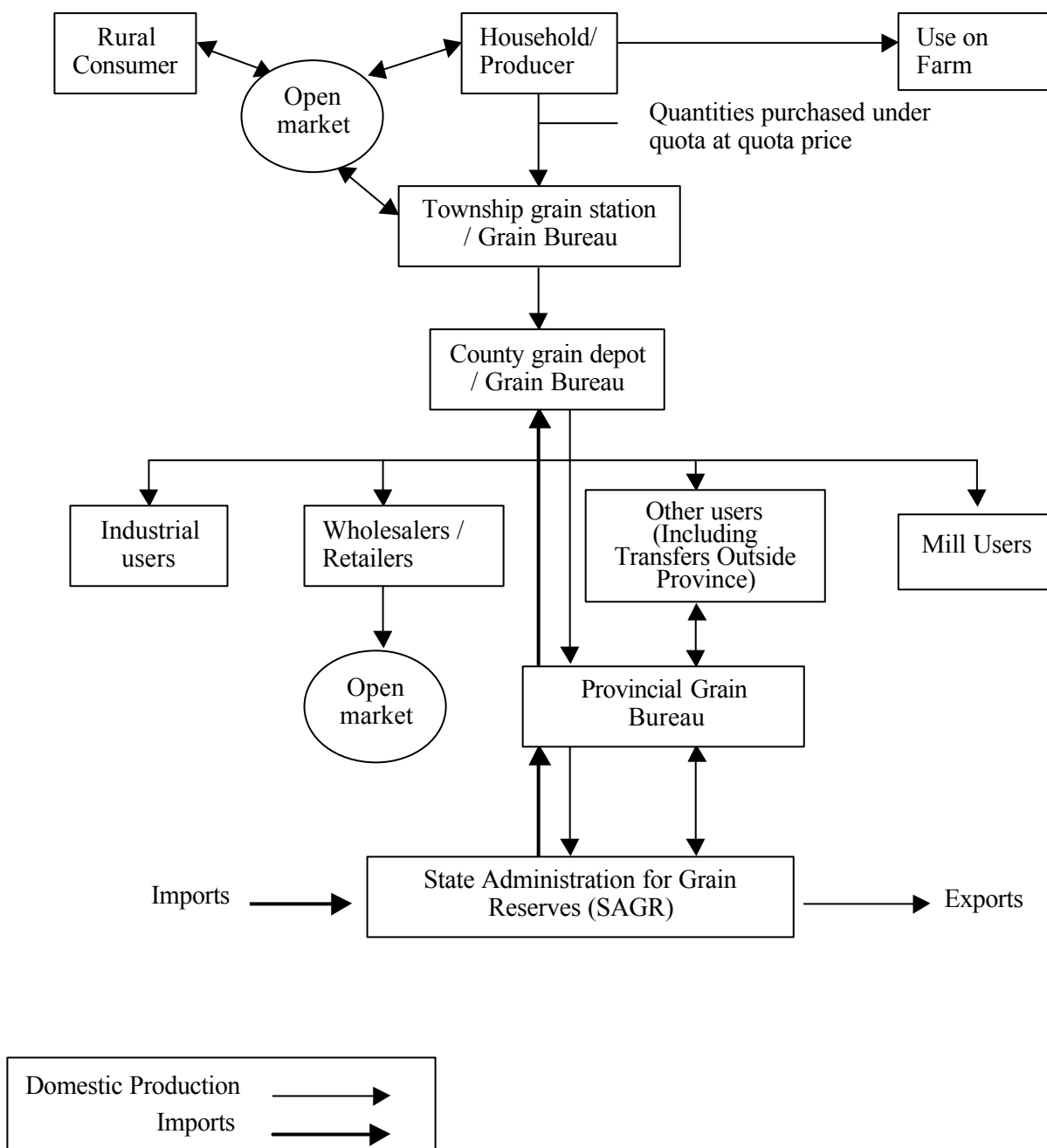
* Number in red has been corrected as there is some typing error in the actual figure provided in China Agriculture Yearbook 2000.

6. Estimation of Rice Surplus/Deficit by Region

Region	Total Output in 1999 ten thousand tons	Total Population in 1999	Estimate Consumption ten thousand tons	Surplus/Deficit ten thousand tons
Zone 1				
Beijing	12.90	11,061,983	112.832	-99.93
Tianjin	40.16	9,161,665	93.449	-53.29
Hebei	93.10	66,021,579	673.420	-580.32
Shanxi	3.30	31,450,808	320.798	-317.50
Inner Mongolia	68.80	23,295,364	237.613	-168.81
Zone 2				
Liaoning	414.60	41,032,344	418.530	-3.93
Jilin	405.90	26,161,000	266.842	139.06
Heilongjiang	944.30	36,608,415	373.406	570.89
Zone 3				
Shanghai	154.32	13,131,204	133.938	20.38
Jiangsu	1937.30	70,090,860	714.927	1222.37
Zhejiang	1132.50	44,674,607	455.681	676.82
Anhui	1300.61	62,055,155	632.963	667.65
Fujian	712.30	32,835,978	334.927	377.37
Jiangxi	1619.34	41,170,252	419.937	1199.40
Shandong	131.30	89,216,648	910.010	-778.71
Zone 4				
Henan	332.95	94,463,428	963.527	-630.58
Hubei	1685.56	59,424,899	606.134	1079.43
Hunan	2360.60	65,206,272	665.104	1695.50
Guangdong	1615.50	72,988,849	744.486	871.01
Guangxi	1284.70	46,576,479	475.080	809.62
Hainan	169.00	7,432,124	75.808	93.19
Zone 5				
Chongqing	531.80	30,723,399	313.379	218.42
Sichuan	1687.80	83,585,559	852.573	835.23
Guizhou	457.70	35,820,459	365.369	92.33
Yunnan	551.70	40,183,888	409.876	141.82
Tibet	0.60	2,477,195	25.267	-24.67
Zone 6				
Shaanxi	86.10	35,191,539	358.954	-272.85
Gansu	5.50	25,074,457	255.759	-250.26
Qinghai		4,732,420	48.271	-48.27
Ningxia	65.70	5,432,891	55.415	10.28
Xinjiang	42.90	17,633,656	179.863	-136.96
Nation Total	19,848.84	1,224,915,376.00	12,494.14	7,354.70

Remark: Whereas the total output and population is based on the 1999 China Agriculture yearbook, the consumption per capita (102 KGs) is based on USDA estimation of year 2000.

7. Flowchart: China's Grain Marketing System in 1998*



* State Trading & Management of Grain Marketing in China, Economic Research Service, U.S. Department of Agriculture
<http://www.ers.usda.gov/publications/agoutlook/jun1999/ao262e.pdf>

8. List of WFP Projects in China

10055.0 Activity No. 1 – "Integrated Rural Development (IRD)"

Duration:	Five years, through December 2005
Total Commitment:	346,512 tonnes
Planned Beneficiaries:	4,724,400 persons

10055.0 Activity No. 2 – "Primary School Feeding"

Duration:	Three years, through December 2004
Total Commitment:	200,000 tonnes
Planned Beneficiaries:	500,000 persons

5652.00 – "Northeast Sichuan integrated agricultural development project"

Duration:	Five years, due to end August 2002
Total Commitment:	73,411 tonnes
Planned Beneficiaries:	784,000 persons (approx)

9997.00 – "West Guangxi Poverty Reduction Project"

Duration:	Five years, through December 2005
Total Commitment:	15,500 tonnes
Planned Beneficiaries:	500,000 persons (approx)

6147.00 – "Qinling Mountain area poverty alleviation project in Shaanxi/ Hubei provinces"

Duration:	Five years, through 2005
Total Commitment:	80,000 tonnes
Planned Beneficiaries:	375,000 direct

6023.00 – "Wuling Mountain minorities integrated agricultural and social development project"

Duration:	Three years through February 2002
Total Commitment:	15,500 tonnes
Planned Beneficiaries:	400,000 persons

5796.00 – "Integrated agricultural development in the South-western Mountains, Anhui province"

Duration:	Five years through February 2004
Total Commitment:	13,927 tonnes
Planned Beneficiaries:	316,980 persons

5717.00 – "Integrated agricultural development in Haidong prefecture, Qinghai province"

Duration:	Five years through July 2002
Total Commitment:	49,873 tonnes
Planned Beneficiaries:	180,000 persons

5181.00 – "Integrated agricultural development in Wuling Mountain area, Guizhou province"

Duration:	Five years, due to end April 2001
Total Commitment:	84,639 tonnes
Planned Beneficiaries:	51,600 persons

COUNTRY REPORT

Japan

1. Production

1.1 Rice Production Trends

Rice planted area has been continuously decreasing since 1960s. In 2000, it became 1.77 million ha that is 54% of the planted area in 1960.

		Rice Production Trends								
Year	Unit	1960	1970	1980	1990	1995	1998	1999	2000	2001
Planted area	Million ha	3.31	2.92	2.38	2.07	2.12	1.80	1.79	1.77	1.71
1/	(%, 1996 = 100)	(100)	(88)	(72)	(63)	(64)	(54)	(54)	(54)	(52)
Production	Million ton	12.86	12.69	9.75	10.50	10.75	8.96	9.18	9.49	9.06
1/	(%, 1996 = 100)	(100)	(99)	(76)	(82)	(84)	(70)	(71)	(74)	(70)
Yield	Ton/ha	4.01	4.42	4.12	5.09	5.09	4.99	5.15	5.37	5.32
2/	(%, 1996 = 100)	(100)	(110)	(103)	(127)	(127)	(124)	(128)	(134)	(133)

Source : MAFF 1/ includes upland rice, 2/ not includes upland rice

1.2 Production Control (Reduction of the cultivation area)

Efforts have been made to adjust rice production to achieve a better balance between supply and demand since 1970s. The areas of rice field which were under the various government programs to adjust rice production during 1971 – 2001 are estimated about 20.2 million ha in total. Target areas and achieved areas of the production control programs in recent years are as follows.

		Rice Field under the Production Control Programs					(Unit : 1000 ha)
FY		1996	1997	1998	1999	2000	2001
Target area		787	787	963	963	963	1,010
Achieved area		787	787	958	963	973	1,010

Source : Food Agency, MAFF

1.3 Characteristics of Rice Production in Japan

(1) Constant decline of rice farmers

Since 1960, the number of farm households in Japan has been declining and it became about half of the 1960 in 1999. Number of rice farm household also has declined to 44% of its number in 1960. Out of total number of rice farm household, 64% of them marketed their produce in 1999.

(Unit : 1000 households)

Year	Total Number of Farm Household		Rice Farm Household		Rice Farm Household which marketed rice	
1960	6,057	100%	5,320	100%	3,395	100%
1970	5,402	89%	4,569	86%	3,206	94%
1980	4,661	77%	3,722	70%	2,604	77%
1990	3,835	63%	3,064	58%	2,252	66%
1999	3,239	53%	2,352	44%	1,539	45%

Source : MAFF

(2) Small production scale

Scale of rice farming is small: about 60% are less than 0.5 ha. In case the “less than 1.0 ha”, it account for 83% of the whole.

(Unit : 1000 households)

Scale of Rice Farming	Rice Farm Household		Rice Farm Household which marketed rice	
Total	2,352	100%	1,518	100%
5.0 ha over	24	1.0%	23	1.5%
3.0 - 5.0	38	1.6%	36	2.4%
2.0 - 3.0	68	2.9%	65	4.3%
1.5 - 2.0	87	3.7%	80	5.3%
1.0 - 1.5	193	8.2%	175	11.5%
0.5 - 1.0	550	23.4%	466	30.7%
less 0.5 ha	1,392	59.2%	674	44.4%

Source : MAFF (1999)

(3) Large number of part-time farmers

According the 1999's statistic data, 55 % of rice farming households were part-time farming household, which was defined as “there is no family member under 65 years old who is engaged in farming work for more than 65 days in a year”. The sum of semi part-time and part-time farming household, which account for 82 % of the whole rice farm households, depended their main source of income on non-agriculture income.

Scale of Rice Farming	Rice Farm Household which marketed rice		
	Full-time farming household	Semi part-time farming household	Part-time farming household
Total	18.3%	26.1%	55.6%
5.0 ha over	90.0%	5.6%	4.4%
3.0 - 5.0	65.9%	23.4%	10.7%
2.0 - 3.0	42.0%	36.1%	21.8%
1.5 - 2.0	29.5%	37.3%	33.2%
1.0 - 1.5	22.4%	34.5%	43.0%
0.5 - 1.0	14.8%	28.4%	56.8%
less 0.5 ha	13.6%	21.4%	65.0%

Source : MAFF (1999)

- Full-time farming household: Agriculture income is the main source of income, and have a family member under 65 years old who is engaged in farming work for more than 65 days in a year.

- Semi part-time farming household: Main income source is non-agricultural income, and have a family member under 65 years old who is engaged in farming work for more than 65 days in a year.
- Part-time farming household: Main income source is non-agricultural income, and have no family member under 65 years old who is engaged in farming work for more than 65 days in a year.

Mechanization minimized the input of family labors in rice production and this made part-time farming possible. According the statistics on rice production costs in 1999, input of family labors were computed as 49 hours per 0.1ha in case the farming scale of 0.5 ha and 39 hours per 0.1ha in case 0.5-1.0 ha farming scale.

(4) High production costs

Production costs (contented in payment interest and land rent) per 1 ton of brown rice is Yen 274,017 in 1998. It is equivalent to USD 2,108 in the exchange rate of 130 Yen/USD.

Production Costs for Rice (1998)			
	per 10 a (Yen)	per ton (Yen)	per ton (USD) 1/
Material costs	24,704	48,417	372
Land improvement and water utilization	7,913	15,500	119
Rent and charge	12,321	24,150	186
Tax, levy and public obligations	2,579	5,050	39
Building cost	4,558	8,917	69
Agri. machinery/tool	28,754	56,350	433
Production management	235	467	4
Labor cost	56,986	111,667	859
(Family members Labor cost)	(55,135)	(108,050)	(831)
Total Cost	138,050	270,517	2,081
(Purchased)	(56,502)	(110,717)	(852)
(Self-supplied)	(55,914)	(109,567)	(843)
value of by-products	3,373	6,617	51
Payment interest	839	1,650	13
Land rent	4,316	8,467	65
Production Cost	139,832	274,017	2,108

Source : MAFF 1/ 1 USD = 130 Yen

(5) Variety of rice

As indicated in the data of production share, production of some specific varieties has been increasing. Especially the increase of no.1 variety is significant. Since 1980 until now, Koshihikari has been in a position of most dominant variety, it occupied 35.5% of total production in 2000. Next major varieties in 2000, in order, were Hitomebore (9.7%), Hinohikari (9.0%), Akitakomachi (8.5%), Kirara397 (4.8%).

Share of the major varieties in planted area (Unit : %)						
	1970	1980	1990	1995	1998	2000
Share of No.1 variety	8.3	14.5	28.1	28.8	33.6	35.5
Share of Top 5 varieties	31.2	38.2	53.8	52.3	64.0	67.5
Share of Top 10 varieties	45.4	54.5	65.0	68.7	76.4	79.0

2. Demand

2.1 Per capita consumption

The per capita rice consumption in Japan reached at its peak 118.3 kg in 1962 (total demand of rice was about 13 million tons) but afterward it has been continuing to decrease and it has become to 64.6 kg, 76% of the peak, in 2000.

Trends of Rice Consumption		
FY	Annual per capita consumption (Kg)	Reduction (% , 1965 = 100%)
1965	111.7	100%
1975	95.1	86%
1985	74.6	67%
1995	67.8	61%
2000	64.6	57%

Source : Food balance sheet, MAFF

Constant decreasing of rice consumption mainly due to diversification of eating patterns. However, rice still stays in an important position seen from the caloric point view, since it still accounts for 25% of total supply of calorie. The average Japanese household now spends less than 5% of food expenditures on rice and about 1% of total expenditures on rice.

2.2 Consumer's Needs

In general, Japanese consumers are extremely finicky about food selection. Increasingly they are choosing rice that tastes good and is affordably priced. Leading supermarkets are seeking to meet increasingly diverse consumer needs by developing inexpensive but high-quality private brands of rice. They are also carrying high added value varieties of rice, such as rice grown with less pesticides and non-chemical fertilizers. Some are also installing rice mills in the store and selling husked rice for customers to mill on their own.

By reflecting the consumer's high attentions to the food safety, pesticide residue analysis has been conditioned to importation of rice.

3. Supply and Demand Balance

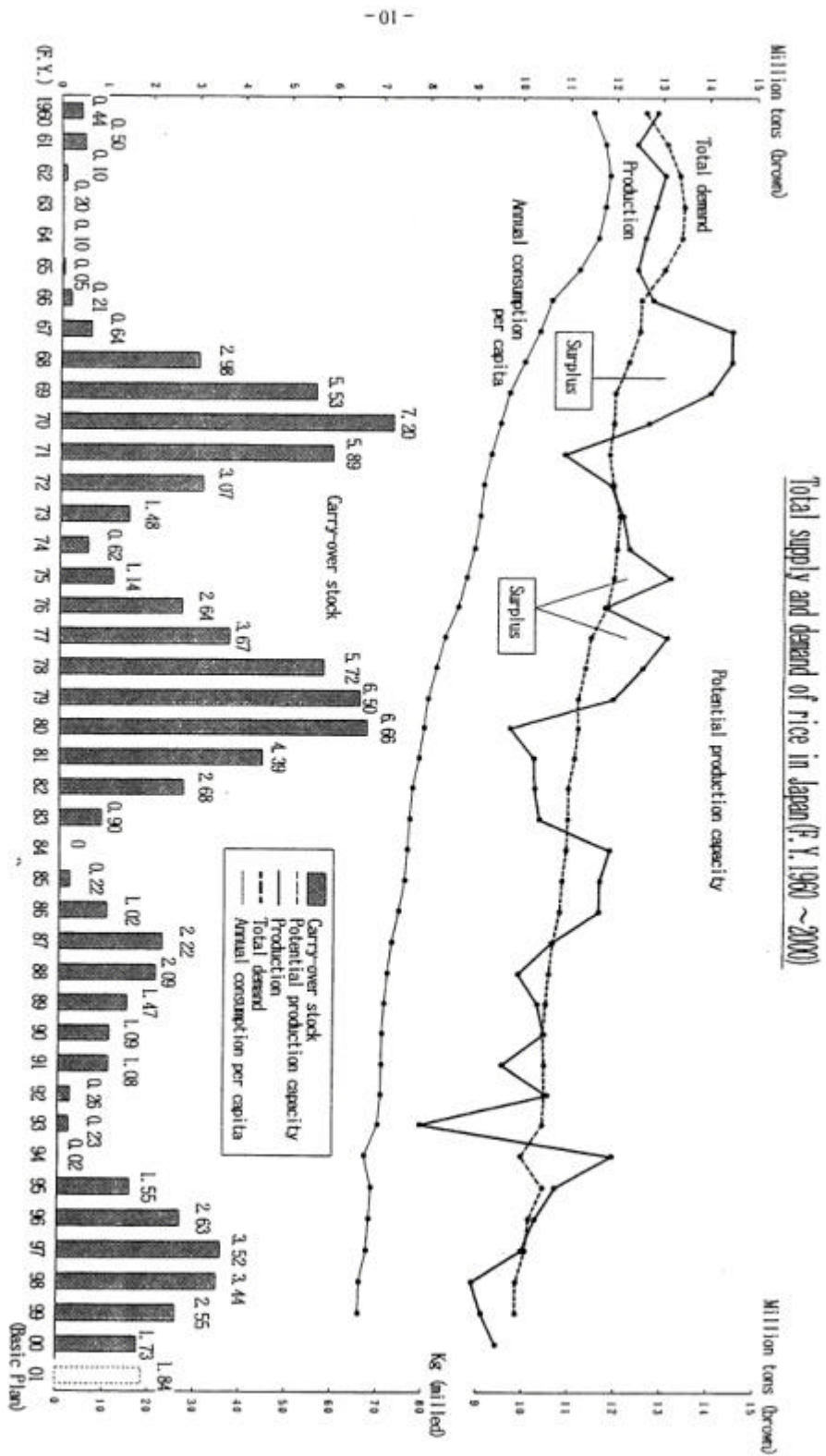
The supply and demand situation of rice since 1960 until 2000 is illustrated in the chart next page. Carry-over stock shows periodically ups and downs with 8 – 9 years cycle.

Rice Balance (Brown rice, Unit: 1,000 tons)

Fiscal Year	Supply					Demand			
	Production	Trade		Stock changes 1/	Total	Feed, Seed, Processing & Loss	Food	Total	Per capita (kg)
		Import	Export						
1965	12,409	1,052	0	468	12,993	956	12,037	12,993	111.7
1975	13,165	27	0	1,228	11,964	1,086	10,878	11,964	88.0
1985	11,662	30	581	810	10,849	887	9,962	10,849	74.6
1996	10,344	634	6	783	10,189	844	9,345	10,189	67.3
1997	10,025	634	201	351	10,107	816	9,291	10,107	66.7
1998	8,960	749	876	-1,075	9,908	812	9,096	9,908	65.2
1999	9,175	806	141	-65	9,905	796	9,109	9,905	65.1
2000	9,490	879	462	-81	9,988	934	9,054	9,988	64.6

Source: Food Balance Sheet, MAFF

1/ Difference between beginning stock volume and ending stock volume.



Source: The Ministry of Agriculture, Forestry and Fisheries, "Food Balance Sheet"

Note: Carry-over stock is at the end of October in each year, and excludes rice for processing use and imported rice.

4. Policies on Rice

4.1 The Staple Food Law(1995-)

“The Law for Stabilization of Demand-Supply and Price of Staple Food” was legislated in December 1994 and the law came into force and effect as from November 1995. It aims to ensure stable demand-supply of rice under stable pricing structure, reinforcing the basic constitution of rice production by inspiring the independence of rice producers and improving the efficiency of rice distribution by promoting deregulation and introducing market principles. The Law comprises of the following basic framework:

- [1] To draw up a basic plan for the forecast of supply-demand of rice, adjustment of rice production, management of rice stockpiles and imports so as to maintain a good balance between demand and supply under stable pricing program.
- [2] To control and manage stockpile of rice and/or import rice under the minimum market access commitment in the course of management of government marketed rice by laying emphasis on the distribution of voluntarily marketed rice through the private distribution system.
- [3] To authorize the Voluntarily Marketed Rice Price Formation Center to frame and decide the price of the voluntarily marketed rice so that the price would be established in such manner that it would well reflect the actual demand-supply situation.
- [4] To ease restrictions on the distribution of the orderly-marketed rice (voluntarily marketed rice and government marketed rice) as much as possible so as to ensures stable distribution of the rice to the public.

Under the Staple Food Law, the government’s role is categorized as; preparation of accurate forecast of supply-demand, control of rice stockpiles, management of minimum market access rice imports, implementation of rice production adjustments, and making a basic plan every year for stabilization of supply-demand and price of rice. The basic plan shall include following points:

- a. Basic lines
- b. Forecast of the supply-demand
- c. Rice production adjustments, including the target for rice production, etc.
- d. Management of stockpile, including the annual target volume, etc.
- e. Target volume of rice to be shipped by producers as the orderly-marketed rice and target volume of government rice purchasing for the management of stockpile
- f. Target volume of rice to be distributed as the orderly-marketed rice, including region-wise and term-wise breakdown, etc.
- g. Volume of rice to be imported, including volume by type, etc.
- h. Other matters.

4.2 New Rice Policy (1997-)

In consideration of the excessive accumulation of rice stocks and the drastic decline in the price of voluntarily marketed rice, the Government decided “New Rice Policies” in November 1997.

