



The Rice Economy in South East Asia



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**SOUTHEAST ASIAN COUNCIL
FOR FOOD SECURITY
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THE RICE ECONOMY IN SOUTHEAST ASIA

Rice is the staple food of most Southeast Asians. In many Southeast Asian countries like Myanmar, Laos and Cambodia, their citizens consume more than 150 kg/capita/year. Rice provides for more than 50 percent of their caloric and protein intakes (Table 1). It also provides livelihood and sustenance to millions of farmers and their families in the region. Rice is linked inextricably to their cultures and way of life. Because of the socio-political significance of rice, Southeast Asian governments had been heavily involved in the supply and distribution to assure consumers sufficient and stable supply at low prices and to maintain reasonable earnings for rice farmers.

Table 1: Rice Consumption, caloric intake from rice, percent of calories from rice, percent of protein from rice and gross national income per capita

Country	Milled Rice Consumption 1999	Total Calories/ (kg/capita/year) 1999	Rice Calories/ Capita/day 1999	% calories capita/day 1999	% protein from rice 1999	GNI/capita US\$, Atlas from rice Method WB, 2000
Cambodia	165	2,000	1,527	76	70	260
Indonesia	154	2,931	1,525	52	44	570
Laos	171	2,152	1,506	70	65	290
Malaysia	88	2,969	861	29	19	3,380
Myanmar	211	2,803	2,050	73	68	-
Philippines	100	2,357	974	41	31	1,040
Thailand	101	2,411	1,004	42	34	2,000
Vietnam	170	2,564	1,676	65	57	390

Source: FAO online database (FAO update 31 May 2001); World Development Report 2002, World Bank as cited in Rice Today, September 2002

Global and Regional Rice Trends

Area Harvested, Production and Yields

Lands devoted to rice production among Southeast Asian countries are quite considerable particularly in Indonesia, Thailand, Vietnam and Myanmar (Table 2). More than 40 million hectares (or 45 percent of Southeast Asia's cropped land) are planted to rice. Most rice is grown in rainfed lowland areas. Indonesia has the largest irrigated rice areas, followed by Vietnam, the Philippines and Thailand. Thailand has the largest rainfed lowland rice lands, followed by Myanmar and Indonesia (IRRI Rice Facts, 2002).

USDA Official Estimates show that world rice (rough) production have risen continually from 1990 (508 million tons) to 2000 (608.9 million tons) but went down in 2003 (569 million tons). The bulk of rice production is concentrated in Asia. The world's largest rice producers are China, India, Indonesia, Vietnam and Thailand (Figure 1). China (31%) and India (20%) account for 51 percent of total rice production in 2002/03).

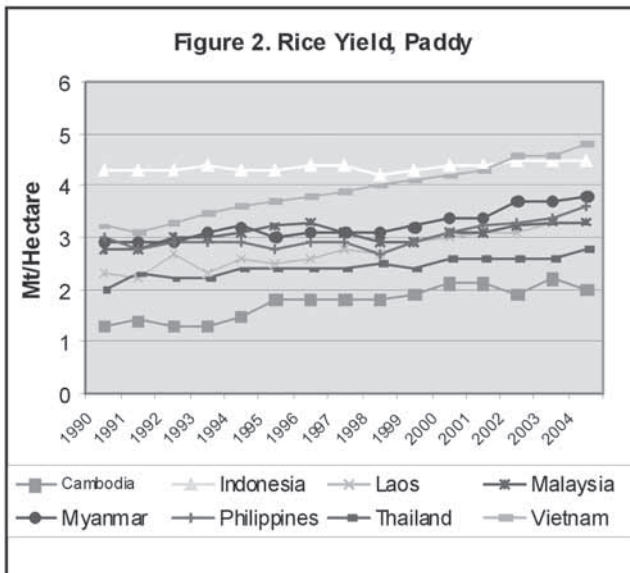
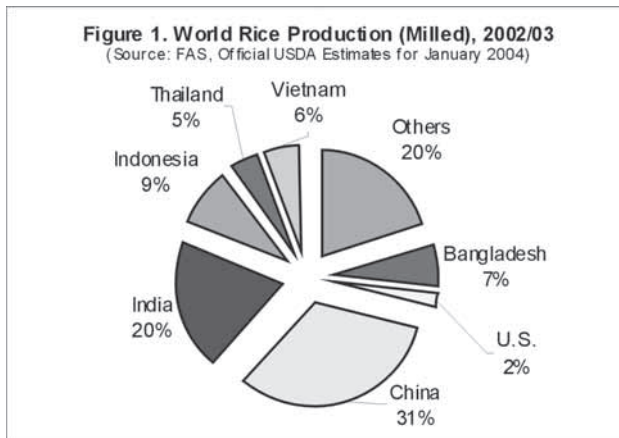
Rice productivity has been relatively low in most Southeast Asian countries (Figure 2). In Cambodia, rice yield grew from 1.3 metric tons/hectare in 1990 to only 2.1 MT/hectare in 2000 and went down to 1.9 MT/hectare in 2001. Relative to other SEA countries, rice yields in Indonesian rice farms have been higher. In 1990, rice yield was 4.3 MT/ha and rose to 4.5 MT/ha by 2003. Rice yields in Vietnam have risen continuously from 3.2 MT/ha in 1990 to 4.6 MT/ha by 2003. Factors that contributed to increased productivity in Indonesia and Vietnam were the expansion of lands under irrigation and increased in the use of modern rice varieties. Although Indonesia and Vietnam had posted higher yields compared to other ASEAN countries, their rice productivity is lower in comparison to that of China, Japan, South Korea and the United States (Table 3). Low yields in Cambodia, Laos, and Thailand are attributed to lower yields in rainfed rice areas and the use of traditional varieties. Moreover, rice areas in Southeast Asia are under constant pressures of contraction due to the effects of rapid urbanization and industrialization in Southeast Asia.

Table 2: Rice, Paddy - Area Harvested, Southeast Asia (in million hectares)

Year	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Thailand	Vietnam
1990	1.855	10.502	0.664	0.681	4.780	3.319	8.792	6.043
1991	1.719	10.282	0.557	0.684	4.575	3.425	9.053	6.303
1992	1.685	11.103	0.566	0.673	5.056	3.237	9.160	6.475
1993	1.824	11.013	0.539	0.693	5.487	3.282	8.482	6.559
1994	1.495	10.734	0.611	0.699	5.743	3.652	8.975	6.599
1995	1.924	11.439	0.560	0.673	6.033	3.759	9.113	6.766
1996	1.864	11.570	0.554	0.685	5.769	3.951	9.267	7.004
1997	1.929	11.141	0.559	0.691	5.408	3.842	9.913	7.100
1998	1.963	11.730	0.618	0.674	5.459	3.170	9.512	7.363
1999	2.079	11.963	0.718	0.692	6.211	4.000	9.970	7.654
2000	1.903	11.793	0.723	0.699	6.302	4.038	9.891	7.666
2001	1.980	11.500	0.747	0.667	6.413	4.065	10.125	7.493
2002	1.995	11.521	0.783	0.677	6.200	4.046	9.988	7.504
2003	2.000	11.477	0.810	0.675	6.650	4.094	10.200	7.449

Source: FAOSTAT

Rice is grown on small family farms (except in the United States, Australia, Southern Europe and parts of South America). The average rice farm size in China, Indonesian Java and red River Delta in Vietnam is less than half a hectare; less than one hectare in Mekong River Delta, Eastern India and one to two hectares in most other Asian countries like the Philippines. In Thailand, Myanmar and Cambodia, the average farm size is over two hectares (Hossain and Narciso 2004).



Rice Prices and Production Costs

World rice prices were over US\$300 per ton from 1995 to 1998. There were two El Nino episodes during this period. When supplies stabilized in early 2000s, rice prices dropped to US\$179/ton in 2001 but rose again by more than 10 percent in 2002 (\$198/ton).

World rice prices had undergone three distinct phases. Dawe (2002) notes that “rice prices were high and relatively stable in 1950-64, still high but substantially more variable in 1965-1981, and low and very stable in 1985-1996. He also said that the trends in the level and stability of Asian rice production explain the trends in world rice prices.

Table 3. Rice Area, Yield and Production (World and Selected Countries)

COUNTRY	AREA (M has)		YIELD (MT/ha)		PRODUCTION, Milled, MMt	
	2001/02	2002/03	2001/02	2002/03	2001/02	2002/03
China	28.81	28.20	6.16	6.19	124.31	122.18
Cambodia	1.98	1.97	2.07	1.90	2.58	2.36
India	44.60	40.00	3.13	2.84	93.08	75.70
Indonesia	11.60	11.50	4.41	4.50	32.96	33.41
Japan	1.71	1.69	6.64	6.58	8.24	8.09
South Korea	1.08	1.05	6.84	6.35	5.52	4.93
Philippines	4.08	4.10	3.19	3.17	8.45	8.45
Thailand	10.13	9.99	2.62	2.60	17.50	17.12
United States	1.34	1.30	7.28	7.37	6.71	6.54
Vietnam	7.47	7.41	4.27	4.36	21.04	21.33
WORLD	151.01	145.53	3.93	3.89	398.47	380.26

Source: FAS/USDA, 2004

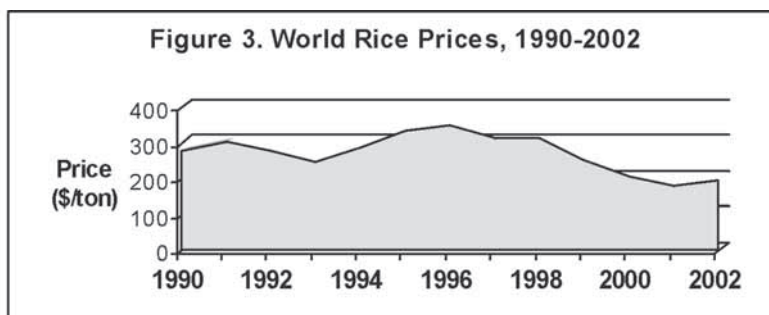


Table 4 shows the comparative costs of producing paddy (rough rice) by major producers. On a per ton basis, Japan and South Korea had the highest costs at \$2,290 and \$868 respectively. Among Southeast Asian countries, the Philippines posted the highest expenses at \$170/ton compared to Thailand (\$70-103) and Vietnam (\$79).

Consumption Trends

Key factors that affect the growth in demand (in rice) are the level of per capita income, the population growth rate and the change in price relative to substitute products. If incomes rise, people tend to diversify their diets and may replace rice with other food (e.g. meat and bread). This has a dampening effect on rice demand. This trend is observable in higher income SEA countries like Malaysia and Thailand. In Malaysia, per capita rice consumption dropped from 123 kg/person/yr (1970-72) to 88 kg/person/yr (1999-2001) and Thailand, from 152 kg/person/yr to 109 kg/person/yr over the same period. In countries like Indonesia and the Philippines where the incidence of poverty is higher, rice consumption increased. In the Philippines, rice consumption grew from 86 kg/person/yr (1970-72) to 101 kg/person/yr in 1999-2001 (Table 5).

Table 4. Rice Yield and Unit Cost of Rice Production, Selected Countries

Country	Ecosystem	Year	Rice Yield	
			(t/ha)	Unit Cost (US\$/t)
Thailand	Irrigated	2000	4.20	70
	Rainfed	2000	2.24	103
India	Irrigated	1995-96	5.16	88
	Rainfed	1995-97	2.26	115
Vietnam	Irrigated	2000	4.18	79
Burkina Faso	Rainfed	1980-90	2.50	288
Guyana	Irrigated	1998-2000	4.00	405
USA	Irrigated	2001	7.04	331
Japan	Irrigated	1999	6.41	2,290
Bangladesh	All Ecosystems	2000	3.64	133
Philippines	All Ecosystems	1999-2000	3.08	170
South Korea	Irrigated	1999	6.60	868

Source: IRRI, World Rice Statistics database and farm household survey. For USA, USDA on line. For South Korea, Burkina Faso, Guyana and Japan, by country statistics online. As cited in Long-term Prospects for the Global Rice Economy by Hossain and Narciso (2004).

Table 5. Changes in Rice Consumption, Selected Countries

Country	Per capita consumption				
	kg/person/yearChange in population 2000-30 (%)				
	1970-72	1989-91	1999-2001	1970-2000	2000-2030
Cambodia	163	158	155	89	82
Indonesia	105	147	149	77	33
Malaysia	123	81	88	105	48
Myanmar	160	209	203	78	31
Philippines	86	96	101	107	49
Thailand	152	110	109	74	27
Vietnam	157	154	167	82	41
South Korea	119	104	88	46	12
Japan	89	65	59	22	-5
India	69	79	76	82	40
China	79	93	89	54	17

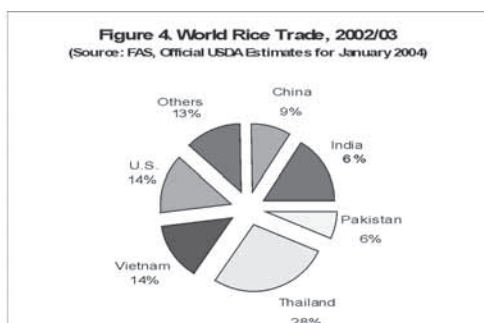
Source: FAOSTAT database, FAO 2004 (from Hossain and Narciso 2004)

Rice Trade

The global rice trade is valued at US\$8.6 billion. Developing countries account for 74 percent of this amount (Hossain and Narciso 2004).

Most rice produced is consumed domestically. As such, the marketable surplus is small. This accounts for a very thin international trade in rice. While production is huge, only 6.96 percent of world's rice production in 2002/03. Because the volume of global rice trade is small, any change in production affects rice supply in the world market. Since rice is produced mainly in Asia, supply is dependent on the Asian monsoons.

Since most locally produced rice is consumed domestically, few countries participate in the rice export market. The major rice-exporting countries are Thailand, India, Vietnam, U.S. and China. The rice export market is highly concentrated, with the top five accounting for about 81 percent of the rice supply in the world market (Figure 4). Two of the largest rice exporters - Thailand and Vietnam - are from Southeast Asia. The volume of Thailand's rice exports had doubled, from 4 million metric tons in 1990 to more than 8 million metric tons in 2003. Vietnamese rice exports also grew remarkably (Table 6a).



Many countries import rice. It is ironic, however, that the major rice importers are from South and Southeast Asia - the heartland of rice production. The major importers are Indonesia, the Philippines, Bangladesh, Malaysia and Singapore (Hossain and Narciso). Indonesia's and Philippine rice imports had grown tremendously since the early 1990s (Table 6b). There were massive rice imports in 1995 and 1998/99 because rice crops in Indonesia and the Philippines were severely affected by El Nino episodes (drought).

Table 6a: Rice Exports (metric tons)

Year	Cambodia	Indonesia	Malaysia	Myanmar	Philippines	Thailand	Vietnam
1990	0	1,911	111	213,600	2	4,017,079	1,624,000
1991	0	643	688	183,115	10,006	4,333,072	1,033,000
1992	0	42,492	145	198,800	35,100	5,151,371	1,945,800
1993	0	350,606	139	262,500	1	4,989,219	1,722,000
1994	0	169,141	1,172	933,813	0	4,858,631	1,983,000
1995	0	5	2,430	353,800	0	6,197,990	1,988,000
1996	5,625	197	125	92,330	0	5,454,350	3,003,000
1997	3,600	64	66	28,300	0	5,567,519	3,574,804
1998	600	1,981	2,088	120,400	44	6,537,492	3,730,000
1999	2,200	2,701	117	54,319	294	6,838,900	4,508,277
2000	630	1,189	107	251,400	224	6,141,356	3,476,983
2001	1,500	3,952	155	939,100	13	7,685,051	3,729,458
2002	3,846	4,154	2,705	900,000	2	7,337,561	3,240,932
2003	3,046	699	8,741	75,999	536	8,394,979	3,813,000

Source: FAOSTAT

Table 5b: Rice Imports (metric tons)

Year	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Thailand	Vietnam
1990	25,800	49,577	4,240	330,336	0	592,727	0	1,900
1991	20,000	170,993	26,100	399,889	0	59	14	6,168
1992	81,000	609,772	7,014	444,175	0	634	0	1,700
1993	84,000	24,318	5,713	389,196	0	201,605	0	750
1994	51,000	630,073	16,452	340,784	0	1,527	0	0
1995	81,000	3,157,700	15,939	427,556	0	263,275	68	11,000
1996	25,966	2,149,757	26,731	577,634	457	866,880	188	0
1997	27,600	348,075	19,927	630,000	1,633	722,397	325	0
1998	39,200	2,894,958	40,585	657,870	952	2,414,000	836	1,300
1999	36,400	4,748,060	4,707	612,467	6,662	834,379	1,406	5,200
2000	60,646	1,355,038	13,693	595,581	10,143	642,273	524	0
2001	53,262	642,168	21,969	525,042	13,000	810,903	265	2,600
2002	123,573	1,798,498	26,400	496,251	7,000	1,196,159	898	40,000
2003	77,052	1,625,753	23,558	360,453	2,728	842,159	7,918	2,251

Source: FAOSTAT

Rice has been highly protected in both developing and developed countries. Rice trade liberalization ushered in by the GATT/WTO Agreement on Agriculture, regional agreements like the ASEAN Free Trade Area and domestic policy reforms, global rice trade had increased tremendously since the mid 1990s.

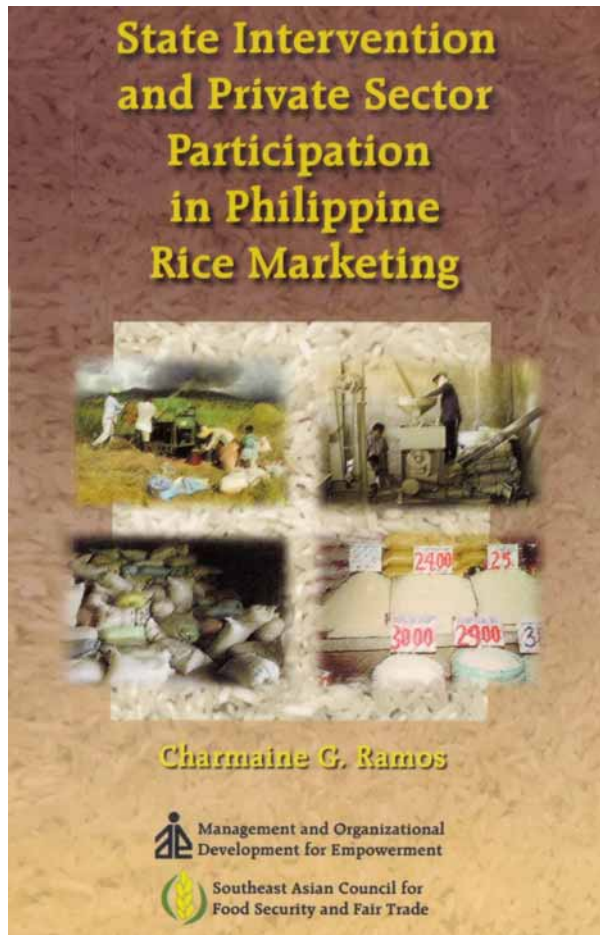
Key factors that affect the world rice markets are import tariffs and tariff rate quotas in major importing countries and price supports in developed countries like the United States, Japan and European Union. Without rice support for rice producers, American and European producers would have a hard time maintaining their current production levels (Wailes 2004, Regalado 2004).

The unrelenting liberalization of rice trade had adversely affected millions of rice producers in Southeast Asia, particularly in Indonesia and the Philippines. Since majority of the producers are small subsistence farmers with small lands, little capital and other resources, they could not compete with farmers from developed countries who received huge subsidies from their governments. Under the present situation, rice trade liberalization would be more beneficial to the farmers in developed countries.

Given the socio-economic significance of rice to their economies, Southeast Asian governments should be judicious in formulating and implementing rice policy reforms.

Industrialized countries like the United States are now pushing for more rice trade liberalization. Yet, these rich countries recognized that a high degree of food self-sufficiency ensure that they are not exposed to volatile world food markets and be less vulnerable to the political pressures of food exporting countries. Southeast Asian policymakers should have learned this lesson. Instead, they are pushing for agro-exports production and putting the fate of their food supply on the vagaries of the international market.

Given a very thin world trade in rice, it is very risky to depend on the world market for one's staple food. It may have grave social and political costs. It is therefore important to ensure local production of rice. Of course, no matter how we nag SEA farmers to continue to grow rice, unless we make it profitable for them to grow food, they may not be able to do so in the future.



State Intervention and Private Sector Participation in Philippine Rice Marketing

by Charmaine G. Ramos

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Foreword

This paper stems from a regional research project of the Management and Organizational Development for Empowerment, Inc. (MODE) in partnership with the Southeast Asian Council for Food Security and Fair Trade (SEA Council) entitled *Food Security and Markets in Southeast Asia: State-Private Sector Interaction in Rice Trade*. The objective of the study was to provide a clear portrait of the political economy of rice trading and marketing in each country and hopefully, of Southeast Asia. The end goal was to come out with policy proposals in each country and possibly region-wide which could promote the development of dynamic and efficient rice markets and sustainable rice producing sectors. This NGO- based research project examined state intervention in unmilled and milled rice marketing in terms of investments, pricing policy, information dissemination, and other regulatory functions. It also analyzed the private sector in the unmilled and milled rice trading and marketing in terms of their investments, organization, strategies, and sources of information.

The draft country reports (Indonesia, Philippines and Thailand) were presented to the members of the SEA Council in October 1999 in Kuala Lumpur for review. The report on the Philippine rice trade was also presented in a special meeting of the Board of Trustees of MODE in March 2000.

MODE is very grateful to Dr. James Putzel of the London School of Economics for his guidance and editorial inputs, to Dr. Joseph Lim of the School of Economics, University of the Philippines, the paper reader of the Philippine country report, and to Francisco Lara, Jr., for the original concept. MODE also acknowledges the research assistance of Joseph Dacuma, Susan Morales-Barias and Charity Torregosa; the administrative support of MODE staff: Fe Canta, Posedia Lood, and Rodolfo Lacsamana.

Our utmost gratitude to the institutions which have supported our food security research and advocacy programme: MISEREOR, OXFAM-8 Participation in Philippine Rice Marketing UK, Dutch Interchurch Aid and 11.11.11 (NCOS). To the farmers, millers, traders and government officials whose information and insights made this paper possible, our heartfelt thanks. Responsibility and coordination of the work was with the Research and Advocacy Unit (RAU) of MODE.

It is hoped that this paper will contribute in achieving greater efficiency in rice marketing and the development of sustainable and dynamic rice producing sectors in the Philippines. Aurora A. Regalado, RAU Coordinator, Joel I. Rodriguez, Executive Director MODE, Inc.

1. Introduction

In the Philippines, rice is a means of sustenance in two senses: as basic staple and as source of income. Filipinos consume at least 21,500 metric tons (MT) of rice per day and rely on this staple for 40-80 percent of their daily calorie intake. Rice provides the means of livelihood to at least 2 million farmers, 86,000 wholesalers and retailers, and 12,000 millers (BAS, 1998). Given the diversity of agents and interests in the rice sector, one can only begin to imagine how equally diverse the impact of any public policy choice the state makes in governing the rice market.

The Philippine rice market is highly politicized. Because rice plays a sensitive role in the economy, the central government has participated extensively in the market. For example, the government, through the National Food Authority (NFA), enjoys monopoly rights over importation and engages in domestic operations to defend farm support prices. The government also continues to employ quantitative restrictions in rice imports having successfully negotiated with the World Trade Organization (WTO) to exclude rice from the list of agricultural commodities that the country committed to liberalize. As a result of these interventionist policies, rice remains one of the most protected agricultural commodities in the Philippines.

However, the emerging policy environment is one of decreasing government intervention. First, the Estrada government is set to support moves to decouple the regulatory and marketing functions of the NFA. Legislation to effect this was shelved in the latter part of 1999 when the Estrada government categorically stated that it would not privatize NFA for the duration of its term. However, it was forced to reconsider its position when multilateral agencies threatened to withhold the release of loan packages if the central government did not commit to privatizing the agency.

Second, for the first time since the inception of NFA, licenses were bid out to private traders in March 1999 to import almost 75,000 MT of rice, an amount equivalent to 79 percent of the country's minimum access volume (MAV) commitment for the year.

Third, and perhaps most important of all, is the impending removal of effective quantitative restrictions by 2004 and the implementation of the country's commitment to AFTA to reduce rice tariffs to 50 percent by 2010.

The policy shift in the rice sector from a regime of heavy state intervention to market deregulation has spawned public policy debates. As in the past, the terms of the debate have often been cast in terms of states against markets or distilled as a battle between protectionist and neo-liberal prescriptions. This paper wishes to enrich the debate by veering away from ideological diatribes and contending that the state-market dichotomy in the rice economy need not be an either-or proposition. It proposes that the best way to understand the rice market

is to explore the roles of those who act in the market and the institutional framework in which that action takes place.

With the rise of marketable surplus, efficiency in rice marketing has become an important determinant of rice consumer prices and producer incomes. The administrator of the Bureau of Post Harvest Research and Extension (BPHRE) said that at least 15 percent of the yield is regularly lost as post-harvest wastage. However, the post-harvest rice market remains vastly under-studied. Hayami, et al. (1998) echoes the observation that critical analytical and empirical gaps in this regard have somehow permitted the permeation of the deep-rooted belief that marketing actors exploit rice producers and consumers through monopoly pricing and usury. Whenever fluctuations in supplies and prices are noted, both civil society actors and government agencies turn to marketing agents as the ultimate source of market distortions. This politically colored view of marketing agents has time and again been used to rationalize and/or call for government interventions in the market.

This paper hopes to contribute to closing the information gap in our knowledge of the rice marketing structure in the hope of providing a more objective evaluation of the problems and prospects of the Philippine rice market. It studies the post-production rice market in the Philippines: its market structure, its institutions and the nodes of state intervention. It seeks to describe and analyze the organization and practices of both the private market and the state in the country's post-production rice market. Based on the empirical findings, this paper then seeks to suggest possible public policy measures that would help make for a more competitive and efficient private sector and more effective state intervention in rice marketing.

Methodology and approach

This paper seeks to analyze private and public sector participation in rice marketing. Tracking public sector participation was straightforward—we engaged in archival work in the form of secondary data collation and a survey of literature, as well as interviews with key officials in relevant government agencies.

Documenting private sector activities was more daunting. Traders, as with most businessmen, are not very cooperative in divulging the workings of the rice business. They are usually suspicious of any research activity delving into detailed accounts of rules and norms governing their trade and are especially hardput to reveal cost and income schedules.

In the face of these obstacles, this study employed a two pronged approach to gather field-level data pertaining to marketing activities of private actors. We used the milling sector as the starting point in going up and down the marketing chain servicing two major urban consumption centers in the country, namely Davao

City and Metro Manila.

First, a short survey of mills was conducted involving 10 percent of rice millers in three municipalities with the most milling capacity in four major rice-producing provinces, namely Isabela, Nueva Ecija, Bulacan, and Davao del Norte. The information provided by the millers regarding the agents they dealt with-both the upstream (farmgate to miller) and downstream agents (miller to retailer)-was used as a starting point for our investigation up and down the marketing chain.

TABLE 1-1
Research areas and distribution of respondents

Province and region	Total milling capacity (in cavs/hr)	No. of millers	No. of respondents	Research areas	% share in provincial milling capacity	% share in regional palay production
Bulacan, Central Luzon	4,614	192	19	Bocaue Baliuag Balagtas	43.9 9.9 8.1	13.9
Nueva Ecija, Central Luzon	5,013	273	27	San Jose Gapan Talavera	17.5 16.4 11.6	46.3
Isabela, Cagayan Valley	11,359	459	45	Santiago Cabatuan San Mateo	13.2 10.6 8.0	58.8
Davao del Norte, So. Mindanao	2,137	166	17	Tagum Panabo Compostela	19.6 14.8 12.3	29.6

The distribution of respondents across municipalities and provinces is shown in Table 1-1. The purpose of the survey was to gather information regarding (1) the rice millers' scope and network of operations; and (2) the extent of private sector investments in post-harvest facilities in the country. The survey segregated the millers according to the capacity of their mills. Millers with an operating capacity of less than 15 cavans per hour are deemed as small-scale millers; those with between 15 to 30 cavans per hour, medium-scale and those with a capacity of over 30 cavans per hour, large-scale. The survey was conducted between September 1998 and April 1999. Data gathered pertained to two months of operation as shown in Table 1.2: the peak month taken as the last completed month of harvest at the time of interview and the lean month taken as three months before or after the harvest month.

Second, based on the contacts provided by millers, key actors up and down the marketing chain were interviewed regarding the more qualitative aspects of their operations and relationships with other actors in the marketing chain. The interviews, using a semi-structured guide, gathered preliminary information

TABLE 1-2
Time of Interview and reference for peak and lean months

Province	Time of interview	"Peak"	"Lean"
Isabela	May 1999	April 1999	February 1999
Nueva Ecija	September 1998	April 1998	July 1998
Bulacan	February 1999	October 1998	February 1999
Davao del Norte	December 1998	November 1998	August 1998

regarding the formal and informal rules governing the relationships of different marketing channel actors and the points of value-added and mark-up levels at each point of the trading process.

It must be noted at the onset that timing is one basic weakness of the field survey and field interviews. Much of the field work, especially the survey, was done in the latter half of 1998, a year marked by the confluence of two extraordinary episodes.



MAP 1 : Research areas

First, a financial crisis swept through Asia. Local businessmen reeled from the consequences of spiraling interest rates and the devaluation of the Philippine peso. The ballooning of credit costs and squeezing of credit availability severely hampered the operations of many rice marketing actors, most of whom depended on bank loans not only for purchases of equipment but also for working capital requirements. The observed decline in lending operations of many traders may be directly attributed to the crisis.

Second, the prolonged dry spell brought by the El Niño weather disturbance led to severe declines in local paddy production and the disruption of the seasons. Therefore, the information gathered regarding volumes processed may not be reflective of normal levels. Moreover, the choice of “peak” and “lean” months and the disparity of operations between the same may not be entirely reliable.

In general, the data gathered in a span of one year (July 1998-July 1999) cannot be treated as information yielding a complete and decisive picture of the complicated network of rice marketing. The empirical findings intended to generate hypotheses-not definitive conclusions-regarding the structure of post-production rice markets and to suggest public policy issues that heretofore may not have been raised due to the poverty in the available rice marketing data.

Organization of the paper

The first part of this paper analyzes the most recent trends in rice production, consumption, international trade and prices. It highlights the sorry performance of the industry in terms of production and yield growths and the steadily increasing role of rice imports in the local market in the nineties. It analyzes the trends in farm gate, wholesale and retail prices of rice as well as the geographical patterns in rice consumption and production. The second part analyzes the policy environment that helped to shape these trends. In particular, it focuses on the policy handles that the NFA, the government’s marketing board, has employed to intervene in rice marketing and distribution. It includes a brief review of economic literature regarding states, markets and the goal of food security. The third part describes the market organization and practices of the private sector. It draws from the results of the short survey and key informant interviews. The paper ends with a synthesis of the workings of the state and private sector in the rice trade and identifies the public policy issues that emerge from the study.

2. The performance of the Philippine rice sector

This section shows that the rice sector in the Philippines has exhibited slowing growth rates in production and productivity as well as an actual decline in per capita production in the 1990s. It continues to lag behind that of the neighboring countries in terms of productivity. If these trends continue, imports may be expected to play a bigger role-not only in averting either natural or man-made disasters-in supplying the staple needs of the population. The best way to ensure rice-sufficiency-as well as the protection of farmers against foreign competition-is to increase the yield and productivity of the sector. Given the geography of the islands, marketing-side bottlenecks will also have to be addressed.

Production, hectarages and yield

The introduction of high yielding varieties (HYVs), the intensification of fertilizer use and the expansion of irrigated farmlands- all key aspects of the 1960's Green Revolution saw a dramatic growth in production and productivity from from the 1960s to the 1980s. These also allowed the country a brief period of being net rice exporters in the early 1980s. (David and Balisacan, 1995) Since then, growth rates in productivity have significantly tapered off, as shown in Table 2.1, from a high of 44.5 percent growth in the period covering the 1970s to the 1980s to a modest 16 percent growth in the 1980s to the 1990s.

The slowing down of productivity growth in the 1990s is best examined in the light of diminishing public sector allocations to agriculture as well as a shift in priorities within the agricultural bureaucracy. Expenditures for agricultural research and irrigation were cut down beginning in the late 1980s in favor of agrarian reform activities and environmental management. (David, 1995) Of course, the trade-off became inevitable only because the whole sector suffered from budget cuts. As a result, irrigated farmland remained below 1.5 million hectares, less than half of the total potential irrigable land in 1999. Paved road network was only 17 percent compared to Malaysia's 75 percent and Thailand's 82 percent. Agricultural research was pinned at 0.3 percent of agricultural GVA, among the lowest in the region (Ramos, 1999).

All these have resulted in diminished productivity improvements. Figure 1 shows that, in comparison to neighboring countries and the rest of the world, the country's performance, although significantly better than Thailand, is slightly worse than India and way behind Vietnam, China and Indonesia. That the sector's productivity is not growing fast enough is further proven by the fact that per capita paddy production suffered negative growth in the period covering the 1980s to the 1990s, as shown in Table 2.1. This means that paddy production as a ratio of

FIGURE 1
Comparative yields, selected countries, 1999
 (IN METRIC TONS PER HECTARE)

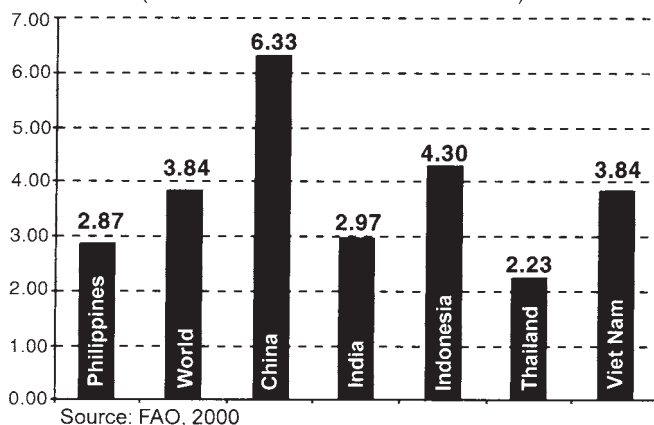


TABLE 2-1
Paddy area harvested (IN HECTARES), production (IN METRIC TONS)
yield (IN METRIC TONS PER HECTARE) and per capita production
(IN METRIC TONS PER PERSON): Average and growth rates

	Area Harvested	Production	Yield	Per capita production
Average				
1960s	3,184,990	4,260,936	1.34	0.13
1970s	3,499,631	6,109,240	1.74	0.14
1980s	3,345,540	8,423,668	2.52	0.16
1990s	3,581,309	10,439,927	2.92	0.15
Growth rate				
1960s-70s	9.88	43.38	30.21	8.38
1970s-80s	(4.40)	37.88	44.51	9.01
1980s-90s	7.05	23.94	16.02	(0.99)

Source: FAO, 2000

the total population of the Philippines has fallen.