The New Rice Policies consist of three major elements: 1) New Production Adjustment Promotion Policy, 2) Rice farming income stabilization program and 3) Operational reform for an orderly marketing system. The following effects were expected:

- Restoration of the supply-demand balance of rice
- Restoration of the voluntarily marketed rice price
- Stabilization of rice producers’ income
- Realization of desirable paddy-field farming, combined moderately with a diversion program

New Production Adjustment Promotion Policy

Reduce the domestically produced rice stock to 2.0 million tons, the upper limit for the stock level, by the end of Oct. 2000. Target area of production adjustment in FY 1998 was set at 963,000 ha.

Rice farming income stabilization program

80% of the fall in price of the voluntarily marketed rice is compensated for through used of the fund, which is raised by producers’ contributions and the government assistance. Payment is limited only to the voluntarily marketed rice produced by those who fulfill their target area for production adjustment by 100% or more.

Operational reform for an orderly marketing system

Introduce the “Operational rule for reserve stock” beginning with the 1998 crop. The operational rule is: a) the government purchase volume is set at less than the government selling volume in the Basic Plan and b) when the volume of rice actually sold is less than the planned volume, the actual government purchase volume will be set by subtracting the difference from the planned volume.

4.3 Future Targets on Rice

The Basic Law on Food, Agriculture and Rural Areas was promulgated in July 1999 and the cabinet meeting in March 2000 approved its basic plan. In this basic plan, following targets for Year 2010 are shown regarding the rice.

Targets in year 2010 (Unit : 1,000 tons)				
	Cultivation area (1000 ha)	Production (1000 ton)	Self-sufficiency rate (%)	Demand (1000 ton)
Rice	1,860	9,690	96%	10,080
Rice (for food)	--	9,060	100%	9,060

Source : MAFF

5. Marketing System

5.1 Mechanism

When the Staple Food Law went into effect in 1995, the strict distribution channel regulations under the Food Control Law that formerly obligated producers to sell their rice to the government were dramatically eased. Under the Staple Food Law, direct government control of rice distribution is limited to the management of the government's rice stock and to the importation of minimum access rice. In the present system, any forwarders or sellers are permitted to enter the rice marketing and registered if requirements are met. This has dramatically expanded the number of rice retailers.

To ensure stable distribution of the rice, the government places voluntarily marketed rice and government marketed rice as the orderly-marketed rice and aims voluntarily marketed rice plays the central role in the marketing system. With regard to the rice other than orderly-marketed rice, producers can market them freely on condition that marketed volumes are reported the local food agency office, to make it possible to track the overall volume of rice distributed.

Voluntarily marketed rice

Target volume is framed every year in a basic plan. Based on it, the requests for shipment as the orderly-marketed rice are made to registered shippers such as agriculture cooperatives, then to rice producers. And voluntarily marketed rice is marketed based on the orderly distribution plans which drawn up by the registered shippers and approved by the minister.

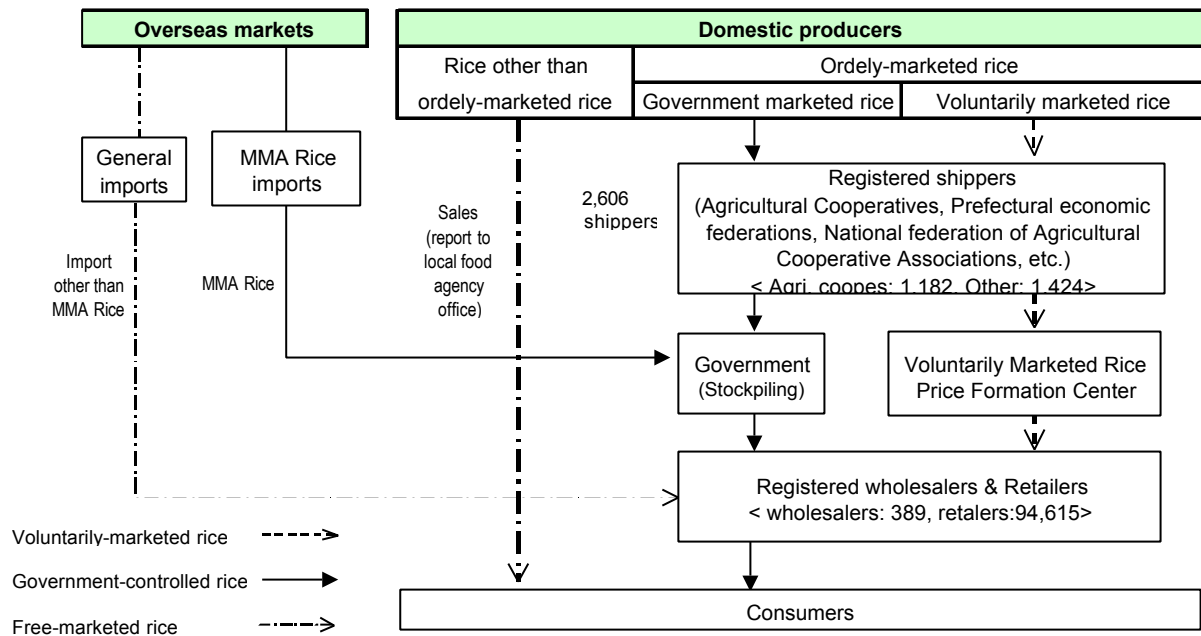
The price of the voluntarily marketed rice is determined by auctions, so that it fairly reflects the actual demand-supply situation of rice. For this purpose, the government has authorized the Voluntarily Marketed Rice Price Formation Center to frame and decide the price of the voluntarily marketed rice.

Government marketed rice

Under the Staple Food Law, the government purchases certain portion of rice from rice producers who participate in the production adjustment programs. The government's purchase is limited to the minimum volume that is necessary for maintaining the rice stock for the food security. In principle, the government procured rice is sold after one-year storage. The government procurement prices and selling prices are determined every year by taking into account the supply-demand trend, market prices (especially the price of voluntarily marketed rice) and other economic factors.

MMA Rice also forms a part of the government marketed rice. The government sales prices for MMA import rice are determined on the basis of import prices, management costs and rice prices in the market, and they shall not to be above the sum of the respective government purchase prices and

mark-ups bound in the WTO Agreement. The government sales prices for MMA import rice are varies depending on the type and grade of the rice.



Note : number of entities : as of June 30, 2000 for shipper, as of Dec.31 2000 for wholesaler & retailers.

Rice distribution channels

Orderly-marketed rice is estimated to share the 50% of the total production in RY2000/01, 45% of voluntarily marketed rice and 5% of government marketed rice. Rice consumption by farm households is estimated at 17%, and distributed volume of rice by out of the orderly marketed system is estimated at 33% of production. Breakdown of rice distribution volume in recent years are as follows.

Breakdown of Rice Distribution Volume (Unit : Brown rice, 10,000 tons)

Production Year (CY)	Production	Marketed Volume			Consumption by farmers
		Orderly marketed rice		Other than orderly marketed rice	
		Voluntarily marketed rice 1/	Government marketed rice 1/		
1995	1,052	394	55	258	186
1996	1,032	343	68	277	180
1997	1,002	417	42	280	170
1998	896	388	50	268	163
1999	918	359	20	286	160
2000	949	383	45		

Source : Various data from Food Agency, MAFF

1/ Distributed volume

5.2 Prices

(1) Voluntarily marketed rice prices

The voluntarily marketed rice prices, which formed by auctions, also have been declining since 1995/1996.

Variety : Production place	Koshihikari : Niigata		Akitakomachi : Akita	
1995	416,800	100%	348,650	100%
1996	427,650	103%	336,917	97%
1997	377,750	91%	306,433	88%
1998	411,017	99%	318,067	91%
1999	366,483	88%	292,233	84%
2000	352,650	85%	279,600	80%

Source: Food Agency, MAFF

Year: produced year

(2) Government prices

The government purchase prices and sales prices also have been gradually declining by reflecting the market prices.

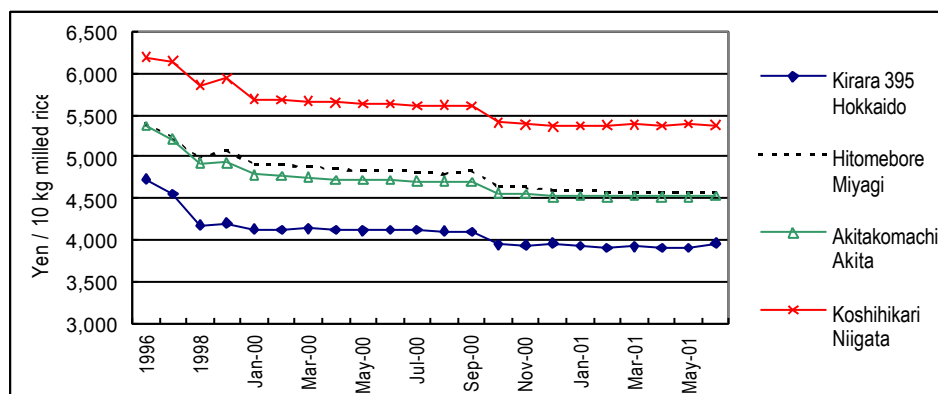
	FY1996	FY1997	FY1998	FY1999	FY2000	FY2001
Purchasing price	273,200	270,283	263,417	258,800	251,733	245,133
Selling price of Reserved rice	301,683	297,183	294,100	289,383	286,083	
Selling price of MMA import rice 1/	225,567	210,867	206,483	203,117	200,817	198,383

Source : Food Agency, MAFF

1/ USA California medium grain

(3) Retail prices

According the Food Agency's retail price survey data of dominant rice varieties, prices of rice have been in stable but been gradually declining. The prices in June 2000 were about 85% of 1996's.



6. Rice Stock / Reserve

6.1 Government Rice Stock / Reserve

Volume of Rice Stock / Reserve

The government designated the appropriate level of rice stock to be 1.5 million tons with a certain allowance ($\pm 500,000$ tons), which was deemed to be enough to maintain the smooth provision of food to the market even if poor harvest continues for two years.

In November 2002, the rice stock level has been amended downward to 1.0 million tons from the viewpoint of enhancing the sound management of rice stockpiles. 1.0 million tons of rice is calculated as nearly equivalent to the 1.5 months of whole nation's demand.

Government Procurement

Under the Staple Food Law, the Government shall purchase certain portion of rice from rice producers, who participate in the production adjustment programs, to ensure the smooth management of rice stockpiles.

In order to achieve a desirable stock level, the government introduced the "Operational Rule for Reserve Stock" from 1998 and adjusts its purchase quantity. The operational rule is: a) the purchase volume is set at less than the sales volume in the Basic Plan and b) when the volume of rice actually sold is less than the planned volume, the actual purchase volume will be set by subtracting the difference from the planned volume.

At the present time, the annual sales volume is set at about 500,000 tons (since November 2002).

(Unit : Brown rice, 10,000 tons)

Rice Year	1996/97	1997/98	1998/99	1999/00	2000/01
Carry over (beginning volume)	224	267	297	233	162
Purchased volume	116	119	30	45	37
Sales volume	73	89	94	116	23
Stock volume	267	297	233	162	176

Stock volumes were at the end of October (Rice Year: Nov. – Oct.)

MMA Rice stock

Until the October 2000, 2,938 thousand tons of MMA rice was imported and total of 560 thousand tons was remaining as stock / reserve.

(Unit : Brown rice, 10,000 tons)

Rice Year	1995/96	1996/97	1997/98	1998/99	1999/00
Stock volume	31	39	42	44	56

Stock volumes were at the end of October of each year. (Rice Year: Nov. – Oct.)

Management of Stock / Reserve

As of 2001, Japanese government has a 165 thousand tons of capacity of low-temperature warehouse. During the summer season when rice is liable to be deteriorated, the rice stock is kept under the controlled temperature (15 °C) and humidity condition to maintain the quality and taste of rice. The rice stored in such low-temperature warehouse is credited with a high degree of safety in that it gathers neither mold nor weevils and therefore requires no chemicals for post-harvest protection.

6.2 Private Sector's Stock**(1) Carryover Stocks of the Voluntarily marketed rice**

Carryover stocks, which were held by the registered shippers at the end of October, are as follows.

(Unit : 10,000 tons)

Calendar Year	1996	1997	1998	1999	2000	2001
Carryover Stock of Voluntarily marketed rice	39	85	47	22	11	37

Source : Food Agency

Stock volumes were at the end of October in each year.

(2) Stocks of the wholesalers

According the Food Agency's periodical surveys, stock volume of rice wholesalers (average of stock volume at end of each month) were estimated as 261 thousand tons (RY1994/95), 281 thousand tons (RY1995/96), 255 thousand tons (RY1996/97), 263 thousand tons (RY1997/98) and 376 thousand tons (RY1998/99).

7. Trade**7.1 Rice Import****(1) Minimum Market Access**

Under the Special Treatment Provisions on market access of the Uruguay Round, Japan deferred the tariffication of rice trade and granted duty free minimum market access equivalent to 4 % of its average annual consumption in the base period (1986-88) in 1995/96, rising gradually with annual increments of 0.8 % until it reach to 8 % in 2001/2002. Rice imports within this minimum access quota faced zero tariff, though it was granted to add a mark-up of up to 292 yen per kilogram (US\$ 2.56). This regime continued until April 1999 when a new regime was enacted.

The main changes under a new regime are on the over-quota rice imports for which the government has set tariff rates of 351.17 yen (US\$ 3.1) per kilogram in 1999 and 341 yen (US\$ 2.98) per

kilogram in 2000. Accordingly the rate of annual increments in the minimum access volume was halved from 0.8 % to 0.4%. As a result, minimum access commitment for 1999 and 2000 were altered to 724,000 tons (brown rice basis) and 767,000 tons respectively.

Minimum access from FY2001 onward will be determined in WTO Agricultural Negotiations. While the negotiations are in progress, FY 2000 level will be maintained.

Minimum Access Commitments

FY	MA amount (Brown rice)	Ratio of total domestic consumption	annual rate of increase
1995	426	4.0%	
1996	511	4.8%	0.8%
1997	596	5.6%	0.8%
1998	681	6.4%	0.8%
1999	724	6.8%	0.4%
2000	767	7.2%	0.4%

Source: Food Agency

MMA Rice Import System

The government's minimum market access rice imports are carried out under the two methods:

1) General Bidding and 2) Simultaneous Buy-and-Sell (SBS) Bidding.

Under the general bidding method, the government itself acts as the importer, and chooses the supplier, the volume, and the type of rice. Currently this rice consists mainly of medium-grain rice. Under the SBS bidding system, in which designated importers and registered wholesalers submit joint bids, it is the importer that determines the type of rice, etc., and this rice consists mainly of short-grain rice. SBS bids are submitted four times annually.

MMA Rice Tender Results (Unit : tons)

Country	FY1999			FY2000			FY2001		
	GB	SBS	TOTAL	GB	SBS	TOTAL	GB	SBS	TOTAL
U.S.A.	276,000	37,126	313,126	284,000	46,273	330,273	298,877	25,173	324,050
Australia	90,000	14,587	104,587	94,000	14,269	108,269	91,500	8,529	100,029
China	13,900	62,611	76,511	35,000	53,264	88,264	55,516	65,702	121,218
Thailand	138,200	3,753	141,953	144,370	4,960	149,330	129,376	421	129,797
Vietnam	15,000	1,050	16,050	10,669	745	11,414	4,700	0	4,700
India	0	72	72	0	54	54	0	18	18
Egypt	0	816	816	0	0	0	0	0	0
Pakistan	0	72	72	0	350	350	0	54	54
Uruguay	0	162	162	5,000	0	5,000	0	0	0
Italy	0	51	51	0	85	85	0	85	85
Spain	0	0	0	0	0	0	0	18	18
TOTAL	533,100	120,300	653,400	573,039	120,000	693,039	579,969	100,000	679,969

According to the tender results, the leading exporter of rice to Japan was U.S.A., which accounted for 48% of all contracted volume in 1999, 2000 and 2001. The next leading exporters in 2000, in order, were Thailand (19%), China (18%) and Australia (15%).

The leading exporter of general bidding is the USA. The leading exporters of SBS bidding, which mainly consist of rice for food use, are China and the USA. Detail results of general bidding and SBS bidding are shown in ANNEX.

According to the custom statistics, the most common type of imported rice was milled rice, with 70%, followed by brown (husked) rice (16%) and broken rice (14%). Brown rice made up a relatively larger proportion of imports from the United States (45%), and broken rice a larger proportion of imports from Thailand (41%).

Import Tariff

A specific duty, which has no effect from changes in exchange rate, was adopted.

(Unit : Yen)			
HS Code	Items	MMA	out of MMA
1006.10.	Rice in the Husk (Paddy or Rough)	Free	341 / kg
20.	Rice, Husked (Brown)	Free	341 / kg
30.	Rice, Semi/Wholly Milled	Free	341 / kg
40.	Rice, Broken	Free	341 / kg

(2) Imports under Tariff

Since April 1999, outside of the framework of the minimum market access system, entities other than the government can import rice, subject to payment of a stipulated secondary tariff.

Statistics from the Food Agency indicate that in FY 1999, private-sector enterprises paid secondary tariff to import a total of 225 tons of rice. The leading exporter was Thailand (102 tons), followed by Pakistan (48 tons) and China (44 tons), with the remainder (31 tons) split among 19 other countries. Reportedly the main uses of this rice were in the food service industry (example: Thai food fairs), for consumption as food by resident foreigners in Japan, and for test purposes. In FY2000, import under secondary tariff was only 98 tons.

7.2 Rice Export (Food Aid)

Currently, there is no commercial export of rice. In the past five years, total of approximately 2.13 million tons of rice was exported under the various food aid programs.

Recent Food Aid using Government Rice

Final Year	Type of Food Aid	Recipient country	Volume 1/
1997	KR food aid (Grant)	Various countries	Approx. 100,000 tons
	Food aid (via WFP)	North Korea	Approx. 70,000 tons
1998	KR food aid (Grant)	Various countries	Approx. 150,000 tons
	Rice Loan	Indonesia	Approx. 700,000 tons
1999	KR food aid (Grant)	Various countries	Approx. 150,000 tons
2000	KR food aid (Grant)	Various countries	Approx. 180,000 tons
	Food aid (via WFP)	North Korea	Approx. 100,000 tons
	Food aid (via WFP)	North Korea	Approx. 500,000 tons
2001	KR food aid (Grant)	Various countries	Approx. 180,000 tons
Total			Approx. 2,130,000 tons

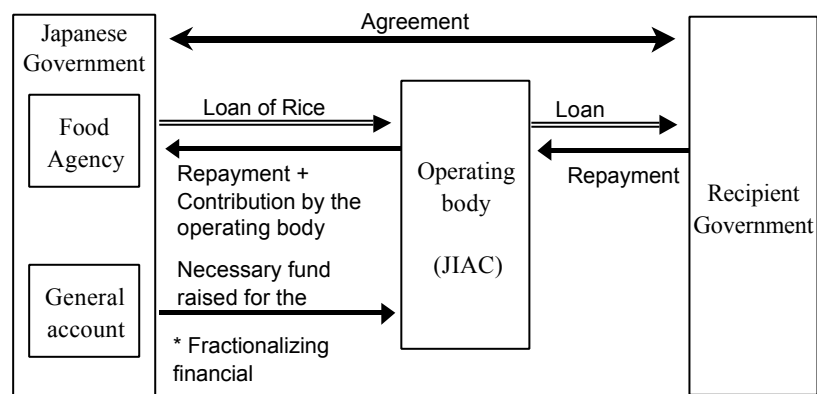
Source : Food Agency

1/ includes milled rice, brown rice and broken rice

- KR food aid (Grant) : Mainly to African countries. Recipient countries have not largely been changed.
- Food aid to North Korea (via WFP) : The government of Japan contributed to the WFP, which procured the government-stocked rice and supplied them to North Korea.
- Rice Loan to Indonesia : Based on the result of joint research by the FAO and WFP, which indicated the food shortage for 2.0 million tons of rice, and a request for support for more than 700,000 tons of rice from the Indonesia government, the government of Japan loaned 700,000 tons of the government-marketed rice under the mechanism of "Emergency Food Aid" shown in below. Also provided a support to procure 100,000 tons of rice in the international market by grant aid.

Emergency Food Aid

In order to cope with large-scale needs of emergency food aid smoothly, the government of Japan has set a new mechanism in 1998 for providing loans of rice in the government stocks. Under this mechanism, rice for emergency food aid will be reserved and the financial burden will be equalized and fractionalized for each year and over a few decades.

**Bilateral/Multilateral Trade Agreements in Rice**

There is no other trade agreements except the commitment on minimum market access in the Uruguay Round (WTO) which is stated in the prior section "7.1 Rice Import".

8. National Food Security Policy

The Basic Law on Food, Agriculture and Rural Areas was promulgated in July 1999. The objective of this Law is: to stabilize and improve people's lifestyle and to develop the national economy through comprehensively and systematically implementing policies on food, agriculture and rural areas by means of establishing basic principles and basic matters for realizing them and clarifying the responsibilities of the state and local governments.

Regarding the food security policy, following 4 texts are stipulated in the “Chapter 1 General Provisions”. Policies for securing stable food supply are stipulated in the “Section 2”.

Chapter 1 General Provisions: Article 2 Securing Stable Food Supply

- 1 In consideration of the fact that food is indispensable in maintaining human life and important as a basis for healthy and fulfilled living, a stable supply of good-quality food at reasonable prices shall be secured for the future.
- 2 In consideration of the fact that there are certain unstable factors in the world food trade and supply/demand, this stable food supply to the people shall be secured with increase of domestic agricultural production as a basis, together with an appropriate combination with imports and stockpiles.
- 3 Food supply shall be managed in such a way as to improve agricultural productivity and to comprehensively promote the sound development of agriculture and food industries, in response to the more sophisticated and diversified public demand.
- 4 Even in the case that domestic supply is insufficient to meet demand or is likely to be for a certain period, due to unexpected situations such as a bad harvest or interrupted imports, the minimum food supply required for the people shall be secured in order not to be a hindrance to the stability of peoples' lives and smooth operation of the national economy.

Section 2 : Policies for Securing a Stable Food Supply

Article 16 Improvement of food consumption policies

- 1 The State shall take necessary measures such as improving the management of food hygiene and quality as well as proper food labeling, in order to secure food safety, improve food quality, and help consumers make proper selections.
- 2 The State shall take necessary measures such as developing guidelines for a healthy dietary pattern, broadening the people's knowledge of food consumption, and providing relevant information, in order to promote better dietary patterns and the effective use of agricultural resources.

Article 17 Sound Development of the Food Industry

The State shall take necessary measures such as reinforcing the management base, encouraging closer cooperation with agriculture, and streamlining its distribution system, in order to promote the sound development of the food industry in view of the importance of its role as a stable food supply and with proper consideration given to reducing the adverse effects of its business operations on the environment and ensuring effective use of resources.

(continue...)

Article 18 Policies on Imports/Exports of Farm Products

- 1 The State shall take necessary measures for securing stable imports of farm products for which domestic production cannot meet demand; and shall take necessary measures such as tariff rate adjustments and import restrictions, where urgently required, when certain imports have or are likely to have a significant adverse effect on the production of domestic farm products competing against such imports.
- 2 The State shall take necessary measures such as enhancing the competitiveness of domestic farm products, promoting market research, providing relevant information, and encouraging dissemination activities, in order to increase exports.

Article 19 Food Security for Emergencies

The State shall take necessary measures such as production increases and distribution restrictions, should these be deemed necessary in order to secure the minimum food required by the people in the events prescribed in paragraph 4 of Article 2.

Article 20 Promotion of International Cooperation

The State shall endeavor to promote international cooperation including technical and financial cooperation for the development of agriculture and rural areas as well as food aid to developing regions, in order to help the long-term stability of the world's food supply/demand.

(Source : MAFF, Provisional Translation)

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Annexes

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Japan at a glance

9/19/01

POVERTY and SOCIAL

2000

	Japan	High-income
Population, mid-year (millions)	126.8	903
GNI per capita (Atlas method, US\$)	34,210	27,510
GNI (Atlas method, US\$ billions)	4,336.8	24,829

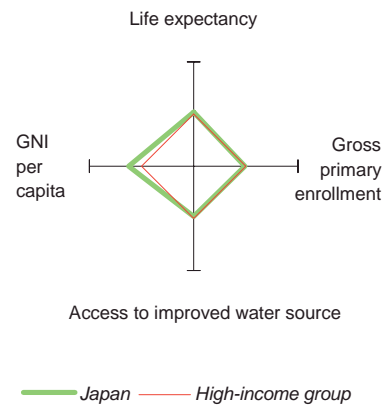
Average annual growth, 1994-00

	Japan	High-income
Population (%)	0.2	0.7
Labor force (%)	0.5	0.9

Most recent estimate (latest year available, 1994-00)

	Japan	High-income
Poverty (% of population below national poverty line)	..	..
Urban population (% of total population)	79	77
Life expectancy at birth (years)	81	78
Infant mortality (per 1,000 live births)	4	6
Child malnutrition (% of children under 5)	..	..
Access to an improved water source (% of population)	96	99
Illiteracy (% of population age 15+)	..	< 5
Gross primary enrollment (% of school-age population)	101	103
Male	101	104
Female	101	103

Development diamond*

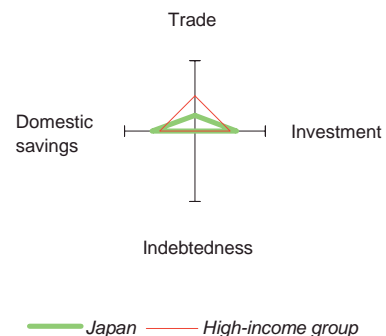


KEY ECONOMIC RATIOS and LONG-TERM TRENDS

	1980	1990	1999	2000
GDP (US\$ billions)	1,059.3	2,970.0	4,346.9	4,677.1
Gross domestic investment/GDP	32.2	32.3	26.1	..
Exports of goods and services/GDP	13.7	10.7	10.4	..
Gross domestic savings/GDP	31.3	33.0	27.7	..
Gross national savings/GDP	31.2	..	28.6	..
Current account balance/GDP	-1.0	1.5	2.5	..
Interest payments/GDP	..	..	..	..
Total debt/GDP	..	..	..	..
Total debt service/exports	..	..	..	..
Present value of debt/GDP	..	..	..	..
Present value of debt/exports	..	..	..	..

(average annual growth)	1980-90	1990-00	1999	2000	2000-04
GDP	4.0	1.3	0.2	1.9	..
GDP per capita	3.4	1.0	0.1	1.7	..
Exports of goods and services	4.5	4.6	1.9	..	..

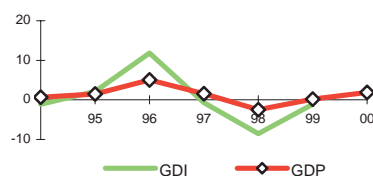
Economic ratios*



STRUCTURE of the ECONOMY

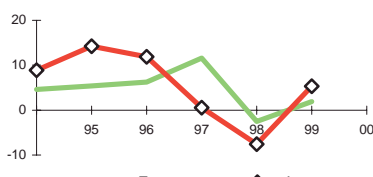
(% of GDP)	1980	1990	1999	2000
Agriculture	3.7	2.5	..	..
Industry	41.9	41.2	..	..
Manufacturing	29.2	28.2	..	..
Services	54.4	56.3	..	..
Private consumption	58.8	58.0	..	..
General government consumption	9.8	9.0	..	..
Imports of goods and services	14.6	10.0	8.7	..

Growth of investment and GDP (%)



(average annual growth)	1980-90	1990-00	1999	2000
Agriculture	1.3	-1.6	..	..
Industry	4.2	0.8	..	..
Manufacturing	4.8	1.2	..	..
Services	4.0	2.1	..	..
Private consumption	3.7	1.7	..	..
General government consumption	2.4	2.2	..	..
Gross domestic investment	5.3	0.5	-1.1	..
Imports of goods and services	6.0	4.3	5.3	..

Growth of exports and imports (%)



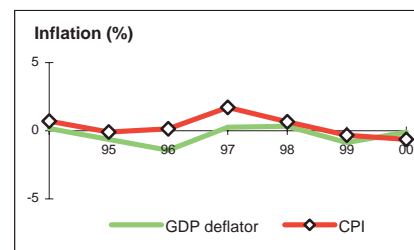
Note: 2000 data are preliminary estimates.

This table was produced from the Development Economics central database.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

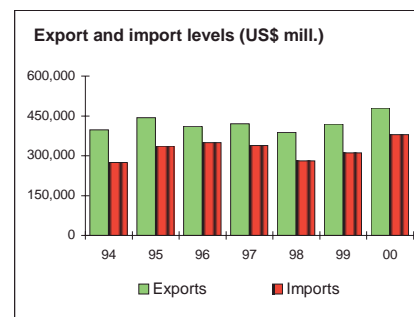
PRICES and GOVERNMENT FINANCE

	1980	1990	1999	2000
Domestic prices				
(% change)				
Consumer prices	7.8	3.1	-0.3	-0.6
Implicit GDP deflator	5.4	2.3	-0.9	-0.1
Government finance				
(% of GDP, includes current grants)				
Current revenue	..	..	..	..
Current budget balance	..	..	..	..
Overall surplus/deficit	-7.0	-1.6	..	..



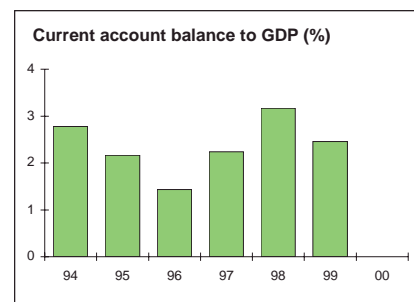
TRADE

	1980	1990	1999	2000
(US\$ millions)				
Total exports (fob)	130,441	287,581	419,367	479,328
Food and agricultural raw materials	2,928	3,298	..	..
Fuels, ores, and metals	2,591	4,043	..	..
Manufactures	122,677	274,981	..	..
Total imports (cif)	141,296	235,368	311,262	379,514
Food	16,843	33,897	..	..
Fuel and energy	69,988	56,765	..	..
Manufactures	26,090	102,062	..	..
Export price index (1995=100)	52	69	..	..
Import price index (1995=100)	100	95	..	..
Terms of trade (1995=100)	52	73	..	..



BALANCE of PAYMENTS

	1980	1990	1999	2000
(US\$ millions)				
Exports of goods and services	146,980	323,692	464,692	..
Imports of goods and services	156,970	297,306	395,527	..
Resource balance	-9,990	26,386	69,165	..
Net income	770	22,492	49,839	..
Net current transfers	-1,530	..	-12,139	..
Current account balance	-10,750	44,078	106,865	..
Financing items (net)	..	..	..	..
Changes in net reserves	..	..	..	..
Memo:				
Reserves including gold (US\$ millions)	38,919	87,828	293,948	361,639
Conversion rate (DEC, local/US\$)	226.7	144.8	113.9	107.8



EXTERNAL DEBT and RESOURCE FLOWS

	1980	1990	1999	2000
(US\$ millions)				
Total debt outstanding and disbursed
IBRD
IDA
Total debt service
IBRD
IDA
Composition of net resource flows				
Official grants
Official creditors
Private creditors
Foreign direct investment	280	1,777	12,308	8,227
Portfolio equity
World Bank program				
Commitments
Disbursements
Principal repayments
Net flows
Interest payments
Net transfers

Japan Social Indicators

	Latest single year			Same region/income group
	1970-75	1980-85	1993-99	High-income
POPULATION				
Total population, mid-year (millions)	111.9	120.8	126.6	896.3
Growth rate (% annual average for period)	1.4	0.7	0.3	0.7
Urban population (% of population)	75.7	76.7	78.7	76.8
Total fertility rate (births per woman)	1.9	1.8	1.4	1.7
POVERTY				
<i>(% of population)</i>				
National headcount index	..	..	..	..
Urban headcount index	..	..	..	..
Rural headcount index	..	..	..	..
INCOME				
GNI per capita (US\$)	4,930	10,900	32,030	26,440
Consumer price index (1995=100)	55	87	102	107
Food price index (1995=100)	..	89	103	..
INCOME/CONSUMPTION DISTRIBUTION				
Gini index	..	..	24.9	..
Lowest quintile (% of income or consumption)	..	..	10.6	..
Highest quintile (% of income or consumption)	..	..	35.7	..
SOCIAL INDICATORS				
Public expenditure				
Health (% of GDP)	..	..	5.9	6.1
Education (% of GNI)	5.5	5.0	3.6	5.5
Social security and welfare (% of GDP)	..	..	8.7	9.8
Net primary school enrollment rate				
<i>(% of age group)</i>				
Total	100	102	103	95
Male	99	102	103	95
Female	100	102	103	95
Access to an improved water source				
<i>(% of population)</i>				
Total	..	99	96	..
Urban	..	..	..	..
Rural	..	..	..	..
Immunization rate				
<i>(% under 12 months)</i>				
Measles	..	73	94	89
DPT	..	83	70	91
Child malnutrition (% under 5 years)	..	4	..	..
Life expectancy at birth				
<i>(years)</i>				
Total	74	78	81	78
Male	72	75	77	75
Female	77	81	84	81
Mortality				
Infant (per 1,000 live births)	10	6	4	6
Under 5 (per 1,000 live births)	21	11	4	6
Adult (15-59)				
Male (per 1,000 population)	172	129	97	125
Female (per 1,000 population)	104	70	45	63
Maternal (per 100,000 live births)	..	..	8	..
Births attended by skilled health staff (%)	..	100	..	..

Note: 0 or 0.0 means zero or less than half the unit shown. Net enrollment ratios exceeding 100 indicate discrepancies between the estimates of school-age population and reported enrollment data. Latest year for access to improved water source data is 2000.

2001 World Development Indicators CD-ROM, World Bank

2. Total area and cultivated land area, 1975 - 1997

Unit : 1,000 ha

Classification	1975	1980	1985	1990	1995	1996	1997
Total area (A)	37,753	37,771	37,780	37,774	37,783	37,784	37,783
Cultivated land area (B)	5,572	5,461	5,379	5,243	5,038	4,994	4,949
Ratio (B)/(A) (percent)	14.8	14.5	14.2	13.9	13.3	13.2	13.1

Source : Land Survey of Prefectures, Shi, Ku, Machi and Mura, as of Oct. 1, Geographical Survey Institute, MAFF

3. Total population and agricultural population, 1975 - 1997

Unit : 1,000 persons

Classification	1975 1/	1980 1/	1985	1990	1995	1996	1997
Total population (A)	111,940	117,060	121,048	123,162	125,570	124,914	125,257
Agricultural population (B)	23,197	21,366	19,298	17,296	15,084	11,763	11,549
Ratio (B)/(A) (percent)	20.7	18.3	15.9	14.0	12.0	9.4	9.2

Note : 1/ Agricultural population is based on previous definition.

Source : Annual Report on the Population and the Household in Japan derived from the basic resident registers (as of March 31), Local Administration Bureau and Data from Statistics and Information Department, MAFF.

4. Number of total household and farm household, 1975 - 1997

Unit : 1,000 nos.

Classification	1975 1/	1980 1/	1985	1990	1995	1996	1997
Total household (A)	32,141	36,015	38,133	41,036	44,108	44,831	45,498
Farm household (B)	4,953	4,661	4,229	3,835	3,444	3,388	3,344
Ratio (B)/(A) (percent)	15.4	12.9	11.1	9.3	7.8	7.6	7.3

Note : 1/ Figures of Farm household are based on previous definition.

Source : Annual Report on the Population and the Household in Japan derived from the basic resident registers (as of March 31), Local Administration Bureau and Data from Statistics and Information Department, MAFF.

5. Number of farm household classified by full-time and part-time, 1985 - 1997

Unit:1,000 nos.

Item	1985	1990	1995	1996	1997
Total	4,229	3,835	3,444	3,388	3,344
Non-Commercial farm household	914	864	792	782	776
Commercial farm household	3,315	2,971	2,651	2,606	2,568
Full-time farm household	498	473	428	436	435
Part-time farm household	2,817	2,497	2,224	2,171	2,133
Mainly engaged in farming	758	521	498	454	411
Mainly engaged in other jobs	2,058	1,977	1,725	1,717	1,722

Source : Report of Annual Sample Survey of Agriculture, Statistics and information Department, MAFF

Excluding exceptional farm household.

6. Farm household population

Unit : 1,000 nos., 1,000 persons

Item	1985	1990	1995	1996	1997
Number of farm household	4,229	3,835	3,444	3,388	3,344
Farm household population	19,298	17,296	15,084 1)	11,763	11,549
Persons engaged in own-farming	11,369	10,366	9,076 1)	7,126 2)	7,013 2)
Persons engaged in own-farming (16 years old and over)	11,369	10,366	9,076 1)	7,126 2)	7,013 2)
Only in own-farming	5,576	5,150	4,463 1)	3,655	3,633
Both in own-farming and other jobs	5,793	5,216	4,613 1)	3,472	3,381
Persons only engaged in other jobs	...	1,391	1,386 1)	956	956
Persons not engaged in jobs	2,568	2,328	2,418 1)	1,880	1,811

Note : 1) Figures of commercial farm household. 2) 15 years old and over.

Source : Report on Movement in Agricultural Structure, Statistics and information Department, MAFF

7. Number of persons engaged in agriculture and non-agricultural industries by age groups

Item	Total	15 ~ 24 years old	25 ~ 34	35 ~ 44	45 ~ 54	55 ~ 64	65 years old and over
All industries 1/	6,557	800	1,354	1,296	1,613	1,025	469
Agriculture	316	5	14	33	47	84	134
Forestry	8	0	0	1	2	3	2
Fisheries	26	1	2	5	6	7	5
Non-agricultural industries	6,207	808	1,295	1,263	1,539	888	308

Note : 1/ Figures include number of employees in unclassifiable industries, therefore they do not coincide with the total of Agriculture & Forestry and Non-agricultural industries. (Unit : 10,000 persons)

Source : Annual Report or the Labour Force Survey, Statistics Bureau, Management and Coordination Agency.

8. Rice production by Prefecture, Crop Year 1997 - 1999

Unit : 1000 tons

Rice Year	1997	1998	1999	Rice Year	1997	1998	1999
Hokkaido	802	760	739	Shiga	198	190	193
Aomori	380	324	341	Kyoto	92	82	87
Iwate	377	315	346	Osaka	34	31	32
Miyagi	497	418	445	Hyogo	223	197	208
Akita	607	540	556	Nara	56	46	54
Yamagata	474	425	438	Wakayama	42	38	41
Fukushima	465	394	451	Tottori	82	77	77
Ibaraki	449	378	421	Shimane	116	109	109
Tochigi	411	325	362	Okayama	201	196	189
Gunma	105	88	96	Hiroshima	159	145	144
Saitama	196	169	181	Yamaguchi	144	131	123
Chiba	360	316	335	Tokushima	71	69	70
Tokyo	1	0	1	Kagawa	87	78	79
Kanagawa	17	15	16	Ehime	92	86	80
Niigata	672	611	654	Kochi	63	55	61
Toyama	245	214	224	Fukuoka	229	219	186
Ishikawa	153	136	144	Saga	171	170	139
Fukui	162	146	152	Nagasaki	77	74	63
Yamanashi	32	29	30	Kumamoto	242	233	183
Nagano	247	217	233	Oita	146	141	108
Gifu	140	111	130	Miyazaki	119	102	100
Shizuoka	105	96	103	Kagoshima	143	137	112
Aichi	170	158	162	Okinawa	-	-	-
Mie	171	165	174	Total	10,025	8,960	9,175

Source : MAFF

9. Possession of machinery for Rice farming (Year 2000)

Unit : nos./household

	2 wheel Tractor	4 wheel Tractor	Transplanting machine (powered)	Reaper	Combine harvester 1/	Dyer (powered)
Average	0.56	0.94	0.82	0.28	0.59	0.58
less 0.5 ha	0.66	0.73	0.7	0.4	0.38	0.33
0.5 - 1.0 ha	0.55	0.94	0.84	0.27	0.59	0.53
1.0 - 1.5 ha	0.46	0.99	0.88	0.19	0.72	0.7
1.5 - 2.0 ha	0.39	1.14	0.92	0.15	0.87	0.9
2.0 - 3.0 ha	0.53	1.14	0.94	0.09	0.88	1
3.0 - 4.0 ha	0.39	1.4	0.96	0.04	0.95	1.2
4.0 - 5.0 ha	0.37	1.51	1.03	0.05	0.87	1.33
over 5.0 ha	0.46	2.04	1.09	0.07	1.06	1.86

1/ Harvesting + threshing

Source : MAFF

10. Production costs of rice, 1980 - 1997

(per 60 kg of brown rice)

Item	Unit	1980	1985	1990	1995 ¹⁾	1996	1997
Seeds and seedlings cost	yen	313	315	328	397	386	396
Fertilizers and manures cost		1,161	1,242	1,011	979	928	954
Agricultural chemicals cost		746	858	848	889	837	864
Light, heat and power cost		456	454	360	362	351	356
Miscellaneous materials cost		243	253	250	278	264	258
Water utilization and land improvement cost		613	666	744	995	931	917
Rent and charge		840	959	1,160	1,387	1,385	1,443
Buildings cost		463	489	521	464	456	485
Agricultural Implements cost		4,448	4,801	4,826	3,110	3,108	3,214
Labor cost		6,464	6,100	5,791	6,458	6,396	6,440
Total cost (1)		15,747	16,137	15,839	15,811	15,337	15,633
Value of by-products (2)		640	647	480	363	372	340
Production cost (subtract from value of by product) (3)		15,107	15,490	15,359	15,448	14,965	15,293
Payment interest (4)		...	...	...	82	80	87
Land rent (5)		...	...	...	474	469	495
Capital interest (6)		911	865	918	919	923	943
Land (7)		3,373	3,584	3,429	2,805	2,552	2,545
Production cost counted in capital interest, land rent (8)		19,391	19,939	19,706	19,728	18,989	19,363
<u>Reference</u>							
Rice and by-products (per 10 ares)							
Rice							
Yield	kg	489	529	533	515	534	520
Value	yen	150,733	170,802	159,858	149,630	156,105	136,395
Value of by-product		5,214	5,699	4,262	3,112	3,310	2,952
Production cost counted in capital interest, land rent (per 10 ares)		158,035	175,706	174,891	168,929	169,204	167,893
Laboring hours (per 10 ares)	hour	64.4	54.5	43.8	38.2	38.2	36.8
Outline of farm household surveyed (per household)							
Number of family members	person	4.9	5.0	5.1	4.5	4.5	4.3
Number of family members engaged in agriculture		1.9	1.3	1.3	0.9	0.9	0.9
Cultivated land area under management	are	127	149	159	163	164	167
Planted area of crops surveyed		80.3	93.4	94.4	105.2	101.8	104.3

Note : (1) - (2) = (3), (3) + (4) + (5) + (6) + (7) = (8)

1) In April 1991, survey definition was changed. Take good care in comparison.

Source : MAFF

11. Milled rice prices - Retail price by rice variety, monthly, 1998 - 2000

Year :1998

Unit : Yen per 10 kg

Variety	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Hohhkaido Kirara397	4,220	4,200	4,178	4,138	4,178	4,144	4,139	4,115	4,155	4,255	4,245	4,224	4,183
Miyagi Hitomebore	4,947	4,941	4,922	4,903	4,934	4,940	4,895	4,874	4,908	5,174	5,190	5,164	4,983
Akita Akitakomachi	4,927	4,918	4,911	4,907	4,912	4,918	4,855	4,837	4,840	5,036	5,035	5,019	4,926
Niigata Koshihikari	5,761	5,753	5,753	5,735	5,746	5,778	5,738	5,734	5,780	6,179	6,190	6,141	5,857
Toyama Koshihikari	5,268	5,260	5,254	5,232	5,249	5,256	5,173	5,128	5,231	5,462	5,483	5,458	5,288

Year :1999

Unit : Yen per 10 kg

Variety	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Hohhkaido Kirara397	4,205	4,205	4,223	4,241	4,233	4,217	4,237	4,226	4,240	4,137	4,140	4,152	4,205
Miyagi Hitomebore	5,158	5,160	5,172	5,154	5,136	5,137	5,115	5,101	5,087	4,915	4,737	4,917	5,066
Akita Akitakomachi	4,997	5,006	5,015	5,016	4,982	4,976	4,952	4,939	4,937	4,808	4,803	4,785	4,935
Niigata Koshihikari	6,109	6,104	6,110	6,068	6,002	5,967	5,935	5,918	5,921	5,729	5,702	5,692	5,938
Toyama Koshihikari	5,469	5,478	5,493	5,471	5,422	5,395	5,353	5,349	5,343	5,134	5,150	5,756	5,401

Year :2000

Unit : Yen per 10 kg

Variety	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Hohhkaido Kirara397	4,132	4,127	4,139	4,126	4,120	4,122	4,121	4,113	4,106	3,948	3,941	3,970	4,080
Miyagi Hitomebore	4,906	4,894	4,886	4,852	4,835	4,832	4,816	4,793	4,836	4,634	4,629	4,600	4,793
Akita Akitakomachi	4,786	4,767	4,756	4,729	4,720	4,722	4,711	4,709	4,696	4,564	4,556	4,525	4,687
Niigata Koshihikari	5,691	5,678	5,668	5,646	5,636	5,629	5,612	5,617	5,610	5,407	5,384	5,363	5,578
Toyama Koshihikari	5,145	5,133	5,117	5,098	5,119	5,124	5,118	5,105	5,119	4,915	4,905	4,915	5,068

Source : Food Agency, MAFF

12. Paddy Prices by rice variety

Year :1998

Unit : Yen per 60 kg

Production area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Hokkaido		14,846		14,849		14,878			15,439	15,422	15,310	15,432	15,168
Miyagi		17,115		17,507		18,203		19,092	18,932	18,649	18,218	18,344	18,258
Akita		17,232		17,416		17,793			18,663	18,378	17,907	17,948	17,905
Yamagata		17,333		17,999		18,667			19,205	18,940	18,603	18,700	18,492
Shonai		17,356		18,024		18,928			19,245	18,867	18,462	18,627	18,501
Niigata		21,033		21,744		24,110		25,328	25,187	24,240	23,065	22,933	23,455

Year :1999

Unit : Yen per 60 kg

Production area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Hokkaido	15,766	16,026	15,857	15,692	15,547	15,488	15,594	15,203	15,034	15,037	15,034	15,058	15,445
Miyagi	18,662	18,958	18,222	18,258	18,211				17,150	16,726	16,474	16,502	17,685
Akita	18,289	18,542	18,047	17,424	17,382	17,372			16,793	16,592	16,337	16,169	17,295
Yamagata	19,008	19,241	18,858	18,498	18,429	18,347		17,607	17,927	17,590	17,362	17,318	18,199
Shonai	18,975	19,168	18,283	18,144	18,065	18,068		17,500	17,237	16,763	16,538	16,539	17,753
Niigata	23,654	23,906	22,957	22,306	21,900	21,798		21,712	21,187	20,816	20,829	20,856	21,993

Year :2000

Unit : Yen per 60 kg

Production area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Hokkaido	15,061	15,058	15,061	15,168	15,196	15,363	15,378	14,607	14,607	13,751	13,762	13,777	14,732
Miyagi	16,450	16,379	16,371	16,371	16,372	16,620	16,300	16,406	15,776	15,812	15,815	15,817	16,207
Akita	16,109	16,013	16,011	16,017	16,024	16,017	16,485		15,436	15,435	15,438	15,443	15,857
Yamagata	17,303	17,167	17,131	17,138	17,143	17,129	16,362	16,137	16,407	16,370	16,340	16,302	16,744
Shonai	16,526	16,410	16,409	16,365	16,370	16,375		16,014	15,804	15,828	15,792	15,814	16,155
Niigata	20,861	20,849	20,538	20,532	20,532	20,502	21,615	19,851	19,400	19,374	19,168	19,171	20,199