Rice imports

In consonance with diminishing growth rates in rice production and productivity in the 1990s, a deepening dependence on internationally sourced rice can be observed especially in the latter half of the decade, as shown in Table

TABLE 2-2
Rice imports versus production: 1988-1998

	Rice imported (in MT)	Rice produced (in MT) ^a	Imports as a % of production
1988	181,420	5,651,680	3.2
1989	208,869	5,959,025	3.5
1990	620,794	6,227,550	10.0
1991	-	6,094,154	-
1992	-	5,993,190	-
1993	209,994	5,943,551	3.5
1994	-	6,640,578	-
1995	252,952	7,108,668	3.6
1996	906,533	7,159,698	12.7
1997	720,209	7,099,848	10.1
1998	2,135,434	6,302,646	33.9

Source: BAS, 1999

a/ computed as 62% of paddy production

2-2. While it is expedient to associate the significant increase in the ratio of imported rice to domestic production to the country's accession to the WTO, the causality is hard to establish at this point. The jump in 1996 imports can be interpreted as government's reaction to the jitters The performance of the Philippine rice sector brought about by the crisis in supply that occurred in 1995. Mean while, the 200 percent jump in rice imports in 1998 could be seen as a response to the expected decline in local production due to the El Niño weather disturbance. Of course, it must be pointed out that local production decreased only by 11 percent in 1998.

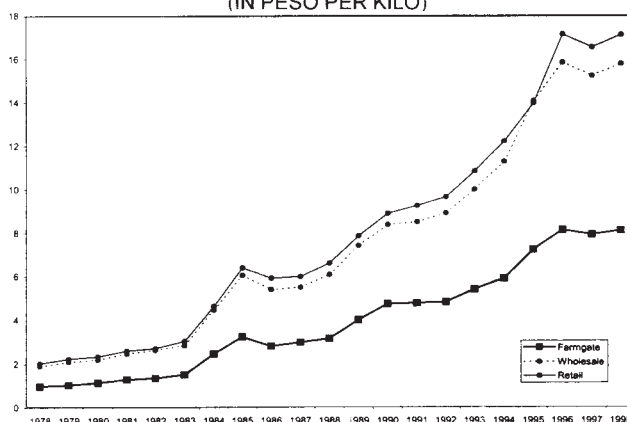
Another way to view the country's deepening dependence on the international rice market is to see it as a direct consequence of the sector's slowing growth rates in productivity and per capita production. Seen in this light, we can expect imports to figure even more in the future if the sector's productivity is not enhanced.

Prices

Trends in prices show that production-related bottlenecks are not the only source of the industry's torpid performance. The widening gap between farmgate paddy prices and wholesale and retail rice prices, as shown in Figure 2, gives a picture of the rising margin attributed to marketing costs. High marketing costs reflect inadequate physical and institutional infrastructure in the marketing system.

In the Philippines, high marketing costs are reflected by the marketing margin

FIGURE 2
Farmgate, wholesale and retail prices: 1978-1998
 (IN PESO PER KILO)



Source: BAS, 1999

averaging at 50 percent of the retail price from 1978 to 1998. However, Shepherd (1993) warns against using the disparity between what the farmer receives (farm gate price) and what the consumers pay (retail price) to prove that exploitative rents accrue to marketing agents like traders and millers. He argues that the marketing margin actually embodies the costs of marketing, which rise with the length and complexity of the marketing chain.

Geography of consumption and production

Paddy is produced all over the country, but production is concentrated in five regions - four of which are in the island of Luzon. In 1998, the produce of Central Luzon, Cagayan Valley, Western Visayas, Southern Tagalog and Ilocos accounted for about 61 percent of total paddy production. (BAS, 1999) The same regions accounted for 59 percent of total area harvested and 60 percent of total irrigated area harvest on that same year. Of the five, only the contiguous regions of Central Luzon, Cagayan Valley and Ilocos, rank among the country's most productive regions, owing perhaps to the concentration of irrigated lands in these areas.

The top paddy-producing areas also turn out to be the top rice-consuming areas. Table 2-3 shows the trends in regional shares in total paddy production and regional shares in total population. It gives a rough idea about which regions cannot feed themselves. Where share in population is greater than share in paddy

TABLE 2-3
Production, area harvested, yield, and population, by region: 1998

	Production (as a % of national totals)	Area harvested (as a % of national totals)	Yield (in MT/ha)	Population (as a % of national totals)
NCR	-	-	-	13.78
CAR	1.99	2.24	2.39	1.83
Ilocos	9.98	9.53	2.83	5.54
Cagayan Valley	12.97	11.28	3.10	3.70
Central Luzon	15.30	13.52	3.05	10.10
Southern Tagalog	10.40	11.16	2.51	14.49
Bicol	5.77	7.22	2.16	6.30
Western Visayas	12.21	13.05	2.52	8.42
Central Visayas	1.36	1.66	2.21	7.31
Eastern Visayas	4.23	5.85	1.95	4.91
Western Mindanao	3.09	3.17	2.63	4.07
Northern Mindanao	3.21	2.60	3.34	3.62
Southern Mindanao	6.55	5.44	3.25	6.71
Central Mindanao	7.53	6.59	3.08	3.44
ARMM	2.60	3.71	1.89	2.95
CARAGA	2.80	2.99	2.53	2.83

Source: BAS, 1999; NSO, 1999

production, there lies the possibility of a deficit. For instance, Southern Tagalog produces more than 10 percent of national paddy production, but it also accounts for almost 15 percent of the country's population. Based on this line of analysis, regions with considerable surpluses are Cagayan Valley, Central Luzon, Ilocos and they can also be seen as the logical suppliers of the deficit regions in Luzon. Field interviews reveal that some of the produce of these regions goes even further to Visayas and Mindanao. In the Visayas, only Western Visayas appears to have surplus capacity. Deficit is also considerable in Mindanao where only Central Mindanao has excess capacity. Ironically, the island that is being groomed to be the food basket of the country and that performs better in terms of productivity is actually dependent on Visayas and Luzon for its rice needs.

3. State intervention in rice marketing and distribution

The rice marketing chain is the system that transfers rice from farms to sites of consumption. Before the staple reaches the consumer, paddy produced in the farm is transported, dried, stored, milled and packed. A range of activities that from hereon, we refer to as “marketing functions”.

In the Philippines, the private sector handles the marketing functions for as much as 95 percent of domestic production. However, the state maintains its position as a looming figure in the marketing and distribution of rice as its sole importer. Although importing only an average of 6 percent of domestic production in the last 10 years, the state tries to time its importation during lean months to provide the downward pressure to high prices typifying those months. Traders in Bocaue, Bulacan posit that a mere announcement of NFA that it will import sends prices diving immediately.

To be sure, rice importation is only one of the many ways the Philippine government intervenes in the rice market. These nodes of state intervention in marketing can be categorized into two: explicit and implicit. Explicit policies are those where the government directly participates in marketing activities or influences market outcomes. These include government's policies in buffer stocking, pricing, importation, and domestic procurement and distribution. On the other hand, implicit policies are those where primary goals are not directed at intervention in private rice marketing activities but which nevertheless affects rice post-harvest markets. For instance, the government makes public investments into *barangay* roads with the general goal of making remote villages accessible to public transportation. But this public investment decision also serves to enhance the efficiency of rice distribution systems by expediting the process of bringing produce from in Philippine Rice Marketing farm to market. Macroeconomic and credit policies also fall under this category.

While implicit policies are just as pivotal as explicit ones, much of the interaction between the private sector and the state occurs in the implementation of the explicit policies. This section thus zeroes in on what has been said about the explicit modes of participation that the Philippine government employs to intervene in rice distribution and marketing. But before that, it begins with a brief survey of economic theorizing about state participation in rice markets.

Rationale for state participation in rice markets

What justifies political intervention in market activities? Economic reasoning offers two distinct though related approaches to this question.

First, from the economics of public choice, states intervene where markets fail. Market failure refers to the set of conditions under which a market economy fails to allocate resources efficiently (WB, 1997) Where markets are incomplete or not competitive, the state steps in to protect public interest.

Second, from new institutionalism, states are seen to provide the regulatory framework for well-functioning markets. (Harris White, 1985) States provide the environment for competition, a necessary requisite to market efficiency. Unrestrained competition destroys market exchange and for a market to function efficiently and competitively, elements of a regulatory system have to be established by the state.

The first approach sees state participation as panacea to market failure; the second considers the same as a necessary ingredient to market success. This subsection surveys how these two approaches have been used to explain state presence in rice markets.

Equity considerations and market failure in rice markets

Arguments flowing from the first approach can be grouped into three: food security, market structure and public good arguments.

Food security arguments

Rice by its very nature is a political commodity. In countries dependent on rice as a staple, it is no accident that rice imports shoot up during an election year. Politicians realize the potential damage that could be wrought by a rice shortage. For many monsoon Asian countries, rice security is food security. The most often cited category of arguments for state presence in rice markets stems from the sensitive role rice plays in food security.

Two characteristics of the rice market have a direct impact on the availability and accessibility of rice. First, as with all agricultural markets, it is marked by uncertainty and instability. A characteristic seen to imperil the poor physical and economic access to their staple grain. Second, in countries where a big portion of the population and among the poorest at that is employed by the rice sector, the state faces the dilemma of reconciling the conflicting objectives of providing low rice prices for consumers and remunerative incentives to farmers.

Instability is caused by conditions both natural and man-made. Sudden harvest failures and even the natural cycle of sowing and reaping, make rice production inherently unstable. But volatile rice prices are only partly the result of nature's caprice. Many countries, in the pursuit of domestic price stability, impose barriers on trade that contribute to the instability of world markets. As the world grain market became increasingly integrated and the dependence of the less-developed countries on imports rose, instability in world prices became an important source of internal instability in many countries. (Bigman, 1986) The poor are among

the most vulnerable to these tides of the rice market. Having relatively elastic demand for staple foods, a consequence of the large share of their budget allotted to food, they find the bulk of adjustments resulting from supply or price changes imposed on them. (Mellor, 1978) Promoting social equity is often used as the rationale for government intervention in price stabilization.

Government stabilizes rice prices through a mixture of policies like involvement in domestic marketing operations, maintenance and judicious use of domestic buffer stocks, and imposition of restrictions on international trade. The goal of price stability leads policymakers to insulate domestic rice markets from the instability of world rice prices and foreign exchange adjustments. Monopoly control over international rice trade and domestic marketing operations is preferred over *ad valorem* duties because import taxes are seen to leave the domestic price vulnerable to world price fluctuations and changes in exchange rates. (David and Huang, 1996)

These policies usually have the impact of artificially keeping consumer rice prices low, running counter to one other equity goal: providing remunerative incentives to rice farmers. This dilemma is most pronounced in developing countries in the early stages of development.

The public choice theory explanation to this phenomenon is that in these countries, agricultural producers' real incomes are relatively insensitive to food price policy because of low market surplus and are disadvantaged in forming coalitions because of high organization costs. On the other hand, urban consumers and industrialists, have high stakes in cheap food agricultural policy because food constitutes a high proportion of urban consumers' budget and food is a "wage good" in labor-intensive industries. Hence, the balance of power is in favor of urban consumers and industrialists. However, as more marketing surplus is generated and as the economy matures, the political pressures from consumers and agricultural workers tends to decline, allowing for the rising pressure from agricultural producers to eventually dominate. (Balisacan and Roumasset, 1987)

Market structure arguments. The second set of arguments justifying state intervention is related to market failures found inherent in the rice economy. These failures spring from features of the market structure that affect the behavior and performance of actors in the rice market.

The rice market is characterized by information asymmetry. For instance, price formation occurs at centers of trade, usually geographically distant from centers of production. There also exists a great deal of information asymmetry as to the quality of rice traded. Wholesale buyers, for instance, have no way of knowing whether the quality of the *n*th sack of rice they procure from the miller is the same as that of the first sack.

It has also been argued that there are segments in the marketing process

where actors do not behave as price takers. Rice traders, for instance, influence price-setting to the extent that they can store produce. That they incur extra-economic rent from this behavior is a common-held belief. These notions about the rice market violate key assumptions underlying key propositions about atomistic competition and thus justify state participation in the form of market presence and regulation.

Public goods arguments. The last set of arguments has to do with the valuation of a local rice economy as a good in itself. Here, leaving the very existence of the rice sector to the forces of the market may be contrary to the pursuit of public interest. In a world where the international rice market is thin, the preservation of local rice markets may be deemed a public good. Another often cited scenario is a situation of war where rice trade embargo may be used as political leverage. (Putzel, 1996) Obviously, maintaining domestic buffer stocks would be the only way to survive in such a situation.

The new institutional view of the rice market

New institutional economics incorporates institutions and ideologies into the analysis of markets, modeling the political process as a critical factor in the performance of economies, as the source of the diverse performance of economies and as the explanation for “inefficient. markets” (North, 1995) This approach proves useful in the analysis of the state’s role in the rice market.

Harris-White (1995) identifies non-market relations and institutions in the “actually existing market”⁴ for South Asian grains that are relevant for the purposes of this study. For instance, she posits that the market for rice is typically a bundle of other markets. One that cannot be reduced as the summation of comparable firms with comparable objectives. The functions of real rice marketing firms are not restricted to buying and selling but to multiple marketing functions. She says that:

“The terms of buying and selling will be affected by those of interlocked markets. Commonly agricultural commodity transactions are interlocked with credit contracts in ways, which can sometimes be shown to depress commodity prices below levels resulting from unconstrained transactions and to raise interest above market rates. It is clear that interlocked commerce renders irrelevant both a comparison with a competitive alternative for a subordinate party deprived of choice and the separation of interest and price.”

Here, Harris-White argues that in actually existing commodity markets, the

possibility of non-market price formation must be allowed. She expounds on other non-market relations that define how resources are appropriated in the “market system”, thus:

Buying and selling on class-specific terms and conditions may also be further affected by opportunistic speculation and hoarding. Resources may also be appropriated through capitalist relations in agro-processing and other productive activities necessary to the post-harvest commodity system abstracted as “the market”. Resources are also commonly appropriated from producers in underdeveloped agricultural markets in primitive ways through crime and coercion (via fraud on weights and measures, arbitrary deductions, misinformation about price. etc.) as well as through the corrupt subversion of regulatory interventions of the state”.

What of these non-market relations and institutions? Harris-White argues that an appreciation of real rather than abstract markets necessitates a complete understanding of institutions under lying these markets. Institutions of the market are conceptualized as responses to problems of the organization of information, of transactions and of property rights, under conditions of environmental and biological lags and uncertainty, opportunistic behavior and bounded rationality. The state’s regulatory function is thus best designed by looking at the formal and informal rules that govern the market exchanges. Moreover, state participation is enmeshed in the market even as the state is conceptually separate. Along with the state, other institutions like family and ethnic relations and civil society also serve to define the dynamics of specific markets.

We will return to these models when we attempt to distill lessons for public policy from an analysis of state and market roles in rice trading. Meanwhile, we turn to the operations of the NFA. What is the logic behind its policies and how effectively has it performed?

NFA: premise versus performance

The Philippine government directly intervenes in the postharvest rice market through the operations of the NFA. The NFA is governed by two imperatives: (1) to protect the food security of the country in times of calamity or crisis and (2) to stabilize prices at levels that would help attain the oftentimes contradictory goals of assuring farmers reasonable returns on their investments and, consumers, affordable retail prices.

The agency finds its roots in the National Grains Authority (NGA), a government agency organized in 1972 to absorb and unify the marketing functions of the defunct Rice and Corn Administration (RCA) and the regulatory functions of the defunct Rice and Corn Board (RICOB). Rice, corn, wheat and other grains were the commodity markets the agency was tasked to oversee. In 1981, the NGA was renamed NFA and the sectors for which it was responsible were expanded to include other non-grain commodities like meat, chicken and vegetables. However, in 1985, its powers were clipped with the limiting of its commodity coverage to its original mandate: rice and corn.

Policies and premises

The NFA is both participant and regulator in the post-harvest rice market. As market actor, it procures paddy, distributes and imports rice and keeps buffer stocks. As market regulator, it defines pricing policies and provides the rules and legal frame work for the operations of rice businessmen.

Grains procurement and distribution. The NFA undertakes grains procurement to help prop up farmers' income when farm gate prices are lower than the government support price. In regions where the agency has warehouses, accredited actors, mostly farmers and cooperatives, directly deliver grains to NFA. In more remote areas, grains are assembled at farmers' collection centers on a scheduled basis and then hauled by the agency upon availability of NFA transport services. As in directly delivered stocks, grains are weighed, documented and paid for at NFA receiving warehouses. In areas with no NFA warehouses, weighing, documentation and payment may be done in the field.

Meanwhile, grains distribution is in principle undertaken when consumer prices go beyond a trigger price, considered as an indicator of affordability. During lean months, stocks are released and sold through the agency's accredited retailers as well as charitable institutions, government offices and government-run retailing stalls called Bigasang Bayan. For retailers, stocks are usually bidded out at the beginning of the lean season. At the height of the El Niño weather disturbance, rice was also retailed through rolling stores piloted in severely drought-stricken areas on the island of Mindanao.

Buffer stocks. The NFA endeavors to maintain a 90-day buffer State intervention in rice marketing and distribution stock by July of each year, the beginning of the lean season, and a 15-day anytime buffer as a contribution to the ASEAN rice security reserve. The maintenance of rice inventories is necessitated by the highly seasonal nature of rice production in the Philippines. Rice harvested in the fourth quarter of the year accounts for 50 percent of private inventories while harvest from July to September accounts for only 10 percent. This situation

is exacerbated by the fact that most of the 10-20 typhoons that hit the country every year do so during the lean season. The country's geography and sorry state of infrastructure further heighten the need for buffer stocks.

Pricing policy. Through the agency's procurement program, NFA offers price support to farmers. The price support is applicable for paddy that meet required quality specifications; otherwise, price is discounted to account for the additional cost the NFA will be incurring in drying/cleaning the relevant stock. The prevailing support price, which rose from PhP 6 (1990-1995) to PhP 8 (1996-1999), is evaluated by an inter-agency committee based on the following parameters: cost of production, consumer price index, income of rice and corn farmers relative to those producing other crops and cost of end-product to consumers. The implementation of a support price is expected to safeguard farmers from severe price fluctuations during peak harvest months while at the same time assuring them of a ready market that guarantees a fair return on investments. It is also counted on to serve as a guide to grains businessmen as to the fair level of procurement price for paddy.

To protect the interests of consumers, on the other hand, the NFA employs a trigger price mechanism. When the trigger price, which replaces the ceiling price scrapped in 1985, is breached, the NFA intervenes in the consumer market through distribution operations. In addition to this mechanism, the agency also sets the official selling price for NFA distributed rice at rates usually below the prevailing market prices. Table 3-1 shows the official wholesale rates for regular milled rice from 1990 to the present.

Grains importation. As a matter of policy, NFA is supposed to resort to importation only when there is a shortfall in local production or when there are other verifiable reasons that may result in domestic shortage. Prior to the country's accession to the WTO, a shortage situation was determined upon consultation

TABLE 3-1
Official NFA wholesale price of regular milled rice

	Price
1990	PhP 7.00
1991	7.75
1992	7.75
1993	9.50
1994	9.50
1995	13.00
1996	13.00
1997	13.00
1998	13.00

Source: NFA, 1999

with farmer representatives and other industry actors, as mandated by the Magna Carta for Small Farmers. This law was amended in 1996 and the government is now not mandated to hold such consultations before importing. However, as has been stated in the introduction, quantitative restrictions in rice continue to be in effect, a privilege the sector will enjoy until 2004.

An important development in the NFA's grain importation policy began to unfold in 1997: for the first time, the private sector was allowed to import both glutinous and non-glutinous varieties of rice. In 1997 and 1998, allocations were granted on a first come-first serve basis. Procedures were rationalized in 1999 when allocations were auctioned off.¹¹ While NFA acted as cargo consolidator and imported private allocations on behalf of the private sector from 1997 to 1998, all activities related to importing were the sole responsibility of winning private bidders in 1999.

Licensing and other regulatory functions. The NFA gives out licenses to all grains businessmen involved in one or more of the following activities: retailing, wholesaling, milling, warehousing, threshing, processing, importing, indenting, packaging and mechanical drying. The agency ensures that these actors fulfill the legal requirements for doing business including, where relevant: business certificates and other documents depending on business organization, warehousing plans, location and pollution clearances and income tax returns. The agency also has the power to summon, arrest and impose sanctions on parties violating rules and duties enforced by the agency.

How did the NFA perform in terms of fulfilling the premises behind its intervention in the market? The end goals of food security and price stabilization clearly underlie NFA policies. The following evaluates how these goals were achieved in the light of key aspects of the agency's performance.

Price support and procurement. Table 3-2 shows NFA's very low absorption capacity in terms of domestic procurement. In between 1988 and 1998, it was able to procure 2.4 percent of local production way below its 5-10 percent mandated target. After 1990, the agency was only able to reach its minimum target twice, in 1990 and 1991. Tracking average shares of procurement in production over the last 20 years shows the steady decline of NFA's procurement operations.

One likely explanation for the decline in domestic operations between 1994 and 1998 is that support prices fell below actual paddy prices (Table-3-3). Farmer and trader interviewees in this study's field research also spoke of the additional transaction costs farmers have to bear in the face of stringent quality standards imposed by the agency. Farmers are also said to be disheartened by the paper work involved in the transactions including the shoe leather costs of having to encash the payment they receive from the NFA for their produce. In sharp contrast, transactions with private traders are relatively painless with payments made in

TABLE 3-2
NFA paddy procurement versus production: 1979-1998
 (IN THOUSAND MT)

	Paddy production	Paddy procurement
1979	7,685	758
1980	7,647	551
1981	7,911	580
1982	8,534	646
1983	7,295	533
1984	7,829	298
1985	8,806	401
1986	9,247	422
1987	8,540	572
1988	8,971	264
1989	9,459	208
1990	9,319	572
1991	9,673	555
1992	9,129	420
1993	9,434	155
1994	10,538	61
1995	10,541	8
1996	11,284	124
1997	11,269	101
1998	10,237	59
	Average share of procurement to production (%)	
1979-1983	7.9	
1984-1988	4.5	
1989-1993	4.1	
1994-1998	0.7	

Source: NFA, 1999

cash.

Consumer price protection. The agency appears to have been more successful in cheapening prices rice consumers face through the defense of retail prices, shown in Table 3-4, and the infusion of imports in major consumption centers. Table 3-5 shows NFA's record in its distribution operation is better than in procurement. The agency distributed an average of 6 percent of the nation's requirements between 1988 and 1998. The downturn of the distribution between 1990 and 1994 is explained buy the contraction of rice imports wih the imposition of the Magna Carta of Small Farmers. Much of the rice distributed is sourced from

TABLE 3-3
Official NFA wholesale price versus
national average wholesale price

(in PHP)

Year	Farmgate price	Support price
1990	4.74	6.00
1991	4.77	6.00
1992	4.82	6.00
1993	5.40	6.00
1994	5.90	6.00
1995	7.24	6.00
1996	8.13	8.00
1997	7.92	8.00
1998	8.11	8.00

Source: NFA, 1999

abroad as domestic procurements, as has been shown, are very minimal.

The cheapening of consumer prices has not been without consequences, however. A former member of the House of Representatives, suggests that the combined policies and strategies by which NFA stabilizes prices and provides assistance to poor consumers, has the unintended effect of lowering the prices received by the farmers by as much as 19 percent. This flows from the profit-seeking logic of rice traders who, knowing that the NFA will strongly defend the retail price from rising, will tend to compete by depressing farm gate prices even in the face of a shortage or import restrictions. (Debuque, 1999) It is difficult to conclude that this makes consumer price protection anti-farmer because farmers have been found to be net consumers of rice and hence are also bound to benefit from a cheap rice policy.

Food security. Two recent episodes come to mind in the evaluation of the NFA's ability to respond to crisis situations in food security. The first is the 1995 rice crisis, centered mostly in Manila, when retail prices skyrocketed in the face of shortage and ill-timed imports coinciding with a tight world supply. The second is the rice crisis situation that struck South Cotabato, a province on the island of Mindanao, in 1998 at the height of the onslaught of the El Niño phenomenon. Here, hundreds of *lumads* (natives) were driven to eat a potentially toxic root crop called kayos in the face of yellow corn harvest failures. The irony is that NFA warehouses within the vicinity of the stricken areas were stocked full. While the former shows the dire effects of running down public buffer stocks in the face of uncertain and thin international rice markets, the latter shows that the mere presence

TABLE 3-4
Official NFA support price versus national average retail price
 (in PHP)

Year	Retail price	NFA retail price
1990	6.08	7.00
1991	7.42	7.75
1992	8.38	7.75
1993	8.50	9.50
1994	8.91	9.50
1995	10.00	13.00
1996	11.27	13.00
1997	16.53	13.00
1998	17.11	13.00

Source: NFA, 1999

TABLE 3-5
Rice requirement versus distribution: 1988-1998
 (IN THOUSAND MT)

Year	Rice required	Rice distributed	Distribution as a % of requirement
1988	6,096	405	6.65
1989	6,461	472	7.31
1990	6,534	670	10.26
1991	6,096	158	2.59
1992	6,388	521	8.15
1993	6,643	485	7.30
1994	6,680	112	1.67
1995	7,154	257	3.59
1996	7,483	733	9.79
1997	8,030	623	7.76
1998	8,030	783	9.75

Source: NFA, 1999

of buffer stocks does not ensure food security.

Buffer stocks, however, remain the first line of defense against sudden supply contractions and emergency situations. Table 3-6 shows the comfort zone provided by 90 days of buffer holdings by both the NFA and private sector was achieved only in 1991 and 1992. Note that stocks were dangerously low during the crisis year of 1995. It must be noted, however, that during years of good harvest, the inability of government to keep desired levels of buffer stocks have not led to disastrous results. This suggests that there is room for flexibility as to the optimal levels of stocks the government should maintain.

TABLE 3-6
Total inventory versus daily requirement
and number of days supply (IN THOUSAND MT)

Year	Total inventory as of July 1	Daily rice requirement	Number of days supply
1988	1,231	16.70	74
1989	1,080	17.70	61
1990	1,149	17.90	64
1991	1,821	16.70	109
1992	1,627	17.50	93
1993	1,380	18.20	76
1994	1,257	18.30	69
1995	944	19.60	48
1996	1,602	20.50	78
1997	1,818	22.00	82
1998	1,927	22.00	88

Source: NFA, 1999

Summary

Government intervention in rice markets is premised on two goals: food security and price stabilization. To pursue these ends the NFA administers buffer stocks and a subsidy scheme that allows it to purchase paddy at a high price while selling milled rice at a low price. Has NFA achieved its goals through these programs? More importantly, has NFA **efficiently** fulfilled its mandate?

To be sure, the goal of food security is too large to be left to the NFA. Food security after all goes beyond the availability of food supplies to the accessibility of those supplies to particularly vulnerable groups. An effective buffer-stocking policy is seen as one of the many components necessary for achieving said goal. NFA's track record in buffer-stocking and rice distribution lays bare the agency's fundamental institutional weaknesses. For instance, the NFA's ability to use buffer stocks as a tool to ensure food security under extra-ordinary circumstances is contingent upon how well it is able to forecast the supply situation. Central to an effective buffer-stocking policy then is the quality and timeliness of production information that the government processes. The ill-timing of imports that led to the rice crisis of 1995 informs us of how ill-equipped the agency is in terms of forecasting.

Moreover, the cost-effectiveness of public investments in buffertocks need to be investigated further. From 1995 to 1998, total subsidies and equity infusion to the NFA ranged from Php1.3 to 1.5 billion. Total net losses from 1988 to 1998 amounted to Php20 billion. Its total debt, most of which are government-guaranteed domestic bank borrowings, reached Php17 billion, equivalent to 77 percent of its

total assets. (Castillo, 2000) In the context of the government's fiscal constraints, the burden of buffer-stocking is obviously not trivial.

Meanwhile, the goal of price stabilization has been pursued by the NFA through a general retail price subsidy that has mostly benefited urban consumers. Because the subsidy is untargeted, there is a substantial leakage of benefits to the non-poor whose consumption represents about one-half of the total rice consumption.

On the other hand, the impact of government intervention on farm gate prices range from insignificant to nil. This section has shown that NFA's paddy procurement operations have been declining and largely unable to influence farmgate prices. With the subsidized government prices falling below market rates in a number of years. Here, weaknesses in institutional rules need to be addressed. For instance, the high level of moisture content requirements squeezes out of the program its intended beneficiaries: poor farmers without access to post-harvest facilities. Moreover, there may be a need to streamline the bureaucratic channels that lead to increased transaction costs for poor farmers and thus discourage them to sell stocks to the government.

In light of these observations, there may be wisdom in pursuing more targeted government interventions in the rice market. For example, the NFA could increase the volume of its operations in 5th and 6th class municipalities. Food stamp programs that directly deliver subsidies to the household and are more transparent may be more effective than the general price subsidy.

In general, the form of government intervention that has had the most impact on market outcomes has been NFA's import operations. Such operations directly affect marketing actors from the farmers to millers, who compete directly with the imports. The ability of these actors to compete with the imports depend on two factors: productivity and marketing efficiency. The next section hopes to shed light on the question of marketing efficiency by looking into the organization and institutions of private rice marketing.

4. Private sector operations in rice markets and distribution

Having outlined the nodes of state intervention in rice marketing, we now turn to the activities of the private sector. This section reports the most important results of the field research, covering key links in the marketing chain feeding into two major consumption centers: Davao City and Metro Manila. The field research, although geographically extensive in scope, was at best a reconnaissance into the

complicated network of rice marketing involving elusive trade practices and contracts. It attempted to collect data about the structure of private rice marketing and, based on this data, gain insights about the institutional workings of the marketing system.

This section explores three points of inquiry.

First, how is the post-production rice market organized? Here the geographic flow of rice is traced from Isabela to Metro Manila and from Davao del Norte to Davao City. The marketing actors are identified and the links between them are explained.

Second, what are the points of value-added and the extent of profit-taking at each node in the marketing chain? Based on the field interviews, the activities of the different marketing actors are explained. Illustrative examples of income and cost schedules of some marketing actors are presented to make conjectures about marketing margins at different points in the marketing chain.

Third, what do the findings of the survey of millers suggest about the “health” of the rice business? Here, features of the milling business that are suggested to indicate the viability of the rice business in the long run are examined. In particular, findings about the state and extent of private investments in key physical assets are discussed.

Organization of marketing

Geographical flow of rice in areas under study

The field research zeroed in on two major marketing chains: the Isabela-Nueva Ecija-Bulacan-Metro Manila chain-referred to as the “northern chain”-and the Davao del Norte-Davao City chain-the “southern chain”. Table 4-1, which summarizes the scope of operations of the miller-traders in the northern and southern chains, gives an idea of the flow of rice in the areas under study.

THE NORTHERN CHAIN

Rice that flows to Metro Manila is mostly sourced as paddy from the regions of Ilocos, Cagayan Valley and then milled into rice in the provinces of Isabela, Nueva Ecija and Bulacan. Traders and millers interviewed depict Isabela and Cagayan as centers of production and San Jose City, Nueva Ecija and Bocaue, Bulacan as centers of trade. Moreover, Dagupan St. in Metro Manila is depicted as the wholesaling center, although the millers do mention other minor wholesaling/retailing hubs within the metropolis.

Meanwhile, mills that feed into the northern chain are those that are situated in towns along the highway leading from Isabela to Manila-where the towns chosen as areas of research are also situated (See Table 1-1). Research findings of this

TABLE 4-1
Scope of miller-traders' paddy procurement and
rice distribution activities, by province
 (IN PERCENT)

	Bulacan		Nueva Ecija		Isabela		Davao del Norte	
Source	peak	lean	peak	lean	peak	lean	peak	lean
w/in barangay	6.3	-	-	-	7.1	16.7	-	-
w/in municipality	0.0	12.5	6.3	6.7	28.6	8.3	16.7	14.3
w/in province	0.0	-	25.0	26.7	42.9	41.7	66.7	57.1
w/in region	6.3	6.3	18.8	13.3	14.3	16.7	16.7	28.6
beyond region	87.5	81.3	50.0	53.3	7.1	16.7	-	-
Destination								
w/in barangay	-	-	-	-	-	-	9.1	25.0
w/in municipality	6.3	6.3	-	-	15.4	15.4	27.3	12.5
w/in province	6.3	6.3	-	-	7.7	7.7	18.2	12.5
w/in region	-	-	-	-	-	-	36.4	25.0
beyond region	87.5	87.5	100.0	100.0	76.9	76.9	9.1	25.0

Source: Field survey

study in terms of geographic flow bear no radical departure from those of CONFED (1995), the most recent large-scale study on the rice marketing system in Northern Luzon.

Survey results indicate that most of the paddy milled in Isabela comes from within the province and the contiguous province of Cagayan Valley. Seventy-nine (79) percent of the respondents in Isabela procured paddy from within the province itself. During the peak season, all but one respondent sourced paddy from outside the region.

Manila is mentioned 53 percent of the time as the destination of rice milled by miller-traders in Isabela. However, a significant chunk appears to remain in Isabela, which is mentioned as destination 34 percent of the time. Provinces and cities further up north like Baguio, Pangasinan and La Union appear to be serviced by Isabela, too—cornering 9 percent of the responses.

In contrast, at least 50 percent of the respondents in Nueva Ecija source their paddy from beyond the region even at the peak season of harvest in their province. An estimate made by a trader somehow validates this finding. He says that at least 40 percent of the paddy milled in Nueva Ecija emanates from Cagayan Valley and Isabela and only 30 percent comes from Nueva Ecija itself.

All of the miller-traders interviewed in Nueva Ecija deliver at least a portion the rice they mill to areas beyond their province. Again, Metro Manila is the most mentioned destination (66 percent), followed by the provinces of Batangas, Quezon, Bulacan and Cavite in Southern Tagalog (17 percent) and other provinces/ cities within Central Luzon namely Bulacan, Bataan, Olongapo and Angeles (10 percent).

Bulacan provides an even sharper contrast. Here, 88 percent of the

respondents say that they sourced their paddy from beyond the region. Provinces in Cagayan Valley and the Ilocos region are the most mentioned sources of paddy (42 percent), followed by other Central Luzon provinces (34 percent). Meanwhile, Metro Manila corners 60 percent of the responses as destination of rice milled. However, Bulacan's reach also extends to outlying regions, servicing provinces and cities like Calamba, Cavite, La Private sector operations in rice marketing and distribution guna, Tagaytay, Quezon and Lucena. This strengthens the claim that Bulacan is more of a trading and milling hub than a center of production for rice flowing to Metro Manila and beyond.

THE SOUTHERN CHAIN

Meanwhile, rice that flows to Davao City mostly originate from Central Mindanao and other provinces in Southern Mindanao. Within Southern Mindanao, production is concentrated in the provinces of South Cotabato and Davao del Norte. Monteverde St. in Davao City is pointed to in interviews as the major wholesaling hub in the city. In contrast to the northern chain, where Manila is geographically at the end of the chain, Davao City is geographically situated in the middle of the network. More than one chain thus feeds into Davao City. This research only had the resources to investigate one chain.

Sixty seven percent of the miller-traders in Davao del Norte say that they procure their paddy from within the province. The most often cited areas of procurement are either barangays within the municipalities surveyed or municipalities within Davao del Norte (93 percent). This shows that the province is both a production and milling center.

The scope of operations of miller-traders in Davao del Norte appears to be less extensive than of those in the northern chain. While more than half of the miller-traders operate beyond the region in the northern chain, only a minority of those in Davao del Norte extend beyond the region. This is because Davao City lies within the same region as Davao del Norte, in contrast to the northern chain, where the provinces under study are located in regions beyond Metro Manila. Davao City corners half of the responses in terms of destination while other municipalities within the province correspond to a little over a third of the responses.

The marketing actors

Figure 3 attempts to illustrate the intricate relations between and among marketing actors. At this point, it would be useful to define the roles of the key agents in the marketing chain. Marketing actors, we found out, typically perform multiple functions beyond buying and selling-an observation echoed by Harris-White (1992) in a study of Indian grain markets.

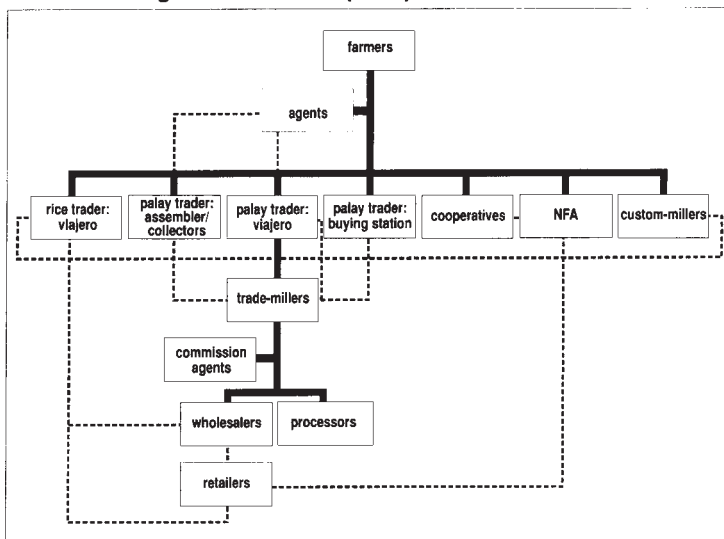
The chain begins with farmers, who grow paddy and supply it to downstream marketing actors. While farmers are predominantly small-holder producers, many downstream agents are also directly or indirectly involved in farming. Many of the buying station owners interviewed also managed farms that their families either owned or leased. Small barangay-based rice custom-millers are also usually farmers themselves.

Commission agents, more popularly known as *ahente* (agent), are middlemen with no capital of their own and who negotiate deals for their “employers”. Trader-millers hire them to scour villages for paddy. Big buying station owners, on the other hand, sometimes employ agents based in milling centers as marketing representatives. For example, big buying stations in Isabela usually have agents to market their paddy in Bocaue, Bulacan.

Meanwhile, big trader-millers also hire agents to market the rice they mill in the centers of rice trade and consumption. Big millers in Isabela, for instance, usually have marketing agents in Dagupan, Manila. In Figure 3, they are shown as “commission agents” between millers and wholesalers. In Monte Verde St., Davao City, they function as freelancers and are called “*disers*”.

Their employment status and mode of compensation vary from network to network. The president of the agents’ association in Intercity, Bocaue, Bulacan claims that agents get only a fixed amount per truck of paddy sold, depending on the truck type. That is, only the paddy traders pay them. Agents in San Jose City,

FIGURE 3
The organization of the post-production rice market



Nueva Ecija, in contrast, get a commission for every kilo from the miller and a tip from the paddy trader.

Palay traders are assemblers/collectors, buying stations or *viajeros*. Assemblers are small-scale, village-based traders who have minimal storage capacity and thus less extensive scopes of operations. They deal directly with farmers and are usually financed by bigger *palay* traders or miller-traders.

Buying stations are stalls strategically located along the highway or in town centers. At harvest time, agents, assemblers and farmers just walk in for spot transactions. After the harvest season in the province where the stations are based, owners use their own trucks to scour rice-producing villages outside their province. Bigger buying stations have agents of their own who market their paddy at the big milling centers.

Palay viajeros are traders who usually travel the length of the marketing chain to buy and sell paddy. Based on field research, they ply the northern chain buying paddy from farmers and buying stations in Isabela or Nueva Ecija and selling their procurement to millers in Nueva Ecija or Bulacan. There were no *palay viajeros* encountered in the southern chain.

Rice *viajeros*, in contrast, are truckers who buy paddy and sell rice. They shoulder the costs of milling and sell their paddy as soon as it is milled. Like *viajeros* trading paddy, we only encountered them in the northern chain.

Cooperatives organized at the village or town level act as either rice traders or *palay* traders. Like these actors, they offer transportation services credit and access to inputs. They also assemble paddy that may be sold to NFA. Some of them have milling facilities of their own, made possible by discounted loans from the Land Bank of the Philippines, through a government program.

Rice millers are either custom-millers or miller-traders. Custom-millers provide milling services to farmers and rice traders. Miller-traders are rice traders who mill, transport and distribute their own paddy procurements. Some of them are also involved in custom-milling. Big miller-traders finance farmers, buying stations and/or assemblers.

Wholesalers buy rice, stock and warehouse their procurements and are involved in bulk sales of bagged rice to retailers. Some wholesalers sell to other smaller-scale wholesalers or department stores and/or are also involved in retailing.

Finally, the chain ends with retailers, who buy bagged rice from wholesalers and sell rice to households on a per kilo basis. Their operations range from sari-sari scale to selling in public market stalls or department stores. They are also the distributors of rice sold by the NFA.

The alternative marketing chains

FARMER-CUSTOM-MILLER-RETAILER

The most fundamental marketing network is the “farmer-custom-miller-retailer” chain. Small farmers with no credit ties to downstream trading agents, go to their village-based custom millers or to travelling millers (unlicensed millers with portable mills) for their milling needs. These are the farmers who set aside most of their milled rice for consumption, while selling the surplus to town based retailing markets. These farmers also shoulder all post-production costs.

In the survey, the operations of small-scale millers capture the above-mentioned marketing chain. As Table 4-2 shows, 76 percent of small-scale millers surveyed are custom millers. All of them custom mill paddy brought to the mill from farmers within their village or neighboring villages. These village-based custom millers mostly have a capacity of 5-10 cavans per hour, often owning a small farm of their own. In our survey, the chain is most prevalent in Isabela, where 53 percent of the respondents were small-scale custom millers. This bolsters the claim that Isabela is more a production than a trading hub. However, it must be noted that paddy serviced by these millers in Isabela represent only 1 percent of those processed by

TABLE 4-2
Type of operations, by capacity (IN PERCENT)

	Small	Medium	Large	Total
All provinces				
custom miller	76.00	44.00	5.88	46.79
miller-trader	24.00	56.00	94.11	53.21
Bulacan				
custom miller	75.00	0.00	8.33	20.0
miller-trader	25.00	-	75.00	80.0
Nueva Ecija				
custom miller	63.6	57.1	-	40.7
miller-trader	36.4	42.9	100.0	59.3
Isabela				
custom miller	92.3	66.7	10.0	68.9
miller-trader	7.7	33.3	90.0	31.1
Davao				
custom miller	44.4	20.0	-	29.4
miller-trader	55.6	80.0	100.0	71.6

Source: Field survey

trader-millers.

In general, rice passing through this chain is not substantial. In all provinces, as Table 4-3 shows, custom-milled paddy is less than 4 percent of paddy procured for trading during the harvest season. This means that majority of the paddy processed is traded.

TABLE 4-3
Volume of paddy custom-milled by small-scale mills
as a percentage of paddy procured for trading purposes
by all mills during harvest month 1999, by province (IN PERCENT)

Province	
Bulacan	0.23
Nueva Ecija	2.76
Isabela	1.35
Davao del Norte	3.60

Source: Field survey

FARMER-TRADER-MILLER-WHOLESALER/RETAILER

One chain that caters to the commercial market is the “farmer-trader-miller wholesaler” chain. Farmers who have direct financing arrangements with millers go this route. The millers, on the other hand, are those whose base of operations usually do not extend beyond the province. Through the years in business, they have developed contacts with farmers themselves in rice-growing villages. Rice processed by these millers then go directly to retailers and/or wholesalers in major public markets in the urban centers.

Millers who finance farmers are usually those who have developed long-term trade relationships with these farmers. They advance production loan at an interest rate of 5 to 7 percent per month for 4 to 6 months. This is deducted from the proceeds of the paddy the farmers supply. In the field survey, millers directly funding farmers were typically themselves landowners while the farmers they were extending credit to were tenants. Otherwise, these are relatively large farmers who have been a relatively steady source of supply through the years.

In the survey, this chain is captured by the operations of medium-scale millers in Nueva Ecija, Isabela and Davao del Norte. In Nueva Ecija, Table 4-4 shows that 60 percent of medium-scale miller-traders procure paddy directly, though not exclusively, from farmers and sell rice to wholesalers and/or retailers. The same is true for 60 percent of medium-scale miller-traders in Isabela and for 57 percent in Davao del Norte.

TABLE 4-4
Upstream agents millers deal with as a percentage
of total responses, by scale and province (IN PERCENT)

Type of Agent	Peak			Lean		
	small	medium	large	small	medium	large
Bulacan						
farmer	100.00	-	9.09	100.00	20.00	9.09
REST	-	100.00	90.01	-	80.00	90.91
palay-agent	-	33.33	36.36	-	20.00	45.45
buying station	-	-	13.64	-	-	4.55
assemblers	-	16.67	-	-	-	-
viajeros	-	50.00	40.91	-	60.00	40.91
cooperatives	-	-	-	-	-	-
Nueva Ecija						
farmer	60.00	60.00	25.00	50.00	50.00	27.27
REST	40.00	40.00	75.00	50.00	50.00	72.73
palay-agent	-	20.00	18.75	-	16.67	18.18
buying station	20.00	-	12.50	25.00	16.67	18.18
assemblers	20.00	20.00	12.50	25.00	16.67	-
viajeros	-	-	31.25	-	-	36.36
cooperatives	-	-	-	-	-	-
Isabela						
farmer	50.00	60.00	29.17	100.00	50.00	37.50
REST	50.00	40.00	70.83	-	50.00	62.50
palay-agent	25.00	20.00	33.33	-	-	31.25
buying station	25.00	20.00	25.00	-	50.00	31.25
assemblers	-	-	8.33	-	-	-
viajeros	-	-	4.17	-	-	-
cooperatives	-	-	-	-	-	-
Davao del Norte						
farmer	55.56	57.14	60.00	75.00	50.00	50.00
REST	44.44	42.86	40.00	25.00	50.00	50.00
palay-agent	22.22	14.29	20.00	25.00	25.00	-
buying station	11.11	28.57	20.00	-	-	50.00
assemblers	-	-	-	-	25.00	-
viajeros	-	-	-	-	-	-
cooperatives	11.11	-	-	-	-	-

Source: Field survey

However, Table 4-5 shows that the share of paddy passing through this chain appears to be significant only in Davao del Norte, where mills are smaller relative to those in the northern chain. In all the other provinces, medium-scale miller-traders account for less than 10 percent of paddy traded.

FARMER-AGENTS/PALAY-ASSEMBLERS/BUYING STATION-TRADER-MILLER-WHOLESALE-RETAILER

Rice consumed in Metro Manila and Davao City usually pass through the “farmer-commission agent/palay-collectors/assemblers/buying station-trader-miller wholesaler-retailer” chain. During the harvest season, village or town-based collectors, mostly with agents, mediate between trader-millers and farmers. These farmers usually have financing arrangements with the palay collectors, who in turn are financed by trader-millers.

The financing arrangements between millers and paddy traders are mostly short-term loans or cash advances that could be used for procurement. An owner of a buying station, for instance, says that she could borrow as much as 2 million pesos interest free, for as long as she uses it for procurement and she returns the money on the afternoon of the day she borrowed it. For traders who have developed relationships of trust with millers, they are extended character loans at 3 to 5 percent monthly for 4-5 months or one season. In turn, these traders use this to finance farmers at 5 to 7 percent monthly interest over the same time period.

The trader-millers, whose reach goes far beyond their province during the lean months, are mostly large-scale millers. They bear the function of not only processing paddy into rice but also wholesaling in the collection of paddy and the distribution of milled rice to retailers. It is interesting to note that large rice millers in Isabela exhibit a degree of vertical integration. They own/finance buying stations, mill their produce and sell their rice through a marketing arm in Dagupan, a firm which they either own or which is owned by members of the family.

That paddy processed by medium- and large-scale millers pass through other intermediary actors can be inferred from Table 4-5. Here, the bigger the scale of millers’ operations, the lower the share of farmers in the number of agents millers deal with. At the consumption-end, Table 4-6 shows that bigger millers tend to deal with wholesalers, except in Davao del Norte. It also shows that large-scale millers

TABLE 4-5
Share of medium-scale miller trader
in total volume of paddy procured and paddy milled
during harvest month 1999, by province
 (IN PERCENT)

Province	share in total procured	share in total milled
Nueva Ecija	8.43	8.83
Isabela	3.72	1.21
Davao del Norte	16.93	22.04
Bulacan	1.85	1.63

Source: Field survey

in Isabela and Davao del Norte also deal with commission agents at the wholesaling end. Moreover, survey results support the claim that most of the commercially available rice passes through this chain. Table 4-7 shows that at least 90 percent of paddy processed in all provinces, except Davao del Norte where this chain corners only 50 percent.

FARMERS-PALAY VIAJERO/RICE VIAJERO-TRADER-MILLER-RETAILER

Rice flowing through Bulacan is best captured by the “farmers-*palay viajero*/rice *viajero*-trader-miller-retailer” chain. Tables 4-5 and 4-6 show the significant share of both palay and rice viajeros in the upstream and downstream network of Bulacan millers. Moreover, Table 4-5 shows the almost nil direct links that medium scale and large-scale Bulacan millers have with farmers.

Here, *palay*/rice traders who procure paddy in northern regions travel to Bulacan to have the paddy milled. *Palay viajeros* interviewed indicate that Bulacan millers prefer dry paddy. Rice Private sector operations in rice marketing and distribution traders, on the other hand, rent the services of a mill and then distribute the rice themselves. Meanwhile, most of the millers interviewed in Bulacan are in Intercity, an industrial estate composed entirely of rice mills. Rice that flows from Bulacan, according to survey respondents, is sold directly to small wholesalers and retailers within Metro Manila outside of the Dagupan hub.

FARMERS-COOPERATIVES-RETAILERS OR FARMERS-COOPERATIVES-NFA-RETAILERS

The network least encountered in the field survey is one where cooperatives figure. Field research only came across such a chain in Davao del Norte. A study done on rice business networks in Davao del Norte (ASSIST, 1994) does mention that cooperatives have proliferated in the province and increasingly gained a significant role in rice marketing.

A manager of a province-wide farmers’ cooperative with *barangay*-level satellite formations was interviewed in Tagum, Davao del Norte. His cooperative was a recipient of a JICA-funded government program that lent money to cooperatives to be used for buying post-harvest facilities. The cooperative acts as a trader-miller, procuring paddy from its members, milling it and selling rice directly to retailers or companies with which it formed partnerships. Like traders, it lends out production loans, albeit at a lower rate of 3 percent per month for five months. At the time of interview, it was milling an average of 2,600 cavans per month equivalent to the operations of a medium-scale miller. However, it has the equipment of large-scale miller including: 2 mills with a total capacity of 70 cavans per hour; two mechanical dryers with a drying capacity of 220 bags per load; three warehouses with a total storage capacity of 70,000 cavans; and 7 transport facilities with a total

TABLE 4-6
Downstream agents millers deal with as a percentage
of total responses, by scale and province (IN PERCENT)

Type of Agent	Peak			Lean		
	small	medium	large	small	medium	large
Bulacan						
wholesaler	-	20.0	47.8	-	20.0	47.8
retailer	50.0	60.0	13.0	50.0	40.0	13.0
commission agents	-	-	-	-	-	-
viajeros	-	20.0	26.1	-	20.0	26.1
own outlet	50.0	-	13.0	50.0	20.0	13.0
Nueva Ecija						
wholesaler	40.0	30.0	61.5	50.0	42.9	50.0
retailer	20.0	20.0	7.7	25.0	28.6	6.3
commission agents	-	-	15.4	-	-	6.3
viajeros	40.0	20.0	15.4	25.0	28.6	12.5
own outlet	-	30.0	-	-	-	25.0
Isabela						
wholesaler	40.0	25.0	50.0	50.0	20.0	50.0
retailer	40.0	25.0	22.2	50.0	40.0	22.2
commission agents	-	25.0	11.1	-	20.0	11.1
viajeros	-	-	-	-	-	-
own outlet	20.0	25.0	16.7	-	20.0	16.7
Davao del Norte						
wholesaler	25.0	33.3	33.3	20.0	66.7	37.5
retailer	37.5	42.9	50.0	20.0	33.3	37.5
commission agents	-	-	-	20.0	-	12.5
viajeros	12.5	-	-	-	-	-
own outlet	25.0	-	16.7	40.0	-	12.5

Source: Field survey

TABLE 4-7
Paddy processed by large-scale millers as a percentage of total,
by province (IN PERCENT)

Province	Paddy procured	Paddy milled	Paddy procured	Paddy milled
	peak		lean	
Bulacan	97.06	97.24	98.28	98.30
Nueva Ecija	89.12	90.31	81.80	86.71
Isabela	96.13	98.52	95.55	98.30
Davao del Norte	66.50	51.96	42.66	59.29

Source: Field survey

hauling capacity of 2,000 cavans.

The manager comments that most of the cooperatives' equipment is underutilized. Because of this, it has had to shoulder high maintenance costs for the equipment. In the face of declining membership, the capacity of the cooperative to engage effectively in rice trading is weakened. Its situation is exacerbated by the inability of the farmer-members to pay their loans because of the cut in production brought about by the *El Niño* weather disturbance. At the time of interview, it had accumulated a loan exposure of 21 million pesos, with 30 percent classified as bad debt.

It is telling how the "farmer-cooperatives-NFA-retailers" chain was not encountered in the field research. This could be indicative of the limited impact that NFA's domestic procurement activities have on the market.

Prices, profits and marketing margins

Activities and profits

This section attempts to outline in more detail the activities undertaken by the key marketing actors and where possible, determine how much profit they derive from these activities. The calculations are highly conjectural, given the small sample size and the sensitive nature of the data. Moreover, the computations are based on two highly simplistic assumptions: that a cavan is equivalent to 50 kilos and that a kilo of paddy yields 65 percent rice equivalent.

FARMERS

Farmers produce the object of trade: paddy. To be able to do so, they manage the use of land endowments and other factors of production. Moreover, they bear the risks imposed by nature on the production cycle. Most of the farmers interviewed in the field research were smallholder producers who practice monocropping. A focus-group discussion of farmer and farmer leaders was held in Santiago, Isabela while at least two farmers each were interviewed in San Jose, Nueva Ecija. A manager of a farmers' cooperative was interviewed in Tagum, Davao del Norte.

In the post-production activities, farmers typically shoulder the cost of harvesting, threshing, hauling and drying. In Isabela, interviewed farmers from rice-producing villages off the highway say that they pay harvesters one cavan for every 15 cavans harvested or about seven percent of total harvest. Threshing is computed at seven percent of harvesting fee. Farmers pay PhP 5 per cavan as drying fee. They spend around PhP 1,000 per hectare on food and labor expenses for hauling harvest from the farm to a point in the village accessible to traders' trucks. They estimate harvesting and post-harvest costs to take up as much as 20

percent of total costs per hectare.

They place a landowner's total costs per hectare, including labor, material inputs, and irrigation fee, to be at around PhP 15,000. Assuming that tenants set aside 15 cavans for the land owner, his total cost would come to about PhP 20,000. During the time of interview, the prevailing interest rate for debt incurred from informal sources like traders stood at seven percent per month for the duration of the season or four months. This means an additional PhP 4,200 -interest expense for every PhP 15,000 that a farmer typically borrows. At the time of interview, they say that in their villages, which are irrigated, a hectare yields as much as 100 cavans of palay. The prevailing price for ordinary paddy was about PhP 7 per kilo.

Given these assumptions, Table 4-8 summarizes a possible schedule of revenue and net income and income per kilo of paddy. These rough computations—figures that to a large extent are confirmed and validated by other farmers interviewed in Nueva Ecija show that credit and land rent are the major determinants of how much of the farmgate price goes back to farmers as profit. Given the above assumptions, a land-owning farmer with no credit earns a profit equal to 50 percent of the price. In contrast, a leaseholder with credit captures a profit equal to only 9 percent of the farmgate price.

TABLE 4-8
Schedule of income and revenue: Cordon, Isabel, May, 1999
(IN PESOS PER HECTARE)

Type of farmer	Revenue per hectare	Income per hectare	Income per kilo of paddy (in pesos per kilo)
landowner	32,667	17,667	3.53
tenant	27,417	7,417	1.48
landowner with credit	32,667	13,467	2.41
tenant with credit	27,417	3,217	.64

Source: Focus Group Discussion, Field Survey

AGENTS

Transactions and search costs give rise to the need for intermediary agents in the marketing chain. For instance, Hayami et al (1998) say that the transaction cost attributed to collecting paddy is high because individual farmers sell only a small amount. To increase the rate of utilization of his truck and trade skill, an independent trader would find it economical to employ agents who have lower time opportunity cost to search for and strike contracts with neighboring farmers.

The same logic applies to large mills. For the sake of increasing the utilization

rate of large fixed capital consisting of milling and drying facilities and a fleet of trucks, they need to procure a steady supply of paddy. In order to keep a mill running over the months beyond the local harvesting season, it is necessary to procure paddy from different areas with different harvesting seasons. Assemblage of a large amount from small producers over a wide territory makes it inevitable for the mill to rely on collectors in various localities. (Hayami, *et.al.*, 1998)

Agents can also be seen as an institutional response to information asymmetries in rice marketing. Because of the absence of up-to-date price information across links in the marketing chains, traders need agents to monitor price information at trading centers. For traders and millers who move big volumes, a price disparity of a single-centavo matters. Agents are also hired to match procurement with preferences of paddy buyers, especially millers. Agents are expected to be familiar with the type and quality of paddy emanating from different localities or traders. The sensitivity and importance of price and quality information to big traders and millers make credibility and trustworthiness valuable traits in agents. Principals who employ agents can thus be seen as paying a premium to these traits, too.

An agent does not incur cost other than his own labor-time. His income could thus be imputed from his revenues. An agent mediating between farmers and traders gets a per kilo commission from traders. In Santiago City, Isabela, the commission was placed at around two centavos per kilo. The scope of his operations is limited to villages where he is based and other adjoining villages within his town.

Meanwhile, an agent working between traders and millers usually gets a commission from traders during harvest and from millers during lean months. The commission comes to around five centavos per kilo for agents in San Jose City, Nueva Ecija. Sometimes, both parties pay the agent. Finally, an agent mediating between millers and wholesalers usually gets a commission from millers. When supply is scarce, wholesalers also compensate him. In Davao City, “disers” get PhP 1 to 5 per cavan of rice.

In general, the larger the collection an agent arranges, the higher is his income. A village-based agent, whose operations are usually tied to the harvest season only, moves relatively smaller volumes and thus earns less. An agent further down the chain, say in a major trading and milling hub, may be able to move larger volumes because marketing operations there are year-round. It is interesting to note that many big traders encountered in the field survey started as agents.

To illustrate the comparative incomes of agents across marketing chains, first take the case of a commission agent based in Santiago City, Isabela. He works for a large miller based in the city and gets a commission of two centavos for every kilo he procures. Working in four contiguous villages, he says he can procure as much as 150 cavans a day at the peak harvest month. This is equivalent to an

income of PhP 150 a day or PhP 4,200 a month assuming he works 28 days. During the lean season, he says he is only able to negotiate around 400 cavans per month or using the same assumptions as above, PhP 400 per month. Assuming that harvest months last for two months every year, this agent earns a gross income of about PhP 12,400 a year for his trading activities, an amount slightly below the country's poverty threshold for a family of six. However, these computations do not account for revenues that may accrue to the agent from the difference between his principal's quoted price and the price he was able to negotiate with the farmers. Though the agent does not admit this, millers opine that this could increase the margin of agents like the one interviewed by 20 centavos per kilo.

Another illustrative example is an agent based in San Jose City, Nueva Ecija. This agent negotiates deals between paddy traders and earns a commission of five centavos for every kilo he negotiates. He sometimes gets PhP 200 to 500 per truck, depending on the truck type, as "tip" from the paddy trader. He says that on the average he is able to negotiate with at least four trucks of 120 cavans each per a day. During peak months, he claims he can even place as much as 20 trucks per day. Assuming he maintains just 4 trucks a day, he stands to earn PhP 1,200 a day or as much as PhP 33,600 a month, from the miller's commission fee alone. Small wonder that from his earnings as agent, he has already bought a 1.5- hectare piece of land, which he leases to tenants. Moreover he runs a canteen near the gasoline station along the highway, where other agents congregate.

Agents from Intercity, Bulacan claim their business is less lucrative. Here, paddy traders and not millers pay them a commission fee. The agents' association president claims that said fee ranges from PhP 50 to 200 per truck. At two to three trucks per week in a lean month, and four to five trucks in a peak month, he says that on the average, the annual income they generate is no more than a minimum wage earners'. However, millers within the estate estimate agents' commission to be at a range closer to the San Jose hub, i.e., PhP 500-1,000 per truck.

PADDY TRADERS

The typical activities of paddy traders include hauling the produce from the farmgate to their warehouses, drying the paddy, and delivering the paddy to the millers or other paddy buyers. Their costs include labor fees (paid to those who oversee drying, haul, and deliver the paddy) and transportation expenses (drivers' fee, crude oil, gasoline, maintenance expense). Paddy traders are said to move volumes over 10 times that of commission agents (Hayami, *et al.* 1998).

Almost all of the big paddy traders interviewed in Isabela and Nueva Ecija began as small traders with limited scope of operations. However, almost all of them had landholdings of not less than 10 hectares. Most of them have families who have been involved in rice farming for at least one generation back. After

having been able to save from their operations as small traders, they use their land as collateral to borrow money from the bank to buy trucks. They use their savings as initial working capital for buying paddy. Husband-and-wife tandems were also frequent.

A *palay viajero* in Isabela illustrates the cost and revenue schedule of a typical paddy trader. In April 1999, wet paddy can be bought in Isabela at PhP 7 per kilo. After a day of drying, the same could be sold in Nueva Ecija at PhP 7.75 per kilo. To be able to sell at least one ten-wheeler of paddy with a capacity of 25,000 kilos, he spends: PhP175,000 for paddy procurement, PhP2,500 for crude oil and driver's fee, PhP2,500 for other labor-related expenses, PhP2,500 as drying fee (at ten centavos per kilo) and PhP1,250 for the commission agent (at five centavos per kilo) for a total amount of PhP 183,750. This is equivalent to PhP7.35 of expenses for every kilo, or a profit margin of 40 centavos, a figure validated in interviews with three other traders in Isabela.

The same *viajero* has a fleet of two 10-wheelers, two trailers and two forward trucks. He uses the first four to deliver paddy in Nueva Ecija and Bulacan and the last two to haul paddy from villages in Isabela and Nueva Vizcaya. In 1999, he sold an average of 7,500 cavans of paddy during harvest months, and three-quarters of that in lean months. Assuming harvest lasts only 2 months every year and the rest are lean months, his annual income in 1999 amounts to more than PhP1.4 million. He says that he has invested as much as 6 million pesos in capital equipment (i.e., trucks and warehouse). Assuming this to be the total capital he uses, he enjoys a rate of return to capital in the order of about 24 percent per year.

As with agents, a paddy trader's income depends on the scope of his network. For instance, one small trader with just one truck and working only within contiguous towns within the province of Isabela says he was able to buy and sell 3,500 cavans for one whole season. At 7,000 cavans a year and assuming a profit margin of 40 centavos, he earns about PhP 140,000 a year.

MILLER-TRADERS

Miller-traders are principally rice traders who-instead of having their paddy procurement custom-milled by other millers-mill the paddy themselves. They earn from their trading activities but also earn from the sale of bran and brewer produced in the milling process. The earnings from the sale of by-products usually cover the cost of milling, although miller-traders from Bulacan note that this was not true at the time of interview. Meanwhile, they shoulder the costs of purchasing the paddy (including paying a commission fee to agents), drying, milling and distributing to wholesalers and/or retailers.

Rice millers interviewed in Bulacan and Nueva Ecija peg the cost of processing paddy into rice at PhP25 to 30 per cavan of palay or 50 to 60 centavos per kilo. This

includes the cost of handling, drying and milling. Given an expected recovery rate of 65 percent, this amounts to 80 to 90 centavos per kilo of milled rice equivalent. Delivery costs stand at PhP 5 to 10 per cavan of rice or 10 to 20 centavos per kilo. Total processing costs per kilo of rice, range from 90 centavos to PhP1 per kilo of rice.

At the time of interview, paddy procured in Intercity, Bulacan stood at PhP 9.00 per kilo of ordinary palay. This could be sold to Private sector operations in rice marketing and distribution wholesalers in Manila at 15.00 per kilo. Assuming a recovery rate of 65 percent, millers in the area stand to earn about 15 centavos per kilo of rice or a profit margin of PhP7.50 per cavan of rice. This is a little bit lower than what is noted by interviewees in Bulacan and Nueva Ecija as the usual practice: a profit margin of 10 to 15 pesos per bag of rice or 20 to 30 centavos per kilo of rice. However, the mark-up should be up to around those figures if income from by-products is added. Moreover, this profit does not include earnings from the lending operations of the miller-trader. Miller-traders are typically wary of divulging the extent of lending operations-which could run up to millions for large-scale millers.

What do all these imply in terms of a miller's income? Take the case of a typical large-scale miller in Bulacan who has 2 modern multi-pass mills with a capacity of 50 cavans an hour each. He has two dryers and a fleet of trucks. His operations typically run for six days a week for 10 months. He has a warehouse to store part of the paddy procured during the harvest months to ensure continued operations during the lean months. He says that on the average, he processes and wholesales to Manila retailers a total of 1,000 cavans of rice a day. Saying he levies a mark-up of 12 per bag, he stands to earn PhP2.4 million a year in rice trading alone.

These rough computations do not include cost of money. The typical terms between millers and paddy suppliers are for millers to pay in cash. Wholesalers and retailers, on the other hand, pay on terms depending on the relationship that the buyer has nurtured with the miller. A typical arrangement is for wholesalers and/or retailers to pay in post-dated checks. In Bulacan, a miller says she charges an additional 10 pesos per cavan mark-up for a three to seven day term-payment.

It is important to note that the millers consider the risk of default as one of the biggest risks they face. Millers in both chains surveyed speak of instances where mills have closed down because of major defaults. The viability of the millers' business at its current level profits thus rests on maintaining relationships of trust with upstream and downstream agents.

WHOLESALE AND RETAILERS

Wholesalers perform the function of distributing milled rice to retailers. They typically bear the cost of transporting the stocks from their warehouses to the retailers. Their business, as in most of the rice marketing business, is a high-

volume, low mark-up business. Big wholesalers in Dagupan, Manila buy from 5,000 to 10,000 kilos of rice a day and distribute this around Manila. Some reach outlying provinces in Southern Tagalog and the Visayas.

According to a wholesaler in Dagupan, many of his fellow wholesalers there are really marketing arms of millers in Dagupan. Meanwhile, big wholesalers in Monte Verde, Davao City mostly deliver within the city limits. According to our source in Dagupan, the mark-up of wholesalers range from 10 to 30 pesos per cavan of rice, depending on the volume procured by the retailer. The rule of thumb is, the bigger the volume procured, and/or the longer the wholesalers have dealt with the retailer, the lower the mark-up. This mark-up corresponds to the cost of money as payments are made by retailers in terms of 5-7 days in Metro Manila and 7-15 days in Davao City. Retailers, on the other hand, make a profit of PhP 50 to 100 per bag.

Profit margin

Table 4-9 summarizes the data on profit margins acquired at each level of the marketing chain. Rough approximations of margins suggest that farmers get the biggest profit margins followed by traders and retailers. Trader-millers in the north chain take a smaller profit margin than the south chain, owing perhaps to the greater number of millers in the northern chain.

But because paddy traders and millers have command over and process greater volumes of paddy—they stand to get higher income and profits. A small farmer working on an irrigated farm has power only over 100 cavans of paddy or an equivalent of 65 cavans of rice per season, which lasts from 4-6 months. In contrast, a miller in Intercity buys and sells at least 1,000 cavans of rice per day while a wholesaler in Dagupan moves at least 5,000 cavans of rice per day.

Rice marketing is essentially a thin-margin, high-volume business. Traders seek to maximize the amount of paddy they collect while millers seek to achieve high utilization rates of their fixed capital. This is why competition is intense for hauling and processing as much paddy and selling as much rice as possible.