Source : Food Agency, MAFF

13. Japan : Rice export/import in CY1997 (Custom data)

Export

	Country	MT	1000Yen
1006.10 Rice in the husk			
1006.10-000	GERMANY	1	4,563
1006.10-000	S-TOTAL	1	4,563
1006.20 Husked (brown) rice			
1006.20-000	N. KOREA	0	360
1006.20-000	SINGAPORE	1	362
1006.20-000	UNITED KINGDOM	0	295
1006.20-000	FRANCE	0	418
1006.20-000	S-TOTAL	1	1,435
1006.30 Semi-milled or wholly milled rice			
1006.30-000	N. KOREA	1	218
1006.30-000	HONG KONG	59	27,069
1006.30-000	VIETNAM	0	211
1006.30-000	THAILAND	9	4,408
1006.30-000	SINGAPORE	17	18,052
1006.30-000	MALAYSIA	20	11,351
1006.30-000	INDONESIA	1	465
1006.30-000	LAOS	9,135	257,101
1006.30-000	BANGLADESH	0	288
1006.30-000	UNITED KINGDOM	3	2,276
1006.30-000	SWITZERLAND	6	2,862
1006.30-000	SPAIN	1	590
1006.30-000	RUSSIAN	0	330
1006.30-000	USA	23	12,131
1006.30-000	HAITI	2,525	72,997
1006.30-000	MAURITANIA	1,304	51,276
1006.30-000	SENEGAL	1,715	57,060
1006.30-000	GUINEA	1,170	32,582
1006.30-000	IVORY COAST	0	219
1006.30-000	GHANA	4,386	127,731
1006.30-000	TOGO	4,305	124,423
1006.30-000	BENIN	0	388
1006.30-000	BURKINA	670	19,392
1006.30-000	RWANDA	1,150	33,265
1006.30-000	C. AFRICA	0	390
1006.30-000	ANGOLA	1,185	40,770
1006.30-000	DJIBOUTI	1,131	32,174
1006.30-000	MOZAMBIQUE	4,897	141,967
1006.30-000	MADAGASCAR	1,776	60,000
1006.30-000	ZAMBIA	0	215
1006.30-000	ERITREA	0	471
1006.30-000	AUSTRALIA	2	1,464
1006.30-000	S-TOTAL	35,491	1,134,136
1006.40 Broken rice			
1006.40-000	UNITED KINGDOM	0	247
1006.40-000	DJIBOUTI	358	7,463
1006.40-000	AUSTRALIA	0	210
1006.40-000	S-TOTAL	358	7,920
G-TOTAL		35,851	1,148,054

Import

	Country	MT	1000Yen
1006.10 Rice in the husk			
1006.10-000	TAIWAN	3	425
1006.10-000	S-TOTAL	3	425
1006.20 Husked (brown) rice			
1006.20-000	CHINA	35847	2400409
1006.20-000	VIETNAM	206	19,394
1006.20-000	THAILAND	2,840	166,023
1006.20-000	INDONESIA	17	2,067
1006.20-000	ITALY	17	1,841
1006.20-000	USA	79,751	6,198,409
1006.20-000	COLOMBIA	85	6,967
1006.20-000	URUGUAY	1,649	144,883
1006.20-000	EGYPT	153	10,963
1006.20-000	AUSTRALIA	37,400	2,787,509
1006.20-000	S-TOTAL	157,965	11,738,465
1006.30 Semi-milled or wholly milled rice			
1006.30-000	CHINA	4,479	396,974
1006.30-000	VIETNAM	119	5,395
1006.30-000	THAILAND	107,152	5,614,354
1006.30-000	INDIA	17	2,419
1006.30-000	PAKISTAN	57	8,767
1006.30-000	SPAIN	17	1,754
1006.30-000	ITALY	33	5,426
1006.30-000	USA	159,422	12,984,663
1006.30-000	AUSTRALIA	68,179	5,482,646
1006.30-000	S-TOTAL	339,475	24,502,398
1006.40 Broken rice			
1006.40-000	VIETNAM	414	17,210
1006.40-000	THAILAND	45,022	1,915,335
1006.40-000	USA	19,479	1,419,271
1006.40-000	URUGUAY	384	15,512
1006.40-000	AUSTRALIA	5,988	410,925
1006.40-000	S-TOTAL	71,287	3,778,253
G-TOTAL		568,730	40,019,541

Source : Ministry of Finance, Trade Statistics
<http://www.mof.go.jp/trade-st/tr-indexe.html>

14. Japan : Rice export/import in CY1998 (Custom data)

Export

	Country	MT	1000Yen
1006.10 Rice in the husk			
1006.10-000	THAILAND	0	360
1006.10-000	GERMANY	0	202
1006.10-000	SWITZERLAND	0	322
1006.10-000	S-TOTAL	0	884
1006.20 Husked (brown) rice			
1006.20-000	N. KOREA	18,000	792,090
1006.20-000	SINGAPORE	1	455
1006.20-000	INDONESIA	281,274	15,518,584
1006.20-000	FRANCE	0	279
1006.20-000	S-TOTAL	299,275	16,311,408
1006.30 Semi-milled or wholly milled rice			
1006.30-000	CHINA	2	1,250
1006.30-000	HONG KONG	25	13,840
1006.30-000	VIETNAM	0	203
1006.30-000	THAILAND	9	3,924
1006.30-000	SINGAPORE	28	19,591
1006.30-000	INDONESIA	18,726	1,041,903
1006.30-000	LAOS	6,804	222,951
1006.30-000	BANGLADESH	0	260
1006.30-000	YEMEN	1	724
1006.30-000	UNITED KINGDOM	18	9,544
1006.30-000	SWITZERLAND	2	1,388
1006.30-000	USA	55	29,446
1006.30-000	NICARAGUA	0	428
1006.30-000	HAITI	3,519	115,138
1006.30-000	MAURITANIA	716	26,101
1006.30-000	SENEGAL	5,251	190,622
1006.30-000	GUINEA	1,690	55,317
1006.30-000	TOGO	2,055	55,687
1006.30-000	BENIN	1,399	44,281
1006.30-000	C. VERDE	2,005	68,656
1006.30-000	RWANDA	602	19,698
1006.30-000	ANGOLA	1,211	39,627
1006.30-000	ST. PRINCIPE	328	14,280
1006.30-000	DJIBOUTI	2,539	83,072
1006.30-000	UGANDA	0	242
1006.30-000	TANZANIA	2,029	66,389
1006.30-000	SEYCHELLES	0	330
1006.30-000	MOZAMBIQUE	1,881	61,540
1006.30-000	MADAGASCAR	958	34,972
1006.30-000	ZIMBABWE	0	391
1006.30-000	ZAMBIA	0	685
1006.30-000	COMOROS	1,283	38,506
1006.30-000	AUSTRALIA	0	794
1006.30-000	PAPUA NEW GUINI	4,810	157,394
1006.30-000	MARSHALL ISLANC	3	764
1006.30-000	S-TOTAL	57,949	2,419,938
1006.40 Broken rice			
1006.40-000	SENEGAL	954	27,651
1006.40-000	S-TOTAL	954	27,651
G-TOTAL		358,178	18,759,881

Import

	Country	MT	1000Yen
1006.20 Husked (brown) rice			
1006.20-000	CHINA	31,180	2,289,849
1006.20-000	VIETNAM	291	29,350
1006.20-000	THAILAND	69	6,221
1006.20-000	USA	124,652	8,911,507
1006.20-000	URUGUAY	528	47,125
1006.20-000	EGYPT	147	10,516
1006.20-000	AUSTRALIA	16,308	1,696,358
1006.20-000	S-TOTAL	173,175	12,990,926
1006.30 Semi-milled or wholly milled rice			
1006.30-000	CHINA	41,608	3,094,348
1006.30-000	VIETNAM	4,996	211,415
1006.30-000	THAILAND	61,397	2,884,778
1006.30-000	INDIA	9	1,471
1006.30-000	PAKISTAN	35	6,870
1006.30-000	ITALY	50	9,220
1006.30-000	USA	108,149	9,301,626
1006.30-000	URUGUAY	1	828
1006.30-000	AUSTRALIA	52,825	4,066,121
1006.30-000	S-TOTAL	269,070	19,576,677
1006.40 Broken rice			
1006.40-000	VIETNAM	442	19,531
1006.40-000	THAILAND	31,174	1,260,128
1006.40-000	USA	17,640	1,299,405
1006.40-000	AUSTRALIA	7,882	534,069
1006.40-000	S-TOTAL	57,138	3,113,133
G-TOTAL		499,383	35,680,736

Source : Ministry of Finance, Trade Statistics
<http://www.mof.go.jp/trade-st/tr-indexe.html>

15. Japan : Rice export/import in CY1999 (Custom data)

Export

	Country	MT	1000Yen
1006.10	Rice in the husk		
1006.10-000	CHINA	0	310
1006.10-000	VIETNAM	0	204
1006.10-000	GERMANY	0	202
1006.10-000	SWITZERLAND	0	286
1006.10-000	S-TOTAL	0	1,002
1006.20	Husked (brown) rice		
1006.20-000	SINGAPORE	2	802
1006.20-000	INDONESIA	119,997	6,749,312
1006.20-000	USA	7	3,128
1006.20-000	MOZAMBIQUE	93	3,351
1006.20-000	S-TOTAL	120,099	6,756,593
1006.30	Semi-milled or wholly milled rice		
1006.30-000	HONG KONG	50	22,457
1006.30-000	THAILAND	5	2,227
1006.30-000	SINGAPORE	1,424	21,368
1006.30-000	CAMBODIA	5,863	201,177
1006.30-000	LAOS	3,908	124,600
1006.30-000	ISRAEL	1,800	62,568
1006.30-000	JORDAN	880	30,192
1006.30-000	SYRIA	420	14,409
1006.30-000	LEBANON	480	16,470
1006.30-000	YEMEN	0	790
1006.30-000	UNITED KINGDOM	16	10,275
1006.30-000	NETHERLANDS	1	500
1006.30-000	FRANCE	0	373
1006.30-000	SWITZERLAND	2	929
1006.30-000	USA	32	20,781
1006.30-000	HONDURAS	244	8,386
1006.30-000	SALVADOR	0	215
1006.30-000	MAURITANIA	1,512	52,096
1006.30-000	GUINEA	1,000	34,346
1006.30-000	BURKINA FASO	759	24,861
1006.30-000	NIGER	806	24,040
1006.30-000	C. AFRICA	0	562
1006.30-000	ST. PRINCIPE	602	20,661
1006.30-000	UGANDA	0	292
1006.30-000	TANZANIA	2,000	65,437
1006.30-000	MOZAMBIQUE	2,046	70,216
1006.30-000	ZAMBIA	0	1,559
1006.30-000	AUSTRALIA	0	256
1006.30-000	NEW ZEALAND	4	2,096
1006.30-000	NEW CALEDONIA	0	214
1006.30-000	S-TOTAL	23,854	834,353
1006.40	Broken rice		
1006.40-000	R. KOREA	0	3,336
1006.40-000	S-TOTAL	0	3,336
	G-TOTAL	143,953	7,595,284

Import

	Country	MT	1000Yen
1006.20	Husked (brown) rice		
1006.20-000	CHINA	13,478	755,163
1006.20-000	VIETNAM	150	12,922
1006.20-000	THAILAND	99	2,889
1006.20-000	USA	210,090	11,940,704
1006.20-000	URUGUAY	467	27742
1006.20-000	AUSTRALIA	39,342	2,483,228
1006.20-000	S-TOTAL	263,626	15,222,648
1006.30	Semi-milled or wholly milled rice		
1006.30-000	CHINA	58,740	3,607,321
1006.30-000	VIETNAM	15,166	597,486
1006.30-000	THAILAND	112,110	4,011,039
1006.30-000	INDIA	4,972	206,115
1006.30-000	PAKISTAN	105	11,904
1006.30-000	BANGLADESH	0	205
1006.30-000	ITALY	34	6,710
1006.30-000	USA	86,792	5,803,982
1006.30-000	URUGUAY	1	642
1006.30-000	AUSTRALIA	50,882	3,367,199
1006.30-000	S-TOTAL	328,802	17,612,603
1006.40	Broken rice		
1006.40-000	CHINA	4,339	208,219
1006.40-000	VIETNAM	768	26,380
1006.40-000	THAILAND	39,821	1,187,565
1006.40-000	USA	15,196	919,557
1006.40-000	AUSTRALIA	11,675	638,676
1006.40-000	S-TOTAL	71,799	2,980,397
	G-TOTAL	664,227	35,815,648

Source : Ministry of Finance, Trade Statistics
<http://www.mof.go.jp/trade-st/tr-indexe.html>

16. Japan : Rice export/import in CY2000 (Custom data)

Export

	MT	1000Yen
1006.10 Rice in the husk		
1006.10-000 CHINA	1	3,329
1006.10-000 SWITZERLAND	0	280
1006.10-000 SPAIN	0	252
1006.10-000 S-TOTAL	1	3,861
1006.20 Husked (brown) rice		
1006.20-000 MOZAMBIQUE	702	16,728
1006.20-000 N. KOREA	7,003	190,293
1006.20-000 SINGAPORE	0	324
1006.20-000 USA	0	567
1006.20-000 S-TOTAL	7,705	207,912
1006.30 Semi-milled or wholly milled rice		
1006.30-000 ANGOLA	801	19,091
1006.30-000 AUSTRALIA	0	227
1006.30-000 BENIN	722	24,789
1006.30-000 C. VERDE	921	32,698
1006.30-000 CAMBODIA	827	19,939
1006.30-000 CHAD	250	9,312
1006.30-000 DJIBOUTI	743	25,508
1006.30-000 EQ. GUINEA	790	29,790
1006.30-000 FRANCE	3	1,980
1006.30-000 GAMBIA	185	6,891
1006.30-000 GHANA	2,116	69,335
1006.30-000 GUINEA	319	9,899
1006.30-000 HONG KONG	62	26,075
1006.30-000 INDONESIA	3	2,001
1006.30-000 ISRAEL	1,840	80,034
1006.30-000 IVORY COAST	2,134	75,080
1006.30-000 JORDAN	1,080	47,862
1006.30-000 KIRIBATI	0	378
1006.30-000 LEBANON	420	18,016
1006.30-000 MADAGASCAR	1,532	47,404
1006.30-000 MALAWI	977	33,557
1006.30-000 MALDIVES	1,359	46,631
1006.30-000 MALI	0	218
1006.30-000 MALAYSIA	0	234
1006.30-000 MARIANA	3	1,445
1006.30-000 MAURITANIA	350	6,201
1006.30-000 MARSHALL ISLANDS	2	1,568
1006.30-000 MONGOL	6,061	207,982
1006.30-000 NEW ZEALAND	0	405
1006.30-000 NIGER	2,082	67,267
1006.30-000 NIGERIA	5	2,350
1006.30-000 PHILIPPINES	0	210
1006.30-000 REUNION	1	399
1006.30-000 RUSSIAN	1	737
1006.30-000 SENEGAL	4,570	151,908
1006.30-000 SINGAPORE	37	20,540
1006.30-000 ST. PRINCIPE	974	32,967
1006.30-000 SWITZERLAND	0	293
1006.30-000 SYRIA	580	25,306
1006.30-000 TANZANIA	2,647	90,860
1006.30-000 THAILAND	4	1,821
1006.30-000 TONGA	0	300
1006.30-000 UNITED KINGDOM	14	6,681
1006.30-000 UGANDA	0	418
1006.30-000 USA	27	15,691
1006.30-000 S-TOTAL	34,442	1,262,298
G-TOTAL	42,148	1,474,071

Import

	MT	1000Yen
1006.20 Husked (brown) rice		
1006.20-010 AUSTRALIA	4,708	245,902
1006.20-010 CHINA	1,864	81,963
1006.20-010 USA	99,200	4,085,959
1006.20-010 S-TOTAL	105,772	4,413,824
1006.20-090 CHINA	26	4,196
1006.20-090 S-TOTAL	26	4,196
1006.30 Semi-milled or wholly milled rice		
1006.30-010 AUSTRALIA	86,645	4,513,452
1006.30-010 CHINA	60,843	2,724,140
1006.30-010 INDIA	18	2,526
1006.30-010 ITALY	50	8,088
1006.30-010 PAKISTAN	183	18,532
1006.30-010 SINGAPORE	18	2,530
1006.30-010 THAILAND	90,203	2,523,653
1006.30-010 USA	204,792	10,531,390
1006.30-010 VIETNAM	14,897	384,199
1006.30-010 S-TOTAL	457,649	20,708,510
1006.30-090 AUSTRALIA	1	
1006.30-090 BANGLADESH	5	
1006.30-090 CHINA	29	2,389
1006.30-090 INDIA	0	376
1006.30-090 ITALY	2	1,247
1006.30-090 PAKISTAN	6	524
1006.30-090 THAILAND	155	7,671
1006.30-090 URUGUAY	0	278
1006.30-090 USA	102	9,481
1006.30-090 S-TOTAL	300	23,300
1006.40 Broken rice		
1006.40-010 AUSTRALIA	10,436	498,810
1006.40-010 CHINA	7,925	341,055
1006.40-010 EGYPT	815	27,255
1006.40-010 THAILAND	37,929	813,646
1006.40-010 USA	34,360	1,649,195
1006.40-010 VIETNAM	548	17,077
1006.40-010 S-TOTAL	92,013	3,347,038
G-TOTAL	655,760	28,496,868

Source : Ministry of Finance, Trade Statistics
<http://www.mof.go.jp/trade-st/tr-indexe.html>

17. Japan : Rice export/import in CY2001 (Custom data)

Export

	Country	MT	1000Yen
1006.10	Rice in the husk		
1006.10-000	LAOS	0	307
1006.10-000	GERMANY	0	253
1006.10-000	S-TOTAL	0	560
1006.20	Husked (brown) rice		
1006.20-000	N. KOREA	499,999	112,247,268
1006.20-000	UNITED KINGDOM	2	830
1006.20-000	GERMANY	5	1,362
1006.20-000	S-TOTAL	500,006	112,249,460
1006.30	Semi-milled or wholly milled rice		
1006.30-000	MONGOL	6	287
1006.30-000	HONG KONG	51	27,407
1006.30-000	THAILAND	0	511
1006.30-000	SINGAPORE	34	22,604
1006.30-000	MALAYSIA	0	247
1006.30-000	PHILIPPINES	0	783
1006.30-000	INDONESIA	4	1,698
1006.30-000	LAOS	526	12,536
1006.30-000	BANGLADESH	1,500	35,737
1006.30-000	NEPAL	463	11,036
1006.30-000	ISRAEL	1,884	64,644
1006.30-000	JORDAN	797	27,347
1006.30-000	SYRIA	422	14,479
1006.30-000	LEBANON	440	15,097
1006.30-000	UNITED KINGDOM	15	8,233
1006.30-000	NETHERLANDS	0	981
1006.30-000	BELGIUM	1	960
1006.30-000	FRANCE	3	1,628
1006.30-000	SWITZERLAND	4	1,821
1006.30-000	RUSSIAN	3	729
1006.30-000	TURKEY	0	243
1006.30-000	CANADA	54	6,927
1006.30-000	USA	16	9,790
1006.30-000	CHILE	2	940
1006.30-000	MAURITANIA	8,863	177,028
1006.30-000	SENEGAL	6,724	134,289
1006.30-000	GHANA	14,799	328,022
1006.30-000	BENIN	1,265	25,807
1006.30-000	MALI	0	500
1006.30-000	BURKINA	378	9,008
1006.30-000	C. VERDE	180	4,304
1006.30-000	CANARY	6	1,785
1006.30-000	NIGERIA	4	3,210
1006.30-000	CAMEROON	3,477	579
1006.30-000	ANGOLA	7,939	156,557
1006.30-000	ST. PRINCIPE	4,801	95,893
1006.30-000	DJIBOUTI	204	5,097
1006.30-000	KENYA	0	405
1006.30-000	TANZANIA	844	20,125
1006.30-000	MOZAMBIQUE	1,440	28,770
1006.30-000	MADAGASCAR	3,431	68,538
1006.30-000	S-TOTAL	60,580	1,326,582
	G-TOTAL	560,586	113,576,602

Import

	Country	MT	1000Yen
1006.20	Husked (brown) rice		
1006.20-010	CHINA	712	37,381
1006.20-010	USA	109,738	3,726,873
1006.20-010	AUSTRALIA	20,689	903,330
1006.20-010	S-TOTAL	131,139	4,667,584
1006.20-090	CHINA	5	743
1006.20-090	S-TOTAL	5	743
1006.30	Semi-milled or wholly milled rice		
1006.30-010	CHINA	83,041	3,548,013
1006.30-010	VIETNAM	10,769	275,604
1006.30-010	THAILAND	106,122	2,811,540
1006.30-010	INDIA	37	5,226
1006.30-010	PAKISTAN	217	20,497
1006.30-010	ITALY	67	12,870
1006.30-010	USA	151,963	6,255,119
1006.30-010	URUGUAY	4,847	192,057
1006.30-010	AUSTRALIA	65,673	3,016,435
1006.30-010	S-TOTAL	422,736	16,137,361
1006.30-090	CHINA	1	474
1006.30-090	VIETNAM	4	562
1006.30-090	THAILAND	160	8,567
1006.30-090	BANGLADESH	3	544
1006.30-090	SPAIN	3	1,041
1006.30-090	ITALY	11	4,636
1006.30-090	USA	112	9,770
1006.30-090	URUGUAY	0	312
1006.30-090	S-TOTAL	294	25,906
1006.40	Broken rice		
1006.40-010	CHINA	4,065	162,573
1006.40-010	VIETNAM	215	6,765
1006.40-010	THAILAND	36,990	842,099
1006.40-010	USA	41,224	1,563,901
1006.40-010	AUSTRALIA	9,007	379,003
1006.40-010	S-TOTAL	91,501	2,954,341
	G-TOTAL	645,675	23,785,935

Source : Ministry of Finance, Trade Statistics
<http://www.mof.go.jp/trade-st/tr-indexe.html>

18. MMA rice imports - General tender results, FY 1999 - 2001

Results of 1st - 6th MMA Rice General Tender Results in JFY1999 (April 1999 - March 2000)

Country	Type (Data of Tender)	First (6/11/99)	Second (9/24/99)	Third (10/22/99)	Fourth (11/30/99)	Fifth (12/22/99)	Sixth (1/12/00)	TOTAL
USA	Calif. Medium (Brown)	0	12,000	24,000	12,000	24,000	20,000	92,000
	Calif. Medium (Milled)	0	40,200	29,800	39,300	25,700	19,700	154,700
	Broken (Milled)	0	7,800	6,200	6,700	4,300	4,300	29,300
	TOTAL	0	60,000	60,000	58,000	54,000	44,000	276,000
Australia	Medium (Brown)	0	10,000	0	0	0	0	10,000
	Medium (Milled)	0	8,900	17,400	8,900	17,400	17,400	70,000
	Broken (Milled)	0	1,100	2,600	1,100	2,600	2,600	10,000
	TOTAL	0	20,000	20,000	10,000	20,000	20,000	90,000
Thailand	Long (Milled)	2,000	16,700	15,000	30,000	16,800	13,200	93,700
	Long (Glu., Milled)	0	400	0	0	0	0	400
	Broken (Milled)	3,000	12,900	5,000	0	3,200	5,000	29,100
	Broken (Glu., Milled)	10,000	0	0	0	0	5,000	15,000
	TOTAL	15,000	30,000	20,000	30,000	20,000	23,200	138,200
China	Long (Milled)	0	0	0	0	5,000	8,900	13,900
Vietnam	Long (Milled)	0	5,000	10,000	0	0	0	15,000
GRAND TOTAL		15,000	115,000	110,000	98,000	99,000	96,100	533,100
WEIGHTED AVERAGE PRICE		JYEN 31,746	40,255	39,853	38,517	40,844	40,103	
		USD (US\$259)	(US\$364)	(US\$372)	(US\$366)	(US\$395)	(US\$374)	