Case study: the milling sector

The milling sector is a vastly understudied aspect of the rice marketing chain and yet millers occupy a very important place in the marketing chain—they are in the middle of the marketing chain and thus are attuned to the workings of both producers and buyers of rice. Of the marketing actors, they have the most exposure in terms of physical capital. Large-scale millers invest millions in trucks, warehouses, mills and dryers. The extent of investments into the sector, as well as the state of post-harvest facilities, are good indicators as to the perception of private actors

TABLE 4-9
Estimates of profit margins of marketing actors,
by marketing chain (IN PESOS)

	Profit margin per kilo of paddy	Profit margin per kilo of milled rice equivalent	Area data was gathered
Northern chain			
farmer	.4 to 3.5	.62 to 5.38	Cordon, Isabela; Cauayan, Isabela
agent	.02 to .05	.03 to .08	San Jose City, Nueva Ecija; Santiago, Isabela; Bocaue, Bulacan
paddy-trader	0.4	0.62	Santiago, Isabela
trader-miller		.2 to .4	Muñoz, Nueva Ecija; Bocaue, Bulacan
wholesaler		.2 to .6	Dagupan St., Manila
retailer		.50 to 1	Quiapo, Manila
Southern chain			
farmer	2 to 4	3.07 to 6.15	from a farmer's cooperative manager, Tagum, Davao del Norte
agent	.02 to .05	.03 to .08	Tagum, Davao del Norte
trader-miller		.6 to 1	Tagum, Davao del Norte
wholesaler		.02 to .1	Monteverde St. Davao City
retailer		.50 to 1	Bankerohan, Davao City

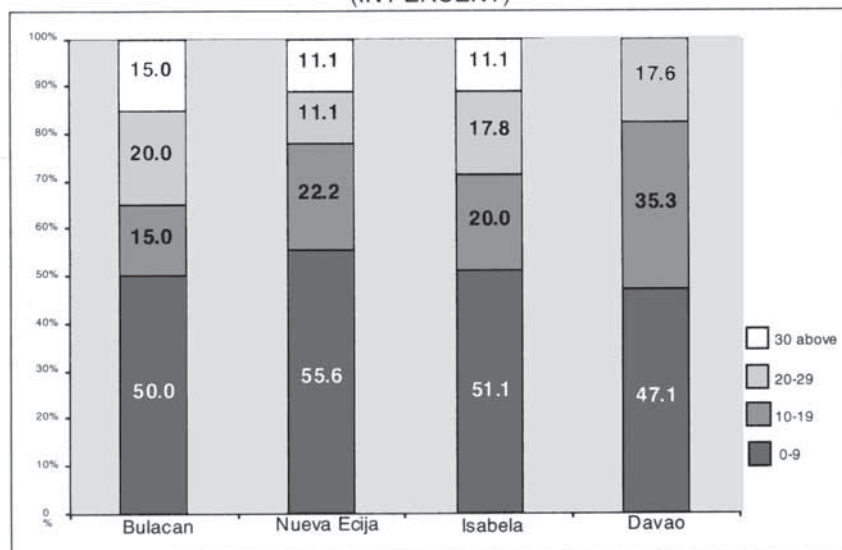
regarding the viability of the rice sector.

The emerging picture is that millers are educated, relatively young entrepreneurs. (See Appendix 1 for data on the survey respondents.) This is in sharp contrast to popular notions about millers being old and regressive voiced by both industry and government leaders. Many of the newer entrants are husband-and-wife teams-with the husband overseeing the paddy procurement operations and the wife supervising the mill operations. Quite a number of them are landowners or are part of land-owning families in their provinces. Most of those encountered in the survey considered their work in the mills as a full-time job.

Age and capacity of mills

Figure 4 shows that majority of the millers have been in business only in the last 10 years. This does not preclude the possibility that the business was passed on to them by family. Based on our observations, this was prevalent in Cabatuan, Isabela where current millers are typically second, if not third generation millers. However, millers in Intercity, Bocaue, Bulacan were either self-made businessmen who began

FIGURE 4
Years in business, by province
(IN PERCENT)



as traders or also had operations along the highway, the site of the older mills. Private sector operations in rice marketing and distribution

The years in business somehow coincide with the average year mills were bought, as shown in Table 4-10. It is especially interesting to note that the larger mills are also the relatively newer ones, implying investments coming into mills with commercial capacity. This is further validated by the fact that 62 percent of the respondents have modified their mills at least once. Table 4-11 reveals that most of these additional investments, which were meant to modernize their machines, were made in the 1990s.

Table 4-12 shows the mean capacity of mills, by province. The mean capacity of mills in northern chain provinces are mostly large in scale while that of Davao del Norte corresponds to medium scale mills. The mean capacity of mills in all provinces is about 34 cavans per hour. This means that on the average, the provincessurveyed have the capacity to mill 13,600 kilos of paddy. Assuming that mills operate for eight hours, this amounts to about 8,840 kilos of rice in a given day. It is interesting to note that Bulacan appears to have higher-capacity mills than Isabela and Nueva Ecija even as it has lower overall capacity than the two (see Table 1-1). Notice also the distance between the mean and the mode in the northern chain provinces. This implies that a number of mills with capacity higher than the

TABLE 4-10
Year mill was bought, by capacity

	Mean	Median	Mode
small	1987	1989	1978
Medium	1985	1985	1980
Large	1988	1990	1996

Source: Field survey

TABLE 4-11
Modifications made to mills

	Frequency	% of total	Mean year modification was made
Pneumatic	5	4.59	1996
Paddy separator	17	15.60	1993
Rubber huller	22	20.18	1990
Polisher/whitener	13	11.93	1995
Blower	13	11.93	1993
Grader	27	24.77	1995
Stoner	54	49.54	1993

Source: Field survey

TABLE 4-12
Capacity of mills, by province
(IN CAVANS PER HOUR)

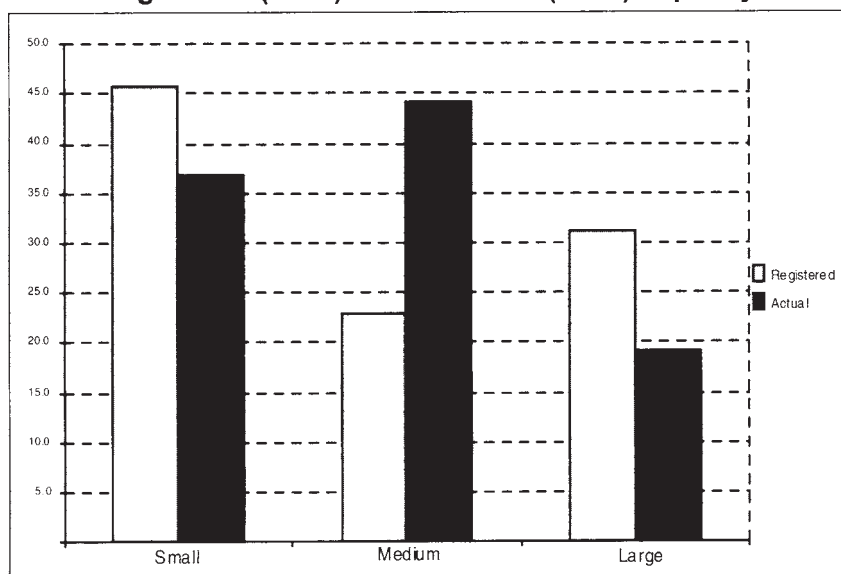
	Isabela	Nueva Ecija	Bulacan	Davao del Norte
Mean	33.52	34.97	45.18	18.12
Median	12.00	18.00	40.00	15.00
Mode	10.00	10.00	25.00	20.00

Source: Field survey

mean dot the picture. Meanwhile, that the mean is lower than the mode capacity in Davao del Norte suggests that many small- and medium-scale mills service the province.

Disparities between actual and registered capacity reveal that there may have been some downscaling of operations in 1998. Comments made by millers in the interviews were validated by survey findings depicted in Figure 5. The figure

FIGURE 5
Registered (1988) versus actual (1999) capacity



shows that, on the one hand, there are more medium-scale mills than have been registered. On the other hand, there are less large-scale mills than have been registered. This means that some large-scale mills may have down-scaled their operations in 1998. Of course, some of the disparity in medium-scale mills is accounted for by the under-reporting of some mills posing as small-scale mills.

Miller's Assets

The survey also attempted to make an inventory of millers' physical plant assets other than their mills. In particular, the survey looked into the breadth of investments of millers in dryers, warehouses, trucks and communication facilities.

DRYERS

Dryers are important equipment for millers. Drying improves the shelf life of paddy and increases the volume of rice equivalent. Table 4-13 shows that on the average, a mill has 2-3 dryers. In the northern chain, Isabela has the most drying capacity, while Bulacan has the least. The average years in which investments were made into dryers were 1995 and 1996. In the northern chain, this is often quoted as a year when many rice marketing actors benefited from the sudden rise in rice prices in Metro Manila. Most of the drying capacity is concentrated in

TABLE 4-13
Average year acquired, number of and
capacity of dryers by province

	Isabela	Nueva Ecija	Bulacan	Davao del Norte
Number	3	3	3	2
Capacity (in cavans per load)	699	377	259	155
Year acquired	1995	1996	1995	1995
Capacity (in cavans per load), by scale of operations				
small		120.00		100.00
medium	360.00	120.00	25.00	160.00
large	736.67	487.14	306.00	180.00

Source: Field survey

commercial medium- and large-scale mills although in Nueva Ecija and Davao del Norte, even small-scale mills have drying capacity.

WAREHOUSES

The warehousing capacity of millers determines their ability to cope with and profit from fluctuations in prices. As has been shown, trader-millers typically earn from their trading, not milling activities. The typical operations of a miller would then be to procure and set aside paddy at the peak of the harvest when prices are expectedly low and release what they store during lean months when prices are low. However, many millers interviewed noted that in 1998, the spiraling interest rates made it risky for them to store. They would rather be safe and have cash in their hands and thus opted for continuous buying and trading operations even during the harvest time, when they received lower prices.

Table 4-14 shows that warehouses are among the first investments that a miller makes-with mean year the warehouses were built coinciding with the mean years businesses were established. Total warehousing capacity is highest in Nueva Ecija and Isabela and lowest in Davao del Norte. If juxtaposed against milling capacity, it may be conjectured that stock turnover is faster in Bulacan and Isabela, where total milling capacity is larger and warehousing capacity is smaller.

TRUCKS

A millers' fleet of vehicles determines the geographical scope of his operations. Smaller trucks like the "elf" (capacity: 120-150 cavans), which can

TABLE 4-14
Average year acquired, number of warehouses
and total warehousing capacity, by province

	Isabela	Nueva Ecija	Bulacan	Davao del Norte
Number	1	2	2	1
Capacity (in cavans)	24,666	33,588	18,867	6,853
Year acquired	1987	1985	1988	1986

Source: Field survey

TABLE 4-15
Average number of vehicles,
by type, province and millers' capacity

Isabela						
millers' capacity	elf	forward	10 wheeler	trailer	others	total
small	0.5	0.1	-	-	0.4	1
medium	0.2	0.3	0.1	0.1	1.1	2
large	1.0	1.7	1.1	2.1	0.1	6
Nueva Ecija						
millers' capacity	elf	forward	10 wheeler	trailer	others	total
small	0.3	0.4	0.2	-	0.4	1
medium	0.9	1.0	0.4	-	-	2
large	1.0	2.7	2.0	0.2	0.2	6
Bulacan						
millers' capacity	elf	forward	10 wheeler	trailer	others	total
small	0.3	0.3	-	-	0.3	1
medium	0.5	0.3	-	-	-	1
large	1.3	1.1	0.8	-	0.1	3
Davao del Norte						
millers' capacity	elf	forward	10 wheeler	trailer	others	total
small	0.2	0.7	0.3	-	-	1
medium	0.6	0.8	0.4	-	0.2	2
large	2.0	1.3	0.7	-	-	4

Source: Field survey

negotiate smaller barangay and farm roads better than the bigger ones, are used to haul paddy from the villages. Bigger trucks like “forward trucks” (capacity: 200-250 cavans), “10-wheeler trucks” (capacity 300-350 cavans) and “trailers” (capacity 500-800 cavans) are used to haul paddy to the miller or rice to the wholesalers. Custom-millers use vehicles with lower loading capacity, like tricycles and jeepneys, to haul paddy from the farm. Some larger millers also have their own dump trucks,

which they use to ferry their by-products.

Survey results, as shown in Table 4-15, indicate that millers in Isabela and Nueva Ecija generally have higher trucking capacity than those in Bulacan and Davao del Norte. The disparity on the part of Bulacan can be explained by the fact that most of the paddy processed in Bulacan is delivered right at the doorsteps of the miller. Meanwhile, the lower trucking capacity of millers in Davao del Norte reflect the lower volumes that the province processes compared to its counterparts in the northern chain.

As expected, the larger the millers' capacity, the more vehicles they have, and consequently the larger the scope of operations.

COMMUNICATION FACILITIES

Communications facilities are central to keeping millers up dated regarding price and stock movements in the centers of trade. Table 4-16 reveals that all millers, across capacity, have at least one phone connection and radio set. Again as expected, larger millers have more extensive communications facilities. As a side note, the extent of phone connections in the province may be reflective of the relative success of allowing more players to come into the telecommunications industry in the country. Millers in Isabela and Nueva Ecija appear to be the most wired-relying not only on phone lines but also cellular phones and radio sets. This may be related to the extent of their transportation facilities. Sending more out, they need to monitor more units.

Synthesis: Institutions in rice marketing

What key institutional characteristics of private sector activities in rice trading can be observed in the organization of marketing?

Competition

Rice marketing is a business where capacity matters. The more volume an actor can produce, procure or process, the more he can make money. However, it is difficult to conclude from this alone that any actor has monopoly power over any segment of the market.

In the milling sector, we see small-scale actors thriving side by side with large-scale mills. There exists intense competition between millers not only within the same locale but also across provinces. Large-millers, in order to be assured of maximal plant and equipment utilization, are forced to compete with millers even in other provinces so that they can procure paddy during different harvesting seasons.

TABLE 4-16
Average number of communications lines
and radio handsets, by province and millers' capacity

	Isabela	Nueva Ecija	Bulacan	Davao del Norte
land lines	2	1	1	1
< 15 = 15	1	1	1	1
>15; < or = 30	2	1	1	1
>30	3	1	2	1
cellular lines	2	2	1	1
< 15 = 15	-	1	-	1
>15; < or = 30	1	3	1	
>30	3	2	1	1
faxlines	1	1	1	-
< 15 = 15	-	-	-	-
>15; < or = 30	1	-		-
>30	1	1	1	-
radio sets excluding base	5	6	1	1
< 15 = 15	-	2	-	1
>15; < or = 30	6	4	-	2
>30	5	7	1	1

Source: Field survey

Moreover, substantial investments to modernize milling operations across scale of operations can also be considered an indicator that mills are gearing up for competition.

The competition among millers across provinces has also given rise to innovation. A miller in Muñoz, notes that with the rising share of Intercity millers in volumes processed, millers from his locale are forced to compete by product differentiation. He observes that his neighbor-millers have become more keen about the quality of *palay* they procure. They are investing in technologies and equipment that would help them produce well-milled aromatic rice. A miller in Bulacan, observes on the other hand, that paddy that millers in Bulacan get are already those cast-off by those in Nueva Ecija and Isabela. Their response is to develop better contacts in supply areas so that they could also be assured of good quality paddy.

Paddy *vijeros* also appear to help in eroding the monopoly power of village-based traders. Many traders interviewed note that with their entry into the villages, farmers are beginning the practice of paying off their credit in cash. If they find that

the viajeros can give them a better price for their paddy, they sell their paddy to these viajeros and then pay out of the revenue they get from the sale. Local traders are also forced to compete with these viajeros in terms of price-setting. Rosengrant et. al. (1995) echo these findings in the case of corn marketing.

Credit-tying

Credit-tying is one of the most maligned of rural institutions, often seen as an institution motivated by the desire of the creditors to capture monopolistic profit. However, as Hayami et.al. (1998) note, it stems from the motive to save transaction costs arising from possible moral hazard and opportunism under the asymmetry of information. For one, the interest on credit must be seen not only as a return to the cost of money of the trader or miller. It is also a premium related to the risk taken on by the trader or miller as to the quality of paddy that he would get from the farmer, who is assured of a sale no matter what the quality of his produce is.

The emerging picture is one where maximal monopolistic rents are extracted in more remote villages, less accessible to competing traders and millers.

Interest rates for loans made to farmers in milling centers in the northern chain stand at 5 to 7 percent per month for 3 to 6 months. This amounts to 60 to 84 percent per annum, still way below non-collateralized consumption loan from informal money lenders which, based on interviews, stand at about 10 percent per month.

In contrast, farmers in more remote villages in the southern chain, a cooperative manager in Davao del Norte posits, face up to credit-tie-in interest rates of 10 to 15 percent per month.

In general, markets-being situated in milling centers-were more “contestable” in most of the areas where the survey was conducted. In these areas, it is not entirely unheard of for farmers and middlemen to switch trade partners if their relationship with their existing “patron” is no longer satisfactory to them. Because of the presence of numerous traders and millers, the practice of borrowers renegeing on their promise to supply paddy and choosing instead to pay in cash is not uncommon. Creditors, meanwhile, opt to accept the payment rather than end up with nothing. Because of stiff competition, neither can they just cut ties with “erring” farmers. It must also be noted that millers and traders appear to price the paddy at market rates. This is probably because farmers are better informed of price movements in milling centers.

A miller in Gapan says that he only extends credit to farmers with whom he has had long-standing relationship and who has assured him of paddy supply over a period of time. Therefore, it is not at all atypical for millers like him to deal only with relatively large farmers. These farmers, in turn, benefit from the relationship to the extent that direct sales takes away the margin that would otherwise have

merely gone to commission agents. Private sector operations in rice marketing and distribution.

Contracts

Contracts between actors, however crude, are often written. Between retailers and wholesalers, they come in the form of post dated checks. Between a credit trader/miller and a farmer, a receipt and a document that proves that the farmer's land has been offered as collateral.

However, there are substantial transaction costs to pursuing any breach of trust. Everywhere in the chain, actors speak of contracts breached running from several hundreds of thousands to several millions. For this reason, repeated trade and maintenance of long-term relations is a key feature of interactions between actors.

Farmers are evaluated before they are given financing. Choice depends on size and tenure of land holding and history of default. Financing is usually given at the start of the planting season and paid right after harvest (after 3 to 5 months). Some millers also finance inputs and give outright cash loans. Meanwhile, miller-traders and palay-traders usually purchase paddy from farmers in cash. They choose the type of downstream agent they deal with depending on their desired liquidity. Distribution to wholesalers and retailers outside Davao City or Metro Manila leads to higher returns, although payments are usually made in 15-30 days. Meanwhile, distribution to traditional wholesaling returns may lead to lower returns but are paid in shorter terms.

Suki relations, a function of long-term interaction and good payment history, are an important aspect of contracts. The *suki* is usually given better terms. A retailer in Quiapo, Manila says that Chinese traders in Dagupan put a premium on the ability of retailers to keep their word. She says it is easy to be blacklisted among Chinese traders as any abuse of confidence is speedily transmitted through the Chinese network. This is why she takes care to keep her credibility with her *suki* in Dagupan, with whom she has had dealings for the past 20 years. She says that other wholesalers, knowing of her good reputation for her *suki*, lend her money even if they do not know her.

A paddy trader in Santiago City, Isabela says that Bulacan miller-traders are easier to deal with than wholesalers in Dagupan, who are a lot less trusting. He says that he sees an emerging sentiment among many *vijeros* in the northern chain that an advantage of the Bulacan hub is that Chinese traders do not dominate it. Apparently, there are cultural norms that underlie the decision of rice marketing actors, too.

Entry

While each level of the marketing network is free and competitive, the nature of the various activities imposes capitalization requirements which provides a binding constraint to firm entry. The capitalization requirements are highest in the milling trading and wholesaling business, and thus have relatively fewer entrants.

A miller-trader, who owns a buying station and began as a mere paddy agent, notes that while Chinese traders have once dominated palay buy and sell operations in Davao City, new entrants have emerged as a result of accumulated capacity from successful buy and sell operations. A substantial portion of millers in Intercity, Bulacan also serve as testament to this phenomenon.

A paddy-trader in Santiago says that the business of small scale paddy-trading imposes the least capitalization requirement. Anyone with PhP50,000 can begin to rice trading business with the ability to operate in a 10-12 kilometer radius. However, to be able to operate beyond that scope, a trader needs at least one truck and one forward truck. At surplus second-hand markets, these could be bought at around PhP 200,000-300,000 each. To be able to utilize those trucks, the traders need around PhP 600,000 as working capital.

A miller in Bulacan, on the other hand, posits that to be able to operate a mill with a capacity of 40 cavans per hour, one needs PhP12 million for the mill, land, a truck and a delivery van. Working capital needed for this scale of operations would be around PhP 5 million for paddy procurement and PhP1 million for consumables/maintenance of mills.

Price-setting

Price-setting at the farm-gate is mostly buyer-driven. This is especially true in farming villages not accessible to many downstream agents. Farmers' ability to maximize profits is diminished by their lack of ability to store. They are marginalized in paddy price setting as they do not have the facilities like transportation Private sector operations in rice marketing and distribution and telecommunications to elicit proper market information.

Miller-traders, on the other hand, are regularly updated regarding the movements of prices from both the supply-end (through their agents and paddy-traders) and the demand-end (through their wholesalers and retailers). Although evidence in the milling and trading centers suggests that the extent to which miller-traders are able to dictate paddy price to farmers bound to a financing arrangements may not be pervasive as imagined, this power is still exercised in dealings with farmers in more remote villages.

In terms of distribution, miller-traders depend on the prevailing market price at the time of sale. While some miller-traders opt to stock rice to speculate on price, some are forced to unload stocks for liquidity.

Wholesalers have more power in determining prices if they pay in cash or in shorter-terms, which the millers prefer. Wholesalers in Monteverde St., for instance, are said to be able to command lower prices because they pay in cash. Miller-traders in need of spot-cash are forced to deal with them.

Retail-selling price is market-driven, determined largely by the wholesaler's price, the level of interest rate charged and the price set for NFA rice. In general, the retailer's price, in comparison to farm-gate price, does not react immediately to changes in domestic supply. This is indicative of the stabilizing power of NFA subsidized prices.

In the northern chain, San Jose City, Nueva Ecija, Bocaue, Bulacan and Dagupan, Metro Manila are the most cited sources of price information. In the southern chain, it is the Monteverde price that is most monitored.

5. Lessons for public policy

What lessons can be drawn for the design of public policy from this study's findings about the operations of state and market in rice trading and distribution?

The primary findings of the study can be summarized as follows:

First, the rice sector, even as it has been touted to aid the recovery of the Philippine economy in 1999, has been largely unsteady, if not stagnant, in the 1990s. As with the whole agricultural sector, it continues to be weakened by the bottlenecks in infrastructure and research and development. The Philippines has a lot of catching up to do in terms of public spending in roads and irrigation as well as research and development. As of 1999, the promise of the Agricultural and Fisheries Modernization Act of 1998, that is additional appropriations for agriculture spending, especially infrastructure-related, in the amount of PhP105 million over a span of six years remains to be realized. There is reason to believe that with the drag imposed by infrastructure and research-related backlog and at the rate productivity has stagnated, imports are going to figure more prominently in the future.

Second, of the government's direct market intervention tools, NFA's import operations also happen to have the most impact on the rice market. While the infusion of imports into the domestic market has helped stabilize retail prices, millers, traders and farmers are one in bemoaning the impact of such intervention, especially when ill-timed, on their livelihood. Farmers and small-scale traders stand to lose most as their entitlements do not afford them to shift industries easily or without cost. The universal retail price subsidy, in conjunction with an ineffective farm gate support, program has neither been efficient nor egalitarian.

Third, the sweeping indictment of the private rice-marketing system as monopolistic is unfounded. In the case of traders, monopolistic tendencies only

surface where infrastructure that enhances the access of farmers to more competitive markets are minimal or absent. Intense competition among millers across provinces is apparent. Old centers of market power like Dagupan are being challenged by new centers like Intercity.

Moreover, the margins that accrue to marketing agents are within reasonable bounds. The factor behind huge incomes for paddy and rice traders is not exorbitant margins but huge volumes. Because of the centrality of volume turn over in the trading business, institutions of trust (credit-tying, *suki* system) have risen.

Finally, the millers appear to be a modernizing, entrepreneurial class. Contrary to popular notion, new and modernizing investments are coming into the milling-trading sector. They are important contributors to the viability of rural economies and must not be cast in the mold of regressive and exploitative patrons. This section, by way of concluding the report, relates these key findings to three major public policy concerns in the rice sector.

Policing monopoly elements

The state's stance in relation to monopoly elements in rice trading is encapsulated by the way it deals with the trading sector when the supply situation tightens. At the height of the rice crisis in 1995, a Senate investigation was immediately orchestrated against the purported Binondo cartel. Late last year, the Intercity was also raided for purportedly processing and repackaging noncommercial NFA rice.

While state regulation of predatory practices like hoarding is essential, this stance is inadequate when it is not accompanied by measures that will address the root of the problem. In the case of the rice crisis in 1995, the root of the crisis was the ill timing of imports and the ill-quality of its supply forecasts. That is, the crisis erupted not because traders hoarded rice but because the government was remiss in its duty to monitor its buffer stocks. In the case of the re-packaging of NFA rice, the problem lies in the connivance of unscrupulous individuals within the government agency. The point is, state intervention must not only be directed at media-friendly actions but also institutional reform that will increase the difficulty for private actors to behave in a predatory fashion.

Moreover, observations from the field indicate that the best way to lessen the rents accruing to traders from credit tying is to help farmers gain access to markets through roads and credit. Thus, monopolistic elements arise only to the extent that inadequate public spending allows them to.

The rice sector needs an efficient marketing sector to survive. A lopsided or heavily colored view of actors that make possible the distribution of rice cannot be helpful.

On the impact of imports

Improved productivity and the provision of adequate infrastructure remain to be the first line of defense against imports. Trading actors posit that much of the obstacles to the competitiveness in the sector is in the production rather than the marketing side. This study also found out that displacement brought about by imports is not concentrated on farmers but also custom-millers and petty traders whose livelihoods stand to be affected.

To be sure, very little conclusions can be gleaned from this study as to who should import and how much. At best, evidence about the inefficiency of the NFA in its import operations is anecdotal. However, many private actors have exhibited interest, especially big wholesalers and trader-millers, in importing rice. That the bidding of 79,000 MT of imported rice had takers shows that such an activity is potentially profitable for the private sector. It is hard to establish the impact of private importation on the market. Given that the private sector paid an equalization fee above the custom duties suggest that if infused in the market, this batch must have been very expensive.

However, given the structure of incentives, it is not difficult to imagine a scenario assuming rice imports are totally privatized and tariffs are lowered in 2004. where big trader-millers (especially those stationed near disport centers) will cease milling and concentrate on trading imported rice. The big wholesalers will behave in a similar fashion. Based on our interviews, the free-on board price of internationally sourced rice is as much as 20 percent lower than domestic wholesale prices. This shows that addressing production-side bottlenecks and arresting the dip in productivity are essential in both a liberalized and protective trade regime.

Enhancing farmers' welfare

Farmers enjoy a big chunk of the marketing margin. The reason why they have relatively low incomes is that they do not produce substantial volumes. Their situation is worsened by their inability to store. The energies of the state must be directed towards enhancing productivity and the capability of farmers to fully participate in the market. The traders cannot be used as the perennial scapegoat for the farmers poverty.

Moreover, this study has shown that millers facing competition from imported rice and the growing number of other millers with better and bigger facilities need to work on expanding their own capacities and to be increasingly concerned about the quality of paddy they procure. Farmers, to increase their income, must be given the means to develop their own productivity and quality of produce.

The large disparity in margins accruing to a landowning farmer in comparison

to a tenant suggests that land rent continues to be an important determinant of wealth and welfare. Therefore, asset-redistribution in the form of land reform remains relevant.

The minimal impact of government paddy-procurement activities suggests that the program may not be reaching its intended targets. The strident regulation as to moisture content and the red-tape involved before farmers receive payment are major reasons behind low levels of government absorption. Maybe, government resources are better used if they are channeled to improved paddy-procurement rather than concentrating on import operations.

Finally, farmers access to timely market information or the lack thereof is at the root of their powerlessness in market relations. Thus, the possible roles of farmer organizations in providing price information and state regulation in the form of direct provision of information are important in enhancing farmers' welfare.

Endnotes

Introduction

- 1 Note that these statistics do not include thousands of middlemen and agents whose exact number cannot be tracked because their business is unregulated by the government.
- 2 The president's initial statement in the middle of 1999 that it will not privatize NFA operations prompted the Asian Development Bank to postpone discussions regarding the release of a \$100 million-loan package under its Grains Sector Development Program. By April 2000, the government's Economic Coordinating Council forged an agreement with the Asian Development Bank that will allow the government, among others:
 - (1) to institute a government company that will later on be privatized to take charge of the trading operations of the NFA; and
 - (2) to maintain control over the country's buffer stocks but that will also gradually be yielded to the private sector as grain sector reforms lead to more stable rice prices.

The government also committed to the International Monetary Fund to pursue reforms in the grain sector, particularly the separation of the regulatory functions of the NFA from its market intervention functions and the implementation of a targeted food safety net program for the poor. (Lugo, 2000; Manlagnit, 2000)
- 3 MAV refers to the amount of rice that can be imported at tariff rates lower than the WTO-set bound rates. It thus signals the extent to which the

market for a given community is opened to freer trade.

- 4 Director Silvestre Andales was interviewed at the BPHRE-Manila office, Department of Agriculture, Quezon City on July 13, 1999.

State Intervention in rice marketing and distribution

- 1 Specific forms of market failures include public goods, externalities, information asymmetry, and natural monopolies.
- 2 Harris-White (1995) defines this system as composing of: rights to exchange property rights; conventions about the scope of economic behavior, definitions of legal tender; rules about price formation; conventions about liability and penalties for delinquency.
- 3 The key factors in defining a market structure are: the short- and long-run objectives of buyers and sellers in the market; their beliefs about theirs and others. ability to set prices; the technologies they employ; the amount of information available to them about the good and about each other, the degree of coordination or non-cooperation they may exhibit, the extent of entry and exit barriers and the degree of product differentiation. (North, 1995)
- 4 As opposed to the neo-classical conception of perfectly competitive markets where: (1) economic exchange is impersonal, voluntary and made on an equal basis, (2) goods exchanged are homogeneous and (3) actors are large in number, autonomous, self-interested and able to enter and leave freely actually existing markets are governed and shaped by extra-economic interactions and institutions. Institutions are defined as formal and informal rules that mediate human behavior.
- 5 One interesting piece of information we gathered from the field is that bidders are expected to be members of CONFED, the national organization of grains businessmen. While the market auction is formally open to all, extra-economic and informal rules like this actually govern the bidding process.
- 6 The Philippines is a signatory to the Agreement on the ASEAN Food Security Reserve, which binds it to earmark at least 12,000 MT of rice every year for emergency use of ASEAN-member countries.

- 7 The moisture content of paddy must be no more than 14 percent.
- 8 The effective support price as of late 1998 was actually PhP 9. The additional PhP 1 is accounted for by special incentives. PhP .50 may be availed of by accredited cooperatives under the Cooperative Development Fund. An additional PhP .50 was granted, under the El Niño Assistance Program, to assist farmers and help mitigate the ill effects of the droughts the country suffered from in the second half of 1998.
- 9 This committee is headed by the undersecretary for operations and research of the Department of Agriculture (DA). The co-chairperson of the committee comes from the Bureau of Agricultural Statistics (BAS). Its members include representatives from the DA policy analysis and field operations offices, the Bureau of Plant Industry (BPI), the National Agriculture and Fishery Council (NAFC), the NFA, the Department of Trade and Industry (DTI), the National Economic and Development Authority (NEDA) and the Federation of Free Farmers (FFF). Representatives from the Department of Finance (DOF), the National Irrigation Authority (NIA), the Philippine Rice Research Institute (PRRI) and the Philippine Atmospheric Geophysical and Astronomical Services Administration (PAG-ASA) are considered members on-call.
- 10 Regular milled rice refers to rice grains from which the hull, the germ and the outer bran layers have been removed, but parts of the lengthwise streaks of the bran layers may still be present in 15-40 per- cent of the sample kernels. (NFA, 1997)
- 11 Auctioneers were allowed to bid from 100 to 15,000 MT imported rice at a minimum equalization fee of PhP .50/kilogram. The equalization fee is a payment above the FOB and tariffs made for every kilo. A total of 27 auctioneers bidded and were awarded allocations.
- 12 For example, retailers are expected to display market prices prominently. All grains businessmen are required to also display prominently signage of their permit numbers.
- 13 This paper will not be able to evaluate one other important aspect of any government agency's performance: possible extra-economic costs incurred by the promotion of rent-seeking activities. Allegations of bribery in relation to the allocation of export quotas and licenses have been raised intermittently.

Anecdotal evidence regarding the mixing of NFA rice with commercial rice and selling of the same at commercial rates by some of the agency's accredited retailers done even in connivance with employees of the agency was also spoken of by some of the millers and traders in our field interview. However, as most of the data are not conclusive, this paper is unable to tackle this aspect of the NFA's performance.

- 14 Representative Mar Roxas, proponent of a bill that sought to decouple the NFA's functions but was shelved in 1999, cites an ADB study not publicly available as source of computation.

4. Private sector operations in rice marketing and distribution

- 1 Miller-traders are usually medium to large-scale millers who procure paddy, mill what they procure and sell rice. They stand in contrast to small, usually village-based, custom millers who sell milling services and are not involved in the trading business. See Sections 4.2 and 4.4 for further discussion.
- 2 It is estimated that 7 percent of the total volume of paddy milled becomes rice bran. As of the time of interview, a kilo of bran sold at 2.80 per kilo, down from a high of 7.00 per kilo.
- 3 It must also be noted that traders are often wary about giving their true warehousing capacity. Warehousing capacity has been stigmatized as a blanket indicator of monopoly power. Figures above may therefore be understated.

5. Lessons for Public Policy

- 1 A look at the latest edition of the General Appropriations bill reveals that appropriations for the program appear not to be allocations on top of existing Department of Agriculture budget but merely a re-channeling of existing budget.

Appendices:

TABLE A.1
Age of respondents

	Frequency	% of total
under 20	0	-
20-29	9	8.3
30-39	23	21.1
40-49	34	31.2
50-59	24	22
60 above	16	14.7
Total	106	97.2
missing	3	2.8
mean age	46	
median age	45	
mode age	41	

TABLE A.2
Civil status of respondents

	Frequency	% of total
Married	96	88.1
Single	9	8.3
Widow	4	3.7
Separated	0	-
Total	109	100

Table A.3
Gender of respondents

	Frequency	% of total
Male	66	60.6
Female	43	39.4
Total	109	100

TABLE A.4
Relationship of respondent to owner

	Frequency	% of total
owner/manager	70	64.2
wife/husband	11	10.1
son/daughter	12	11
other relative	13	11.9
unrelated	3	2.8

TABLE A.5
Education Attainment of Respondents

	Frequency	% of total
Some elementary	7	6.4
Elementary graduate	8	7.3
Some high school	5	4.6
High school graduate	8	7.3
Vocation graduate	4	3.7
Some college	15	13.8
College graduate	57	52.3
Post graduate	2	1.8
Total	106	97.2
missing	3	2.8

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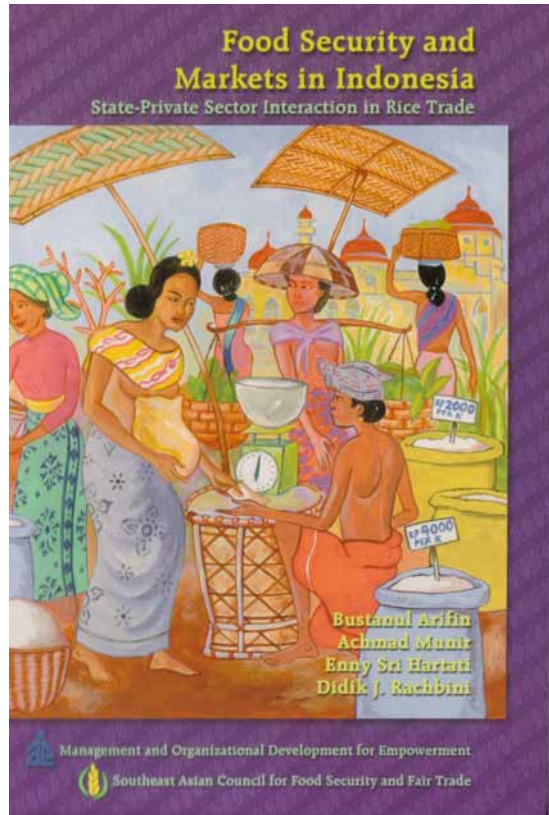
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Food Security and Markets in Indonesia

State-Private Sector Interaction in Rice Trade

by Bustanul Arifin, Ahmad Munir,
Enny Sri Hartati & Didik J. Rachbini

1. Introduction

This is the final report of a research on food security and markets in Indonesia. The research is part of a wider study on food security and markets covering the Southeast Asian countries of Thailand, Vietnam, the Philippines, and Indonesia.

The primary objective of this NGO-based research is to examine the interaction between the state and the private sector in the process of rice trading in Indonesia. The research is aimed at generating policy proposals for promoting the development of sustainable and dynamic rice-producing sectors capable of improving food security and markets in the country.

Data for this report was drawn primarily from field investigation, in depth interviews and desk analyses. Field investigation was conducted in four Indonesian provinces, namely, West Java, East Java, Lampung and DKI Jakarta, from May to June 1999. Collector traders, rice milling units, wholesalers, retailers and farmers in the four provinces were interviewed directly, using a traditional questionnaire. Likewise were policy-makers and government officers, researchers and university faculty members, on whom were used an open-ended questionnaire.

This report is organized in the following manner: Chapter 2 reviews the general concept and application of food security and markets, including price stabilization policies and rice trading structures. Chapter 3 examines recent developments in the Indonesian rice economy, covering trends in rice production and consumption, movements of domestic and border prices, import and buffer stock arguments, and regional disparities in rice security. Chapter 4 examines the role of the private sector in rice trading, with emphasis on rice trading map and patterns of transaction. An analysis of marketing margins and economic and marketing efficiencies is used as a basis for arriving at new investment decisions.

Chapter 5 discusses the role of the state in rice trading, focusing on price stabilization policies, the state procurement system, special market operations and general food security issues. Regional cases of state intervention broaden the discussion of incentive systems, barriers to entry and policy implications on farmers' welfare. Chapter 6 is a synthesis of sound and market-friendly policies in rice trading. The discussion includes potential areas of policy intervention and the workability of a market mechanism, and the future policy reforms on food security and rice trading.

Chapter 7 closes the report with an overall summary of the research results and proposals for promoting the development of sustainable and dynamic rice-producing sectors in post-crisis Indonesia.



Chapter 2

Review of Food Security and Markets in Indonesia

2. Review of Food Security and Markets in Indonesia

This chapter reviews food security measures and rice markets in Indonesia, which is now confronting one of the most serious food security episodes in its post independence history. In terms of food availability, the principal problem has been the long drought induced by the El Niño phenomenon and forest fires, which have adversely affected the country's production capacity. Compounding this was the Asian financial crisis, which has impacted on Indonesians in terms of high inflation, diminished purchasing power and increased poverty levels.

Indonesia has been plagued by several years of slow, below expectation growth in its food supply. The Government responded by sharply increasing food imports to fill gaps in domestic demand. But the current economic crisis has also sharply increased the number of those needing food security. Many families with income below the poverty line in 1996 could no longer keep up with the rapidly rising prices of essential commodities.

This chapter is focused on the evolution, particularly over the last three decades, of food security measures in Indonesia. A review of price stabilization policies not only covers the theoretical debates, but also incorporates the latest discussions concerning the government's intervention in the rice and food market since the economic crisis hit Indonesia. A general review of the rice trading structure also follows. This chapter concludes with the methodology and the chronological and systematic approach that the authors took in undertaking this study.

2.1 Evaluation of Food Security Measures

Food security has several dimensions, all of which face different threats. The Food and Agricultural Organization (FAO, 1997) defines food security as a situation in which all households have both physical and economic access to adequate food for all members, and where households are not at risk of losing such access. There are three dimensions implicit in this definition: availability, stability and access.

Adequate food availability means that, on average, available food supplies are sufficient to meet consumption needs. Stability refers to minimizing the possibility of food consumption falling below requirements during difficult years or seasons. Access draws attention to the fact that even with bountiful supplies, many people still go hungry because they do not have the resources to produce or purchase the food they need.

Food security can also be defined at different levels: for nations, regions or households. Ultimately, food security concerns the individual or family unit, and

its principal determinant is purchasing power at the income adjusted for the cost of living. Similarly, purchasing power at the national level, i.e., the amount of foreign exchange available to pay for necessary food imports, is a key determinant of national food security. Therefore, food security is not only a question of poverty, but also a question of the proportion of income that households devote to food. The poorest people in the developing countries of the world spend 80 percent or more of their earnings on food.

During the last three decades, Indonesia has achieved a remarkable progress in improving food security. In the sixties, agricultural development efforts were directed very much towards promoting rice self-sufficiency. Several government programs, inspired by the spirit of Green Revolution, were initiated, particularly those associated with the improvement of production in rice paddy and other food crops. For example, a program of mass demonstration (DEMAS) was intended to provide recommendations on optimal combinations of high-yielding varieties, fertilizer, pesticide, irrigation, and plant density; providing extension support for such a purpose. The DEMAS program developed very rapidly and later became the well-known BIMAS (mass guidance) program. The BIMAS involved intensification efforts at the national level, and its pilot projects were primarily located in Java on sites with good irrigation systems and rural infrastructure. More importantly, the BIMAS program involved a credit system, input provision and distribution. Farmers were encouraged to establish cooperative units and supporting institutions at the village level to help manage credit and new input distribution.

Other government programs with different names but similar aims have since evolved. To name a few, there is: INMAS (mass intensification), aimed at providing additional technical assistance in production technology; INSUS (special intensification), aimed at encouraging institutional innovation and technological change among farmers, and OPSUS (special operation), aimed at opening new rice fields in transmigration areas, etc.

Programs of rice-price stabilization, rural infrastructure and irrigation investment, human resource development, and the generation and dissemination of improved food crop technology have generally been undertaken to support the campaign to promote self-sufficiency in rice. In 1967, the government established the Food Logistic Agency, better known as BULOG (Badan Urusan Logistik). Its roles included stabilization of rice prices and provision of monthly rice rations to the military and members of the civil service. By the late 1980s, BULOG, while still playing its original role in rice markets, had assumed the additional responsibility of handling or monitoring sugar, wheat, corn, soybeans, soy meals, and a number of other lesser commodities.

As a result of such programs, food availability per capita increased from around 2000 calories per day in the 1960s to close to 2700 calories per day by the

early 1990s (FAO, 1996). The proportion of the population under the poverty line fell from 44 percent in the 1970s to 11 percent in 1996. The combination of higher levels of food availability and a much smaller poor population significantly enhanced food security at both the national and household levels.

However, during the last two years, food security gains in Indonesia have been reversed, due to the unprecedented combination of adverse climatic conditions, economic crises and political chaos. Recent estimates of the impact of these problems on poverty show that the number of poor Indonesian people has increased to 79.4 million or 39.1 percent of the country's total population (Central Agency of Statistics, 1998). A World Bank report (1999) also estimated that a 12 percent decline in Gross Domestic Product (GDP) could increase the poverty rate by almost 40 percent. Poverty in urban areas is expected to be higher in urban areas than in rural areas. A joint report of the International Labor Organization and the United Nations Development Programme (ILO/UNDP, 1998) has estimated the poor to now constitute 48 percent of Indonesia's population, given an inflation rate of 80 percent and a poverty line that has also increased by 80 percent.

Since January 1998, Indonesia has turned to the International Monetary Fund (IMF) and the World Bank to rescue and stabilize the economy. Donors have mobilized commitments for a total stabilization package amounting to US\$ 43 billion. In exchange for the extraordinary loans they have extended, donors are insisting that Indonesia reform its macroeconomic and structural policies to ensure that financial stability would be restored and that the economy would be managed in a more competitive and transparent manner. One major IMF conditionality is for BULOG's operations to be limited to rice and for subsidies on other food and essential goods to be scaled down sharply.

In December of 1998, the transitional government under President B.J. Habibie committed to improve transparency in the rice pricing policy and distribution system and to allow a contestable chance and fair opportunity for economic actors in rice trading. This immediate change adversely affected the flow of rice distribution, especially in remote areas of Indonesia. As a result, people have started to question BULOG's capacity to implement the system in a manner that would assure a more efficient use of resources and more affordable food and rice for low-income consumers.

2.2 Price Stabilization Policy

In the economic literature, there have been long lasting debates on whether the price stabilization policy is good or bad for the economy. Most mainstream economists believe that government intervention in price stabilization is not possible, especially for extended periods of time. Some think that the social benefits

arising from stabilized prices are small or even negative (Ravallion, 1987; Behrman, 1987). Political economists argue that institutional costs, including corruption, incurred in stabilizing prices are much higher than even potentially large benefits accruing from price stability (Knudsen and Nash, 1990; Schiff and Valdes, 1992). They also aver a strong tendency of stabilization policy to be captured by vested interests who favor higher or lower prices rather than stability per se.

On the other hand, there are economists who argue that countries where majority of consumers are still poor and rice is the dominant staple food have found much help in stabilization policy and have therefore given it considerable attention. Majority of Asian countries, in fact, have successfully managed to keep their domestic rice prices more stable than rice prices in the world market. In the last five decades, countries most successful at price stabilization have also been among the fastest growing economies in the world. Where food prices have not been stabilized successfully and food security remains questionable, political stability and economic growth have been threatened (Timmer, 1993; Pinckney, 1993).

Timmer (1996) suggests at least three reasons for the most significant relevance of rice price stabilization policy in the developing world. First, consumers have a preference for price stability because they do not like to incur the transaction costs of constantly changing their optimal basket of goods. Lower food prices relax the budget constraint and relieve, even if only temporarily, pressures to optimize budget allocations. Higher food prices increase it, in direct proportion to the sharpness of the price increase (and more painfully, the larger the share of food in the budget). Second, farmers should be treated as investors rather than as static optimizers of input allocations in the face of uncertain weather and prices. Highly unstable prices reduce the reliability of price expectation to efficient resource allocation in signaling efficient directions for investment. Third, there is the potential contribution of stable rice prices to economic growth, especially in Asian countries. A connection exists between instability in rice prices and lower economic growth.

Price stabilization in Indonesia has provided exemplary opportunities for testing the effectiveness and workability of such a government intervention. Since the late 1960s, Indonesia has tried to maintain a price band on rice by applying dual policies on price stabilization. The first is floor price policy, which is aimed at keeping the farm-gate price of rice well above the production costs. BULOG serves as a stabilizing agent and buys any amount of rice production not absorbed by the market, especially during the harvest season. This rice procurement approach is generally used for the national buffer stocks and for rations to the military and civil service. The second is ceiling price policy, which is intended to keep rice affordable for lower-income consumers. The price of rice increases sharply during the planting seasons and during droughts. During such crises, BULOG performs market operations by selling very cheap rice to targeted consumers.

After more than 20 years of economic and political instability under President Soekarno, an entirely new approach of the economy was introduced by the New Order regime of President Soeharto. A key element of this approach was heavy investment in the rural economy to increase rice production coupled with sustained efforts to stabilize rice price. Empirical evidence suggests that these efforts were highly successful. Rice production rose from 4.6 percent per year in the 1969-1990 period, which was significantly faster than the 2.1 percent growth in population over the same period. Land productivity of rice agriculture increased significantly, about 2.7 percent per year, even though this was not evenly distributed among regions across the country. The considerable growth in land productivity was also achieved by a tremendous amount of government expenditures. These included irrigation operation and maintenance, subsidized credits for rice and secondary food crops, intensification programs, subsidized pesticides and fertilizers and rice and buffer stock programs (Arifin, 1997).

However, although the price stabilization policy has made domestic rice prices considerably more stable than prices in the world market, questions about it have arisen. The policy, for one, tends to raise the risks for farmers and taxpayers and to negatively impact on farm welfare, particularly if average prices are not increased through the buffer stock schemes operated by BULOG Review of Food Security and Markets (Jones, 1995). Whenever domestic prices fail to follow border prices, there would always be short-run efficiency losses of the sort identified in the border price paradigm. Events in the 1990s, such as the rice surpluses experienced in 1992 and 1993 as a result of management through export subsidies, have raised serious questions about BULOG's cost structure and its long-term role in the rice economy (Timmer, 1996). The drought of 1994 and El Niño in 1997, and the resumption of large scale imports in the last two years, have also raised questions about BULOG's ability to stabilize rice prices, even in the short-run.

In addition, studies by Arifin (1998) indicate that the overall policy implementation of price stabilization results in economic distortion, market power imbalance, abuse of market operation, especially during the economic crisis. These have caused price disparity between producer or farm-gate price and retailer's or consumer price. In mid-1998 producer and consumer prices posted the biggest in the history of modern rice economy. Price disparities are caused by several factors such as unprecedented low production, import-dependent national stocks, non-transparent procurement systems, a complex rice distribution system, illegal rice re-exportation, and the dilemma of price-policy pressures from farmers who also happen to be net-consumers of rice.

The larger question that has arisen, though, is whether BULOG should continue to stabilize rice prices, given that the rice sector is no longer the barometer of the economy. Observations by Tabor and Meijerink (1997) show that price

stabilization through BULOG might not be necessary under current conditions. Rice distribution is much better than thirty years ago, largely on account of BULOG. The reasons include a significant improvement in road and irrigation infrastructures and more diversified economic activities. Competition in rice trading and marketing has improved in the last ten years so that market integration both in the flow of goods and information has also significantly expanded. Consequently, government has been given the ability to focus on drafting and implementing rules and regulations that encourage local markets to be more competitive as well as more integrated with regional and international markets.

2.3 Structure of Rice Trading

In this section, the structure of rice trading is presented in a general fashion based on data from available literature. The subject is more thoroughly examined later in the light of the results of field observation of rice trading in Indonesia.

As mentioned briefly in the previous sections, rice trading in Indonesia is an interaction between the government rice market and the actual rice market governed by the price system. The composition of the two markets at the national level is not well documented, and could vary significantly depending on the definition and scope of the market being used. Rice trading and rice distribution through the so-called “free market” accounts for more than 80 percent of total rice trading activities. The remaining 20 percent constitutes that which passes through government agencies like BULOG, Depot Logistics at the provincial level (DOLOG) and cooperatives (KUD) at the rural level (Mubyarto, 1998; Ruky, 1999).

These observations are very likely based either on the assumption of normal conditions in the rice distribution system, or that provision for military and civil service constitutes government rice trading. During a severe crisis period, government trading becomes more dominant, especially when market operation is involved. A special report by Smeru (1998) confirms that special market operations (Operasi Pasar Khusus or OPK) performed by BULOG reached nearly 13 million poor families in 1998. In addition, the market operation under a scheme of Social Safety Net (SSN) program conducted by the State Ministry of Welfare Affairs (BKKBN) was able to distribute cheap rice to nearly 17 million targeted poor families in 1998.

These dual market systems have caused the government to experience serious fluctuations in rice demand, especially when consumers constantly mill around public and private outlets of rice trading. Consequently, the government had to provide a large amount of rice for the national stock, a move that has led to a significant amount of public spending. Costs of this buffer stock management

increase considerably because the government and the Central Bank have to provide interest-rate subsidy for stocking activities and other logistic purposes.

It becomes clear now that buffer stock management not only requires efficient trading and effective distribution systems which are able to reach remote areas of the country; it also needs access to more accurate market information at the micro level, particularly information on producers and consumers' performance and preference for particular types of rice. Failure to access such information causes the rice trading and distribution systems to become inefficient and the buffer stock systems to be mismanaged. In addition, institutions responsible for the national buffer stocks also become exposed to ineffective banking systems and to non-flexible access to other financial systems, as what happened when the economic crisis hit Indonesia.

As a stabilizing agent and buffer stock institution, BULOG often experiences delays in transferring procurement funds to rural cooperatives (KUD). This delay obviously affects the overall performance of national rice procurement systems and buffer stock operations. This is because only farmers who could delay the harvest time and who could afford high storage costs could sell rice to the government. Under such a condition, it is only the financially well-off farmers who are able to benefit from the system (Ruky, 1999). Poor farmers, who could not sell their rice to the government trading systems, become automatically ineligible to join the floor rice policy. These are the farmers who could not fulfill the minimum requirements of 14 percent water content and five percent broken rice, etc. If they insist on selling their rice, they get a farm-gate price that is well below the standard floor price.

The structure of rice trading becomes more complicated when considered in the light of the fact that rice for the national stocks are procured from domestic as well as international markets. The import mechanism for rice has faced serious non-transparency problems for more than three decades. Import licenses for rice and other food commodities handled by BULOG have been given to a ring of the "usual suspects" consisting of conglomerates like the Salim Group and cronies of former President Soeharto. An investigative report suggests that these conglomerates could draw economic rents from rice trading margins amounting to around US\$ 10-15 per ton. For a 2.3 million ton import provision a year, an importing company could obtain a net benefit of US\$ 23 - 35 million (see Arifin, 1998).

The transition government of B.J. Habibie tried to foster transparency in rice importation through the use of the international competitive bidding mechanism. This strategy should be further encouraged and supported by legal security, proper institutional arrangements, and a policy thrust towards freer and fairer competition. Otherwise, the market reform within the internal organization of BULOG and in the Indonesian economy as a whole will never be started.

2.4 Methodology of the Study

This study on “food security and markets in Indonesia: state and private sector interaction in rice trade” was conducted using the methodology of field investigation, in-depth interviews and desk analysis of the subject. Four Indonesian provinces, namely, West Java, East Java, Lampung and DKI Jakarta were chosen, by purposive sampling technique, to be the subject of field investigation. Such investigation was conducted from May to June 1999. Java was selected because it represents about 60 percent of the total population of Indonesia while Lampung province was selected because it is one of the major rice baskets in the island of Sumatra.

A more structured interview was conducted using a traditional questionnaire, with collector traders, rice milling units, wholesalers, and retailers in the four provinces as respondent interviewees. Additional questionnaires for farmers were also used to investigate rice-selling and other farming activities in the region.

An open-ended questionnaire was used to interview policy makers and government officers. Key informants included the Chief of Depot Logistics (DOLOG) at the provincial level and Sub Dolog at the district level, the Head of Agricultural Services (Dinas Pertanian Tanaman Pangan dan Hortikultura) at both the provincial and district levels, officers of the Ministry of Industry and Trade (Depperindag), the Ministry of Cooperatives and Small-Medium Enterprises Development (Depkop dan PKM), and researchers and faculty members of a local university.

In the province of DKI Jakarta, the investigation focused on large-scale rice trading activities in the Jakarta Food Stations of Pasar Induk Cipinang and other small market places in the vicinity of South and East Jakarta. In-depth interviews were also conducted with government officials connected with the National Logistic Agency (BULOG), the State Ministry of Food and Horticultural Affairs (Menpangan), Ministry of Agriculture (Deptan), National Development Planning Agency (Bappenas), People’s Legislative Council (DPR), Depperindag, Depkop dan PKM, researchers with the University of Indonesia’s Institute for Economic and Society Research (LPEM-UI), Institute for Resource Information at Bogor Agricultural University (LSI-IPB), Center for Agricultural Policy Studies (CAPS), and the World Bank Indonesia Office.

For West Java, the field investigation was concentrated in Bandung, and the District of Karawang and Cianjur. These districts comprise the center of rice paddy production in West Java. In the City of Bandung, the observation was done around the market place of Pasar Gede Bage, Pasar Caringin and Pasar Soreang.

The field investigation in the province of East Java was conducted in Surabaya, the capital, and the two district production centers of Malang and Sidoarjo. The city of Surabaya, the second largest in the country, was selected as

a consumer area.

In Lampung, the investigation was concentrated in the city of Bandar Lampung, specifically in the Pasar Bambu Kuning and Pasar Koga areas, and the three districts of Central Lampung, South Lampung and Tanggamus; these areas comprise the provincial rice production center. Observation of rice milling units and traders in the market place was focused in Pasar Metro and Trimurjo in Central Lampung and Pasar Gedong Tataan in South Lampung, and Pasar Talang Padang in the District of Tanggamus. Interviews with farmers were conducted at the village level, particularly in the sub-district (Kecamatan) of Punggur and Trimurjo in Central Lampung; the sub-district of Gedong Tataan and Sri Bhawono in South Lampung; and, the sub-district of Talang Padang in Tanggamus.

No farmers were interviewed in the province of DKI Jakarta. Respondents for field investigation consisted of collector traders, rice milling units, wholesalers, and retailers in Jakarta Food Station (Pasar Induk Cipinang) in East Jakarta, Pasar Kebayoran Lama and Pasar Minggu in South Jakarta.

The number, composition and distribution of samples for each study location are described in the following table:

Table 2.1
Number, Composition and Distribution of Sample
for Traders and Farmers in the Study Locations

No	Study Location (Province)	Traders		Farmers	
1	West Java	78	40.8 %	15	24.6 %
2	East Java	77	40.3 %	21	34.4 %
3	Lampung	20	10.5 %	15	41.0 %
4	DKI Jakarta	16	8.4 %	-	-
	Total	191	100.0 %	61	100.0 %



Chapter 3

Recent Developments in the Rice Economy

3. Recent Developments in the Rice Economy

This chapter examines recent developments in the rice economy of Indonesia. Focus analysis is on trends in rice production and consumption, price movements and price differentials between domestic price and domestic price. Examination of rice import and buffer stock arguments proposed by the government will complement the analysis of price differentials. Finally, regional disparities in rice security are tackled to surface and strengthen arguments regarding the importance of harmonious interaction between the state and private sector in rice trading in Indonesia.

3.1 Trends in Rice Production and Consumption

Rice production declined in 1998 on account mainly of the following factors: severe drought impact of El Niño in 1997; the wet seasons of La Niña in 1998; rice field conversion to non-rice land uses; and other agro-climatic factors unfriendly to rice production. Data from the Central Agency of Statistics (CAS) and the Ministry of Agriculture show that rice production in 1998 was 46.3 million ton in the form of dried rice grain (GKG) or about 26.3 million ton rice equivalent. This amount represents a sizable 23 percent decline from rice production levels in 1996 and a slower 9 percent decline from 1997 levels. Rice production in 1996 reached 55.1 million tons (grain terms) or 33.1 million tons (rice), while production in 1997 reached 49.4 million tons (grain) or 32.1 million tons (rice).

By region, declines in rice production were significant only in Java. Some regions such as North Sumatra and West Nusa Tenggara actually experienced large increases in rice production in 1997 and 1998, compared with 1996. In East Nusa Tenggara, where drought effects were generally severe, decline in rice production was quite small in 1998. Given the highly diverse and regional effects of the crisis, these data reveal the difficulty of making statements about the crisis. national effects on agriculture, especially on rice production. A general observation suggests that a policy failure in the production system would contribute to a sharp decline (25-30 percent) in rice production, a development that, in turn, could affect the national stock of rice. What Indonesia should adopt therefore is an integrated policy strategy in the food production system, particularly in rice. Such strategy should cover seed procurement, broaden fertilizer subsidy, reform the credit system for production factors, improve extension methods and management, decentralize upland management, etc.

Based on the most optimistic forecast, rice production in 1999 could reach 48.7 million tons in grain or about 30 million tons in rice (Table 3.1).

The table also shows that the growth in food crop has contributed to the

Table 3.1
Growth of Harvested Area, Yield, Production
and Rice Equivalent, 1971 - 1999

Year	Harvested Area (ha.)	Yield (ton/ha.)	Production (000 ton)	Rice-Equiv. (000 ton)	Change (%)
1971	8,325	2.52	20,966	14,257	
1972	7,898	2.57	20,281	13,791	-4.76
1973	8,404	2.56	21,481	14,607	6.81
1974	8,509	2.64	22,464	15,276	2.03
1975	8,495	2.63	22,331	15,185	-0.60
1976	8,368	2.78	23,301	15,845	4.30
1977	8,360	2.79	23,347	15,876	0.20
1978	8,929	2.89	25,772	17,525	10.40
1979	8,850	2.97	26,283	17,872	2.00
1980	9,005	3.29	29,652	20,163	12.80
R71-80 (%)	0.79	2.38	3.20	3.20	
1981	9,382	3.49	32,774	22,286	10.50
1982	8,988	3.74	33,584	22,837	2.50
1983	9,126	3.85	35,302	24,006	5.10
1984	9,764	3.91	38,134	25,933	8.00
1985	9,902	3.97	39,033	26,542	2.30
1986	9,988	4.00	39,726	27,014	1.80
1987	9,923	4.04	40,078	27,253	0.90
1988	10,138	4.11	44,676	29,340	4.00
1989	10,531	4.25	44,726	29,072	2.60
1990	10,502	4.30	45,179	29,366	1.00
R81-90 (%)	1.13	2.11	3.26	2.80	
1991	10,282	4.35	44,689	29,048	-1.10
1992	11,103	4.35	48,240	31,356	7.90
1993	11,013	4.38	48,181	31,318	-0.10
1994	10,734	4.35	46,641	30,317	-3.20
1995	11,439	4.35	49,744	32,334	6.70
1996	11,569	4.41	51,101	33,215	2.70
1997	11,141	4.43	49,377	32,095	-3.70
1998	10,788	4.45	46,290	29,167	-8.80
1999*	10,500	4.64	48,700	30,681	5.19
R91-99 (%)	0.23	0.71	0.95	0.60	

Notes: Figures in 1999 are forecast at the most optimistic scenario

Source: Calculated from Central Bureau of Statistics (1999); State Ministry of Food and Horticultural Affairs (1999) and BULOG (1997)

agricultural overall economic growth. During the first half of 1980s, food crop grew at a rate of more than 8 percent peryear, mostly because of the peak success of Green Revolution technology. This has enabled Indonesia to achieve a level of self-sufficiency in the mid-1980s, a development that analysts called a “miracle of Indonesian agriculture”. Such growth performance, however, slowed down in the first half of the 1990s, and continued to decline in the second half of the decade, due to a combination of economic, policy, ecological and natural problems. Some of these problems included unfavorable agricultural commodity prices, slower rate of agricultural land expansion, ecological limits on increased cropping intensity, severe droughts and unanticipated climatic factors.

Sustaining the rice self-sufficiency achieved in 1985 became more difficult during the early 1990s because of the sensitivity of rice production to said problems. Since that time, Indonesia has been importing rice. The country also diversified production to secondary food and cash crops, especially in the upland areas. This is in line with the acceleration of development in the under developed regions of the outer islands, where the government has encouraged public investment in expanding production ca-Recent Developments in the Rice Economy pacities for cash crops, plantation and other estate crops.

Land productivity in food crop areas has been increasing over the last three decades on account of several factors, namely, increased land expansion, intensified land-use and yields phases (Arifin, 1997). Specifically, improvement in the sources of production growth and diversification has effectively increased land productivity. Technological change through more intensive land use practices such as the application of fertilizer and utilization of new varieties has also increased land productivity. Likewise with improvement of irrigated lands, which has stimulated the intensity of agricultural land use and increased yields per harvested area. On the whole, with the decrease in the land-labor ratio and the progressive use of bio-chemical inputs, agricultural labor productivity has also improved.

On the national level, the use of bio-chemical inputs corresponds negatively with farm size but positively with labor force and irrigated land. This coincides with small holding concentration in Javanese agriculture due to subdivision through inheritance and large holding consolidation of uncultivated land outside Java. Given the limitation of a fixed supply of land, farmers with smaller holdings utilize the land more intensively, for example, by applying more bio-chemical and other land-saving inputs. Larger holders, on the other hand, tend to face more complex management problems as they apply more bio-chemical inputs and hire non-family labor despite their having better access to credit or capital markets.

There is a difference in the extent of labor used in the application of bio-chemical technology in lowland and upland areas. In lowland areas, more labor force is required in applying bio-chemical technology, including new varieties,

fertilizer and other chemical inputs, and other land “investment” activities such as land clearing, leveling, and maintaining irrigation channels. In upland areas where farmers grow mostly cash crops and secondary food crops, more labor force is needed for fertilizing, weeding, and harvesting. In the steep slopes of the uplands, land investment includes the adoption of conservation practices to minimize land degradation.

Rice consumption in Indonesia has grown significantly following population and income level increases over the last two decades. Rice consumption estimates vary by agency and organization. Data from the 1996 National Social Economic Survey (SUSENAS) of the Central Bureau of Statistics (CBS) show rice consumption at 123 kilogram per capita per year, where consumption level is higher inside rather than outside Java. Estimates made by BULOG are generally higher, where the recent consumption level is nearly 150 kilogram per capita per year. The estimation method used by BULOG follows the concept of stocking and logistic, where available rice production less 10 percent loss and expenses for seed needs is added to net imports to arrive at the consumption figure. BULOGs estimate should be viewed as the upper level of consumption since it includes stocks preserved by consumers, traders and rice milling units (Table 3.2).

What becomes clear is that the level of rice consumption in Indonesia is now the highest among Asian countries. Average rice consumption per capita in the most populous country, China, is only 80 kilograms (kg) per year. The consumption level in Korea and Japan is 70 and 60 kg, respectively, which is a significant decline from figures two decades ago. Given that the production performance is somewhat dependent on volatile natural and economic conditions, the high rice consumption level carries an implication on the amount of rice traded in the world market. Problems usually arise when the world rice trade and distribution activities are not operated properly due to bureaucratic mismanagement of the rice price stabilization and consumption subsidies. The very high level of rice consumption could trigger more problems for the Indonesian economy unless the diversification movement began in the last decade is operationalized beyond paper. The movement could probably be combined with the development of a type of food technology that is simple yet modern, complements, and is compatible with Indonesia’s food production system.

Another important issue in rice consumption is food subsidy. The Indonesian government provided subsidies for the import and sale of rice, and some other staple foods, until 1998. For that year, the amount of food subsidy was estimated to rise from around Rp 12 trillion to Rp 14 trillion for rice, sugar, soybeans, wheat corn, soymeal and fishmeal. It is a well known fact that food crop producers are among the poorest in Indonesia. Policies, which depress food prices, will reduce

S E A C O N

Table 3.2
Rice Consumption, Net Import, Initial Stock
and Consumption per Capita, 1971 - 1991

Year	Rice-Equiv. (000 ton)	Seed & Loss (000 ton)	Net Import (000 ton)	Initial Stock (000 ton)	Consumption (000 ton)	Population (000 ton)	Cons/ Capita (kg./cap.)
1971	14,257	1,426	503	530	13,334	118,808	112.23
1972	13,791	1,379	748	531	13,160	121,632	108.19
1973	14,607	1,461	1,639	168	14,785	124,601	118.19
1974	15,276	1,528	1,058	579	14,806	127,586	116.05
1975	15,185	1,519	669	847	14,336	130,597	109.77
1976	15,845	1,585	1,293	731	15,554	133,650	116.37
1977	15,876	1,588	1,989	541	16,277	136,650	119.12
1978	17,525	1,753	1,833	462	17,606	139,960	125.79
1979	17,872	1,787	1,914	1,075	17,999	143,245	125.65
1980	20,163	2,016	2,003	783	20,150	146,631	137.42
R71-80 (%)	3.53	3.53	14.82	3.98	4.21	2.13	2.05
1981	22,286	2,229	525	1,667	20,582	149,520	137.66
1982	22,837	2,284	300	2,217	20,853	152,465	136.77
1983	24,006	2,401	1,155	1,666	22,760	155,469	146.40
1984	25,933	2,593	365	1,588	23,705	158,531	149.53
1985	26,542	2,654	-405	2,754	23,483	161,655	145.26
1986	27,014	2,701	-241	2,725	24,072	164,839	146.03
1987	27,253	2,725	5	2,128	24,533	168,086	145.95
1988	29,340	2,934	6	1,508	26,412	171,398	154.10
1989	29,072	2,907	273	746	26,438	177,362	149.06
1990	29,366	2,937	43	1,901	26,472	179,829	147.21
R81-90 (%)	2.80	2.80	-22.14	1.32	2.55	1.86	0.67
1991	29,048	2,905	-301	1,384	25,842	182,940	141.26
1992	31,356	3,136	-561	885	27,659	186,043	148.67
1993	31,318	3,132	-564	2,065	27,622	189,136	146.04
1994	30,317	3,032	876	758	29,086	192,280	151.27
1995	32,334	3,233	3,014	650	32,130	194,755	164.97
1996	33,215	3,322	1,090	2,370	30,229	198,343	152.41
1997	32,095	3,210	3,582	2,398	30,600	201,390	151.94
1998	29,167	2,917	5,783	1,409	32,033	204,738	156.46
1999*	30,681	3,068	4,000	2,204	31,613	208,142	151.88
R91-99 (%)	0.60	0.60		5.25	2.24	1.43	0.80

Notes: + Data for 1994-1997 are figures for the fiscal year (starting from April 1)

* Data for 1999 are forecast at the most optimistic scenario

Source: Calculated State Ministry of Food and Horticultural Affairs (1999), BULOG (1997)

welfare allocations for these groups. Tabor et al. (1998) suggest that in the case of “major” price distortions, the welfare effects are typically much larger than the fiscal effects of subsidies.