Results of 1st - 6th MMA Rice General Tender Results in JFY2000 (April 2000 - March 2001)

Country	Type (Data of Tender)	First (6/13/00)	Second (10/6/00)	Third (11/2/00)	Fourth (12/1/00)	Fifth (12/27/00)	Sixth (1/30/01)	TOTAL
USA	Calif. Medium (Brown)	0	36,000	24,000	24,000	12,000	24,000	120,000
	Calif. Medium (Milled)	0	20,800	30,400	31,200	30,400	26,600	139,400
	Broken (Milled)	0	3,200	5,600	4,800	5,600	5,400	24,600
	TOTAL	0	60,000	60,000	60,000	48,000	56,000	284,000
Australia	Medium (Brown)	0	2,000	0	5,000	0	7,000	14,000
	Medium (Milled)	0	15,660	8,700	13,050	17,400	14,620	69,430
	Broken (Milled)	0	2,340	1,300	1,950	2,600	2,380	10,570
	TOTAL	0	20,000	10,000	20,000	20,000	24,000	94,000
Thailand	Long (Milled)	1,900	24,800	20,000	15,000	21,600	21,370	104,670
	Long (Glu., Milled)	0	0	0	0	500	0	500
	Broken (Milled)	2,700	8,200	0	5,000	2,900	5,000	23,800
	Broken (Glu., Milled)	400	2,000	0	5,000	5,000	3,000	15,400
	TOTAL	5,000	35,000	20,000	25,000	30,000	29,370	144,370
China	Long (Milled)	0	0	10,000	10,000	10,000	5,000	35,000
Vietnam	Long (Milled)	0	0	0	0	5,000	5,669	10,669
Uruguay	Long (Milled)	0	0	0	0	0	5,000	5,000
GRAND TOTAL		5,000	115,000	100,000	115,000	113,000	125,039	573,039
WEIGHTED AVERAGE PRICE		JYEN n.a.	34,793	33,283	31,400	30,783	32,075	
		USD (\$325)	(\$308)	(\$283)	(\$271)	(\$277)		

Results of 1st - 6th MMA Rice General Tender Results in JFY2001 (April 2001 - March 2002)

Country	Type (Data of Tender)	First (5/9/01)	Second (7/19/01)	Third (10/19/01)	Fourth (11/14/01)	Fifth (12/19/01)	Sixth (2/19/02)	TOTAL
USA	Medium Grain (Brown)	0	0	0	0	0	0	0
	Medium Grain (Milled)	0	0	42,360	63,120	72,600	82,000	260,080
	Broken (Milled)	0	277	5,640	8,880	11,400	12,600	38,797
	TOTAL	0	277	48,000	72,000	84,000	94,600	298,877
Australia	Medium Grain (Brown)	0	0	7,000	0	0	10,000	17,000
	Medium Grain (Milled)	0	0	19,100	17,440	17,800	9,000	63,340
	Broken (Milled)	0	0	3,900	3,560	3,700	0	11,160
	TOTAL	0	0	30,000	21,000	21,500	19,000	91,500
Thailand	Long (Milled)	1,300	1,700	9,860	29,450	26,000	28,276	96,586
	Long (Glu., Milled)	3,700	3,300	140	3,150	1,000	0	11,290
	Broken (Milled)	0	0	0	400	0	6,000	6,400
	Broken (Glu., Milled)	0	0	0	2,000	8,000	5,100	15,100
	TOTAL	5,000	5,000	10,000	35,000	35,000	39,376	129,376
China	Long (Milled)	0	0	10,000	20,700	15,300	9,300	55,300
	Broken (Milled)	0	0	0	0	216	0	216
	TOTAL	0	0	10,000	20,700	15,516	9,300	55,516
Vietnam	Long (Milled)	0	0	0	0	0	4,700	4,700
GRAND TOTAL		5,000	5,277	98,000	148,700	156,016	166,976	579,969
WEIGHTED AVERAGE PRICE		JYEN n.a.	23,981	41,056	36,595	39,054	40,319	
		USD (\$195)	(\$339)	(\$302)	(\$305)	(\$304)		

Source : USDA, www.japan-rice.com

19. MMA rice imports - SBS tender results, FY 1999 - 2001

Japan : SBS Tender Results in JFY1999 (April 1999 - March 2000)

(unit : MT)

Country (Data of Tender)	1st (5/28/99)	2nd (8/27/99)	3rd (11/5/99)	4th (12/10/99)	Total	
						%
China	9,029	23,260	15,395	14,927	62,611	52.0%
U.S.A.	4,408	12,739	12,555	7,424	37,126	30.9%
Thailand	868	898	508	1,479	3,753	3.1%
Australia	9,969	2,475	1,501	642	14,587	12.1%
Vietnam	438	594	18	0	1,050	0.9%
India	54	0	0	18	72	0.1%
Egypt	0	0	306	510	816	0.7%
Pakistan	72	0	0	0	72	0.1%
Uruguay	162	0	0	0	162	0.1%
Italy	0	34	17	0	51	0.04%
TOTAL	25,000	40,000	30,300	25,000	120,300	100.0%

Japan : SBS Tender Results in JFY2000 (April 2000 - March 2001)

(unit : MT)

Country (Data of Tender)	1st (5/23/00)	2nd (8/29/00)	3rd (11/10/00)	4th (12/15/00)	Total	
						%
China	11,460	18,046	9,260	14,498	53,264	44.4%
U.S.A.	11,328	10,829	11,573	12,543	46,273	38.6%
Thailand	266	2,946	136	1,612	4,960	4.1%
Australia	6,800	2,559	3,881	1,029	14,269	11.9%
Vietnam	36	494	0	215	745	0.6%
Pakistan	76	108	94	72	350	0.3%
India	0	18	5	31	54	0.05%
Italy	34	0	51	0	85	0.1%
Total	30,000	35,000	25,000	30,000	120,000	100%

Japan : SBS Tender Results in JFY2001 (April 2001 - March 2002)

(unit : MT)

Country (Data of Tender)	1st (5/30/01)	2nd (8/31/01)	3rd (11/9/01)	4th (1/9/02)	Total	
						%
China	11,262	16,000	19,306	19,134	65,702	65.7%
U.S.A.	8,985	7,201	3,713	5,274	25,173	25.2%
Thailand	78	57	58	228	421	0.4%
Australia	4,640	1,671	1,854	364	8,529	8.5%
Vietnam	0	0	0	0	0	0%
Pakistan	18	36	0	0	54	0.1%
India	0	0	18	0	18	0.02%
Italy	17	17	51	0	85	0.1%
Spain	0	18	0	0	18	0.02%
Total	25,000	25,000	25,000	25,000	100,000	100.0%

Source : USDA, www.japan-rice.com

20. MMA rrice imports - Detail results of SBS tender in FY2001 (Apr.2001 - Mar.2002)

Category	Country	Type	Quantity Applied (MT)	Quantity Awarded (MT)	Food Agency's Purchase Price (YEN/MT)	Food Agency's Selling Price (YEN/MT)	Mark-up (Kg)
First SBS Tender (May 30, 2001)							
Whole rice	U.S.A.	Short/Brown	450	342	72,653	267,489	195
		Short/Milled	7,740	6,483	71,195	267,559	196
		Glut./Short/Milled	1,576	648	70,353	265,981	195
	sub total	9,766	7,473	71,188	267,419	196	
	Italy	Short/Milled	17	17	291,000	491,000	200
	India	Long/Milled	18	0			
	Australia	Short/Brown	1,841	1,673	69,638	267,918	198
		Short/Milled	3,658	2,967	71,924	266,621	195
	sub total	5,499	4,640	71,100	267,089	196	
	Thailand	Long/Milled	36	18	44,000	240,000	196
		Glut./Long/Milled	40	20	76,500	271,500	195
	sub total	76	38	61,105	256,579	195	
	China	Short/Milled	27,327	9,918	66,149	260,455	194
		Glut./Short/Milled	648	396	79,091	273,096	194
sub total	27,975	10,314	66,646	260,940	194		
Pakistan	Long/Milled	18	18	123,000	323,000	200	
Vietnam	Short/Milled	108	0				
TOTAL	43,477	22,500					
Broken rice	U.S.A.	Broken/Milled	7,516	1,512	52,802	116,623	64
	Australia	Broken/Milled	334	0			
	Thailand	Broken/Milled	1,256	40	30,000	93,200	63
	China	Broken/Milled	4,204	948	49,411	113,609	64
	Vietnam	Broken/Milled	108	0			
	TOTAL	13,418	2,500				

Category	Country	Type	Quantity Applied (MT)	Quantity Awarded (MT)	Food Agency's Purchase Price (YEN/MT)	Food Agency's Selling Price (YEN/MT)	Mark-up (Kg)
Second SBS Tender (August 31, 2001)							
Whole rice	U.S.A.	Short/Brown	901	684	78,245	260,592	182
		Short/Milled	6,914	3,407	77,118	255,528	178
		Medium/Milled	54	54	63,982	244,981	181
		Glut./Short/Milled	2,994	1,341	72,182	252,121	180
	sub total	10,863	5,486	75,923	255,223	179	
	Italy	Medium/Milled	17	17	153,000	335,000	182
	India	Long/Milled	18	0			
	Australia	Short/Milled	3,384	1,338	71,218	247,360	176
	Spain	Short/Brown	18	18	305,000	480,500	176
	Thailand	Long/Milled	53	17	61,500	243,500	182
		Glut./Long/Milled	40	40	61,500	243,000	182
	sub total	93	57	61,500	243,149	182	
	China	Short/Brown	198	198	66,300	244,400	178
		Short/Milled	40,885	15,180	70,981	248,922	178
		Long/Brown	20	20	105,000	300,000	195
		Glut./Short/Milled	690	150	80,200	257,250	177
	sub total	41,793	15,548	71,054	249,011	178	
	Pakistan	Long/Milled	36	36	123,000	298,500	176
	Vietnam	Short/Milled	362	0			
TOTAL	56,584	22,500	72,559	250,742	178		
Broken rice	U.S.A.	Broken/Milled	7,669	1,715	52,212	115,057	63
	Australia	Broken/Milled	743	333	48,992	112,344	63
	Thailand	Broken/Milled	654	0			
	China	Broken/Milled	2,652	452	53,451	115,239	62
	TOTAL	11,718	2,500	52,007	114,729		

Category	Country	Type	Quantity Applied (MT)	Quantity Awarded (MT)	Food Agency's Purchase Price (YEN/MT)	Food Agency's Selling Price (YEN/MT)	Mark-up (Kg)
Third SBS Tender (November 09, 2001)							
Whole rice	U.S.A.	Short/Brown	324	162	70,467	257,367	187
		Short/Milled	3,027	1,353	75,184	260,886	186
		Medium/Milled	38	38	61,807	251,996	190
		Glut./Short/Brown	18	0			
		Glut./Short/Milled	1,892	900	69,318	255,508	186
	sub total	5,299	2,453	72,513	258,543	186	
	Italy	Medium/Milled	51	51	167,000	355,500	189
	India	Long/Milled	18	18	185,000	379,000	194
	Australia	Short/Milled	2,018	1,694	68,797	256,577	188
	Thailand	Long/Milled	36	18	63,000	249,500	187
	China	Short/Milled	35,953	18,226	70,388	256,902	187
		Glut./Short/Milled	426	40	80,000	265,500	186
	sub total	36,379	18,266	70,409	256,921	187	
	Pakistan	Long/Milled	36	0			
Vietnam	Short/Milled	18	0				
TOTAL	43,855	22,500	70,822	257,387	187		
Broken rice	U.S.A.	Broken/Milled	5,135	1,260	51,717	118,732	67
	Australia	Broken/Milled	838	160	50,609	114,709	64
	Thailand	Broken/Milled	456	40	31,400	93,700	62
	China	Broken/Milled	4,244	1,040	51,246	116,326	65
	TOTAL	10,673	2,500	51,629	117,073		

Category	Country	Type	Quantity Applied (MT)	Quantity Awarded (MT)	Food Agency's Purchase Price (YEN/MT)	Food Agency's Selling Price (YEN/MT)	Mark-up (Kg)
Fourth SBS Tender (January 09, 2002)							
Whole rice	U.S.A.	Short/Brown	270	270	80,000	258,000	178
		Short/Milled	2,474	2,258	81,893	257,033	175
		Medium/Milled	60	60	67,850	247,500	180
		Glut./Short/Brown	18	18	70,000	247,000	177
		Glut./Short/Milled	1,986	1,692	76,737	252,789	176
	sub total	4,808	4,298	79,499	255,248	176	
	Australia	Short/Milled	197	197	74,670	251,257	177
	Thailand	Long/Milled	188	188	66,144	243,246	177
		Glut./Long/Milled	40	40	72,000	248,750	177
	sub total	228	228	67,171	244,211	177	
	China	Short/Brown	260	218	73,200	244,200	171
		Short/Milled	30,709	17,111	75,833	250,654	175
		Long/Brown	20	20	105,000	295,000	190
		Glut./Short/Milled	686	428	81,916	255,633	174
sub total	31,675	17,777	75,980	250,745	175		
Vietnam	Short/Milled	18	0				
TOTAL	36,926	22,500	76,552	251,543	175		
Broken rice	U.S.A.	Broken/Milled	4,120	976	52,504	116,749	64
	Australia	Broken/Milled	1,236	167	49,803	112,976	63
	Thailand	Broken/Milled	324	0			
	China	Broken/Milled	3,022	1,357	51,983	114,440	62
	TOTAL	8,702	2,500	52,041	115,244	63	

Source : USDA, www.japan-rice.com

COUNTRY REPORT

Korea

1. Production

1.1 General

Until the 1960s, Korea was a typical agrarian country, with agriculture generating almost half of its GNP, and employing half of the total labor force. In 1970, agricultural production contributed 23.3 % to GDP and the labor force employed in the agricultural sector accounted for 52.9 %. Agriculture in Korea still has an important role in the national economy, accounting for a relatively large share of GDP (5.8 % in 1997, 4.6% in 2000) and employment (11.0 %, 10,5 %), although the share of agriculture has been declining continuously.

As in many other countries, Korea's agricultural sector has contributed greatly to the development of the economy through the provision of food stuffs and labor supply for the non-agricultural sectors, and capital formation, as well as through the conservation of the environment and preservation of the Korean traditional culture. Korean people think that they have their roots in farming, and have relatives on farms or in rural areas. Farmers and agriculture in Korea have retained their reputation and privileged position in Korean society. Therefore, there has been extensive government intervention in production to consumption of agricultural commodities in Korea for the past decades. Strong government intervention responds to the high value Koreans place on agriculture. This reflects the considerable power of agricultural interests, which is in part derived from widespread support from the general population.

Most people think that the agricultural sector is the backbone of Korean culture and tradition. Agriculture in Korea is perceived to be important for security, stability and prosperity of the nation. An example is the continued growth in government support for the agricultural sector, particularly with respect to rice industry, despite increased pressures from foreign trading partners.

1.2 Basic Condition of Rice Farming

(1) Land Use for Rice Production

Cultivated area is approximately 18.9% of the whole land area (9,981,759ha). The next table shows percentage between water land and dry land. Paddy field is more than 60% of the whole-cultivated area.

Table 1: Cultivation Area and Paddy Field

Year	Total cultivated area ('000ha)	Water land area ('000ha)	Percentage of		Yield (ton/ha)
			water land (%)	dry land (%)	
1985	2,144	1,325	62	38	1.11
1990	2,109	1,345	64	36	1.21
1992	2,070	1,315	64	36	1.26
1993	2,055	1,298	63	37	1.29
1994	2,033	1,267	62	38	1.30
1995	1,985	1,206	61	39	1.32
1996	1,945	1,176	60	40	1.29
1997	1,924	1,163	60	40	1.34
1998	1,910	1,157	61	39	1.35
1999	1,899	1,153	61	39	1.37
2000	1,889	1,149	61	39	1.36

Source: Agricultural and Forestry Statistical Yearbook (2001)

(2) Number of farm householders and agriculture population

Table 2: Number of farm households, population of farmer and population of agricultural employment

Year	Farmer households ('000)	Percentage of		Population of farmer householder ('000)	Percentage of	
		farmer households (%)	farmer population (%)		agriculture employment (%)	agriculture employment (%)
1985	1,926	20	21	8,521	23.7	3,554
1990	1,767	16	15	6,661	17.1	3,100
1993	1,592	14	12	5,407	14.1	2,734
1994	1,558	14	12	5,167	13.2	2,619
1995	1,499	11.6	10.8	4,851	11.8	2,419
1996	1,480	-	10.3	4,692	11.2	2,322
1997	1,440	-	9.7	4,468	10.8	2,276
1998	1,413	-	9.5	4,400	12.2	2,399
1999	1,382	-	9.0	4,210	11.2	2,264
2000	1,384	9.7	8.7	4,032	10.5	2,203

Source: MAF, Statistical Yearbook of Agriculture and Forestry 2001

Korea's farm population stood at 4.5 million persons in 1997, or about 9.7 % of total population (Table 2). While the total population has expanded rapidly, almost doubling in the last three decades, farm population has declined sharply since the 1960s due to continued industrialization and urbanization. Specifically, total population has increased from 32.2 million in 1970 to 46.2 million in 1997, while farm population dropped from 14.4 million to 4.5 million over the same period. Agricultural employment in 1997 accounted for 11.0 % (2.3 million) of total employment (21.0 million), down slightly from 11.6 % in 1996.

Farmers have migrated to urban cities, seeking job opportunities with higher payments. The rural-urban migration is expected to continue and its pace may be accelerated. As a result of the decrease in total farm population, many changes have occurred in agricultural sector, including labor

structure, cropping intensity, farm wage rate, agricultural mechanization and other agricultural inputs.

The 1997 Farm Household Economy Survey showed that the average farm income rose by 0.8 % to 23.5 million won (Table 3). Grains represent one of the most important sources of income for farmers in Korea. Farmer's revenue rose considerably in both crop and livestock sectors. The level of farm household income was up for two reasons. First, yields in vegetables, specialty crops and fruits were higher compared to the previous year. Second, livestock receipts were a little increased despite the drops in cattle and chicken prices.

Table 3: Agriculture in the national economy

		1970	1980	1990	1995	1996	1997	1998	1999	2000
Population	Thousand	32,241	38,124	42,869	44,609	45,093	45,991	46,430	46,858	47,275
Population of Agriculture	Thousand	14,422	10,827	6,661	4,851	4,692	4,468	4,400	4,210	4,032
	% of total	44.7	28.4	15.5	10.8	10.3	9.7	9.5	9.0	8.5
Employment	1,000 persons	9,167	13,683	18,085	20,377	20,764	21,048	21,456	21,634	21,950
Employment of Agriculture	1,000 persons	4,846	4,654	3,237	2,541	2,405	2,324	2,399	2,264	2,288
	% of total	52.9	34.0	17.9	12.5	11.6	11.0	12.2	11.2	10.5
GDP	Billion won	2,771	36,854	178,262	348,979	386,438	416,018	394,710	482,744	517,100
GDP of Agriculture	Billion won	645	5,612	15,592	23,012	24,545	24,056		24,620	23,787
	% of total	23.3	15.2	8.7	6.6	6.4	5.8		5.1	4.6

Source: MAF, Statistical Yearbook of Agriculture and Forestry 2001, The Bank of Korea

During the economic development period of the past 40 years, the agricultural sector was given little attention and development in other sectors was considered more important. Accordingly, in the process of rapid industrialization in Korea, which began in the early 1960s, the agriculture sector has declined continuously. The agricultural share of GDP, which was 23.3 % in 1970, decreased to 15.2 % in 1980 and to 5.8 % in 1997. The agricultural sector's share in employment also declined to around 17.9 % in 1990 and 11.0 % in 1997, from 52.9 % in 1970. In addition, the share of farm population in total population has been decreasing at a similar pace.

This decline is a continuing trend that began with Korea's switch to an outward-oriented development strategy initiated in the early 1960s. With limited resources available, the government made decisions that stress the industrial sector, which appeared more imperative and important to achieve development goals. This decline is common to most developing and export-oriented countries, and to some extent, it is inevitable in the move toward an industrial economy. In a sense, it may be a shift in the national economy from the agricultural sector to the manufacturing, and may indicate that the Korean economy is entering a matured phase of development.

However, it should be noted that agriculture in Korea has a particular significance in the Korean culture and economy, which is not reflected in the simple economic indicators. Moreover, such an imbalance between rural and urban sectors is not desirable for the sound and balanced economic development of a nation. To become more competitive in the changing world market, the agricultural sector must be developed in a balanced way in the national economy because the interaction between agriculture and the rest of the economy are becoming more complex. The

policies and events in the agricultural sector have an important effect on other sectors, and they are affected by other sectors.

In addition, many changes and fluctuations in the agricultural sector are directly related to the economic health of the other sectors. Continuous rural-urban migration, for example, has led to changes in wage structure in the manufacturing sector. Rapidly increasing consumption of livestock, horticultural and processed products has also led to changes in wage and production structure both in rural and urban areas. These changes are of great concern to the agricultural sector as well as the other sectors.

At times, problems and changes in the agricultural sector have led to emotional debate within the general public. Therefore, growth in other sectors is also important for the successful development of the agricultural sector. Hence, it seems likely to say that it is a generally accepted view that agriculture in Korea is still the backbone of Korean culture and tradition and is perceived to be important for security and prosperity of the nation, although the relative importance of agriculture in terms of GDP and employment has been declining.

One of major objectives of agricultural policy is to increase farm income from both agricultural and non-agricultural activities, and to close the income gap between farm and non-farm workers. The striking feature of Korean farm households is a high dependence on agricultural income. Although the dependence has gradually been decreased, farm households still obtain a considerable amount of their total income from agricultural activities (Table 3).

Agricultural income continues to be of major importance to total farm income, and the high dependence on agricultural income is also expected to continue in the future if current type of farming prevails. Average non-agricultural income increased to 8.2 million won, or 35.2 % of the total farm income in 1997. Farm households frequently supplement their income through non-agricultural employment during off-season. The relatively high share(35.2 %) of non-agricultural income in total farm household income in 1997 was due to the significant increase in wage and salary earnings from secondary jobs, reflecting the establishment and more effective operation of rural manufacturing plants in recent years.

Although the development of the Korean economy over the last decades increased employment and incentives for off-farm works in rural areas, non-agricultural activities have been small, and have risen slowly. The ratio of non-agricultural income to total farm income was 21.5 % in 1980, while it stood at 25.8 % in 1990 and 35.2 % in 1997. Overall, non-agricultural income represented about 30 % of total farm income over the past decade. Meanwhile, the share of non-agricultural incomes in neighboring countries was considerably higher. For instance, the share reached 61.0 % in Japan in 1996.