In addition, for the lower income groups, rice is a major part of the diet and accounts for a significant share of their total expenditures. The 1996 SUSENAS data also show that only about 28 percent of the total rice supply are consumed by the lowest percent of income-earners. The upper 70 percent of income consume 72 percent. Therefore, targeting food relief directly to the food insecure “in urban areas” might provide a more cost-effective way of providing assistance to the poor compared to just providing general price subsidies.

In August 1998, the government introduced a targeted rice subsidy program, the OPK in order to protect the rice consumption levels of low-income households. In September, the government announced that BULOG would confine its agricultural market activities to rice only and would dispose of its non-rice food stocks.

In other words, the government has liberalized trade in sugarcane, wheat, soybeans and rice. In November, the government also abolished fertilizer subsidies, liberalized fertilizer imports, and announced that domestic fertilizer companies could peg their own market price. In addition, the government increased subsidized credit for food crop production, lowered agricultural lending rates from 12 to 10.5 percent, and forgave payments on pre-1996 agricultural loans. These policy changes from a low and subsidized output and agricultural input pricing policy to a market-oriented agricultural pricing policy are yet to be fully implemented.

3.2 Price Movement: Differentials of Domestic and Border Price

Despite the price stabilization policy, rice price is still very much influenced by the current economic crisis. The price disparity between producers and consumers, between domestic and border prices, is really disturbing. In 1998, the disparity between consumer and farm-gate prices was more than double, between Rp 2500-Rp 3000 and Rp 1500 per kilogram, the announced floor price. Price disparity is worse in remote areas outside Java where infrastructures are not adequate in supporting rice distribution and trading activities.

High consumer prices were a major contributing factor to hyperinflation in 1998, reaching more than 70 percent, especially after the social chaos of May that year. The hyperinflation depressed the purchasing power parity of most consumers, especially those who stayed poor due to the current crisis. On the other hand, a very low level of farm-gate price served as a disincentive for rice farmers to improve the production performance and productivity.

The government tried to close this price band through the OPK program

(aimed especially at the urban poor) and other efforts to lower the consumer price of rice. By the end of 1998, rice prices had declined by 10 percent and was projected to continue declining due to weather conditions more favorable for rice production. Public stocks for rice were adequate and import prices were much lower than those in 1997. Average consumer rice price in some cities of Indonesia, in fact, declined from Rp 2700 to as low as Rp 2300 per kilogram in September of 1998 (Table 3.3).

Table 3.3
Food Price, Consumer Price, Exchange Rate and Rice Price
during the Economic Crisis (June 1997 - March 1999)

Month	Food Price Index (%) 196=100	Consumer Price Index (%) 196=100	Exchange Rates		Consumer Rice Price (Rp/Kg.)	Change (%)
			Rupiah to US \$	Change (%)		
June 1997	104	105	2,450	0.40	1,033	
Nov 1997	117	110	3,648	-0.10	1,207	3.96
Dec 1997	121	112	4,650	27.47	1,215	0.66
Jan 1998	133	120	10,375	123.12	1,290	6.17
Feb 1998	158	135	8,750	-15.66	1,439	11.55
Mar 1998	167	142	8,325	-4.86	1,475	2.50
Apr 1998	177	149	7,970	-4.26	1,532	3.86
May 1998	183	157	10,525	32.06	1,621	5.81
June 1998	196	164	14,990	42.42	1,988	22.64
July 1998	220	178	13,000	-13.28	2,202	10.76
Aug 1998	240	189	12,700	-2.31	2,529	14.85
Sept 1998	261	196	10,700	-15.75	3,010	19.02
Oct 1998	256	196	7,550	-29.44	2,725	-9.47
Nov 1998	256	196	8,200	8.61	2,612	-4.15
Dec 1998	263	198	7,579	-7.57	2,773	6.16
Jan 1999	265	207	8,519	12.40	2,802	1.05
Feb 1999	266	210	8,797	3.26	2,758	-1.57
Mar 1999	265	208	9,008	2.40	2,702	-2.03

Sources: Calculated from Bank Indonesia (1999) and BULOG (1999)

Food prices generally contributed to the significant decline in the rate of inflation and the consumer price index at the start of 1999. The monthly inflation rate for January and February that year was pegged at 2.97 and 1.26 percent, respectively. The downtrend continued through the months of March to July when it reached a deflation rate of less than negative one percent. Some saw this change as a positive sign for the economy, but others were worried that the decline indicated a slowdown in consumer purchasing power to a level worse than had earlier been

Table 3.4
Domestic, World Market, Border Price and Nominal Protection Rate (NPR),
January 1998 to March 1999

Month	Price of Thai Rice (US\$/ton)	Exchange Rate (Rp/US\$)	FOB Price (Rp/Kg)	Border Price (Rp/Kg)	Retail Price (JFS_IR) (Rp/Kg.)	NPR (tariff=0%)
Jan 1998	250.00	10,375	2,593.75	3,300.39	1,350	59.10
Feb 1998	243.00	8,750	2,126.25	2,791.86	1,300	53.44
Mar 1998	246.00	8,325	2,047.95	2,596.16	1,200	53.78
Apr 1998	253.00	7,970	2,016.41	2,513.43	1,200	52.26
May 1998	265.00	10,525	2,789.13	3,403.79	1,350	60.34
June 1998	266.00	14,990	3,987.34	4,835.18	1,850	61.74
July 1998	270.00	13,000	3,510.00	4,319.67	1,900	56.02
Aug 1998	265.00	12,700	3,365.50	3,781.21	3,200	15.37
Sept 1998	275.00	10,700	2,942.50	3,707.55	2,725	26.50
Oct 1998	275.00	7,550	2,076.25	2,357.38	2,525	7.11
Nov 1998	257.00	8,200	2,107.40	2,384.33	2,527	5.98
Dec 1998	255.00	7,579	1,932.65	2,181.47	2,775	27.21
Jan 1999	259.00	8,519	2,206.42	2,490.50	2,751	10.46
Feb 1999	243.00	8,797	2,137.67	2,412.90	2,594	7.51
Mar 1999	228.00	9,008	2,053.82	2,318.25	2,382	2.75

Sources: BULOG (1999)

projected.

To be sure, the domestic rice retail price was still high for most local consumers but the price movement was still low compared to the international market. Another consideration is the exchange rate. In 1998, the Rupiah depreciated more than five times relative to the US dollar. This development was favorable to Indonesia as the price movement served as a “protection” against the flooding of rice imports into the domestic market. Based on the nominal protection rate (NPR), the domestic price of rice in January 1998 was 59 percent lower than its border price. The highest price difference occurred in June 1998 when the domestic price was 62 percent lower than the world market.

Such price movement also represents an incentive for traders to re-export the cheap rice import to the world market where it would generate more economic rents. Some media reports have already indicated this tendency but it would be better if a legitimate verification and reconfirmation at the field level is conducted.

Yet another issue related to rice price movements is the influence of rice imports on farm gate prices. BULOG authorities insist they only import high-quality rice while the Ministry of Agriculture claims that only lower grades are imported. The situation becomes more complicated when BULOG and the Ministry of

Cooperatives and Small-Medium Scale-Enterprises - which is responsible for some local procurement and distribution. Begin accusing each other of spreading illegal mixtures of low-quality imported rice and high-quality local rice.

3.3 Import and Buffer Stock Arguments

The government maintains public rice stocks amounting to around 2 million metric tons as a buffer against possible disruptions in world market trade. It is alright to import rice to maintain the buffer stocks in light of domestic rice production, which is generally lower than consumption, especially during bad weather conditions. The amount of imported rice grew significantly from 1.3 million tons in 1995 to nearly 6 million tons in 1998. The government maintains these buffer stock arguments for the sake of national food security, especially as this relates to the so-called “budget group”, which includes the military and civil servants.

Due to the effects of El Niño in 1997, BULOG considered it necessary to build up its stocks to anticipate the production decline projected for 1998. The 1997 and 1998 stocks came mostly from imports, a departure from the last two decades when BULOG acquired most of its rice from domestic sources. Then, import procurements became necessary only for buffer stocking purposes and to support the price stabilization policy.

Data from the State Ministry of Food and Horticultural Affairs show that rice stocks were adequate in 1998 due to large imports. The initial stocks for that year was 1.4 million tons, a lot higher than in January of 1997. With very high imports, as against domestic procurement, which amounted to only 250,000 tons. the government was able to raise the national stocks to 7.4 million Recent Developments in the Rice Economy tons. Rice distribution to the budget group and for other purposes reached 5.2 million tons, leaving a balance of 2.2 million tons, after a 3.9 thousand ton loss, by December of 1998 (Table 3.5).

In line with the buffer stock arguments, the government invested tremendously in warehouses, offices and other infrastructures. Rural cooperatives also became involved in the buffer stock business, procuring from local farmers especially during the harvest season and in market operation, importing rice themselves during the planting season and when the current economic crisis erupted. With over 2,400 grain warehouses in the country, the government has the largest network of food storage facilities, one of the reasons why it is considered a monopoly in the rice distribution system.

But the government does not merely engage in rice importation. It controls the business, participating in all its phases from planning to ensure quality and quantity to appointing the contractor-traders. It usually pursues a “big country”.

Table 3.5
Rice Stocks, Procurement and Distribution Systems, 1998 (in ton)

Year / Month	Initial Stock	Procurement		Total	National Stock	Distribution	Loss	End Stock
		Domestic	Import					
	a			b	c=a+b	d	e	f=c-d-e
January	1,408,686	0	399,812	399,812	1,808,498	568,463	174	1,239,861
February	1,239,861	0	427,214	427,214	1,667,075	628,254	149	1,038,672
March	1,038,672	202	663,871	664,073	1,702,745	539,554	152	1,163,039
April	1,163,039	42,025	843,464	885,489	2,048,528	270,257	74	1,778,197
May 1998	1,778,197	56,080	724,972	781,052	2,559,249	231,531	165	2,327,553
June 1998	2,327,552	30,408	323,750	354,158	2,681,710	311,018	632	2,370,060
July 1998	2,370,060	8,369	252,600	260,969	2,631,029	364,237	288	2,266,504
August	2,266,503	2,515	293,600	296,115	2,562,618	455,794	336	2,106,488
September	2,106,488	13,042	362,182	375,224	2,481,712	511,131	220	1,970,361
October	1,970,361	42,218	375,550	417,768	2,388,129	424,740	241	1,963,148
November	1,963,147	44,471	587,796	632,267	2,595,414	404,947	393	2,190,074
December	2,190,074	12,572	528,115	540,687	2,730,761	525,496	1,121	2,204,144
1998-Total	1,408,686	251,902	5,782,926	6,034,828	7,443,514	5,235,422	3,945	2,204,147

Source: State Ministry of Food and Horticultural Affairs (SMFHA), 1999

Argument whereby it assumes total demand for rice as being very high. Given this argument, Indonesia's trading behavior and its distribution activities necessarily affect the world market. A government estimate suggests that each additional ton of rice import by Indonesia increases the world market price for rice by as much as US\$ 50 per ton (Silitonga, et al. 1997). This argument justifies non-transparent government behavior in rice importation but runs counter to the interest of many poorer countries in Asia and Africa which could end up victims of unfair world trading in rice. It is a simplification that obviously must be reviewed if Indonesia is to move towards greater trade liberalization and lesser government monopoly in rice trading and distribution.

Rice importations are a convenient way of easing the political pressure on the government when it is faced with dwindling rice stocks. As pointed out earlier, the imported rice are sold at subsidized prices locally. The policy of importing rice and selling them at a loss domestically has the effect of depressing domestic prices. This favors consumers, especially those with higher incomes, but places domestic rice farmers at a severe disadvantage. In the end, local production suffers further as the low price for their product discourages farmers to produce better.

The issue of non-transparent government decisions in the importing process and in the appointment of rice importers have already been widely discussed (see Arifin, 1998). During the Soeharto regime, big conglomerates such as the Salim

Group and former President Soeharto's cronies were the dominant rice importers who benefited awesomely from the import transactions in terms of economic rent and profit. As much as US\$ 10-15 were obtained per ton of rice import. This is not to mention earnings made possible by the difference or spread between the world market price and the contract price set by the government. The benefits from such windfalls became even more magnified when such companies and interests came to control the distribution system.

The fall of Soeharto in May 1998 placed a monkey wrench on the operations of said companies and on the performance of the rice distribution system in general. According to one unconfirmed report, some 200 rice distributors stopped operating for security reasons. What may be closer to fact is the story of how the tranRecent Developments in the Rice Economy sition government of President B.J. Habibie encouraged small and medium enterprises (SMEs) and cooperatives to play a more dominant role in the national economy. For larger distributor companies which used to have more economic and political access to the policy-making process, the new policies were thought to create more rivalries within the rice distribution system. As of this writing, no firm conclusion could be drawn regarding the achievement of the cooperatives and SMEs in developing a better or alternative rice distribution system in Indonesia.

3.4 Regional Disparities in Rice Security

The issues of regional disparities in rice security emerge because of pessimism regarding the effectiveness of the targeted rice subsidy to low-income people across the country. In a larger context, BULOG has the capacity to move large quantities of rice within the country relatively quickly. The threat of rice shortage arising from lack of supplies seems unlikely to happen. However, rice insecurity at the regional level could be caused by a lack of purchasing power on the part of a particular social group.

A field survey conducted by a special team of the World Bank shows an interesting relationship between the economic crisis and initial level of poverty

Table 3.6
Examples of Different Impacts of the Economic Crisis

Different Impacts	Relatively Well-off Pre-Crisis	Relatively Poor Pre-Crisis
Hard-hit	Greater Jakarta West Java	East Nusa Tenggara East Kalimantan
Not Hard-hit	Central Sulawesi Bali	Maluku Jambi

Source: Soenarto, et al. (1999)

(Soenarto, et al., 1999). Some areas that were not initially poor have been hit so hard by the crisis that people in these areas are now relatively poorer than those in other areas identified as poor. Areas of West Java are a very good example of this phenomenon. The same holds true for the greater Jakarta area (known as Jabotabek Jakarta, BogorTangerang, and Bekasi), which has become poor. However, according to the survey, this area has not yet reached the level of absolute poverty incidence reported in traditionally poor areas.

In this context, the affordability of food for the poorest people has become a special focus of the newly established policy instrument known as special market operation or OPK. Under this instrument, rice is sold at prices around Rp 1000 per kilogram, which is equivalent to 50 percent of the market price, and significantly below the international price. The quantity of rice a household could purchase at the subsidized price was initially 10 kilogram per month. Subsequently, this has been increased to 20 kilogram per month.

A special report from the Social Monitoring and Early Response Unit (SMERU, 1999) suggests that the OPK is reaching needy people, even though not all needy people are receiving the OPK. The SMERU team visited 21 urban areas and 19 rural areas in five provinces: DKI Jakarta, Central Java, Central Sulawesi, Maluku and South Sumatra. The team found out that in some areas, the delivery and payment mechanisms on the OPK are operating well, but in many areas local government and their agents need to be given more adequate operational budgets and guidelines that allow for innovation. In addition, payments by local governments to the local logistic agency (DOLOG) for rice allocations are lagging significantly in many regions.

The rice quality in the OPK scheme is usually third-grade or 25 percent broken. Recent data show that BULOG sold around 350,000 tons of rice between July 1998 (when the program started) and December of 1998. In 1999, the quantity of rice sold at a subsidized level of price under the OPK is expected to increase significantly, one of the reasons the program might continue for the near future regardless of the political change after the general election.



Chapter 4

Roles of the Private Sector in Rice Trading

4. Roles of the Private Sector in Rice Trading

This chapter examines the roles that the private sector plays in rice trading in Indonesia, focusing primarily on the country's rice trading map and patterns of transaction found therein. As mentioned previously, the private sector has been involved in rice trading in Indonesia far longer and more dominantly than the state. Government intervention in rice trading in Indonesia started only in the late 1960s when Indonesia faced serious threats from food security and an economic recession.

Players in Indonesia's rice trading industry generally include the following: collector traders, rice milling units (RMU), wholesalers, bazaar traders, and retailers. The scale and extent of participation of each of these economic actors vary from the household and small-scale trader level to the level of conglomerates which control rice-milling units, wholesalers, bazaar traders and retailers. Consequently, the level of business, market share, marketing power and access to market information, sources of capital and government policies, also varies significantly. Most of these traders have been involved, both directly and indirectly, with government policies on price stabilization and in the rice distribution and marketing system. These actors have dealt, also both directly and indirectly, with a large number of producers or rice farmers under special patterns of transaction. But only a few of them, the rice milling units and wholesaler- traders most especially, have direct access to the retail rice market and therefore, to the largest number of rice consumers.

As a general rule, economic actors with limited market and information access are not able to accumulate large amounts of capital. They often remain as small-scale as when they started. The reverse is true in the rice trading industry of Indonesia. Most of the existing large-scale rice milling units and wholesalers started the business at the household level in the 1970s and 1980s. Few of them were involved with the government policies on rice procurement and import activities through special arrangements with BULOG. These businesses developed very rapidly in the 1990s in accordance with the tremendous increase in rice consumption in the country that occurred during the period. They grew on account of economic profits obtained from the rice trade, which they used to generate new investments aimed at achieving economies of scale. Such big businesses are the ones that have survived and have even grown significantly despite and even because of the current economic crisis.

The remaining sections of this chapter tackle the marketing system and the marketing power inherent in the rice business. Economic analysis of marketing margins and the marketing efficiency of the system are used as benchmark bases for business decisions on new investments. The chapter also discusses the differences in market access and sources of capital, capital accumulation and

incentive systems arising from business activities.

4.1. The Rice Trading Map: Charting The Geographic Flow of Rice in Indonesia

The marketing process connecting rice production to rice consumption in Indonesia has followed an evolutionary track. The process before was centralized. This means that the marketing of non-BULOG rice was centralized to the wholesalers or Bazaar traders. The main function of such a system was to stabilize the price of rice by selling through several marketing institutions representing either producers or consumers. This system follows three main stages - collecting, standardization and grading - all of which determine the quality of rice being traded. The centralized system has evolved into a more decentralized pattern of trading involving other marketing institutions such as the village, sub-district or district collector and rice milling unit (or the miller).

For West Java, rice that flows to the market, especially in a big city like Bandung, comes from the southern part of West Java, and from Central and East Java. Meanwhile, rice sold in the main Roles of the Private Sector in Rice Trading market place of Cipinang, also known as Jakarta Food Station (Pasar Induk Cipinang) in Jakarta, come from the northern part of Java (Karawang, Bekasi, Cirebon dan Indramayu).

Generally, the marketing of rice in the District of Karawang in West Java involve such actors as farmer-producers and collectors (at the village, sub-district and district levels); millers; bazaar traders and retailers. Another marketing institution is the KUD at the district (sub-DOLOG) and provincial (DOLOG) levels. Some of the branded rice which are traded include IR-64, Cilamaya and Muncul. In this area, average retail price of rice is determined by Presidential Decree (Inpres) No. 32/1998. For example, the price of humid and non-husked paddy (GKP) is about Rp 1.020/kg; dry and non-husked paddy (GKG), Rp 1.200/kg; paddy for Muncul variety, Rp 1.200/kg; Cisadane, Rp 2.300/kg ; and , IR64, Rp 23.350/kg.

In East Java province, rice that flows to Surabaya, the capital city, do so through two entry points, namely, Pabean market place (North Gate) and Bendul Merisi market place (South Gate). Pabean absorbs rice taken from East Java's northwestern coastal region and partly from Central Java (Surakarta, Pati, Bojonegoro, Cepu, Tuban, Lamongan and Gresik). Daily volume loaded and unloaded in Pabean is estimated at between 7 to 10 Fuso type trucks or an equivalent of 70-100 tons of rice (at 10 tons per truck).

Meanwhile, the South gate market absorbs rice from the following regions: Sidoarjo, Malang, Pasuruan, Banyuwangi, Jombang, Mojokerto, Madiun, Ngawi (East Java) and Solo, Sragen (Central Java). Daily volume loaded and unloaded is

estimated at 15 to 20 Fuso-type trucks or approximately between 150 to 200 tons of rice per day. These figures do not yet include rice coming in from other sources outside Surabaya. In Lampung province, rice delivered to Bandar Lampung market comes mainly from the districts of Central Lampung, South Lampung and Tanggamus. There are three big market places in the city of Bandar Lampung, namely: Bambu Kuning, Koga, and Teluk. During periods of low harvest such as the one that occurred in 1997, traders in Lampung obtain rice from West and Central Java and possibly, by importing. During peak harvests, traders in Lampung bring in rice from the southern part of Sumatra.

Much of the rice traded in Lampung is of the IR-64 and IR-50 varieties, commercially branded in some places as Talang Padang and Pandan Wangi. Daily volume loaded and unloaded is about 5 to 7 Fuso trucks or approximately between 50 to 70 tons. This excluded rice brought in also by commercial traded for use in government market operations.

4.2. Description of Channels and Actors Involved

Generally, rice trading patterns in Indonesia do not differ significantly by region. Rice trading could be seen as one step in the overall process of rice marketing, that is, the process for distributing the rice from producers to final consumers. However, by marketing channel available in a particular region, rice trading follows a different pattern. Marketing institutions involved in rice trading are collectors (village, sub-district and district), wholesalers, Bazaar traders, retailers and final consumers or end users. Other institutions involved are rural cooperatives (KUD), millers, DOLOG/Sub-DOLOG, BULOG and importers.

Following are the institutions involved in rice trading in Indonesia categorized by type of channel and pattern of trading they engage in (please see the corresponding Figure 4.1):

Private Channel

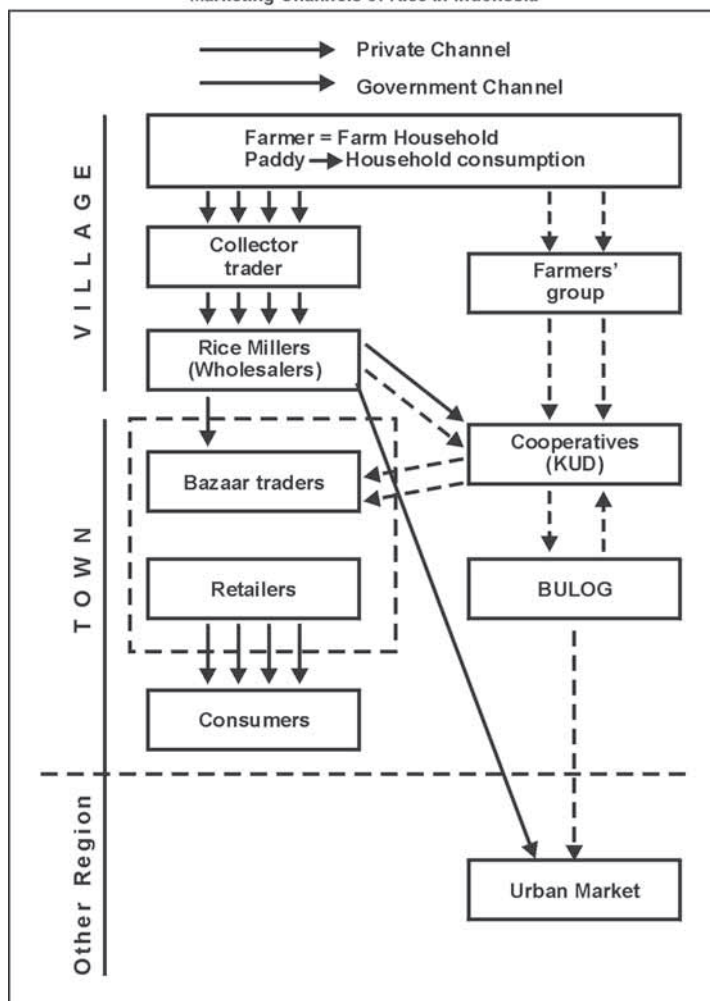
First Pattern: Farmers - Collector Traders - Wholesalers (also Rice Millers) - Bazaar Traders - Retailers - Consumers.

Second Pattern: Farmers - Collector Traders - Rice Millers - Urban Markets

Third Pattern: Farmers - Collector Traders - Rice Millers - KUD - Bazaar Traders - Retailers - Consumers.

Fourth Pattern: Farmers - Collector Traders - Rice Millers - KUD - BULOG - Urban Markets

Figure 4.1
Marketing Channels of Rice in Indonesia



Government Channel

Fifth Pattern: Farmers - Farmers' Group - KUD (also Rice Millers) - BULOG (also Rice Millers) - Urban Markets.

Sixth Pattern: Farmers - Farmers' Group - KUD (also Millers) - BULOG (also Rice Millers) - Bazaar Traders - Retailers - Consumers.

The first and second patterns involve purely private channels while the fifth pattern utilizes a purely government channel. The third, fourth and the sixth patterns involve a marketing channel characterized by an interaction between the private and government channels.

Farmer (Producer)

The farmer is the one who produces the rice or engages in rice farming as agricultural investment. The farmer manages the production factors and decides on which mix of land resources (rent, own or sharecrop), labor (family and non-family), capital (fixed and current), and managerial skill would yield the best crop. Farm management should be market-oriented, although not all rice farmers in Indonesia are able to engage in such an approach to doing farm business. Some farmers operate only at a subsistence level, where rice products are mostly used for the household consumption. Others sell the products to a broker-trader (locally known as tengkulak) or collector-trader before or after the harvest.

The farmer, as a main producer of food crops, especially paddy, is the first institution in the rice marketing system. Most farmers now follow a rational decision making process in planting the rice that considers not only economic factors like profit and loss, but also non-economic factors, i.e., rice as a socially important commodity and a staple food for most Indonesian people. The farmer decides to plant paddy because of an incentive system (manifested by the existing price policy) or social aspect (household food security for owning extra amount of rice).

In the Karawang area (West Java), most farmers sell their products in wet non-husked and humid paddy (GKP) form. They sell this directly to the tengkulak in the field (sawah). This happens particularly during the wet season (rendeng) when farmers are not able to dry paddy. During such times when the quality of their product is such, the farmers are in no bargaining position. The price of rice they sell is thus dictated by the buyers, in this case, the broker or tengkulak. Some farmers avoid this situation by selling directly to the millers. Meanwhile, in the district of Malang (East Java), farmers sell their product in bulk. The labor cost of the harvest is charged to the trader or tengkulak. In Sidoarjo cases (East Java), farmers sell to the local trader or penguyang, using the weighted system (quintals) instead of the bulk system. Under such a system, farmers shoulder the labor cost of the harvest.

Collector Trader

The collector trader buys paddy from the farmers in the form of wet and non-husked grain (GKP) or dry and non-husked grain (GKG). The collector trader could also be full or part-owner of a rice milling unit (RMU). In East Java, the collector trader is known as penguyang, who, aside from being paddy collector,

also sells rice.

Paddy collectors may be classified according to their area of business operation. There are three types: the village, sub-district and district collector. The village collector obtains the paddy from the farmers, processes it to rice before reselling it to the sub-district or district collector. The average volume of paddy traded is relatively small, between 5-10 tons weekly. In some regions, collector traders supply the DOLOG. They do this by contracting paddy procurement through rural cooperatives or Koperasi Unit Desa (KUD). Collector traders also sell the paddy through the miller or RMU at the sub-district (kecamatan) and district levels. Traders at the district level generally have the option of selling the rice outside the region, especially if they do not own a milling unit.

Rice Milling Unit (RMU)

RMUs mill or hull paddy brought in by either the farmers or collector traders. In some cases, RMU owners double as collector traders. In such cases, the RMU owners have two sources of income: milling and trading.

The milling activity is a marketing service performed for the tengkulak, collectors or individual farmers. Generally, such a service is not covered by a contract agreement. A collector trader (tengkulak or penguyang) is free to choose which rice-milling unit to use in the region. As pointed out earlier, a miller can earn both from the milling services he performs for farmers or from buying paddy for milling and selling the same in the form of rice. The difference between a miller owner and a miller-trader is in terms of scale and volume of business. Generally, the miller-owner uses a milling machine that has a relatively small capacity.

Miller-traders buy rice grain directly from the farmers, especially during the harvest season. Increasing quantity and quality of available infrastructure has made the role of the smaller rice milling units in rural areas all the more important. These are the marketing actors who are closest to the production location.

In West Java, especially in the district of Karawang, the number of existing RMUs are as follows: two in the city of Karawang with a capacity of 1,960 tons; 10 in Kecamatan Rengasdengklok with a capacity of 9,800 tons; one unit in Kecamatan Tirtamulya with a capacity of 980 tons; four units in Kecamatan Jatisari with a capacity of 3,980 tons; and, two more units in Kecamatan Cilamaya with a capacity of 1,960 tons. In KUD Sri Mulia, sub district of Rengasdengklok, there are 2 units of a Caterpillar brand miller, single, with a capacity of 15-20 tons per day and 1 unit of machine with capacity 10-15 tons. The size of a warehouse, floor and kiosk building (GLK) is 5 x 20 meters and 15 x 40 meters, respectively, for two and one unit.

The rice-milling unit usually determines the wages of mill laborers as follows:

1. By fixing wages at Rp 18 /kg of non-husked wet paddy (GKP), where half of

Table 4.1
Income Analysis of Rice Milling Unit

Description	Price (Rp/unit)	Valu (Rp)
INCOME		
1. Mill Services for 26 Kw of Rice *	10,000	260,000
2. Sekam, 50 Kw gabah = 50 bag	350	17,500
Total Income		277,500
EXPENSES		
1. Labor Wages, 5 man-day		50,000
2. Cost of fuel (Solar), 30 liters	550	16,500
3. Maintenance Cost		20,000
4. Depreciation of machine per day	30,000,000/360	8,333
Total Expenses		94,833
NET INCOME		182,667

Source : Calculated from Field Data, 1999

Notes * Mill services is taken from net result of rice. For each quintal of rice, the mill services is about four (4) kg or rice. Assume that price of rice is Rp2500- per kg, so the milling services for 1 quintal of rice is : $2,55 \times 4 \text{ kg} = 10,000$, -(Conversion for 5 ton gabah $\times 52\% = 2,6$ ton of rice).

the total cost of milling (comprised of gasoline (solar), roller, operator and mechanics) is charged by the owner of RMUs while the other half is charged by the owner of paddy (Maro System). Milled rice comes in the following forms: coarse flour (sekam), fine flour (katul), and fine-broken rice (menir). The conversion for each 100 kg of dry and non-husked paddy (GKP) to rice is about 52-65 kg rice, assuming 52%-65% for each kg GKP. Dedak and menir goes to the owner of rice milling unit or the miller.

2. By profit-loss sharing or wages in terms of rice (in kind) obtained from the paddy being milled. For each quintal of rice, the services of a miller costs the equivalent of 4 kg of rice. Assuming the price of rice is at Rp 2500 per kg, the cost of milling paddy to produce 1 quintal of rice is: $2.55 \times 4 \text{ kg} = \text{Rp } 10.000$ (conversion for 5 ton paddy $\times 52\%$ is equal to 2.6 ton rice).

Wholesalers and Bazaar traders

Wholesalers and Bazaar traders are those that engage in big volume rice trading. To get their supply, Bazaar traders usually obtain their rice from medium-sized miller traders. They generally trade in the central district of a provincial area.

In West Java, big traders can be found in the main markets (Pasar Induk) of Caringin, Gede Bage, Ciparang, Cicadas and Soreang in Bandung City; and Pasar

Muka and Inpres Cianjur in the district of Cianjur. In Karawang, the main market is in Johar. For East Java, it is the Pabean and Bendulmerisi market places. In Lampung, large-scale traders operate in Metro, Talang Padang, Pringsewu and in the Bambu Kuning, Koga and Teluk market places in the city of Bandar Lampung. In the greater Jakarta region, big volume traders can be found in the Jakarta Food Station at Cipinang, Jakarta. The big trader generally has a marketing network inside and outside the region. They normally get their rice supply from collector traders, except in certain cases when there is a market operation by DOLOG.

Some big traders like PT Alam Makmur at the JFS in Jakarta also function as rice importers. Their activities are not confined to a certain area. They also engage in trade among the regions. Johar's traders generally get rice from millers and collectors in Karawang. Some traders function as brokers, receiving commissions from collector traders for redistributing their product to other traders such as those based in Bekasi, Bogor and Tangerang (West Java).

Bazaar traders move about 5 to 10 tons of rice per day, enjoying a profit margin of Rp 50-100/kg. If a trader bought rice at Rp 2400 to Rp 2450 per kg and sells it at Rp 2450 to Rp 2500/kg (medium quality), he realizes a profit of 2.08% ($50/2400 \times 100$). Even if the profit margin is relatively small, the absolute profit is big enough. This is because the turnover from trading is relatively big. For instance, if a trader sells 5 tons of rice, the profit is approximately Rp 250.000. Deducting labor wages for 3 persons, valued at about Rp 22.500 ($=3 \times 7500$), the net profit for Bazaar traders is Rp 250.000 (Rp 22.500, Rp 227.500, per day).

Retailers

Retailers refer to rice traders who buy big and sell small. Anyone can be a retailer; there is no entry barrier to the industry. This explains why there are more rice retailers than there are wholesalers, collectors and Bazaar traders in Indonesia's rice trading industry.

Rice retailing in Indonesia follows two standards: the kilo an (weighted standard) and the literan (volume standard). Rice retailers do not sell any particular brand of rice or for that matter, rice only. The trader also sells other brands and other products, mainly staple food (corn, soybean, peanut). Retailers get their supply from the Bazaar traders, collector and miller traders (known as penguyang in East Java). The rice volume traded by retailers reaches from 50 kg to 500 kg per day.