(3) Farming scale**Table 4 : Farmer households by size of cultivated land for all crops**

Year	Non-cropland households		Less than 0.5ha		0.5 ~ less than 1.0ha		1.0 ~ less than 2.0		2.0 ~ less than 3.0ha		3.0ha and over		Total
		%		%		%		%		%		%	
1991	35,061	2.1	465,947	27.4	526,933	30.9	511,489	30.1	121,342	7.1	41,535	2.4	1,702,307
1992	22,854	1.4	468,802	28.6	495,809	30.2	476,997	29.1	123,819	7.5	52,574	3.2	1,640,853
1993	23,202	1.5	451,276	28.3	472,001	29.6	459,774	28.9	126,942	8.0	59,283	3.7	1,592,478
1994	24,852	1.6	452,844	29.0	448,176	28.8	442,280	28.4	124,397	8.0	65,440	4.2	1,557,989
1995	23,918	1.6	432,982	28.9	432,107	28.8	417,960	27.9	123,333	8.2	70,445	4.7	1,500,745
1996	25,274	1.7	440,158	29.7	421,356	28.5	404,897	27.4	117,564	7.9	70,353	4.8	1,479,602
1997	22,896	1.6	438,277	30.4	410,701	28.5	382,790	26.6	114,818	8.0	70,194	4.9	1,439,676
1998	21,519	1.5	482,842	34.2	395,314	28.0	347,351	24.6	99,760	7.1	66,232	4.7	1,413,017
1999	21,158	1.5	482,842	34.2	388,315	28.0	332,481	24.1	90,343	6.5	62,633	4.5	1,381,637
2000	15,478	1.1	423,458	30.6	380,653	27.5	359,164	25.9	118,628	8.6	86,712	6.3	1,384,093

(4) Use of farm machinery**Table 5: Agricultural machinery holding**

Year	Power Tiller	Farm Tractor	Rice Transplanter	Binder	Combine	Power Dusting Equipment					Water Pump	Threshing Machine	Dryer		Sowing Mach.
						Total	Speed Sprayer		Mister & Duster	fixed type			circulation type		
							For orchards	For paddy field							
1995	868,870	100,412	248,009	66,960	72,268	712,882	13,472	16,735	557,349	125,326	384,900	121,970	28,408	117,875	12,995
1996	910,404	113,287	271,051	67,914	73,831	716,781	15,873	21,132	561,346	118,430	407,634	109,945	38,089	122,789	14,841
1997	945,844	131,358	302,934	68,903	74,258	703,383	19,921	23,374	540,001	120,087	397,417	95,790	44,132	136,154	13,202
1998	959,976	157,888	325,126	73,025	78,099	642,478	24,179	20,706	462,000	135,593	344,950	78,160	49,832	145,650	9,693
1999	953,749	176,146	335,818	73,256	84,002	624,936	27,006	19,704	428,186	150,040	309,087	65,558	53,216	156,718	8,413
2000	939,219	191,631	341,978	72,315	86,982	628,946	28,885	22,447	410,725	166,889	292,871	58,766	55,573	164,532	7,711

Resource: MAFF

(5) Farm household debt

In 1997, the average farm debt was 13 million won, up by 10.9 % from the previous year. 94.6 % of the amount was borrowed from credit institutions (mostly NACF) and the remaining 5.4 % from private sources (Table 6).

Substantial changes in farmers credit sources were noted between the 1980 and 1997 Farm Credit Surveys. The 1980 Farm Credit Survey indicated that the average borrowing was at 339,000 won with 51 % of the borrowing supplied by institutional credit sources and the remaining 49 % by private credit sources. However, the institutional borrowings accounted for 94.6 % of the borrowing in 1997.

Table 6 : Average farm debt (Unit : 1,000 won, %)

Year	Total		Institutional sources		Private sources	
		%		%		%
1980	339	(100.0)	173	(51.0)	166	(49.0)
1990	4,734	(100.0)	4,078	(86.1)	656	(13.9)
1995	9,163	(100.0)	8,364	(91.3)	799	(8.7)
1996	11,734	(100.0)	10,992	(93.7)	742	(6.3)
1997	13,012	(100.0)	12,304	(94.6)	708	(5.4)

Source : MAF, Report on the Farm Household Economic Survey(1998)

It appears that farmers have been turning toward institutional credit. Most of the farm debt has been used for production purposes. In 1997, some 75 % of the debt had been used for production-oriented activities. The remainder was used for household consumption and repayment of matured loans.

Chronicity of farm debt has long been a serious problem in Korea. A number of policy measures and programs, including the farm income support policy, have been implemented for the purpose of alleviating farm debt. To this end, a farm debt relief program was carried out in 1988. For farmers with chronic debt, their debt was partly written off in line with the legal provisions made by the National Assembly. Assessment of this farm debt write-off policy continues to be controversial.

(6) Farm household assets

The value of the average farm assets was about 184 million won in 1997. The asset portfolio of farmers is another means to measure financial health. With the slow and steady increase in farm income, average farm assets have also increased. In 1997, they rose to 184 million won, up by 9.2 % from the previous year. Of the amount, 83.0 % were fixed assets, 2.8 % liquid assets, and the remaining 14.2 % financial assets (Table 7). The rise in the asset value reflects partly a increase in values of farmland and buildings

Table 7 : Farm assets

Year	Total		Fixed Assets		Liquid Assets		Financial Assets	
		%		%		%		%
1980	13,384	(100.0)	11,796	(88.1)	963	(7.2)	625	(4.7)
1990	79,352	(100.0)	69,666	(87.8)	3,160	(4.0)	6,526	(8.2)
1995	158,171	(100.0)	134,334	(84.9)	4,098	(2.6)	19,739	(12.5)
1996	168,901	(100.0)	142,665	(84.5)	5,052	(3.0)	21,184	(12.5)
1997	184,503	(100.0)	153,149	(83.0)	5,113	(2.8)	26,241	(14.2)

Source : MAFF

Farm assets are both a source of income and a stock of capital. Agricultural machinery has always been an important element of farm assets, but it is often difficult to estimate their value because of depreciation.

(7) Farm household expenditures

Farm household's expenditures in 1997 were virtually unchanged from 17.0 million won in 1996. Spending on food still occupied an important proportion of farm household expenditure, accounting for 20 % in 1997. Unlike in the previous years, other miscellaneous spending declined in 1997 as a result of the decreases in expenditure on house improvement and donations for marriages and funeral services, etc, reflecting the adverse effects of the financial crisis starting late 1997. Expenditure on education rose sharply from 200 thousand won in 1980 to 862 thousand won in 1990. And it stood at 1.7 million won in 1997. This high level of expenditure on education has become an important economic burden for farm households but it reflects their high concern for education of their children.

1.3 Production

Rice has been a part and parcel of the Korean culture, tradition and mentality. Rice-centric farming has been the core of Korean agriculture. It dates back more than 5,000 years and continues to be an important part of the Korean agricultural policy. Since ancient times, ensuring sufficient supply of rice for the population has been very important for social and political stability. Sufficient production of major food-crops has long been regarded as major policy objectives, because Korean remembers the deleterious effects of inadequate supply of major staples before 1950's.

Of total crop land area of 1,924,000 ha in 1997, 55 % (1,052 thousand ha) was planted with rice, most of which was grown on small family farms. In 1997, rice accounted for about 30 % of total agricultural production in value terms, and about 42 % of farm receipts. There has been little change in this feature of rice-centric farming in Korean agriculture during thousands of years. These aspects of Korean agriculture explain why policies for rice industry play such a crucial role in Korea's overall agricultural policy. Meanwhile, rice price has long been regarded as one of the leading indicators on which the prices of almost all the other commodities are based.

Rice production in 1997 amounted to 5.5 million MT. Rice production, which normally represents about 88 % of total grain production. The average annual rice production in early 1990s has remained at around 5.2 million MT. This figure is marginally below the average between 1985 and 1990.

Rice production has been decreased in 1990s, but this trend was changed from 1996. Rice harvest in 1997 registered 5,450 MT following 5,323 MT in 1996 although the area planted with rice was increased, to only a moderate degree, compared to the previous year. This record harvest resulted

largely from unprecedented favorable weather conditions and the consequent increase in rice yield per ha.

The government purchases paddy directly from farmer with high price by adverse spread, which would sell milled rice with lower price. Paddy support prices were increased for the 1998/99 season but prices in real terms remained below the pre-URA level. In fact, the ability of the Government to provide price incentives to rice producers has been constrained since 1995 by its URA obligation to reduce the Aggregate Measure of Support to Agriculture, of which some 93 % is accounted for by rice. Consequently, as the country continues to be committed to rice self-sufficiency, the Government has shifted to “green box” policies to support the development of high yielding hybrid varieties.

1.4 Production Control

Korea could reach 100% of rice self-sufficient in 1997 (crop year 1997/98). Under the circumstance, in January 2000, the Korea passed a new Agriculture Law, which emphasizes the development of a sustainable agriculture and the maintenance of a high degree of rice self-sufficiency. Rice producers continued to benefit from attractive support prices, which were further raised by 5 % in 2000. However, the quantities procured by the Government were lower in 1999 and 2000 than in the preceding years, to keep aggregate support to agriculture within the URAA limits, since rice accounts for over 90 % of the total. The Government efforts to boost productivity concentrated on research and the promotion of high yielding hybrid, short maturity rice varieties.

Korea could reach 100% of rice self sufficient because of consumption reduction for rice with change of dietary pattern. Accordingly, there is over production situation for the rice, and the government is holding 1.09 million ton of rice leftover in 2001. Conceptive necessary actions are sated as below:

- a) Enlargement for rice consumption
- b) Use rice for food aid
- c) Control rice production

Material activities for rice production control have not been initiated as yet. Under the condition of liberalization for the agriculture sector, it is most important point for the government to keep the position of 100% of rice self-sufficient by activities through the government policy.

2. Rice Marketing

2.1 Actual Situation

Implementation of the government rice purchase program in compliance with the annual AMS reduction commitments and permission of a reasonable level of intra-year fluctuation of its market prices on a market-principle basis. As part of policy efforts to maintain a reasonable level of rice

stock for food security purpose, the MAF purchased rice of 928 thousand MT in 1998, which is down from 1,224 thousand MT in 1997, in compliance with the annual AMS reduction commitments under the UR Agreement on Agriculture.

The seasonal variation of market prices for rice has been on the increase since the Grain Policy Reform of 1993. Due to the bumper crops for the past two consecutive years, it was somewhat difficult to permit the seasonal increases of its market prices in terms of price stabilization for the year 1998. But the MAF adjusted the time when government-reserved rice stock was released to the market and the volume of the rice stock released, thereby enabling market prices for rice to rise by 13.4 % in the 1998 lean period compared to the 1997 harvest period and helping rice-growing farmer's income to increase.

In an endeavor to raise the competitiveness of its producers, the Korea launched several initiatives in 2000 to improve the marketing of rice. As part of this program, the Government set up an Internet site, to improve information exchange. It also announced a plan for the construction by 2004 of 360 rice processing centers, with drying, milling and storage facilities.

Table 8: Official rice purchases from local farmer

Year	1996	1997	1998	1999	2000	2001*
Thousand MT	792	720	720	558	504	455

Source: MAFF

* Provisional

Considering that it is of overriding importance and urgency to improve agricultural marketing structure in order to increase farmer's income in a stable fashion, the MAF is implementing agricultural marketing reform schemes including the expansion of agricultural direct marketing and reform of existing transaction methods in wholesale markets.

However, meeting large quantity of rice leftover, the government is passing it in review to constitute policy for production control, transferring to another commodities and/ or reducing cultivating area through exemplification and system of Japanese farming concerning rice.

2.2 Expansion of direct marketing of agricultural products

The MAF encouraged producer's organizations to create private markets where producers and consumers can deal agricultural products directly, taking account of the continued criticisms that both of them have been suffering from their economic losses resulting from the existing complicated and costly agricultural marketing channel and structure. The MAF installed large-scale periodic farmer's markets in 42 major urban cities of the country, set up 760 direct marketing stores within commercial banks, and established distribution complexes in Chang-Dong(Seoul) and Cheong-Ju City.

And the MAF increased agricultural sales using vehicles in local provinces by setting a legal basis for mobile sales of livestock products through amending the Enforcement Regulations of Livestock Products Sanitation Act, encouraged urban consumers to establish sisterhood relationships with 1,814 producing areas, and opened Agricultural Products Cyber-Market on the MAF Website.

The revenue from direct marketing of agricultural products starting from March 1998 amounted to 3,100 billion won, which contributed substantially to agricultural marketing reforms. As a consequence, consumer prices declined by 20 to 30 % and producer-received prices rose by 10 to 20 % in large-scale farmer's markets. These favorable market performances gave satisfaction to both consumers and producers, encouraged retailers neighboring the farmer's markets to reduce their sale prices, and provided large-scale marketing companies with an incentive to increase their purchases of agricultural commodities directly from producing areas.

2.3 Open-up of distribution complexes of agricultural products in Chang-Dong(Seoul) and Cheong-Ju City

A distribution complex in Chang-Dong, Seoul was created in May 1998 to play a central role in wholesale and retail marketing of agricultural products in the northern parts of the Han River in Seoul, as well as to provide a marketplace where agricultural products can be sold directly to consumers.

A distribution complex in Cheong-Ju City was also established in September 1998 to play a key role in wholesale and retail marketing of agricultural products in Choong-Buk Province as well as to have agricultural products sold directly to 600,000 consumers in Cheong-Ju City. In those distribution complexes, with transaction fees paid to wholesalers abolished, farmers selling their commodities to the distribution complexes received higher prices, while consumers bought fresh agricultural products at prices lower by 10 to 20 % than otherwise. These developments enhanced agricultural market performances.

2.4 Building of an electronic data interchange(EDI) network between producers and retailers

The NACF (National Agricultural Cooperative Federation), the largest producer's organization in Korea, enhanced operational efficiency and reduced transaction costs by computerizing sales and management of agricultural products through building an Electronic Data Interchange (EDI) Network between its two distribution complexes and a total of 140 Hanaro Clubs (membership warehouse discount stores) and Hanaro Marts(non-membership supermarkets). From August 1998, the MAF, in cooperation with NACF, built the EDI network between the distribution complexes and packing centers in producing areas on a pilot basis and is pursuing the activation of agricultural marketing and a reduction in transaction costs in those areas.

2.5 Reduction of consignment fees by 1 % in wholesale markets

As a result of policy efforts made to alleviate the burden borne by producers in selling agricultural products in public wholesale markets, the MAF achieved marketing cost savings by cutting down consignment fees by 1 % in wholesale markets in Busan, Taegu, Incheon, and Kwangju cities as well as in Garak-Dong Wholesale Market in Seoul.

In addition, the economic burden of producers decreased by 1.3 billion won in July 1998 and consignment fees amounting to 16.6 billion won is expected to be saved on a yearly basis in Garak-Dong Wholesale Market alone.

2.6 Finalization of Agricultural Marketing Reform Program

(1) Introduction of marketing conventions and orders

With a view to ensuring an optimum level of production of perishable commodities including vegetables and milk and to stabilizing their prices, the MAF introduced marketing conventions (under which farmers, consumers, private merchants and the government authorities are supposed to autonomously adjust production, marketing and consumption of those commodities in collaboration with one another) and marketing orders (under which farmers are forced to discard the concerned commodities in question in producing areas in times when their demand and supply are highly unstable).

In addition, the MAF will make efforts to have 30 to 40 % of production of individual commodities marketed after being packed and given their own brands in producing areas through the enlargement of vegetables/fruits packing centers, Rice Processing Complexes (RPCs) and Livestock Packing Centers (LPCs).

(2) Enabling autonomous commodity transaction methods in wholesale markets

The MAF will offer increased marketing opportunities to producers by permitting both an auction system and a wholesale merchant system to be used in wholesale markets. And, the MAF will eliminate the existing costly marketing structure and corruption prevalent in wholesale markets through the completion of scheduled construction of 34 public wholesale markets, introduction of an electronic auction system and improvement of current unloading and transporting systems by 2001.

Regarding the issue of ownership and administration of wholesale markets, the MAF will adopt a public-owned and private-administered system. Under this system, local governments secure building sites for wholesale markets, central government provides financial assistance for them in constructing wholesale markets, and the NACF (National Agricultural Cooperative Federation), NLCF (National Livestock Cooperative Federation), NFCF (National Forestry Cooperative

Federation) or specialized marketing companies take charge of the administration of wholesale markets.

(3) Establishment of various types of farmer's markets and improvement of retailmarketing structure

The MAF will establish various kinds of farmers markets suitable for location-specific conditions including large-scale periodic market places in metropolitan areas. And the MAF will strongly encourage meat sales in supermarkets, convenience stores and public restaurants and have milk supplied directly to marketing companies without intermediate broker's involvement, thereby streamlining marketing structure and improving market performances at a retailing stage.

2.7 Substantial Expansion in Budget Allocation for Agricultural Marketing Programs

In accordance with President Kim's strong will and directive to advance agricultural marketing structure, the MAF increased markedly budget allocation for agricultural marketing programs for fiscal year 1999, under the guideline that allocation for agricultural marketing programs is to be raised to 30 % of total appropriation for agricultural and forestry programs by 2002, compared to 6.5 % in fiscal year 1998.

2.8 Appointment of 798 government officials in charge of inspecting labels of origin of imported agricultural products as judicial police officers

In order to further strengthen effectiveness of rules of origin already in place, which aims to prevent deceptive marketing including the instances that imported agricultural products are often disguised as domestic products, the government appointed 798 government officials inspecting labels of origin of imported agricultural products as judicial police officers.

3. Rice Trade

3.1 Situation of MA rice

According to Uruguay Round commitments, the government is removing confinement situation for importing rice little by little into liberalization for agriculture sector. Import schedule of MMA rice is shown below:

Year	MA amount (MT)	Tariff rate, in- quota (%)	Ratio of total domestic consumption (%)	Annual rate of increase of the tariff quota (%)
1995	51,307	5%	1.00%	0.25%
1996	64,134	5%	1.25%	0.25%
1997	76,961	5%	1.50%	0.25%
1998	89,788	5%	1.75%	0.25%
1999	102,614	5%	2.00%	0.25%
2000	102,614	5%	2.00%	0.50%
2001	128,267	5%	2.50%	0.50%
2002	153,921	5%	3.00%	0.50%
2003	179,575	5%	3.50%	0.50%
2004	205,228	5%	4.00%	0.50%

Note : Base amount of the total domestic consumption is 5,130,700 MT (1995).

The special arrangement on MA rice will be re-negotiated in 2004.

3.2 Management of Import/Export

MMA Rice is imported under the government control. The typical condition of importing rice is stated as below:

- Import rice in brown rice, using technical specification of USA
- Tender in every August, and ship them between October and December
- Import mainly from China, COFCO, liking of short grain in Korea

Custom duty

Tariff for import: 5 %

3.3 Trade Policies

Korea's trade-related laws and regulations are based on the principles laid down in the Economic Clause of the Korean Constitution. Based on this, the Foreign Trade Act prescribes the general provisions and procedures for the external trading. Export-Import Notice and Consolidated Public Notice system had also been implemented to administer special commodities according to the individual laws for the purpose of protecting national security, human health, animal and plant sanitation, and the environment. However, since the inauguration of the World Trade Organization in 1995, Korea has virtually no restrictions and limitations on external trade, except for the products authorized by the WTO Agreements and provisions. Almost all products are free to be imported and exported in Korea.

Korea's trade policy has been aiming toward promoting export and contributing to world economic development. Korea's trade policy can be characterized by the following objectives; (i) a balanced expansion of external trade, based on free trade principles, (ii) internationalization of trade-related

regulations and institutions, and (iii) continued contribution to maintaining and strengthening the multilateral trading system. In conformity with these orientations, all commodities are traded freely, except for some products authorized by the UR Agreement on Agriculture. Therefore the import liberalization ratio in Korea, the number of items which can be freely imported, stood at 99 % by the end of 1997.

Since Korea's entry into the GATT in 1967, Korea has implemented its trade policy on the basis of international principle. Several trade-related laws and institutions have been revised in accordance with international standard. The trade dependency ratio [(exports + imports)/GDP] of the Korean economy grew from 21.9 % in 1962 to 80.3 % in 1990, and it is expected to continue in the future. Korea's trade dependency is well represented by the fact that Korea's successful economic development strategy is strongly supported by the trade volumes which put Korea on the fast track towards becoming a major trading country in the world. Total trading volume has increased rapidly over the past years. In 1962, it was only US\$ 477 million, but by 1994 it had reached US\$ 198.6 billion, making Korea the 11th largest trading country in the world. In 1997, total exports stood at US\$ 136.2 billion, up by 5 % from 1996, and total imports remained at US\$ 144.6 billion, down by 6.7 % from the previous year.

The volume of agricultural exports increased markedly from US\$ 135 million in 1970 to 1,753 million in 1997, an increase of about 13 times for the period 1970-1997. Korea has become the world's sixth largest agricultural importer, with agricultural imports amounting to almost US\$ 10.1 billion in 1997 (Table 24). The expansion of agricultural import is expected to continue in the near future and has important implications for the agricultural sector in Korea.

There is no Bilateral/Multilateral agreement only for the rice.

3.4 Import Liberalization

Market opening of the agricultural sector is very sensitive, both politically and economically, particularly in relation to agricultural products in Korea. Korea had been regarded as one of the countries who had strongly protected its agricultural sector through strong government intervention, and restrictive trade measures including high tariff rate, quotas, and non-tariff barriers. Therefore, Korea had come under increased pressure from trading partners to open its agricultural markets.

Before the WTO system was launched, Korea had maintained import restrictions on major agricultural products including rice, under its special individual laws. Korea therefore has faced strong pressure to open its agricultural market. Since the early 1980s, Korea has pursued active trade liberalization policies by reducing tariffs and relaxing other import regulations in the agricultural sector. In 1984 about 29 items were lifted, and 37 items in 1985, and 21 items in 1986, and 8 items in 1987, and 43 items in 1988, respectively. Nevertheless, pressure from the major trading partners to open agricultural market has increased steadily.

Imports of commodities such as beef, pork, and chicken, had been restricted in Korea, for the purpose of balance of payment reasons since its accession to the GATT in 1967. In compliance with the GATT Article XVIII: B (GATT Article XVIII: B allows developing countries with poor balance of payments position to restrict commodity imports), Korea had maintained its restriction on agricultural products such as beef, pork, chicken and oranges. However, due to the strong market opening pressure especially from the U.S., Australia, Canada, and New Zealand, the beef market was opened in 1988 as a result of the bilateral trade negotiations. Its liberalization had been accelerated by the decision of the GATT panel in 1989, which stipulated disinvoke of GATT Article XVIII: B. Korea since then has progressively opened its agricultural markets in response to pressure from its major trading partners since the mid-1980s.

In April 1989, the Korean government announced a three-year (1989-1991) import liberalization schedule for agricultural products. Under the plan, some 159 products were liberalized (according to the 1992 HSK basis and excluding fishery products), 56 items in 1989, 59 items in 1990, and 44 items in 1991. Following this plan, additional 69 items (23 items in 1992, 1993 and 1994) were liberalized by the Import Liberalization Plan announced in 1992. In 1995, the government announced additional 216 item liberalization plan between 1995 and 1997(based on the 1997 HSK digit).

With the launch of the WTO in 1995, almost all-agricultural products had been liberalized, with the exception of some special crops including rice, as was authorized by the WTO Agreements. The import liberalization ratio for the agricultural products(the ratio of the number of commodities that could be freely imported compared with the number of all agricultural commodities) in 1997 reached 98.3 %. The overall framework of Korea's agricultural trade has been determined by the UR Agreement on Agriculture.

Before the WTO system was launched in 1995, a total of 1,178 agricultural products were liberalized, on the basis of HS 10 digit, from the total number of 1,420 products, representing 83.0 % of liberalization ration. The number of import-restricted items was 242 until the year 1994. Of them, 134 items were subject to the Consolidation Notice, which had strictly limited import of certain products by each law. The remaining 108 items had been subject to Import & Export Notice mainly restricting the import in order to prevent the current account deficit

4. Rice Reservation

4.1 Rice Reserve

The Ministry of Agriculture and Forestry is organization to control the reserved rice and rice leftover. There is no conclusive regulation for stock as the national rice reserve. The government should stock rice in paddy except MMA rice, which is attained to stock 1,150,000 MT (8,000,000 sok: 1 sok = 144kg) \pm 288,000 MT based on milled rice.