Retailer profit levels vary according to the type of transaction, *i.e.*, literan or kiloan. For instance, if the retailer buys from a trader Rp 2,500-/kg to Rp 2,600/kg of medium quality IR-64 rice and sells the same to final consumers at approximately Rp 2,700 - to Rp 2,800/kg under the kiloan standard, he or she stands to earn Rp 100 to Rp 200 per kg or a profit margin of approximately 10% -25%. If on the average, the

retailer sells 100 kg per day, he or Roles of the Private Sector in Rice Trading she stands to earn a total of Rp 25,000.

Rural Cooperatives (KUD)

Rural cooperatives (KUD) are economic institutions engaged in businesses in rural areas, particularly in the agricultural sector. KUD plays an important role in the marketing of paddy, which they buy from farmers and redistribute through the DOLOG or Sub-DOLOG.

For instance, KUD Sri Mulia, located in Kampung Sawah, Kecamatan Rengasdengklok, is one of the biggest suppliers of rice to the Sub-DOLOG of Karawang, moving as much as 8,000 tons seasonally. The KUD also supplies an average of 150 tons per day to traditional markets like Cilegon, Serang, Depok, Cibitung and the main market Cipinang. Its warehouse capacity is about 1500 tons, with the drying floor capacity approximating up to 70 tons and drier capacity approximating 40 tons. Paddy for the Sub DOLOG Karawang is procured mainly from farmers in areas closest to Rengasdengklok. If the stock in the area close to Rengasdengklok is low, the KUD buys paddy in another region such as Solo, Sragen, Grobogan and Klaten in Central Java.

A problem faced by the KUD in procuring paddy is the limited credit available for such a purpose with the DOLOG. According to results of the latest field inquiries, the DOLOG still owes the KUD and farmers approximately Rp 240 billion (8000 ton x Rp 2310). The reason for the debt is DOLOG has not received funding from the Bank of Indonesia, which is the intermediary bank throughout BRI. This problem has discouraged farmers from participating in the government's (BULOG) paddy procurement program. There is a need for closer coordination among government institutions like the Bank of Indonesia (BI), BULOG/ DOLOG and the Ministry of Finance, if the government's rice procurement program is to succeed.

Roles of BULOG/DOLOG in Rice Procurement

The Sub-DOLOG District V, which covers the Karawang and Bekasi areas, is one of the Sub-DOLOG suppliers of rice to the main market of Cipinang Jakarta as well as Johar, Karawang and Bekasi markets. The normative role of DOLOG in price stabilization is to implement the floor price policy. DOLOG is expected to absorb the excess rice production of farmers during the harvest season by applying the credit instrument in food procurement either through the Sub-DOLOG, KUD or non-KUD coops. On the other hand, if rice stocks are low, DOLOG is expected to stabilize the price by implementing Market Operation. This is not an easy role since the DOLOG itself sometimes functions as a trader while intervening in the market through the rules and regulation of rice marketing. Some traders have complained that DOLOG is not helping any. They point out that DOLOG's market operation is

not effective because DOLOG sells the rice if it is low in quality. If high in quality, DOLOG reserves the rice for certain people enjoying government subsidy.

As mentioned earlier, another complaint raised against DOLOG is its being late in paying debts to farmer groups like KUDs. A case in point is Rengasdengklok DOLOG's two billion rupiah non performing loan with the KUD committee. DOLOG explained that the credit scheme has not yet been implemented. It has also lodged its own complaint of having too many tasks. One of this is BULOG's special operation program for the poor (OPK Khusus) organized by the Ministry of Food to help poor people cope with the monetary crisis. The program is specifically intended to supply poor people with government-subsidized rice. DOLOG has been drafted to implement the program, an additional workload that, DOLOG says, is making it difficult to perform its original mandate.

For the special operation, DOLOG prepares the network for distributing rice throughout several rural areas in West Java. The implementation of OPK at the first stage covers approximately 2,000 of the target 5,000 households (KK) in 235 villages in the Karawang area. Assuming that each household needs two kg of rice, the total estimated need that needs to be served is approximately to 4,000 kg. Meanwhile, the allocation for the budget group (civil servants and military/ABRI) is estimated at 5% to 10% of the national stock held by DOLOG.

DOLOG stabilizes the price of rice during the harvest season by implementing the floor price policy. This means that when the price falls below the floor price, DOLOG will buy the paddy from farmers at the floor price. Conversely, when the price of rice increases particularly during the low season, DOLOG will sell its Roles of the Private Sector in Rice Trading rice stock through the market operation to maintain overall supply at equilibrium. However, the findings of the study suggest that the effectiveness of the DOLOG's role in price stabilization is debatable because there is a lag between the real price in the market and the reaction or implementation of the price policy of DOLOG.

During the harvest season, DOLOG buys the excess rice production of farmers but only if this passes quality control rules such as those relating to water content, dryness level and wastage. Farmers, however, have difficulty in complying with such rules especially during the wet season. Consequently, DOLOG ends up rejecting paddy from farmers, causing them to become frustrated and resentful of DOLOG rules and regulation. Moreover, only a few people, the big capitalists in particular, know about DOLOG's market operation. Only certain people are also given license to import rice. Consequently, a lot of traders fail to get the allocation needed for them to do their part in the market operation.

Following are some problems with paddy price that arose during the harvest season of January-March 1999, especially in the district of Karawang:

- KUD as a rural economic institution was not able to absorb all the rice

produced by farmers. This was due to the limited or delayed delivery of financial credit for paddy procurement during the harvest season.

- The mechanism that allows traders to obtain rice from farmers on credit (payable during the next season) is highly disadvantageous to the latter. Oftentimes, payments to farmers are delayed. In some cases, as what happened in Teluk Jambe, traders disappeared without paying farmers. Farmers are particularly vulnerable when there is a rice surplus. This drives the price down and farmers are left in a weak bargaining position.
- Lack of coordination among members of the DOLOG task force team. Aside from this, the limited scope of DOLOG operation automatically excludes remote areas of the countryside from the service. The floor price monitoring team established by DOLOG is not able to respond to the problem of price fluctuation in the field.
- Limited farmers' access to or ownership of post-harvest facilities and technology, especially driers and power threshers. This has caused production losses during the harvest season on account of backward technology such as sun-drying. Power threshers can decrease farmer losses up to Rp 67 billion or an equivalent of 304.5 tons per season. Based on data provided by BPS, there are only 95 thresher units in the district of Karawang. Karawang's optimum need, however, is for 2,500 units given a production area of 90,000 has. Aside from this, there is also a need for driers in Karawang. The area has 44 units each with a capacity of 8 tons per day or 352 tons per day.

4.3. Patterns of Transaction: Economic and Social Relationship

The process of distributing rice from producers to the final consumers or end-users in Indonesia involve the following private marketing institutions: collectors (village, subdistrict and district), wholesalers, Bazaar traders and retailers. Public or government run or supported marketing institutions include the cooperative (KUD), the miller (RMU), DOLOG/sub DOLOG, BULOG, and the importer.

These institutions adhere to the following types of relationship: trust relationship, family, ethnic and business relationship.

Trust Relationship

Some traders conduct their business based on trust relationship. This is

particularly true in Pasar Johar, Karawang where some groceries function as brokers by storing rice that they procure from collector trader and selling the same to regional traders/retailers, whence they earn a broker fee of Rp 10,000 per ton. A trust relationship also exists between collector traders and farmers whereby the former pays the latter in advance for production cost. When harvest season comes, farmers sell to the traders who are given the privilege of pegging the price of the rice produce. In such a case, farmers function as price takers.

Family Relationship

Rice trading may be run by family relations, with kin running some, if not all, marketing institutions involved in the process. One relative may own a processing unit (RMU) while another may be functioning as a collector. Such is the case of the sub-district collector who supplies main markets (Pasar Induk) like Cipinang in Jakarta and Pasar Johar in Karawang whose parents used to be in the rice trading business.

Pure Business Relationship

This means the marketing process is run solely on cash basis. Each marketing institution is required to put up capital to pursue his or her trading activity. Retailers need Rp 3 million up to Rp 10 million to go into the business; collectors, from Rp 30 million to Rp 50 million; and big traders, from Rp 100 million to Rp 300 million.

Ninety percent of the rice demand in Indonesia is served by the private sector while 10% is covered by the government through BULOG, DOLOG and KUD. The government, through the OPK, sells the cheaper rice. Consumers can easily shift buying rice from the government to private outlets, in which case the government faces a fluctuation in consumer demand. Consequently, the rice price could also fluctuate. The government stocks should be big enough to be able to cope with price fluctuations, especially during the harvest and planting seasons.

4.4. Marketing Margin and Efficiency Analysis

The marketing margin indicates the difference between price paid by the end-consumers (retailers) and the real price received by the farmers or rice producers. The concept of marketing margin covers all marketing cost incurred by the marketing institution, from collectors to wholesale/Bazaar traders to retailers. Marketing cost is that which accrues from the creation of value-added, i.e., form utility from dry paddy to rice; place utility, which represents the value-added created in the transit of the product from producers to final consumers, from rural to urban areas; and time utility as a consequence of holding rice in the warehouse especially

during off-season. In this analysis, the exploration of the marketing channel of rice starts from the producer (farmer) to the final consumers. This is an important part to tackle before proceeding to analyze the marketing cost and profit among marketing institutions involved in rice trading.

Three assumptions in conducting marketing margin analysis of agricultural products, especially rice:

First, marketing margins differ by pattern, region or institution involved. This is because different services transpire in the transit of rice from the farm gate to the final consumers. A high marketing margin does not necessarily reflect the efficiency of services in one marketing system or pattern. It could just mean that the marketing system is more efficient compared to those in other regions. One benchmark that is used is the price received by farmers compared to those received by retailers. Known as the farmer's share in certain regions, this shows the bargaining position of farmers in the rice marketing system.

Second, the marketing margin of agricultural products, especially rice, increases as the price share of farmers decreases. This is because agricultural service tends to be more labor-intensive than agro-industrial processing. The effect therefore of real wages in the long term is greater for marketing institutions who trade processed and semi-processed goods compared to the agricultural sector which churns out the primary product. If there is a change in household income as a consequence of economic growth, consumers tend to favor high quality to local quantity.

Third, the marketing margin, in the short run, is relatively stable especially for agricultural products. This is because of the dominance of the wage factor and the fact that the level of profit taken by the marketing institution is relatively constant in percentage compared to the price fluctuation of agricultural products.

The average cost of marketing components per marketing institution is shown in Table 4.2.

The biggest average marketing cost is accounted for by the village collector, at Rp 183.05 per kg while the smallest is that incurred by the retailer, at approximately Rp 20.75/kg. It can be implied that the farther the marketing channel is from the producer, the smaller the marketing cost becomes, the larger the profit margin.

Based on the percentage contribution of each marketing institution, the marketing cost component of each marketing institution is shown on Table 4.3.

It can be seen that the biggest marketing cost component for the village collector is picking cost, at 33.25%. For the sub-district collector, Bazaar traders and wholesaler; the biggest marketing cost is milling cost. For the district collector, the biggest cost is packaging, at 41.39 %, while for the retailer, it is transporting cost, at 23.2% of total marketing cost.

Field observation at the KUD in Sri Mulia, Kampung Sawah, Sub-district of

Table 4.2
Average of Rice Marketing Cost (Rp/Kg)

Cost Elements	Village Collector	Sub-district Collector	District Collector	Bazaar traders	Wholesaler	Miller	Retailer
Drying	26.05		6.25	4.67	1.83	8.00	10.00
Milling	52.69	100.00	37.50	13.33	20.13	45.20	14.00
Sorting	48.75		3.00				
Packaging	75.55		60.00			9.50	10.00
Transport	51.15	22.00	31.66	41.00		19.17	15.18
Labor	17.54	11.25	6.50	4.94	5.71	42.89	5.69
Mandor	105.00			6.00			5.50
Losses	51.29	14.00	50.00	50.00		39.00	4.25
Picking	252.50						0.80
Others	146.88	62.63		17.50		92.25	
Average*	183.05	99.33	86.18	74.55	32.00	89.94	20.75

Sources: Calculated from Field Data, 1999

Notes: * Average of total marketing cost from each respondents

Table 4.3
Proportion of Marketing Cost (%)

Cost Elements	Village Collector	Sub-district Collector	District Collector	Bazaar traders	Wholesaler	Miller	Retailer
Drying	3.43		4.31	1.97	3.96	3.12	15.29
Milling	6.91	46.98	25.87	47.73	43.52	17.66	21.40
Sorting	6.42		2.07				
Packaging	0.99		41.39			3.71	15.29
Transport	6.74	10.33	21.84	17.27	40.16	7.49	23.20
Labor	2.31	5.28	4.48	2.08	12.36	16.75	8.69
Mandor	13.83			2.53			8.41
Losses	6.75	6.58	0.03	21.06		15.23	6.50
Picking	33.25						1.22
Others	19.34	30.83		7.37		36.03	
Average*	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Sources: Calculated from Field Data, 1999

Rengasdengklok yielded the following data: price of dry paddy received by farmers during the harvest season is approximately Rp 1,100/kg - Rp 1,400/kg. In the market, the price becomes Rp 2,250/kg to Rp 2,700/kg. This means that the farmers' share of the retailer price, known as farmer's share, is approximately 48.88 % to 51.85 %. Transportation cost determined by DOLOG regulation is Rp120/kg. However, one

respondent (chief of KUD) wants this to be at a higher Rp 220/kg consisting of the following components: cost from farm gate to the processor, Rp 5/kg; cost from processor to warehouse, Rp 2.5/kg; cost from Warehouse to DOLOG Rp 7.5/kg; and, maintenance cost, Rp 5/ kg. What remains after these costs is the profit margin.

The marketing channel may be a farmer who is a member of KUD or a farmer group. Or he or she could be a non-KUD member who is a collector who sells his or her product to KUD. Whichever, marketing costs entailed are as follows: drying cost, Rp 7/kg; milling cost, Rp 5/kg; bag/packaging cost, Rp 2.5/kg; loading and unloading cost, Rp 2.5/kg; transport cost from Karawang -Jakarta, Rp 17.5/kg; and, transport cost to DOLOG, Rp 10/kg. What if the rice is rejected by DOLOG due to the low quality? KUD would have to absorb the marketing cost. But even if KUD meets DOLOG's standard, its payment could still be delayed for at least two weeks.

A study conducted by LPEM-FEUI in 1998 found a 4% gross margin for medium quality rice traded in Karawang. This value already considers all activities conducted by collector traders through the RMU such as collecting, processing, packaging and transportation. For retailers, who sell the rice using the literan or kiloan (the smallest unit of weight) standards, the gross margin obtained from transportation activities and piling the rice is 4%. The gross margin for rice in Karawang is shown on Table 4.4.

Meanwhile, gross margin is about 2 percent, reckoned in terms of marketing function. The whole gross margin from producer to final consumer, therefore, is about 18%. Comparatively, based on the results of a study conducted by Garcia-Garcia (1998) for an entire region in Indonesia, the overall marketing system indicated significant results as shown in Table 4.5.

These tables suggest that during the five-year period of observation, the marketing margin of rice was relatively constant for each pattern distribution. The smallest margin was obtained in the pattern involving rice flowing from the importer to the Bazaar trader while the biggest margin was from the importer to the final consumers, and from the farmer to the warehouse in Jakarta, at 12 percent each.

The results of marketing margin analyses conducted in four locations (three in Java: West Java, East Java and DKI Jakarta) and one in Sumatra (Lampung) are summarized in Table 4.6.

Meanwhile, an analysis of production in the district of Karawang during the five-year period shows a surplus of rice in an area measuring 10,000 to 25,000 hectares. The increasing productivity (yield) is due to a number of factors. One is the application of agricultural technology such as "supra insus" and "Panca Usahatani." Another is the fact that most agricultural land in West Java is irrigated by water from the Jatiluhur Dam. Karawang is also known as a national buffer stock area of rice for the Jakarta population. The problem, however, is that even if there is

Table 4.4
Gross Margin of Rice Marketing for Medium Quality
(in Karawang)

Distribution Pattern of Rice	Gross Margin (in percentage)
Farmer - Intermediate Trading (RMU)	4
Intermediate Trading (RMU) - Wholesaler	2
Local Wholesaler - Big Retailer outside region	4
Big Retailer outside region - small retailer	2
Small Retailer - Final Consumer	2
Farmer (Producer) - Final Consumers	18

Source: LPEM-UI, 1998

Table 4.5
Gross Margin of Rice in Indonesia, 1994/95 - 1998/99

Distribution Channel	Gross Margin of Rice (in percentage)				
	1994/95	1995/96	1996/97	1997/98	1998/99
Importer to Bazaar traders	2	2	2	2	2
Bazaar traders to the retailer	5	5	5	5	5
Retailer to the final consumer (end users)	5	5	5	5	5
Bazaar traders to the final consumer	10	10	10	10	10
Importer to the final consumer / end users	12	12	12	12	12
Farmer / Producer to the warehouse in Jakarta	12	12	12	12	12

Sources: Garcia-Garcia, 1998

Table 4.6
Results of Marketing Margin Analysis for Rice (Rp/Kg)

Status	Buying Price (Rp/Kg)	Selling Price (Rp/Kg)	Marketing Cost (Rp/Kg)	Profit Margin (Rp/Kg)	Gross Margin (%)
Farmer		1200.00			46.85*
Village Collector	1755.55	2494.44	133.94	604.95	23.63
Sub-district Collector	2633.33	2750.00	107.20	9.47	0.37
District Collector	2475.00	2550.00	131.05	-56.05	-2.19
Rice Miller	1387.50	2425.00	79.61	957.89	37.42
Wholesaler	2453.33	2767.67	24.00	199.33	7.79
Bazaar Trader	2113.64	2509.09	31.58	363.87	14.22
Retailer	2379.79	2559.58	17.50	162.29	6.34

Source : Calculated from Field Data, 1999 (Based primarily on First Pattern)

* Farmer's share is a part of price received by the farmer compared to the price paid by the final consumer (retailer price) in percentage.

Table 4.7
An Analysis of Marketable Surplus for rice in Karawang, 1997 - 1998

Description	Marketable Surplus 1997	Marketable Surplus 1998
1. Harvested Area (Ha)	184,304.00	179,977
2. Production (ton GKP)	1,296,579.28	917,640
3. Production Losses (ton GKP)	213,546.56	151,135
4. Net Production (ton GKP)	1,083,032.72	766,505
5. Conversion GKP to GKG (86.59%)	937,798.03	663,716.68
6. Seed : 25 kg/Ha	4,607.60	4,497.77
7. Net Production (ton GKG)	933,190.43	659,219.23
8. Production equal to rice (65%)	606,573.77	428,492.50
9. Consumption *	235,879.64	237,996.64
10. Marketable Surplus (ton)	370,594.13	190,495.86

Source: Dinas Pertanian Dati II Karawang, 1999

Remarks * Number of Population * per capita Consumption

a surplus, this does not mean that there is no food crisis in the area. The surplus is only in terms of production. Purchasing power is another matter, a problem faced by the population in Karawang since the eruption of the financial crisis in the second semester of 1997. A lot of factories and similar businesses have gone bankrupt. Many workers in the formal sector have been laid off. The agricultural sector could not absorb the formal sector. Thus, despite the production surplus, the population is not yet free of the food crisis.

Table 4.7 suggests that since the financial crisis, the volume of rice that Karawang could trade with the other regions (marketable surplus) has decreased by 48.6% from 370,000 tons in 1997 to 190,000 ton in 1998. This has been due to a decrease in net production and the harvested area, which has, in turn, caused a decrease in total production. A decrease in the production of dry and unhusked paddy (GKP) means a decrease in dry paddy (GKG) production. The conversion rate from GKP to GKG is about 86.95% while the conversion of rice from GKG is about 65%. On the other hand, total consumption has increased on account of increasing population in Karawang.

4.5. Assets and Capital Accumulation : New Investment Decisions

Investment basically means cost accumulation for activities. In this case, investment can be of two types. The first type is investment related to farming or food crop planting activities. The second type is investment related to the marketing or trading of rice. Each investment decision is based on the farmers' rational consideration and expectation of profits and losses from farming activities. This

can be done by revenue cost analysis. On the trading side, investment decisions can be reached by marketing margin analysis. An earlier description of this approach shows its usefulness in determining the proportion of the rice price that goes to farmers as producers (farmer's share), the marketing cost for each marketing institution, and the level of profit margin.

Analysis of profit and loss in farming activities can be done using the following methods: revenue cost (R/C) ratio, benefit cost analysis (B/C) ratio and an analysis of Net Present Value (NPV). However, since rice is a seasonal crop, R/C is the preferred tool of analysis. As we know, the R/C analysis can be used to measure production cost or expenses against revenue received. The production cost component consists of purchases of seeds, fertilizers, pesticides, labor and other expenses such as levies and taxes (PBB), irrigation service fee (ISF) and social cost (zakat). The revenue obtained from production (yield) of paddy is multiplied by the level of price received by farmers (farm gate) to get the R/C ratio.

Based on a comparison of returns and costs incurred by farmers, Lampung province has the higher R/C ratio compared to West Java and East Java farmers. This is because of the low production cost and high revenue received by Lampung farmers compared to their counterparts in West and East Java. To illustrate: the average yield of paddy in Lampung is 7 tons/ha. East Java, 6 tons/ha. and, West Java, 4-5 tons/ha. On the national level, the average R/C ratio is 2.80, which indicates that for each rupiah of production cost spent by farmer, the revenue return is 2.80 rupiahs. The R/C ratio for Lampung is 4.94; East Java, 3.27 and West Java, 8. Since the R/C ratio is greater than one, this indicates that paddy farming is profitable (see Table 4.8).

Capital used for farming comes in two forms: equity and debt (borrowing). Debt capital is none other than credit (KUT) needed to obtain farming inputs. The limitation of credit in some areas is the main constraint facing small farmers in particular. The amount of capital used for the farming activities and rice trading for each status level can be seen in Table 4.9.

The amount of farming capital needed by farmers is Rp 5 million. Most small farmers are not able to raise the amount on their own. This is the reason why they need credit. Table 4.10 shows the proportion of farm capital supplied by farmers themselves and the borrowings they need to do to raise the required production amount.

Table 4.10 also shows that on the average, 60.7 percent of respondents were able to raise capital from their own sources; 26.2 percent of respondents borrowed; while the remaining (13.1 percent) is a mix of own and borrowed capital. If we look at the areas covered by this study, we will see that all or 100% of the respondents in Lampung were their own sources of capital. In West Java, only 13.3% of farmers provided their own capital compared with East Java, which had

Table 4.8
An Analysis of Return to Cost (R/C) Ratio for Paddy (Rp/Ha.)

Item	West Java	East Java	Lampung	Average
Seed	99922.22	95403.20	101360.00	98955.75
<i>Fertilizer</i>				
- Urea	218222.22	294791.12	313800.00	283753.23
- K Cl	149629.63	81569.08	181805.56	140515.12
- SP 36/ZA	211611.11	112590.35	373500.00	250660.22
Pesticide	150133.33	250219.47	81043.48	150381.32
Herbicide	62500.00	79919.58	46000.00	62383.45
<i>Labor:</i>				
Land preparation	24688.89	307170.03	200000.00	252717.30
Nursery	83000.00	44337.04	90000.00	64903.02
Planting	142000.00	117649.83	90000.00	112982.70
Weeding	207916.67	281489.90	81250.00	212467.73
Fertilizer	29200.00	32875.66	20000.00	31037.54
Spraying	29033.33	31791.01	30000.00	30624.62
ISF/Tax	110133.33	73672.91	22050.00	6131.99
Other	1530388.90		39545.45	899647.44
Total Cost (Rp)	3140044.40	1552008.70	1328448.00	1850886.10
Revenue (Rp)	54511000.00	6213001.40	66140000.00	5911853.60
R/C Ratio	1.87	3.27	4.94	2.80

Source: Calculated from Field Data, 1999

Table 4.9
Working Capital according to Marketing Actors (in Rp '000)

No	Marketing Actors	Capital Required (Rp '000)
1.	Farmers	5,000
2.	Village Collector	9,350
3.	Sub District Collector	19,290
4.	District Collector	15,330
5.	Millers (RMU)	53,150
6.	Wholesaler	16,250
7.	Bazaar trader	52,080
8.	Retailer	5,500

Source: Calculated from Field Data, 1999

Table 4.10
Sources of Fund for Farming Activities by Respondents (%)

Sources of Capital	West Java	East Java	Lampung	Total
Equity	13.3	47.6	100.0	60.7
Debt	46.7	42.9	0	26.2
Mixed	40.0	9.5	0	13.1
Total	100.00	100.0	100.00	100.0

Source: Calculated from Field Data, 1999

47.6 percent. About 47 percent of those who borrowed capital were from West Java while 42.9 percent were from East Java.

The general conclusion from this table is that majority of Javanese farmers have access to credit. This indicates that the farming credit allocation (KUT) covers only the Javanese farmer with access to the financial institution.

Based on Table 4.11, most village traders and kabupaten collectors used their own capital to run their business during the period under study. Millers and kecamatan traders used a combination of equity and borrowed (credit) capital. By external sources, capital for rice trading came from banks, informal financiers, friends and relatives, and processors/traders, as indicated in the following Table 4.12. The table also shows that most of capital on credit came from banks, especially for big traders and processors or millers (RMU). Meanwhile, 50% (the biggest percentage) of respondents got their capital from family sources. These were the sub-district collector/trader and Bazaar traders.

The process of arriving at farming investment decisions are affected by several factors. These include availability of capital (either through debt or equity) and accessibility of finance for farming activities or food security. These, in turn,

Table 4.11
Sources of Capital according to Marketing Actors (%)

Marketing Actors	Own capital/ Equity (%)	Borrowing Debt (%)	Mixed (%)
Village Collector	71.4	5.7	22.9
Sub-district Collector	14.3	28.6	57.1
District Collector	66.7		83.3
Miller (RMU)	38.5		61.5
Wholesaler	37.5		12.5
Bazaar Trader	73.3	3.3	23.3
Retailer	83.6	4.1	12.3

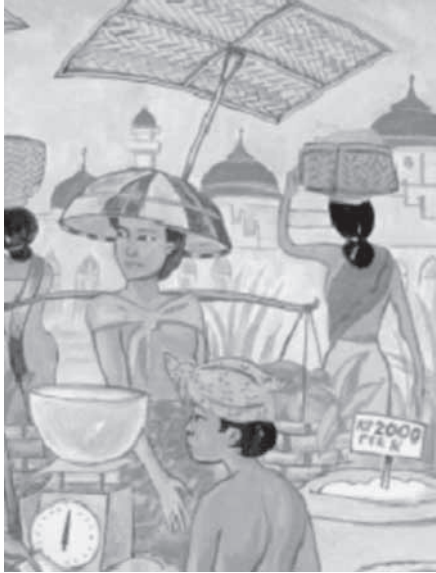
Source : Calculated from Field Data, 1999

Table 4.12
Sources of Borrowing Capital by Origin (%)

Marketing Actors	Bank	Informal	Relative	Family	Processor	Broker
Village Collector	36.4		27.3	9.1		18.2
Sub-district Collector	33.3		66.7			
Miller (RMU)	83.3			16.7		
Wholesaler	100.0					
Bazaar Trader	50.0		50.0			
Retailer	33.3	8.3		8.3	16.7	33.3

Source : Calculated from Field Data, 1999

are influenced by movements in bank interest rates and crop insurance levels. There is also the price policy in the rice production that either encourages or discourages farmers from producing more yield. Finally, there is the incentive system based on the granting of subsidies on farming inputs such as seeds, fertilizers and pesticides.



Chapter 5

State Intervention in Rice Trading

5. State Intervention in Rice Trading

This chapter examines the Indonesian state's intervention in rice trading, focusing primarily on relevant "regular" policies on food security and rescue policies such as the ongoing special market operation to cope with the current crisis. Government intervention in rice trading in Indonesia started in the late 1960s under the first Five-Year Development Plan (Pelita I) of the New Order Government of President Soeharto. Procurement systems involving imports and other trading activities performed by state institutions are analyzed in detail to obtain a more objective view of relevant issues. An examination of the "success story" that is the special market operation (Operasi Pasar Khusus or OPK) is conducted to provide a broader argument in favor of income transfers in the rice trade.

5.1 Government Laws, Regulations and Programs on Food Security

The most popular food policy in Indonesia is the floor price policy, which has been in place since the beginning of Pelita I. The objective of the policy is to protect farm producers by helping them get the best price for their produce especially during the harvest season. During such a season when there is excess rice supply, the price of the commodity usually plummets. To reduce losses for farmers, the government applied the floor price policy whereby it purchased the production surplus of rice farmers. The price stabilization policy is important because rice, being a staple food of the Indonesian people, is a political commodity. To run this program, the government established BULOG as a national logistic agency for food, especially rice. BULOG initially served primarily as a purchasing agency for rice.

In 1969, the government passed a presidential decree (Kepres RI No. 11/1969) that changed BULOG's organizational structure and mission as a bufferstock holder, and added distribution and budgeting classification to its routine tasks. As a distribution agency, BULOG's function was to distribute not only rice but also other commodities such as sugar, wheat, soybeans, corn, peanuts and other food crops.

The ultimate aim of the government policy was to stabilize the price of rice through direct purchases of paddy from farmers. This had the effect of subsidizing both the consumer and producer regions to a point that kept price distortion at the farm level. Rice price was practically determined by the BULOG official.

From 1969 to 1971, the policy succeeded in stabilizing the price of rice. It stalled during the dry season of 1972 when rice production fell, causing the national buffer stock to be depleted and the price of rice to increase. Cooperatives and

DOLOG failed to supply rice/paddy to consumers.

Government's intervention in the rice market continued under the Second Five-Year Development Plan (Pelita II), which aimed to keep food prices at levels beneficial to both consumers and producers while helping to improve nutrition. Under Pelita II, BULOG's function was expanded by Presidential Decree No. 39/1978 to include price stabilization not only of rice/paddy but also of wheat and other staple foods.

Pelita II was geared towards increasing not only rice production but also income and employment opportunities. Its ultimate goal was to diminish discrepancies in income distribution. The program was a response to the oil boom of 1973/74, which resulted in economic development for Indonesia that was lopsided in favor of urban areas. The government tried to reduce the income discrepancy between the urban and rural areas by purchasing paddy/rice from farmers through the village unit cooperative (KUD) and building a buffer stock for BULOG.

Pelita III was implemented in the wake of a long dry season that caused domestic rice production to fall below target. To meet the basic need of the population, the government resorted to porting rice from other countries. It also implemented such programs as special intensification (Insus) and special operation (Operasi Khusus).

These programs were implemented by virtue of a presidential instruction (Inpres) on the importance of the staple food that was issued in 1974. This was followed by presidential instruction (Inpres) No. 20 in 1979 which mandated the improvement of community food nutrition.

This policy was strengthened during Pelita IV (1984/85-1988/89), which gave attention to achieving equilibrium between food supplies and food consumption and to decreasing infant mortality through the formulation of the welfare small norm (NKKBS).

In 1993, another presidential decree (Keppres Nomor 103 year 1993 Annex 2) was issued expanding BULOG's tasks to include price stabilization, maintenance of food security, imposition of quality controls for paddy (rice), wheat, flour, soybean and other food crops, including poultry feed. To implement these tasks, BULOG purchased the excess supply of paddy during harvest season and sold it by market operation to the consumers during off-season and when there was excess demand.

In 1995, the government issued presidential decree (Keppres) No. 50, 1995 enhancing the role of the national stock agency BULOG in price stabilization and in the management of food and animal feed supplies. This decree was an improvement over Keppres No. 103 1993) in that it covered the position, main task, function, organizational structure and work mechanisms of BULOG.

Keppres No. 50/1995 referred to BULOG as a non-governmental institution that is directly accountable to the president. It reiterated the main task of BULOG in

price stabilization and inventory management for rice, sugar, wheat, flour, soybeans, animal feed and other staple food for consumers and producers. To implement this task, BULOG functioned as a procurement, distribution and supervising agency.

Presidential Decree (Kepres) No. 45/1997 simplified the position, main task, function, organizational structure, and working mechanisms of BULOG. The ultimate goal was to increase the agency's efficiency in managing staple food inventories and accelerating the commodity flow from producers to consumers. This decree was an improvement on Kepres No 50/1995, specifically Annex 2, which mandates BULOG's main tasks as price stabilization and keeping food quality in accordance with government policy.

Presidential decree (Kepres) No. 19/1998 aimed to improve the effectiveness of BULOG as a manager of inventory for staple foods and in accelerating the commodity flow. Kepres No. 19/1998 sharpened the ability of BULOG in regulating price and managing and assuring the quality of food stocks.

Table 5.1 summarizes the government interventions and policies in rice trade, covering old and new policies of development and rescue.

5.2 State Procurement System: Import and Trading Activities

The primary objective of rice procurement by BULOG is to stabilize price in order to increase the farm production and farm income. The secondary objective is to accumulate rice stocks for the following purposes: as commitment stock for rationing to budget groups like civil servants and members of the military, and other government officers; as stabilization stock for the needs of market operation; as emergency stock for disaster and other social needs; and, as carry-over stock in preparation for the next planting season.

To guarantee the buffer stock, BULOG imports rice from other countries. The main supplier is Thailand. Others are Japan, Taiwan, the Philippines, Myanmar, and the United States of America (USA). BULOG sees to it that rice imports are delivered on schedule (during the off- or pre-planting season) to ensure a sustainable logistic system for fulfilling demand for staple food. Rice imports are targetted mainly for delivery to consumer areas where rice supply is at a deficit. These include Riau, East Kalimantan, West Kalimantan, North Sulawesi, South East Sulawesi, East Nusa Tenggara, East Timor, Maluku, and Irian Jaya.