Table 9: Balance sheet of Supply-Demand (Use/ Loss) (Unit : 1,000 MT)

Year	Supply			Total supply	Use		Total use	Export	End Stock	Annual balance
	Beginning stock	Production	Import		Food	Waste/ feed/seed/ processing/ others				
1990	1,572	5,898		5,898	5,127	317	5,444	1	2,025	453
1991	2,141	5,606		5,606	5,032	446	5,478	12	2,257	116
1992	2,141	5,384		5,384	4,930	594	5,524	2	1,999	-142
1993	1,999	5,331		5,331	4,855	654	5,509	1	1,820	-179
1994	1,820	4,750		4,750	4,814	599	5,413	1	1,156	-664
1995	1,156	5,060		5,060	4,777	630	5,407	150	659	-497
1996	659	4,695	115	4,810	4,778	447	5,225		244	-415
1997	244	5,323		5,323	4,710	360	5,070		497	253
1998	497	5,450	75	5,525	4,606	610	5,216		806	309
1999	806	5,097	97	5,194	4,541	737	5,278		722	-84
2000	722	5,263	107	5,370	4,425	689	5,114		978	256
2001	978									

Source: Ministry of Agriculture and Forestry

In 2001/ 2002, over 2 million MT of rice leftover is under control of MAF, Korean government.

4.2 Self-sufficiency

Given that global food production is increasingly unstable due to major weather anomalies, the MAF allowed a reasonable level of intra-year variation of market prices for rice on the basis of market principles while implementing the rice purchase program in compliance with Korea's annual AMS reduction commitments under the UR Agreement on Agriculture as part of policy efforts to have agriculture's foremost roles realized, that is, providing a sufficient amount of staple food for the people in a stable manner and at affordable prices. Since 1997, Korea could keep self-sufficiency for rice.

In addition, the MAF further strengthened farmland preservation measures to this end.

(1) Maintenance and expansion of farmland area under rice cultivation

In recent years, the MAFF has been making positive efforts in conformity with the policy principle that fertile farmland should be preserved to the maximum extent possible for agricultural use, regardless of whether or not farmland in question belongs to Agricultural Promotion Zone. As a result of the policy efforts, it was estimated that farmland area converted into non-agricultural use decreased by 39 % from 4,902 ha in the first half of 1997 to 2,983 ha in the same period of 1998, except public utility area including road.

Although part of existing farmland area under rice cultivation was withdrawn from Agricultural Promotion Zone, farmland area under the Zone expanded by 400 ha in 1998 from the end of 1997,

owing to the MAFF's active operation of an alternative system of putting other eligible farmland under the Zone.

Meanwhile, strict control over illegal conversion of farmland to other use was enforced at the province and city levels in mid 1998. Furthermore, the MAFF took active measures to enhance farmland use, including placing the land-owners under an farmland disposal obligation, who have not cultivated their farmland after buying it for cultivation purpose.

(2) Improvement of production base for rice

Under the medium-term objective that the projects of rearranging paddy land area of 800,000 ha are to be completed by 2004, the MAFF, in cooperation with related government agencies, finished the rearrangement of paddy land covering 20,000 ha by Spring 1998. In addition, the MAFF and related agencies are also focusing on water resources development projects, which is essential for paddy farming.

(3) Increased provision of high-yielding quality rice varieties

The 46 new high-yielding quality rice varieties were developed and being experimented in various parts of the country in 1998. With 34,990 MT of seeds of those varieties provided, a share of paddy land planted to those varieties in total paddy land area was increased from 57 % in 1997 to 66 % in 1998.

(4) Innovation of rice production, processing and marketing with focus on Rice Processing Complexes(RPCs)

In order to increase a proportion of rice harvests processed and marketed by RPC's in total rice harvests from 21 % in 1997 to 24 % in 1998, additional 48 RPCs and 81 rice drying-and-storage facilities are under construction.

The MAF is encouraging rice farmers and existing RPCs to expand paddy land area under farming contracts between the two parties from 91,000 ha in 1997 to 120,000 ha in 1998, thereby ensuring that rice production costs are reduced through corporate selection of rice varieties and cooperative farming among farmers. Moreover, the MAF is also making policy efforts to improve rice quality and to have eligible farmers paid for their quality rice at the corresponding price by encouraging sales of rice with its own brand.

(5) Provision of nation-wide agricultural machinery repair services

In order to help resolve the difficulties that farmers often face in repairing agricultural machinery, the MAF established a basic plan for post management of agricultural machinery. According to

the basic plan, the MAF organized 52 service teams and had them provide repair services in 149 cities and counties of the country.

(6) Establishment of rice marketing structure

Establishment of rice marketing structure to meet changing consumer taste and preference and promotion of private sector's roles in rice marketing. The MAFF is promoting cost savings and quality improvement in rice production by encouraging corporate selection of rice varieties and cooperative farming among farmers and increased marketing of rice with its own brand, based on increased vertical integration between rice farmers and RPCs. The MAFF is also moving towards enabling RPC's role to increase in purchasing rice in the harvest period through the increased provision of financial assistance for its operation.

5. Rice Demand/ Consumption

5.1 Demand

Over the past decades, agricultural policy orientation has been aimed at maintaining a high degree of self-sufficiency. Korea has become almost self-sufficient in major staple food crops such as rice. However, due to increased demand for other food such as beef and processed food, Korea has imported large quantities of agricultural products.

There is growing demand from both domestic consumers and policymakers, and the major trading partners for changes in Korea's agricultural policy. The Korean government is moving toward new directions for agricultural policy, faced with the difficulties of adjusting to market opening, a rapid decrease in and aging of the agricultural labor force, frequent natural disaster and price fluctuation. A series of agricultural policy reform is aimed at preparing the sector to compete in world markets and to proceed to a more advanced sector. This and other changes mean that the Korean agriculture sector is in transition and it is becoming more market-oriented, although the pace is gradual.

5.2 Consumption Pattern

The Korean diet has centered predominantly on rice, a main dish. Thus, Korean typical diet tends to have a much higher level of carbohydrate and a lower level of fats than a western diet. Other food grains have been added as a complementary to rice.

An average meal provided dietary energy of 2,957 Kcal/day in 1996. Although rice is most preferred, most households during the 1960s to mid-1970s had to rely much more on other food grains in order to meet an adequate level of dietary energy, because their prices were much lower than rice price. This dietary pattern has changed substantially from late 1970s onwards. As per capita income increased, Koreans began to prefer meat, vegetables and fruits.

However, rice still remains a staple food item. Between 1980 and 1990, daily calorie intake in Korea increased by about 15 % and meat consumption increased by 76 %. Underlying these changes in Korean dietary pattern were sizable declines in consumption of rice, barley, potatoes and other carbohydrate grains. Per capita calorie intake from rice fell from 1,234 Kcal/day in 1980 down to 1,028 Kcal/day in 1996, while per capita calorie intake from other food, such as meat, milk and fruits, increased on a daily basis for the corresponding period.

5.3 Status of Rice

Notwithstanding this dietary diversification, Korean people still have carbohydrates more than fat. Most of the calorie intake has traditionally come from cereals, with rice accounting for about 35 %, though non-carbohydrate source of calorie supply has gradually increased. In 1996, out of per capita calorie intake of 2,957 Kcal/day, some 65 % or 1,929 Kcal/day was provided by cereals(almost exclusively rice, 1,028 Kcal/day), 6.6 %(197 Kcal/day) by meat, and 3.9 %(117 Kcal/day) by vegetables. The increase in intake of animal protein and fats has been noticeable since the 1980s. Per capita calorie intake from livestock products has continued to increase from 49 Kcal/day in 1970 to 91 Kcal/day in 1980 and to 197 Kcal/day in 1996.

In recent years, Korean consumers spent about 28 % of their income on food. Since the 1980s, Korean dietary pattern has changed significantly in terms of both volume and quality. As income has grown, food consumption has shifted from a carbohydrate-centered pattern based on rice to a diversified one relying more on livestock products, fats, vegetables and fruits.

Per capita foodgrain consumption has been decreasing over the last decades. In 1970, per capita grain consumption was 219.4 kg, and decreased to 167.0 kg in 1990, and 157.8 kg in 1997(Table 11). Per capita rice consumption also seems to have been on the decline, peaking at 136.4 kg in 1970 and declining thereafter. In 1997, per capita rice consumption stood at 102.4kg. This reflects largely higher income and changes in dietary pattern. Per capita consumption of barley was also reduced from 13.9 kg in 1980 to 1.6 kg in 1990, while it increased to 1.5 kg in 1997. In contrast, per capita wheat consumption has increased continuously from 26.1 kg in 1970 to 33.7 kg in 1997, and is expected to continue to grow with the westernization of the Korean diet.

Meat consumption in Korea has risen sharply as a result of higher income and the increase in demand for meat. Per capita meat consumption was 29.3 kg in 1997, which was far over twice as much as that in 1980. Beef consumption in Korea increased almost six-fold over the past decades. Per capita beef consumption increased rapidly, from 1.2 kg in 1970 to 7.9 kg in 1997. Demand for beef is expected to increase in the future with increased per capita income. Consumption of pork and chicken is also expected to increase to some extent.

An increase in meat consumption requires a considerable amount of meat imports, especially beef. In addition, the consumption of high-value products such as processed fruits and vegetables,

prepared food and confectionery goods, has increased rapidly as Korean consumers became more affluent, and it is also expected to continue steadily in the future.

6. Aid

The government proceeded with food aid of rice to North Korea only as stated below:

Year	Quantity and locality of rice	Program
1995	150,000 MT of rice of Korean origin	Grant
2001	300,000 MT to be shipped with Thai origin rice directly to North Korea	Loan

Establishment of a policy framework for expanding agricultural cooperation with North Korea with emphasis on fundamental rehabilitation of North Korea's agricultural productivity.

The MAF installed a Research Center of North Korea's Agriculture within Korea Rural Economic Institute in May 1998, and the Center began to carry out studies on future agricultural policies in preparation for reunification. The Center's specific research subjects include agricultural production system, land system, marketing policy, the state of deforestation and wildlife resources in North Korea. And since July in 1998, the MAF has been operating a Consultation Committee on Agricultural Cooperation with North Korea, which are composed of the governmental authorities and non-governmental agricultural agencies and research institutes. The Committee has functions of providing the government authorities with policy advice and assistance regarding agricultural cooperation programs with North Korea at both non-governmental and governmental levels.

The Korean government is positively considering its assistance with agricultural inputs, contract farming, cooperative development and investment projects in agricultural sector, depending on developments of political and economic relationships with North Korea.

The Korean government is considering increased assistance with agricultural technologies and farm inputs including seeds, fertilizers and pesticides, in order to help improve agricultural productivity of North Korea. At the same time, the Korean government is closely examining possibilities of crop seeds exchange and contract farming with North Korea, and various measures to rehabilitate agricultural infrastructures and degraded forests in North Korea are being under consideration. Furthermore, the Korean government is assisting private and civil organizations in their agricultural cooperation with North Korea, including the establishment of Dure Village within special districts of Najin and Sunbong and the International Maize Foundation's research on maize cultivation in North Korea.

7. Food Security

Since its founding in 1945, FAO has made a significant contribution to tackling worldwide hunger and malnutrition. FAO's dedication to ensuring Food Security for All was particularly highlighted at the 1996 World Food Summit.

Food security is a global issue to which all of us should give due attention. Since each country is faced with different socio-economic conditions, however, a basic approach to food security concerns and policies adopted to attain food security are varied among countries. In this context, it is spelt out in the World Food Summit Plan of Action that each nation must adopt a strategy consistent with its resources and capacities to achieve its individual goals. In addition, possible differences between national strategies for ensuring food security are embraced in the notion of "multi-faceted character of food security" as recognized at the 1996 World Food Summit organized by FAO.

The meaning of multi-faceted character of food security needs to be grasped at the national and global levels. First, at the national level, the notion implies that each country's own strategy for food security, if it is adopted as the most effective way to secure national food security based on its socio-economic situations and natural endowments, should be respected. Second, at the global level, it means that concerted international actions and cooperation in mutual recognition are necessary. The concerted international actions can be only taken when they are balanced with and combined with each country's individual actions. Individual actions are based on respecting each country's choices, taking into account various factors such as domestic production, stable imports and stockpiles.

In a longer-term food security context, prospects of world grain markets need to be given special consideration. The world grain market in the mid-1990s is characterized by the lowest level of global stock to utilization ratio, high grain prices, and the consumption level exceeding world production for several years. It sharply contrasts with the 1980s, when the international community saw excess supply, increasing stocks and falling grain prices. According to medium and long-term outlook by the international organizations including FAO and OECD, these characteristics are indicating that we are entering a new era of structural tight food supplies, not going through a temporary change in world grain markets.

FAO forecasts that a growth in world food production will decelerate to the year 2010 while world food consumption, especially in developing countries, will grow faster compared to the past two decades. Furthermore, OECD recently predicts that world grain prices will continue to trend upwards and global grain stocks will remain low with an average stock-to-utilization ratio being 16 %, well below the FAO's minimum safe level to safeguard world food security. In addition, with a reduction in grain stocks as a buffer against supply shocks, price instability in world grain market reportedly may increase over the next five years.

Under the relatively pessimistic prospects, it is of importance to note that there still persists short-term supply disturbing factors beyond human's control. As a matter of fact, it is of great concern that the

resurgence of El Nino and La Nina phenomena in recent years adds major elements of uncertainties and risks to the future of world food situation. Concerns are also growing that these weather anomalies may become more frequent and severe in the future as the trend of global warming is becoming increasingly apparent, which is evidenced by the earth temperature topping its list in 1997.

Moreover, world grain markets display a supply-oligopolistic character that global grain supplies rely heavily on a few major exporting countries. Under the projected low global grain stocks and volatile grain prices, the Korean government is of the view that weather-induced sizable production shortfalls in major exporting countries could lead to a serious deterioration in food supply situation of most net food importing countries.

That is why the Korean government places particular emphasis on a preventive strategy for food security. In pursuing the preventive strategy for food security, relying on food imports or food stockpiling alone as well as a combination of the two is not sufficient. As mentioned above, food import can be a short-term measure to relieve food insecurity, but is not among the longer-term reliable and stable sources of ensuring national food security because of the variable nature of food supplies, mainly from major exporting countries. This is especially the case with the time when trade volume of certain grains in question is very small, their supply is unstable and foodstuff could be used as an instrument for political and economic pressure.

Furthermore, as stressed by Jonasson (1989), food storage might considerably contribute to addressing a short-term crisis, but a longer-term crisis implies that resources for production, persons with farming skill and expertise, and machine and equipment should be at hand. However, it is of importance to note that it takes considerable time and cost for damaged or reserved production base to be reactivated.

Therefore, the Korean government believes that a foremost element in the preventive strategy for food security is to increase domestic food production through the effective utilization of existing resources in a sustainable manner and maintain an optimum level of self-sufficiency in staple food. We believe that the aforementioned two elements are all complementary to this element.

Closely related to ensuring national food security through effective and sustainable utilization of existing production resources for staple food is the promotion of multi-functionality of agriculture, the importance of which was duly recognized at the 1996 World Food Summit and OECD Agricultural Minister's meeting in March 1998.

With its positive externalities, Korean agriculture based predominantly on paddy fields planted to rice plays various beneficial roles including the maintenance of socio-economic viability in rural communities, preservation of biological diversity and flood control. Regarding these roles, it is worth noting again that it is hardly possible to rehabilitate production resources, especially agricultural land, if they are damaged or disrupted by natural disasters or other economic factors.

In this connection, it should be reminded that in those countries where industrialization and urbanization are increasingly proceeding, there have been observable diversions of agricultural land to other uses over the last decades and an increasing number of farmer's land abandonment in favor of other profit opportunities. In this view, for those positive functions to be fully utilized, it is essential to maintain an optimum level of production base for staple food. Hence, the Korean government is firmly convinced that the promotion of multi-functionality of agriculture is closely interrelated with ensuring national food security and they are mutually supportive.

8. Issues

- (1) An Open Agricultural Policy-making System based on equitable participation of farmers, consumers and the government

On March 4th 1998, right after the formation of the People's Government, the MAF held an open-ended forum for agricultural policy development, which was attended by farmers, consumers and representatives of professors and scholars. The forum was promoted to be a consultative meeting to provide policy advice on major policy issues.

The MAF formulated the overall framework and direction of agricultural policies of the People's Government and established the reform schemes of agricultural marketing and agricultural cooperatives, by setting up a Agricultural Policy Reform Committee, a Cooperative Reform Committee, and a Agricultural Marketing Reform Committee. The Agricultural Policy Reform Committee was formed on March 26th 1998 and prepared the proposed Agriculture and Rural Development Plan by holding 5 sessions of its general meetings and 7 sessions of working group meetings. The Cooperative Reform Committee was organized on April 13th 1998 and prepared the Reform Scheme of Agricultural Cooperatives by holding 7 sessions of its general meetings. The Agricultural Marketing Reform Committee was set up on March 19th 1998 and established the Agricultural Marketing Reform Scheme by holding 4 sessions of its general meetings and 3 sessions of public hearings on the marketing reform.

The Advisory Committee on Evaluation of Agricultural Policy has been operational in order to draw a consensus of all stakeholders related to agriculture on the need for agricultural policy reform and to evaluate the progress in implementing agricultural policy reform. The Committee held its first session of general meeting on October 9th 1998. The Committee evaluate the progress made in carrying out the reform on a weekly basis, with its main evaluation areas divided into two thematic issues, a institutional reform and increased efficiencies of policy programs in agricultural and forestry sectors.

(2) Towards agricultural policy implementation of practical service to farmers

A "Minister's Mobile Office" has been operational since his inauguration, through which the Minister finds out and resolves various problems facing farmers by visiting himself rural areas. As of February 28 1999, the Minister's Mobile Office has been put into practice 73 times in total and there have been 540 problems identified for resolution.

The Minister has been making his humble efforts to inviting farmers to be a "Daily Honorary Minister" on a twice-a-month basis, with a view to sharing the difficulties facing agricultural policy-makers with them.

(3) Employment of a private expert as Rural Women Policy Officer by an open recruitment system and establishment of the post of Advisor to the Minister

The MAF newly installed Rural Women's Policy Division and employed a private expert in that field as Officer to be in charge thereof by an open recruitment system in June 1998, in order to encourage female farmers in engaging in farming activities and strengthen policy supports for them. The Medium to Long-term Basic Plan for Female Farmers was established in August 1998, which includes a strengthened institutional framework for fostering female farmers, policy measures in support of toward fostering professional female farmers, and schemes of enhancing the quality of their lives.

(4) Korean Female Farmer's Conference was held in October 1998 to provide a momentum for reestablishing the roles of female farmers in the future.

Representatives of farmer's organizations and scholars were appointed as Advisers to the Minister, so that various opinions and proposals of stakeholders related to agricultural sector can be reflected in agricultural policy-makings in a prompt and effective manner.

(5) Modification of existing agricultural and forestry technology development system into a user-friendly one and establishment of "Korean Agricultural Science and Technology Award"

The Medium to Long-term Basic Plan for Agricultural Science and Technology was drawn up in order to systemically develop agricultural technologies and to speed up the process of putting them to practical use, and 169 sectoral tasks were identified through the procedure of collecting public opinions, including holding of regional public hearings. The MAF increased its support for participatory-based technology development research projects and is attempting to have the scientific research projects focus on addressing the actual problems facing farmers. Considering an increasing financial need by agro-related small-sized technology development enterprises, the MAF introduced a scheme of "Support for Technology Development of Small Venture Capital Enterprises" in order to encourage them to develop cutting-edge and energy-saving agricultural technologies. The first ceremony of presenting "Korean Agricultural Science and Technology

Award" took place in July 1998, the aim of which is to promote the development of outstanding agricultural technologies

(6) Enhancement of public understanding and credibility of agricultural policies

The adoption of a participatory-based "Open Agricultural Policy-Making System" served as an important opportunity to draw a consensus on major agricultural policy measures at issues among farmers, consumers, and other stakeholders and to go ahead with the policy measures on the basis of the consensus. The MAF is planning to strengthen the existing procedure of collecting public opinions, including public hearings and prior notices of proposed legislation, so as to further promote the "Open Agricultural Policy-Making System".

(7) Carrying-out of a campaign for restarting agriculture and rural communities

In line with the Second Nation-Building Campaign, the MAF is conducting a "Campaign for Restarting Agriculture and Rural Communities" in agricultural sector in close cooperation and collaboration with farmers and consumers. The Campaign includes, among others, the conservation of green fields in support of environment-friendly farming, promotion of solidarity between urban and rural areas and quality improvement of agricultural commodities

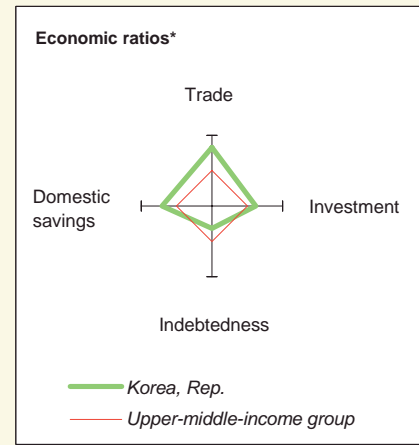
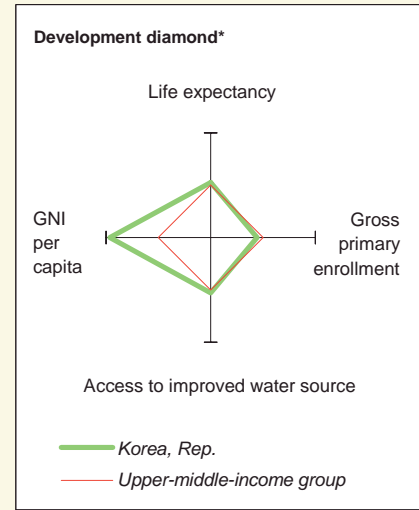
Annexes

1. Korea at a glance & Social Indicators (World Bank Data)
2. Promotion of policy measures to stabilize farm operations
3. Propulsion of Technology Development Program for Agriculture and Forestry
4. Presidential Decree on Preferential Tariff for Least-Developed Countries
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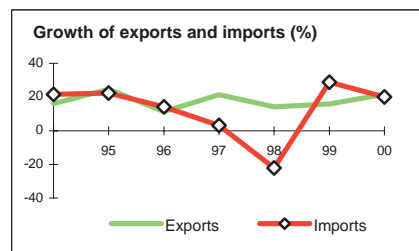
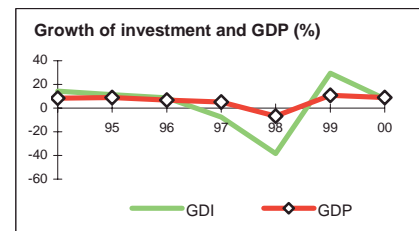
Korea, Rep. at a glance

10/9/01

	Korea	East Asia & Pacific	Upper-middle-income		
POVERTY and SOCIAL					
2000					
Population, mid-year (millions)	47.3	1,853	647		
GNI per capita (Atlas method, US\$)	8,910	1,060	4,620		
GNI (Atlas method, US\$ billions)	421.1	1,964	2,986		
Average annual growth, 1994-00					
Population (%)	1.0	1.1	1.3		
Labor force (%)	1.9	1.4	2.0		
Most recent estimate (latest year available, 1994-00)					
Poverty (% of population below national poverty line)	..	..	..
Urban population (% of total population)	82	35	76		
Life expectancy at birth (years)	73	69	69		
Infant mortality (per 1,000 live births)	8	35	28		
Child malnutrition (% of children under 5)	..	13	..		
Access to an improved water source (% of population)	92	75	87		
Illiteracy (% of population age 15+)	2	14	10		
Gross primary enrollment (% of school-age population)	94	119	107		
Male	94	121	106		
Female	95	121	105		
KEY ECONOMIC RATIOS and LONG-TERM TRENDS					
	1980	1990	1999	2000	
GDP (US\$ billions)	62.3	252.5	406.0	457.2	
Gross domestic investment/GDP	31.9	37.7	26.7	28.7	
Exports of goods and services/GDP	32.7	29.1	42.3	45.0	
Gross domestic savings/GDP	24.1	36.5	33.5	31.4	
Gross national savings/GDP	24.1	37.0	32.7	31.1	
Current account balance/GDP	-8.5	-0.8	6.0	2.4	
Interest payments/GDP	2.6	0.7	1.1	0.9	
Total debt/GDP	47.4	13.8	32.1	29.4	
Total debt service/exports	19.9	10.6	26.5	23.0	
Present value of debt/GDP	30.6	..	
Present value of debt/exports	76.6	..	
	1980-90	1990-00	1999	2000	2000-04
<i>(average annual growth)</i>					
GDP	8.9	5.7	10.9	8.8	4.6
GDP per capita	7.7	4.7	9.9	7.8	3.4
Exports of goods and services	12.0	16.0	15.8	21.6	7.0



	1980	1990	1999	2000
STRUCTURE of the ECONOMY				
<i>(% of GDP)</i>				
Agriculture	14.8	8.5	5.1	4.6
Industry	39.9	43.1	42.5	42.7
Manufacturing	28.2	28.8	30.7	31.5
Services	45.3	48.4	52.4	52.7
Private consumption	64.2	53.0	56.1	58.3
General government consumption	11.7	10.5	10.4	10.2
Imports of goods and services	40.6	30.3	35.5	42.2
	1980-90	1990-00	1999	2000
<i>(average annual growth)</i>				
Agriculture	3.0	2.0	5.4	0.1
Industry	11.4	6.3	12.8	11.3
Manufacturing	12.1	7.5	21.0	15.4
Services	8.4	5.7	9.9	7.6
Private consumption	7.9	4.8	10.2	6.1
General government consumption	5.2	3.0	1.3	1.3
Gross domestic investment	12.0	1.4	29.5	8.0
Imports of goods and services	11.2	10.0	28.8	20.0

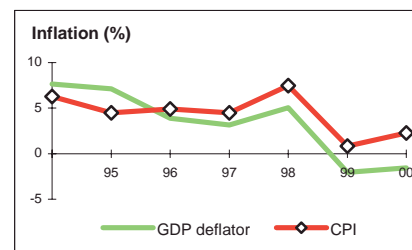


Note: 2000 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

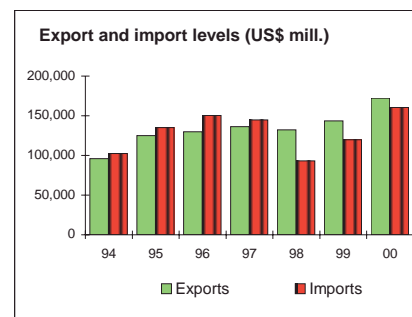
PRICES and GOVERNMENT FINANCE

	1980	1990	1999	2000
Domestic prices (% change)				
Consumer prices	28.7	8.6	0.8	2.3
Implicit GDP deflator	24.4	10.7	-2.0	-1.6
Government finance (% of GDP, includes current grants)				
Current revenue	17.4	17.5	22.1	25.6
Current budget balance	3.9	3.7	6.2	9.6
Overall surplus/deficit	-2.6	-0.7	-2.7	1.1



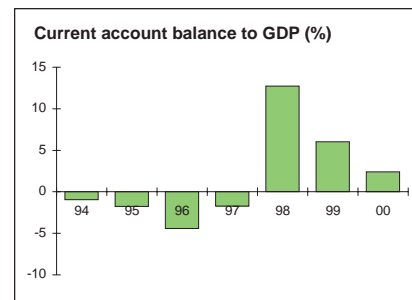
TRADE

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Total exports (fob)	17,505	65,016	143,686	172,268
Food	1,270	2,265	2,951	2,792
Crude materials	480	1,485	7,847	11,572
Manufactures	7,287	35,375	103,179	127,617
Total imports (cif)	22,292	69,844	119,752	160,481
Food	..	3,268	5,976	7,085
Fuel and energy	..	16,939	30,928	47,249
Capital goods	..	26,308	48,488	65,433
Export price index (1995=100)	77	98	62	62
Import price index (1995=100)	93	104	75	86
Terms of trade (1995=100)	83	94	82	72



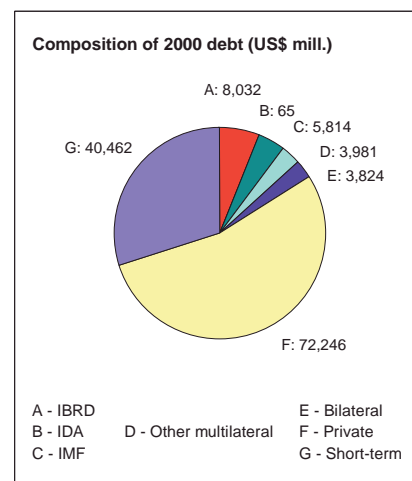
BALANCE of PAYMENTS

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Exports of goods and services	19,815	73,295	171,692	205,482
Imports of goods and services	25,152	76,361	143,973	192,855
Resource balance	-5,336	-3,065	27,720	12,627
Net income	-512	-88	-5,159	-2,200
Net current transfers	536	1,150	1,916	617
Current account balance	-5,312	-2,003	24,477	11,044
Financing items (net)	6,154	818	-1,494	13,146
Changes in net reserves	-841	1,186	-22,983	-24,190
Memo:				
Reserves including gold (US\$ millions)	6,571	14,822	74,055	96,198
Conversion rate (DEC, local/US\$)	607.0	708.0	1,189.0	1,131.0



EXTERNAL DEBT and RESOURCE FLOWS

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Total debt outstanding and disbursed *	29,480	34,968	130,316	134,424
IBRD	1,723	3,240	8,290	8,032
IDA	113	98	68	65
Total debt service	4,449	8,274	43,020	37,742
IBRD	211	809	677	792
IDA	2	3	4	4
Composition of net resource flows				
Official grants	8	4	3	..
Official creditors	650	312	3,346	-40
Private creditors	1,776	-268	-15,747	12,985
Foreign direct investment	-20	-263	5,136	3,476
Portfolio equity	0	326	11,802	12,535
World Bank program				
Commitments	274	111	0	0
Disbursements	254	149	1,062	35
Principal repayments	67	550	222	226
Net flows	187	-401	840	-191
Interest payments	146	262	459	570
Net transfers	42	-663	381	-761



Korea, Rep. Social Indicators

	Latest single year			Same region/income group	
	1970-75	1980-85	1993-99	East Asia & Pacific	Upper-middle-income
POPULATION					
Total population, mid-year (millions)	35.3	40.8	46.9	1,836.6	571.5
Growth rate (% annual average for period)	2.0	1.4	1.0	1.2	1.4
Urban population (% of population)	48.0	64.9	81.2	34.5	75.4
Total fertility rate (births per woman)	3.3	2.0	1.6	2.1	2.4
POVERTY					
<i>(% of population)</i>					
National headcount index	..	..	..	..	..
Urban headcount index	..	..	..	..	..
Rural headcount index	..	..	..	..	..
INCOME					
GNI per capita (US\$)	630	2,260	8,490	1,010	4,870
Consumer price index (1995=100)	18	57	119	136	131
Food price index (1995=100)	..	52	121	..	..
INCOME/CONSUMPTION DISTRIBUTION					
Gini index	..	..	31.6	..	..
Lowest quintile (% of income or consumption)	7.1	..	7.5	..	..
Highest quintile (% of income or consumption)	44.5	..	39.3	..	..
SOCIAL INDICATORS					
Public expenditure					
Health (% of GDP)	..	..	2.3	1.7	3.3
Education (% of GNI)	2.2	4.5	3.7	2.9	5.0
Social security and welfare (% of GDP)	0.8	0.9	1.9	..	7.9
Net primary school enrollment rate					
<i>(% of age group)</i>					
Total	100	95	93	100	94
Male	99	94	92	100	..
Female	100	95	93	100	..
Access to an improved water source					
<i>(% of population)</i>					
Total	..	83	92	75	87
Urban	..	..	97	93	94
Rural	..	..	71	66	68
Immunization rate					
<i>(% under 12 months)</i>					
Measles	..	89	85	83	90
DPT	..	76	74	82	88
Child malnutrition (% under 5 years)	..	..	..	12	..
Life expectancy at birth					
<i>(years)</i>					
Total	64	69	73	69	69
Male	61	66	69	67	66
Female	67	72	77	71	73
Mortality					
Infant (per 1,000 live births)	33	18	8	35	27
Under 5 (per 1,000 live births)	54	27	9	44	34
Adult (15-59)					
Male (per 1,000 population)	356	270	198	184	233
Female (per 1,000 population)	280	156	93	141	143
Maternal (per 100,000 live births)	..	..	20	..	..
Births attended by skilled health staff (%)	..	65	..	..	..

Note: 0 or 0.0 means zero or less than half the unit shown. Net enrollment ratios exceeding 100 indicate discrepancies between the estimates of school-age population and reported enrollment data. Latest year for access to improved water source data is 2000.

Annex 2 Promotion of policy measures to stabilize farm operations

The MAF took diverse policy measures to help farmers to cope with serious operational difficulties caused by the soaring operation costs arising not only from an surging exchange rate but also from a marked decrease in consumption of agricultural products, which were all affected by the economic crisis.

A. Alleviation of farmer's financial burden and provision of further assistance with farm operation costs

- (1) Control of an increase in interest rates of loans under longer-term policy program funds within 1.5 % and freezing of interest rates of loans provided to farmers under various short-term program funds

In early 1998, the MAF was in a difficult situation that it had to raise by 3.5 % interest rates of loans provided under longer-term policy program funds due to an increase in interest rates of financing the Special Account for Rural Restructuring and the Fund for Agriculture and Livestock Farming. Fortunately, however, the MAF could minimize an increase in the interest rates of the loans under the longer-term policy program funds by offsetting the expected increase in their interest rates by 2 % owing to 179 billion won appropriated from the Revised Supplementary Budget for fiscal year 1998.

For fiscal year 1998, the MAF froze the interest rates of a number of loans at those rates applied for fiscal year 1997, which were granted under the Livestock Industry Development Fund, Agro-Fisheries Products Price Stabilization Fund, Farmland Management Fund and Ginseng Fund.

- (2) Deferment of repayments of the loans under the MAF's longer-term policy program funds and the NACF and NLCF's Mutual Credit Funds

The MAF contributed to relieving the financial burden of horticultural farmers and livestock breeders facing severe economic hardship by extending the repayment period for 3-9 more months of the longer-term policy program loans granted to them.

Regarding the loans which were provided to them under the NACF and NLCF's Mutual Credit Funds and were due at the end of 1998, the MAF recommended the NACF and NLCF to defer the repayment period for 6-12 more months if farmers in question paid the loan interests incurred.

B. Fostering competitive farm operating units to take a leading role in farm innovation

- (1) Establishment of a system of fostering professional farm operating units

The MAF has a plan to enhance competitiveness of full-time farmers with growth potentials and enthusiasm by promoting their agricultural specialization and farm-scale enlargement. Under the

plan, the MAF will foster 150,000 full-time farmers by 2004 - 100,000 full-time farmers in rice industry, 20,000 in livestock industry and 30,000 in horticulture.

Meanwhile, the MAF is encouraging small and medium-sized farms to cooperate in agricultural production and marketing. Basically, the MAF is assisting small and medium-sized farms to focus on organic farming suitable for small family farms. As for rice farmers, the MAF is recommending them to increase contract farming with the neighboring Rice Processing Complexes(RPCs) and to strengthen cooperation among the farmers in paddy rice production. As far as livestock farmers are concerned, the MAF is also encouraging the farmers to make marketing contracts with Livestock Packing Complexes(LPCs) in order to enhance marketing efficiency of livestock products.

(2) Systematic support for farm innovation

The MAF is drawing up a framework for diagnosis of farm operation, including development and distribution of standard diagnosis format for individual commodity, so that farmers themselves can identify and improve their own production skills and practices. For instance, the MAF is planning to develop and provide standard diagnosis formats for 30 commodities including Hanwoo, pig, rice and apple by the end of 1998.

The MAF will take measures to further encourage and support consultations on farm operation by agricultural technology centers, agricultural colleges, producers organizations and private companies. In 1999, the MAF is planning to subsidize part of the consultation costs to be paid by full-time farmers and professional corporate farms.

(3) Promotion of value-adding agriculture based on innovated farming technology and advanced farming information

1) Changing the Existing Technology Development System into a User-friendly One

Under this objective, the MAF will provide increased financial support for participatory-based technology development research projects. The MAF is planning to give its financial support of 2.7 billion won for that type of 138 research projects in 1998. The MAF adopted a Technology Development Assistance Scheme for Small Venture Capital Farm Businesses in January 1998 in order to develop, in particular, state-of-the-art and energy-saving farming technologies. In addition, the MAF is increasingly putting the outcomes of the research projects to practical use, which were completed during the period of 1995 to 1997.

2) Expansion of information infrastructure to improve efficiencies in farm operation and agricultural marketing

Reinforcement of agricultural negotiating powers would be required.

In 1998, discussions among the WTO member countries are made actively on the next WTO agricultural negotiation, which is scheduled to commence at the end of 1999. Since June 1997, the member's implementation of the UR commitments and possible issues to be raised in the next round of the WTO multilateral trade negotiation have been reviewed in the Analysis and Information Exchange (AIE). In the discussions, exporting countries such as USA and Australia raised, especially, issues concerning a substantial reduction in higher tariffs, elimination of export subsidies and improvement of state trading. On the other hand, some countries including Korea, EU and Japan have emphasized the importance of ensuring food security and promoting multifunctionality of agriculture. As part of its positive efforts to place Non-Trade Concerns on the table of the next WTO round, Korea submitted a non-paper on Non-Trade Concerns (entitled as Non-Trade Concerns in Net Food Importing Countries) to the WTO Secretariat at the 16th Session of the Committee on Agriculture. The full text of Non-Trade Concerns in Net Food Importing Countries is provided.

With a view of setting up national negotiation strategies in cooperation and collaboration with various non-governmental organizations, the MAF has held meetings of the Task Force for the Next Agricultural Negotiation consisting of representatives of farmer's organizations and agricultural research institutes on a periodic basis since April 1998. At the meetings, the MAF has been establishing Korea's positions and responses to major agricultural issues raised at the formal/informal meetings of the WTO Committee on Agriculture and other bilateral/multilateral trade negotiation meetings, in close consultation with the members of the Task Force.

At the same time, Korea is strengthening its preparedness for the next WTO agricultural negotiation through building close cooperative relationships with the interested countries with a similar position, such as Japan, EU, Switzerland and Norway. At other international for a such as OECD and FAO, the MAF is also exerting itself to reflect, to the maximum extent possible, importing countries' positions on agricultural trade and food security. For instance, the MAF has stressed the paramount importance of self-sufficiency in rice in ensuring national food security at the meeting of OECD Committee for Agriculture held in June 1998. In addition, at the meetings of APEC(Asia-Pacific Economic Cooperation), the MAF has been trying to confine the member's discussions on the opening of agricultural markets to the UR commitments.

Annex 3 Propulsion of Technology Development Program for Agriculture and Forestry

Technology Development Program for Agriculture and Forestry (TDPAF) was started in 1994.

The objectives of Technology Development Program are to secure Korea's unique technologies, to efficiently develop and utilize agricultural and forest resources, to increase income of farmers, and to improve rural environments.

Total of 415 billion won has been invested in this program, financed by Agricultural Special Tax, from 1994 to 2004 for 10 years.

Annex 4 Presidential Decree on Preferential Tariff for Least-Developed Countries

Customs Cooperation Div. T : 503-9238 (Presidential Decree No.16553)

Presidential Decree on Preferential Tariff for Least-Developed Countries

Article 1 (Purpose)

The purpose of the Decree is to govern the granting of preferential tariff to least-developed countries in accordance with Paragraph 3 of Article 43-17 of the Customs Law.

Article 2 (Definition)

"Least-developed countries" in this Decree refer to countries specified in Annex.

Article 3 (Products and Tariff Rates)

Products eligible for preferential tariff and the rates are specified in Annex. In case of products eligible for minimum market access (MMA) under the Presidential Decree on Tariff Concessions granted pursuant to the World Trade Organization Agreement and Other Agreements, preferential tariffs apply only to in-quota amount.

Article 4 (Remedy for Injury to Domestic Industries)

1. In cases where a sharp increase in the import of products eligible for preferential tariff causes or threaten to cause serious injury to domestic industries which produce like products, or directly competitive or substitutable products, for the purpose of protecting the domestic industries, the relevant Ministry or interested person may request the Minister of Finance and Economy to suspend the application of preferential tariffs to the product in question.

2. When the relevant Ministry or an interested person wishes to request the Minister of Finance and Economy to suspend the application of preferential tariff pursuant to paragraph 1, the following information or documents shall be submitted to the Ministry of Finance and Economy.
 - (1) HS code number, description, size, use and substitutable products.
 - (2) Materials used in producing the product in question and documents explaining the use and the manufacturing process of the products produced using the product in question as input.
 - (3) Records of demand and supply of the product for the previous 1 year and forecast of the demand and supply for the following 1 year.
 - (4) Monthly records of import price and amount by countries for the latest 1 year.
 - (5) Monthly factory prices of the product and sales performance by domestic producers for the latest 1 year.
 - (6) Description of injuries to domestic industries and the period for the suspension of preferential tariffs.
 - (7) Other information to prove that serious injuries are caused to domestic industries or there exists a threat to cause serious injuries to domestic industries.
3. The Minister of Finance and Economy shall examine whether there are reasons to suspend the application of preferential tariffs within 15 days from the date on which the request is made pursuant to paragraph 1 unless there is a special reason for delay.
4. When it is determined as the result of the examination in paragraph 3 that there are reasons to suspend the application of preferential tariffs, the Minister of Finance and Economy shall decide the suspension of application of preferential tariff immediately and announce its decision in a Ministerial Ordinance.
5. The suspension of application of preferential tariff shall go into effect from the date on which the Ministerial Ordinance is released in accordance with paragraph 4.

Article 5 (Rules of Origin)

1. Products eligible for preferential tariff shall be wholly produced or obtained in the exporting country. The following products shall be considered as wholly produced or obtained in the exporting country:
 - (1) Raw or mineral products extracted from soil, waters or seabeds of the exporting country,
 - (2) Agricultural and forestry products harvested in the exporting country;
 - (3) Animals born and raised in the exporting country and products obtained from such animals.
 - (4) Products obtained by hunting or fishing conducted in the exporting country;
 - (5) Marine products caught in high seas by vessels of the exporting country and products manufactured or processed, using such products as a material. In this case, "vessels of the exporting country" refer to vessels registered in the exporting country, at least 60% of equity of which is owned by a citizen(s) or the government of the exporting country, or corporation or association legitimately registered in the exporting country.
 - (6) Used articles collected in the exporting country, fit only for the recovery of raw materials.

- (7) Waste and scrap resulting from manufacturing operations conducted in the exporting country.
 - (8) Goods produced in the exporting country exclusively from the products referred to in subparagraphs 1 to 7 above.
2. Products which are finally manufactured or processed in the exporting country by using products, as input, which originate from countries other than the exporting country, or the origin of which is not determined, shall be eligible for preferential tariffs, if the value of the inputs does not exceed 50 % of the F.O.B. price of the final products. In this case, if the final products include the products originating from the Republic of Korea as input, the value of these products shall be excluded from the calculation of the total value of inputs.
 3. The value of inputs referred to in 2 paragraph shall be calculated in the following order:
 - (1) The value including freight and insurance cost at the time of importation to the exporting country (C.I.F. price).
 - (2) The ascertainable price paid first for the inputs in the exporting country.
 4. Those who wish to receive preferential tariffs shall submit a Certificate of Origin issued by the government of the exporting country or an authority designated by that government.
 5. Article 53-4 of the Enforcement Decree of the Customs Law shall be invoked in cases not covered by the rules of origin set out in paragraphs 1 to 4.

5. Korea : Results of MMA rice imports (Brown rice)

	Kind	Origin	Quantity	Bidder	Unit Price (US\$/MT, CIP)	Grade
1995	Long grain	India	57,008	Daewoo	327.00	US No.3
1996	Medium/Short grain	China	71,260	Daewoo	442.00	US No.3
1997	Long grain	Thailand	20,000	LG	297.65	US No.3
	Medium/Short grain	China	40,000	Daewoo	409 - 430	US No.3
	Medium/Short grain	China	25,512	Pum Yang	387.50	US No.3
		total	85,512			
1998	Long grain	Thailand	7,000	Hoy Hyolim Corp	294.00	US No.3
	Medium/Short grain	China	92,764	Daewoo	355 - 384.4	US No.3
		total	99,764			
1999	Long grain	Vietnam	10,000	Daewoo	266.00	US No.3
	Long grain	Thailand	15,000	Hoy Hyolim Corp	262.50	US No.3
	Medium/Short grain	China	20,000	LG	339.67	US No.3
	Medium/Short grain	China	69,016	Daewoo	351 - 362	US No.3
		total	114,016			
2000	Long grain	Thailand	20,000	Daewoo	205.40	US No.3
	Medium/Short grain	China	94,016	DD	259.45 - 273.8	US No.3
		total	114,016			
2001	Long grain	Thailand	20,000	Hoy Hyolim Corp	199.00	US No.3
	Short grain	China	55,000	Pum Yang	268.68 - 302.88	US No.1 & No.3
	Short grain	China	15,000	Daewoo	272.35	US No.3
	Medium grain	USA	15,000	Daewoo	371.79	US No.1
	Medium grain	USA	15,000	Toepfer	298.75	US No.1
	Short grain	Australia	22,520	Paeboon Corp	250.00	US No.3
		total	142,520			

Source : Food Grain Policy Division, MAFF

Notes : Prices are CFR base until 1996, CIP base since 1997.

CIP : Carriage and Insurance Paid to (named place of destination)

6. Detail results of MMA rice tender in 2000 and 2001

KOREA: 2000 BROWN RICE TENDER RESULTS

No.	Specification (Grade)	Tender Organization	Bidding Date	Quantity (Metric Ton)	Shipping Period (out of port)	Awarded Price US\$/MT, CIP	Origin	Supplier
1	Long Grain (#3 grade)	AFMC	Aug. 04, 2000	20,000	by 30-Nov-00	205.40	Thailand	Siam Rice
2	Medium or Short Grain (#3 grade)	SAROK	Aug. 17, 2000	23,000	by 30-Oct-00	273.80	China	COFCO
3	Medium or Short Grain (#3 grade)	SAROK	Aug. 24, 2000	24,000	by 30-Nov-00	263.60	China	COFCO
4	Medium or Short Grain (#3 grade)	AFMC	Aug. 25, 2000	23,000	by 30-Nov-00	265.10	China	COFCO
5	Medium or Short Grain (#3 grade)	SAROK	Aug. 31, 2000	24,016	by 10-Dec-00	259.45	China	COFCO
Total				114,016				

KOREA: 2001 BROWN RICE TENDER RESULTS

No.	Specification (Grade)	Tender Organization	Bidding Date	Quantity (Metric Ton)	Shipping Period (out of port)	Awarded Price US\$/MT, CIP	Origin	Supplier
1	Medium Grain (#1 grade)	AFMC	Sept. 06, 2001	15,000	by 24-Nov-01	298.75	USA	Alfred C. Topfer International
2	Short Grain (#3 grade)	PPS	Sept. 11, 2001	20,000	by 30-Oct-00	266.99	China	Jilin Grain Group
3	Long Grain (#3 grade)	AFMC	Sept. 12, 2001	20,000	by 20-Dec-01	199.00	Thailand	Soon Hwa Seng
4	Short Grain (#3 grade)	PPS	Sept. 18, 2001	20,000	by 7-Dec-01	268.58	China	Jilin Grain Group
5	Short Grain (#3 grade)	AFMC	Sept. 20, 2001	22,520	by 15-Dec-01	250.00	Australia	Rice Growers Coop.
6	Short Grain (#1 grade)	PPS	Sept. 25, 2001	15,000	by 22-Dec-01	302.88	China	Jilin Grain Group
7	Medium Grain (#1 grade)	AFMC	Oct. 09, 2001	15,000	by 24-Dec-01	371.79	USA	Farmers Rice Coop.
8	Short Grain (#3 grade)	PPS	Oct. 09, 2001	15,000	by 27-Dec-01	272.35	China	COFCO
Total				142,520				