Table 5.2 presents state procurement figures for the period of 1990-1999 in comparison with domestic rice production during the same period. The table suggests that the quantity of rice obtained through the state procurement system is quite small, not more than 5% of total domestic production. This is consistent with the trend discussed in previous chapters, where only 30 percent of rice

Table 5.1
Policy Matrix of Government Intervention on Rice Trade

Policy	Content of Policy	Law Basis
1. Direct Policy		
a) Floor Price Policy	Designates BULOG as a bufferstock holder for stabilization of rice price, especially during the harvest season.	Kepres No. 11/1969
b) Procurement of rice through KUD	Mandates participation of KUD in procurement of rice from farmers to ensure floor price policy implementation at the producers' level.	Inpres No. 4/1973
c) BULOG Price Stabilization, either at the Producer or Consumer Level	Mandates BULOG to stabilize price, supervise the supplier, assure food security and improvement of paddy (rice) quality.	Kepres No. 103/1993
d)	Strengthens BULOG capability to implement its mandated tasks, i.e., price stabilization and management of staple food stocks and animal feeds.	Kepres No. 50/1995
e) Organizational and Institutional Policy (position, main task, function and organizational structure of BULOG)	Enhancing the efficiency of BULOG in managing the inventory of rice and accelerating food commodity flow.	Kepres No. 45/1997
f) SSN : Social Safety Net	Increasing paddy production by managing the inventory of food and accelerating the flow of food commodity from the government to target beneficiaries.	Kepres No. 19/1998
II. Indirect		
a) Mass Guidance (Bimas and Mass Program	Increasing paddy production by subsidizing credit for fertilizer and other farm inputs through KUD.	Ministry of Agriculture (MOA) and Ministry of Finance (MOF)
b) Credit Liquidity of Bank Indonesia	Provision of funding support for BULOG rice procurement through liquidity credit from bank Indonesia (Kredit Likuiditas Bank Indonesia (KLB))	Bank of Indonesia
c) Supervision Program of Market Information		Minister of Agriculture Decree No. 01/Inst/TP.840/10/9

Source: Compiled from several sources (1999)

Table 5.2
State Procurement, Compared to Rice Production

Year	State Procurement (ton)	Domestic Rice Production (ton)	Procurement/ Production (%)
1990	1,270,455	29,366,000	4.33
1991	1,430,339	29,047,000	4.92
1992	2,564,913	31,356,000	8.18
1993	1,963,175	31,318,000	6.27
1994	938,347	30,317,000	3.10
1995	922,980	32,334,000	2.85
1996	1,431,053	33,216,000	4.31
1997	1,948,811	31,206,000	6.24
1998	249,078	30,340,000	0.82
April 1999	955,692	n.a.	n.a.

Source: Calculated from the SMFHA, 1999

production enters the domestic market, while 70 percent end up for farmers' own consumption. About 61 percent of domestic rice production come from Java and only few come from the other islands. This issue of rice production could turn into a serious threat on the procurement system once the production centers in Java, Lampung and South Sulawesi, experience socioeconomic and environmental problems.

In anticipation of such problems, the government has invested tremendously in providing the state procurement system with warehouses, offices and other infrastructures. It has also enlisted the support of rural cooperatives (KUD), which have been involved in the buffer stocking business since the early 70s. KUDs also help the government in rice importation particularly in planning for quality and quantity, and appointing the contractor-traders.

The policy of importing rice has helped a lot in reducing the political pressure on the government. This is particularly true when there is a deficit in the national rice stocks. As mentioned previously, the imported rice is sold at subsidized prices, a policy that benefits consumers, especially those with higher incomes. This is probably the most significant disincentive for farmers to improve productivity.

But what has exposed the state procurement system to a lot of criticism is the lack of transparency in rice importation activities. During the Soeharto regime, big conglomerates such as the Salim Group and former President Soeharto's cronies were the number one rice importers. Only few companies had access to the state procurement systems. As a result, it has been extremely very difficult to obtain reliable data on private sector involvement in the state procurement system.

An investigation by Pilar Magazine showed that only 12 conglomerates

were authorized by BULOG to import rice. About half of these companies were directly affiliated or closely identified with the Soeharto regime. These companies were able to land US\$800 million in contracts representing nearly two million tons of rice imports for fiscal year 1997/1998 alone. The six other companies were able to come in with only 400,000 tons of rice imports valued at US\$133,000 (Table 5.3).

Table 5.3
Rice Importing Companies for BULOG, 1997/1998

No	Big Conglomerates	Owner	Volume (ton)	Contract Value (US\$ million)
1.	Timur Madu Sejati	?	100,000	29.50
2.	Airlink Resources	Siti Hutami	300,000	90.32
3.	Girivy Trading	Sudono Salim	357,725	101.21
4.	Graphical Management	Sudono Salim	517,900	119.92
5.	Dataran Nilam Latipson	Siti Hediati	35,000	29.92
6.	Calwin Service	Sudono Salim	1,147,000	349.59
7.	G. Premjee Trading	Kirit C. Shah	30,000	9.36
8.	Siam Rice Trading	Pitak Jirapinyo	50,000	17.25
9.	Thai Mapam Trading	A Yong (?)	12,000	4.16
10.	Dong Thap Commerce	A Yong (?)	20,000	6.10
11.	Interlink Asia	Sudono Salim	300,000	86.77
12.	Consortia World Trade	Dasuki Angko	225,000	67.12
	Total		3,094,625	911.22

Source: Pilar Magazine, No. 13, July 14, 1998

Another transparency issue that has confronted BULOG is that which is related to the fees earned by participating companies from rice import transactions. For instance, in 1997/1998, BULOG fixed the annual price of rice imports at US\$ 320 per ton and paid US\$ 10-15 per ton additional fee for every contract to participating companies. In 1997-1999, the average CIF price of imported rice (25 percent Thai) varied according to quality and country of origin from US\$ 257 to US\$ 300 per ton. Thus, a two million ton contract of imported rice given to Salim Group and Soeharto's cronies was able to generate for them an excessive fee or economic rents of much as US\$ 2 million. Company profits could have been more given the US\$25 per ton of price difference between average international price (US\$ 295 per ton) and the contract price (US\$ 320 per ton). The bigger the rice import volume, the higher the level of economic rent that these generated for the companies involved.

The lack of transparency in rice importation has contributed heavily to wastage and inefficiency in the handling of state funds. There is a need to review the state procurement system if efforts to reduce government monopoly in the rice

trade are to be achieved.

The quantity of rice concerned here is actually quite small (only 10-20 percent) compared to total domestic rice production. It is also subject to fluctuation depending on the production and import performance. However, the cost of procurement tends to increase significantly. In fiscal year 1984/1985, procurement cost was only Rp 856 billion. This increased to Rp 1 trillion in fiscal year 1995/1996. The cause of increase in the last two fiscal years was low production due to *El Niño*. In fiscal years 1996/1997 and 1997/1998, total expenses for state procurement by BULOG further rose to Rp 1.4 and Rp 1.7 trillion, respectively.

Indonesian dependence on imported rice has been on the up trend since 1995, on account mainly of the weather and political disturbances, which had prompted the government to increase subsidies to the so called "budget group". Rice imports grew significantly from 1.3 million tons in 1995 to nearly 6 million tons in 1998. In 1996, the volume of imported rice exceeded the "psychological limit" of 2 million tons on account of the aforementioned reasons.

Table 5.4 presents the import performance of the Indonesian rice sector over five years and the respective annual change.

Table 5.4
Quantity and Volume of Imported Rice, 1993 - 1998

Year	Quantity of Import (Ton)	Import Value (US\$ 000)	Change (%)
1993	24,317	7,196	-
1994	633,048	157,322	2,086.24
1995	1,307,875	514,476	227.02
1996	2,149,758	766,316	48.95
1997	349,681	108,932	-85.78
1998	5,783,000	n.a.	n.a.

Source: BULOG, 1999 (see Table 3.2)

Another important aspect of the state procurement system that is worth examining is the involvement of a liquidity credit from the Bank of Indonesia (KLBI). This liquidity credit is intended for the state procurement of rice and sugar, another commodity under BULOG monopoly. In 1998, the total amount of liquidity was Rp 5.9 billion, more than three times the amount in 1993. In January of 1999 or in the month of Idul Fitri, the amount was Rp 7.8 billion or more than 26 percent of the total KLBI earmarked for other uses and institutions during the period (see Table 5.5).

This very high amount of liquidity credit is said be one of the main factors that caused BULOG's inefficiency. The most recent financial audit on BULOG in the period between April 1993-March 1998 conducted by Arthur Andersen indicates

Table 5.5
Liquidity Credit from the Bank of Indonesia (KLBI)
for the State Procurement on Rice and Sugar

Year	Amount Credit for Rice & Sugar (Billion Rp)	Share to total KLBI (%)	Change (%)
1993	1,846	14.39	-
1994	2,230	16.17	20.80
1995	2,734	15.99	22.60
1996	4,586	22.26	67.74
1997	5,595	22.42	22.00
1998	5,876	21.83	5.02
Jan 1999	7,781	26.30	-
Feb 1999	6,990	24.15	-10.17
Mar 1999	5,567	19.41	-20.36
Apr 1999	6,781	22.22	21.81

Source: Bank of Indonesia, 1999

that weak monitoring and internal evaluation also contributed to the inefficiency which resulted in losses reaching Rp 1.3 trillion. Specifically, the inefficiency has caused BULOG's debts to rise to Rp 611 billion and for the agency to incur losses from exchange rate fluctuations amounting to Rp 582 billion. (Chapter 6 provides a more complete discussion of this issue).

5.3. Special Market Operation : Social Safety Net

On July 1, 1998, in response to increasing food insecurity caused by the deepening economic crisis, the Government of Indonesia announced a new social safety net program called Operasi Pasar Khusus Keluarga Pra Sejahtera (OPK) - special market operations for poor households. BULOG has been tasked to implement this program, which is similar to general market operation in that the government also injects rice into commercial markets in order to stabilize rice price. The program is in collaboration with the State Minister of Social Welfare or the Agency for National Family Planning (BKKBN) and local governments in all of Indonesia's 27 provinces.

The original program design called for BULOG, through its provincial and district DOLOG offices, to make available 10 kilograms of medium-grade rice every month to the target households. The subsidized price for this rice has changed, especially during the extreme volatility of late August and early September 1998. On average, this monthly distribution now represents the equivalent of a cash transfer of about Rp 15,000 per household. Less than 30% of the GOI-calculated poverty line for a household of one person, and less than 6% for a household of

five.

The OPK program uses household-level data collected by the National Family Planning Agency (BKKBN) to identify the neediest households. BKKBN data focuses on five indicators of overall standard of living and well being food intake, housing, clothing, and medical and religious practices. Households failing to meet a minimal standard on any one of these five variables are designed State Intervention on Rice Trading The minimal standards include :

- Eating at least twice everyday
- Having a floor that is not primarily dirt
- Having different clothes for work and leisure
- Going to a medical clinic (not a traditional healer) when children are sick
- Following the fundamental practices of the family's religion

The original OPK allocation of 10 kilos is only a fraction of the normal monthly food requirement of most recipient households, which averages 1-1.5 kilos per day depending on family size. Nevertheless, even at the subsidized prices, the total payment required is out of reach of many in the target group. In particular, the requirement to pay for such a large amount of rice all at one time is inconsistent with the consumption pattern of the target group, who normally purchase their rice on a daily basis. Consequently, many of the target groups are only able to collect their OPK rice after borrowing from family or neighbors or selling small assets. At the national level, BULOG reports that the rice stock set aside for OPK is sufficient only for the next four to five months. Field reports from DOLOG suggest that there are no ongoing problems with stock or availability.

The OPK is a centrally designed program with national guidelines, and intended to be implemented uniformly in every region throughout Indonesia. In the field, it found that distribution methods vary from one region to another. It has been observed that in most cases, these variations are appropriate and effective responses to differing local challenges and conditions. In three provinces visited, most aspects of the implementation process - financing, payment schedules, storage and handling of rice, and the organizations responsible for each stage of the problem - have been tailored to the local conditions and geography of the area. And in these three provinces, the locally - initiated changes seem to be working reasonably well and are resulting in effective logistical implementation.

By the end of 1998, after six months of implementation, the OPK program was providing a monthly rice ration of 20 kilograms per family to approximately nine million households at more than 30,000 distribution points. Although the program was designed as an emergency-relief measure, it offers an alternative to rice price stabilization. In the near future, however, the challenge is to sharpen the cost-effectiveness of the program: to concentrate more of the assistance in urban areas, tighten eligibility criteria, increase public awareness, improve beneficiary

Table 5.6
The Special Market Operation (OPK) Target Numbers

Provinces	BULOG (Central Govt.)	Regional Data	KPS (BKKBN)
DI. Aceh	157,914	403,177	157,914
North Sumatera	157,017	148,532	157,017
Riau	105,666	141,468	105,666
West Sumatera	16,348	243,257	16,348
Jambi	58,223	58,223	58,223
South Sumatera	208,332	591,394	208,332
Bengkulu	45,981	89,070	45,981
Lampung	447,054	642,664	447,054
DKI Jakarta	23,389	48,555	23,389
West Java	708,951	3,115,832	708,951
Central Java	2,661,980	3,097,963	2,090,827
DI Yogyakarta	111,124	122,465	111,124
East Java	1,987,103	2,224,038	1,178,107
West Kalimantan	69,802	75,591	69,802
East Kalimantan	25,663	147,006	25,663
South Kalimantan	21,990	27,246	21,990
Central Kalimantan	32,221	150,487	32,221
North Sulawesi	67,051	81,058	67,051
Central Sulawesi	104,568	227,051	104,568
South-East Sulawesi	72,089	67,702	72,089
South Sulawesi	78,114	105,885	78,114
Bali	12,133	44,927	12,133
West Nusa Tenggara	176,975	197,115	176,975
East Nusa Tenggara	384,596	449,477	384,596
Maluku	98,900		98,900
Irian Jaya	142,823	260,087	142,823
East Timor	95,719	97,876	95,719
Total	8,071,726	12,858,146	8,071,726

Source: 1) BULOG report on 22 October 1998

2) BKKBN report on 16 September 1998

reporting, and ensure that the program is extended and placed on a financially sound footing. To reach the large numbers of excluded urban poor, the government plans to involve NGOs in the distribution of subsidized foodstuffs. A better public/private partnership in relief distribution could extend the reach of the OPK effort as long as strict standards of program accountability are maintained.

The crisis has drawn attention to the fact that assuring food security is largely an income problem, that income levels can change rapidly, and that even some of the most prosperous parts of the country have large numbers of households without food security. A variety of data sources could be used to monitor food security status and to design appropriate medium-term measures for providing assistance to vulnerable households. These might include some combination of targeted OPK effort, ration shops, village granaries, food stamps, and subsidized food stalls.

5.4. Incentives, Barriers and Implication to Farmers

The narrowing of BULOG's mandate to rice left the agency with large stocks of wheat, sugar, soybeans and other foodstuffs, but attempts to sell these stocks have been frustrated by weak domestic demand and the availability of imports at a price well below BULOG's procurement price. Although rice trade has been liberalized and rice tariffs are to be fixed at 5 percent, the government is still attempting to use a floor price and market operations program to support producer incomes and stabilize consumer prices. The government has failed to understand that prices cannot be free to follow the movements of world markets while being kept stable domestically.

Rice, of course, is far too important a commodity in Indonesia to allow hasty and inconsistent changes in policy. The country needs to seek a comprehensive and thoughtful solution to these issues. In the near term the government must focus its attention on ensuring that basic food requirements are met. Thereafter, the main challenge is to stimulate economic recovery. Agriculture, as one of the least distressed sectors of the economy, offers considerable hope for the future, especially for farmers as rice producers. Within agriculture, rice production offers significant scope for growth, employment generation, and productivity improvement. Priority should be accorded to crafting incentives conducive to sustained agricultural growth and rural development.

Historically, the government has tried to protect rice farmer incomes. Since demand is price-inelastic and shock primarily affects domestic supply, government attempts to stabilize producer prices tended to stabilize farm incomes and improve the environment for agricultural innovation.

But the raising of the paddy floor price from Rp 1,000/kg to 1,500/kg in December 1998 set the price at a level that was more than 30 percent higher than the prevailing import parity price. As a result, BULOG found it difficult to procure paddy in the first quarter of 1999. Although the agency has enough credit to buy nearly 1.8 million metric tons on the domestic market, it is doubtful that it will be necessary to procure so much to keep farm prices firm. A combination of a smaller

than expected crop, build-up of farm stocks, and wet weather has kept prices high.

Although there is merit in using a floor price scheme to protect farm incomes, certain principles should be adhered to. The floor price should be a minimum guarantee price, and BULOG should act as the buyer of last resort. Accordingly, the floor price should not be set above world market-import parity prices, adjusted for expected inflation.

At present, there are few channels for transferring income to small rice farmers other than agro-input subsidies. Over time, however, it may be possible to develop institutional mechanisms to support producer incomes, without distorting prices. Block grants to rice-producing villages, for example, might be explored as an alternative to floor price protection.

The effectiveness of appropriate floor prices hinges on the effectiveness of domestic procurement operations. The objective should be to defend the floor price in a commercially viable manner. State Intervention on Rice Trading with clear criteria for qualified suppliers of public stocks. Procurement credit should only be channelled through qualified suppliers. Preferential terms for cooperatives and NGOs should be phased out.

In the medium term, the government should consider developing other programs to protect farmers from the risks of the post-harvest price declines. One option would be to create a warehouse receipts system, in which farmers would pre-sell a portion of their crop and use warehouse receipts as collateral to finance future production.



Chapter 6

Synthesis of Sound Policies and the Market Mechanism

6. Synthesis of Sound Policies and the Market Mechanism

This chapter is a summary of sound policies and market-friendly mechanisms for rice trading in Indonesia. Focus is on widely known policies like farm income support (aka floor price policy), targeted food subsidies (aka market operation), price stabilization (which is the more general term for BULOG's price stabilization mandate), public stocks (known as buffer stock arguments), and rice marketing policy (known as enhancing information quality of the private rice market). An examination of the issue of market friendly mechanisms is geared towards surfacing a price responsive mechanism especially when the market is not functioning properly.

This chapter begins with a section on the interaction between the private sector and the state in rice trading based on the analysis presented in the previous chapters. The workability of market mechanisms is then examined based on the implementation of the state policies to assure food security and to achieve the objectives of price stability. Potential area of intervention policy is discussed in relation to suggest future policies on rice trading in Indonesia

6.1 Private Sector and State Interaction in Rice Trading

Interaction between the private sector and the state in rice trading occurs when the commodity is traded through the government or other institutions which have direct and indirect relationship with the government. Such interaction can be observed at all levels of the marketing system where parties enter into a business relationship. How one party dominates the others depends a lot on the pattern of marketing system taking place in the particular areas.

Based on the marketing channels of rice presented in Chapter 4 (Figure 4.1) of this report, the private sector is generally the more dominant party in rice trading because it accounts for more than 80 percent of the total volume of traded rice in Indonesia. The first and second patterns are clearly private sector trading activities, where the market mechanism is supposed to work properly. The third and fourth patterns partially involve interaction between the private and state sectors. In the third pattern, interaction occurs only very partially, especially when involving rural cooperatives (KUD) that have been assigned by BULOG to take part in state rice procurement operations. In this case, a KUD has to follow certain rice requirements set by BULOG such as 14 percent water content, 17 percent broken, 5 percent dirty, etc., in order to be considered as a business partner in the food security business. Farmers often do not bother to fulfill these requirements and rely on a private channel in marketing their rice products. This is especially true in

the harvest season, such as during this study's period of observation when the farm-gate price was well below the floor price because of excess supply in the market.

The fourth pattern also involves private and state sector interaction, especially after the paddy grain is milled and transformed into rice. As in the third pattern, KUD also has to follow Bulog requirements. Private sector involvement stops at KUD level because the rice has to go to the state or BULOG's warehouses where further rice marketing decisions are already within the province of the government. The KUD rural cooperatives also need to be left alone to develop their own rice-milling capacities and thus generate more profits from rice trading.

Rice traded through state channels comprise only 20 percent or less of the total volume of rice traded domestically. According to Figure 4.1, the fifth pattern involves pure state marketing whence trading activities are mostly for state procurement purposes, for government distribution to the "budget group" and for market operation to maintain rice stability. The sixth pattern involves partial interaction between private and state sectors, especially when KUD cooperatives obtain the rice from farmers' groups and from collector traders selling rice to Bazaar traders in the market place. In this case, KUD plays a very vital role in forming the market-clearing price of rice in the private sector channel.

Since the rice being traded through private channels is much higher (80 percent or more) than that which flows through the state channel, the market-clearing price theoretically is more dominant as well. However, this is not always the case. Farmers do not always benefit from such a market mechanism because of the price-taker status in rice trading. It might be true that farmers as producers are free to choose which marketing channel they want to use. However, because most farmers have a special relationship with collector traders that make them socially dependent on the latter, such freedom is not always exercised. Under the current system, a competitive market structure in rice distribution and fair trading in the rice market are ideal conditions that are difficult to achieve in the near future.

In the case of imported rice, all of which go through the state channel, interaction among players is more complicated because of the lack of transparency in the appointment of participants. Under the reformed transition government, BULOG has been tasked to adopt an internationally competitive bidding mechanism for the procurement of rice stocks. As mentioned previously, big companies that have been working together with BULOG as appointed traders have generated abnormal profits. These companies operate only on a fee basis. They also earn from price differences between the actual world price and BULOG's contract price. These companies further strengthen their hold on the rice distribution business by forging business deals with smaller "downline" companies within their own network.

Table 6.1
Estimated Amount and Sources of Inefficiency in BULOG
(Rp trillion)

Itemized Activities	Sources of inefficiency in BULOG			
	Unfair Trading Requirements	Illegal Practices	Weak Monitoring	Total
Procurements	2.1	-	-	2.1
Transportation	0.1	-	-	0.1
Warehouses	-	-	0.7	0.7
Processing	0.2	-	-	0.2
Sales & Distribution	0.1	1.8	0.3	2.2
Supporting Services	0.1	-	-	1.4
Total	2.6	1.8	1.0	6.7

Notes: During the period of audit (April 1993-March 1998), BULOG also handled several commodities other than rice, such as sugar, wheat flour, cooking oil, soybean, soymeal, garlic, etc.

Source: Government Announcement, October 11, 1999

Table 6.1 presents the estimated amount and the sources of inefficiency that beset BULOG. The information here is based on the financial audit of BULOG for the period April 1993 to March 1998, which the transition government under President B.J. Habibie commissioned to world-renowned Arthur Andersen Consulting.

The audit report valued the total inefficiency incurred by BULOG during the five-year period at Rp 6.7 trillion or US\$ 2 billion. Sources of inefficiency that resulted in losses amounting to Rp 2.6 trillion for Bulog were identified as follows: unfair trading requirements in almost all activities involving the private sector such as procurements, transportation, sales and distribution and supporting services. More losses were also incurred as a result of illegal practices and weak monitoring by BULOG throughout the country. Illegal practices alone accounted for Rp 1.8 trillion in losses from inefficiency in sales and distribution involving the private sector.

It appears from the foregoing that state intervention in price stabilization (through interaction between BULOG and the private sector) is no longer necessary under present conditions. Rice distribution using private channels is now much better than 30 years ago when BULOG came into being. One reason for this is the fact that road and irrigation infrastructures have been significantly improved and the economy is now more diversified. Another reason is that there is now greater market integration (both in terms of flow of goods and information) as a result of the improvement of competition in rice trading and marketing.

The role of government therefore should now be focused on implementing rules and regulation that encourage local markets to be more competitive and integrated with regional and international markets. Moving away from a system of

administrative trade controls and agricultural market restrictions is not an easy task. But this must be done if the ongoing challenges relating to food security, the food production system, agricultural diversification, agribusiness and regional development are to be met and hurdled successfully.

6.2 Workability of Market Mechanism

In the coming years, private sector involvement in rice trading should be focused on the workability of the market mechanism. There have been public debates on whether or not the market mechanism in rice trading is still working. The policy on special market operation is intended not only to help the majority of the people to cope with the crisis but also to ensure that the market mechanism is working properly. Many are in favor of the continued implementation of the price stabilization policy to promote food security particularly in the current crisis when the announced floor price is often too low to catch up with real wage, factor and general price increases. The floor price policy benefits high-income urban middle-class consumers but discourages rice farmers from improving their productivity.

On the other hand, special market operations have turned out to be good only for relief purposes. It has not been effective as a market mechanism for rice trading during the current crisis. The continued depreciation of the rupiah and the widening gap between international and domestic prices have caused the policy of rice importation for national buffer stocking purposes to wreak havoc on the state budget.

The government thus needs to forge a policy that keeps prices stable and affordable, protects farmers from excessive price declines during the harvest season and provides an adequate incentive for private traders to hold rice and ensure smooth supplies for the rest of the year. In the near term, BULOG's farm-gate procurement price has relatively little direct effect on marketing margins because only a small volume of rice is procured domestically. However, if agricultural production recovers - as expected this year - it is important that the margin between BULOG's farmgate procurement price and retail sales price be enough to provide adequate incentive to farmers and private traders. Otherwise, private stockholdings will not be viable and the market mechanism will fail. (Tabor, et al. 1998).

Another way of ensuring the workability of the market mechanism in the international market is to start liberalizing the importing process. The transition government of B.J. Habibie encouraged BULOG to adopt an international competitive bidding mechanism in state procurement for national rice stocks. In addition, the Habibie administration opened rice importation to general importers instead of just limiting it to BULOG's appointed traders. The transition government

also encouraged small and medium enterprises (SMEs) - and cooperatives - to play a more dominant role in the economy, including the rice distribution business. Cooperatives and SMEs need to show that they are capable of developing and sustaining an alternative rice distribution system in Indonesia in the coming years.

6.3 Potential Areas of Policy Intervention

Should government intervention in rice trading be maintained in the near term, it has to be in accord with the latest deregulation program approved by the World Bank on December 1, 1998. This program has the following features:

- (a) Liberalization of the rice market, whereby prices are determined by market mechanisms and general importers are permitted to import rice;
- (b) Special market operations for rice at subsidized prices are to be targeted only to food insecure people, defined as those with incomes below the official poverty line;
- (c) The rice subsidies are to be reduced. Some reports have suggested that the new rates will be no more than 20 percent;
- (d) All food subsidies for commodities other than rice are to be eliminated;
- (e) Fertilizer subsidies (for Urea, Sp-36, and KCl) are to be eliminated and their prices determined by market mechanism.

Some of these measures are already being implemented (beginning FY 1999/2000), not without shock to the economy. Features (a) and (d) do not involve border interventions like tariffs or import subsidies but they have triggered heated debates on trade liberalization, particularly on the issue of its adverse effects on the sugar industry. These measures have effectively reduced the scope of BULOG's work. Rice subsidies are to remain but at a much reduced rate.

Policy intervention in the near future should be geared towards building the capacity of BULOG and related government institutions to arrive at decisions that are in tune with the rapidly changing world environment. The rigidity of the bureaucracy has prevented the rice import market to operate more efficiently, especially since BULOG does not have enough autonomy and independence on the overall political system. Inaccuracies in data forecasting on rice import needs should be corrected and never repeated.



Chapter 7

Concluding Remarks: Policy Recommendations

7. Concluding Remarks: Policy Recommendations

This chapter summarizes the findings of this study on “food security and markets in Indonesia: state and private sector interaction in rice trade”. As mentioned, the objective of this research is to produce policy proposals for promoting the development of sustainable and dynamic rice-producing sectors capable of improving food security and markets in the country. This report is mainly on data taken from field investigations, in-depth interviews and desk analysis. The field investigations were conducted in four provinces of Indonesia, namely, West Java, East Java, Lampung and DKI Jakarta, from May to June 1999. Direct interviews, using a traditional questionnaire, were conducted with collector traders, rice milling units, wholesalers, retailers and farmers in study locations in the four provinces. An open-ended questionnaire was used to interview policy-makers and government officials, researchers and university faculty members.

7.1 Conclusions

Food Security

The findings suggest that Indonesia is now confronting one of the most serious food security episodes of the post-independence period. In terms of food availability, the primary cause of the problem is the long drought of El Niño and forest fires which affected the production systems; and the high inflation and great depression arising from the financial and economic crisis, which has lowered purchasing power and heightened the poverty level.

These food supply shocks arose after several years of slow, below expectation growth in food production. In response, the government has sharply increased food imports to fill domestic demand gaps. However, the current economic collapse has also sharply increased the numbers of the food insecure. Many families with income marginally below the poverty line in 1996 have found that they can no longer keep pace with the rapidly rising prices of essential commodities. Some areas that were not initially poor have been hit so hard by the crisis. People in these areas are now relatively poorer than those in other areas long classified as poor. Areas of West Java are a very good example of this phenomenon. The greater Jakarta area (known as Jabotabek - Jakarta, Bogor Tangerang, and Bekasi), which was well off before the crisis, has been among the hardest hit by the crisis.

Rice Trading

The volume of rice trading in Indonesia is quite small. Only 30 percent of rice production enters the domestic market while 70 percent is retained as farmers' own-household consumption. About 80 percent or more of the 30 percent of

domestic market volume is traded through private channels while the remaining 20 percent or less is traded through government channels. About 61 percent of domestic rice production comes from Java and only a few come from the other islands. This issue of rice production could turn into a serious threat to the procurement system once the production centers in Java, Lampung and South Sulawesi, experience very high fluctuation in price due to environmental and socio-economic problems. Private sector involvement in rice trading is as old as trading activities in general and is far more dominant than state involvement. Government intervention in rice trading in Indonesia started only in the late 1960s when Indonesia faced a serious threat to its food security due to an economic recession.

Private Actors

Players in Indonesia's rice trading industry include collector traders, rice milling units, wholesalers, bazaar traders, and retailers. The business scale of these actors varies from the household and small-scale trader levels to the level of conglomerates which control rice-milling units, wholesalers, Bazaar traders and retailers. Consequently, the level of business, market share, marketing power and access to market information, sources of capital and government policies, also varies significantly. Most of these traders have been involved directly and indirectly with the government policies on price stabilization and rice distribution and marketing system. These actors may have dealt both directly and indirectly with a larger number of producers or rice farmers under special patterns of transaction. Only few of the actors, especially rice milling units and wholesaler traders, have direct access to the retail market of rice and thus, to the largest number of rice consumers.

Actors with limited market and information access generally could not accumulate a large amount of capital. The scale of their business has remained small since start-up. The opposite is true for those engaged in larger-scale rice trading. Most existing large-scale rice milling units and wholesalers started their businesses at the household level in the 1970s and 1980s. Few of them were involved with the government policies on rice procurement and import activities through special arrangements with BULOG. These businesses developed very rapidly in the 1990s in line with the tremendous increase in rice consumption in the country. Profits from the rice trade contributed further to the development and such businesses could now generate new investment for the purpose of achieving economies of scale. In the current economic crisis, such big businesses have the capacity to survive and even grow further.

State Procurement System

State intervention in Indonesian rice trading comes mainly in the form of buffer stocking and special market operations for the purpose of stabilizing the

price of rice during the harvest season and providing for the food insecure during an economic crisis such as the one now besetting the country. In this work, the state is helped by rural cooperatives (KUD) which absorb the rice production surpluses during the harvest season and by private traders who are appointed by the government to import rice during the off or lean season.

Rice imports have done a lot to reduce the political pressure on the government. It has also benefited higher income urban consumers who are able to access cheap highly subsidized rice imports. The practice, however, has discouraged rice farmers from improving their productivity. Another thing going against the state procurement system is the transparency in the appointment of private importers of rice stocks. During the Soeharto regime, big conglomerates such as Salim Group and former President Soeharto's cronies dominated rice importing activities. Only a few companies had special access to the state procurement system, one reason why it has been extremely difficult to obtain reliable data on the private sector's involvement in the state procurement system.

Private Sector-State Interaction

Private and state sector interaction take place in the marketing channels particularly after the paddy grain has been milled and transformed into rice. Rural cooperatives (KUD) here also follow BULOG requirements on rice stocks. The rice being traded through the state channel is only 20 percent or less of total volume of rice traded domestically. Partial interaction between the private and state sectors also occurs when KUD obtain the rice from farmers and from collector traders who are selling to bazaar traders in the market place. In this case, KUD plays a vital role in forming the market-clearing price of rice in the private sector channel.

Since the rice being traded through private channels is much higher (80 percent or more) than that which goes through the state channels, the market-clearing price theoretically is more dominant. However, this is not always the case. Farmers most often, do not benefit from such a market mechanism because of the price-taker status in rice trading. It might be true that farmers as producers are free to choose which marketing channel they want to enter. However, because most farmers have a special relationship and are therefore socially dependent on collector traders, such a freedom cannot always be maintained. A competitive market structure for rice distribution and fairer trade in rice market is an ideal condition that is difficult to achieve under present conditions.

In the case of imported rice, all of which go through state channels, private sector and state interaction is more complicated because there is a lack of transparency in the appointment of traders who can engage in rice importation. Under the transition government of B.J. Habibie, BULOG was assigned to adopt an international competitive bidding mechanism in state procurement for national

rice stocks. During the Soeharto regime, big companies which were working with BULOG as appointed traders generated abnormal profits. These companies operate only on a fee basis and realize further earnings from price differences between the actual world price and BULOG's contract price. These companies further strengthened their hold on the rice trading industry by forging business deals with smaller "down-line" companies within their own networks.

7.2 Policy Recommendations

Following are some policy reform areas that need to be addressed to enhance food security and rice trading in the future. These are farm income support, targeted food subsidies, price stabilization, public stocks and private rice market information.

(1) *Farm Income Support*

The initial objective of the policy is to stimulate agriculture development by: (i) guaranteeing minimum prices and keeping the rice market competitive to stimulate productivity, growth and increase producer income; and, (ii) operating the public rice procurement program in a sound, commercial manner, and encouraging efficient farm-level stockholding.

Following are some short-term policy reforms that may be considered:

- (a) The rice floor price should be used as a minimum guarantee price and BULOG should be the buyer of last resort. The price should not be set above expected world market paddy prices adjusted to inflation.
- (b) Procedures for public procurement need to be placed on a commercial basis, with clear criteria defined for qualified suppliers of public stocks. Procurement credit should only be channeled through qualified suppliers. Procurement price premium for the coops should be phased out.

Medium-term policy reform proposals are as follows:

- (a) Examine options for introducing producer income support that is WTO-consistent and delinked from price support.
- (b) Alternative means of stimulating private price stabilization should be explored, such as the warehouse receipt system suggested by the World Bank.

(2) *Targeted Food Subsidies*

The objective of the policy is to ensure minimum food consumption levels of the poor and those hard-hit by the crisis.

Short-term policy reform proposals are as follows:

- (a) Expand urban coverage, partly by adding an NGO-based subsidized rice distribution effort in urban and peri-urban slums;
- (b) Limit eligibility criteria to State Ministry of Social Welfare (BKKBN) indicators that capture household food insecurity only;
- (c) If possible, extend program duration to the coming fiscal year;
- (d) Mount a public information campaign, establish a dispute resolution mechanism and improve reporting on beneficiaries reached;

In the medium-term, the following may be considered:

- (a) Preparation of a food insecurity monitoring system, either built on the BKKBN data or measures of Movement Towards Improving Nutrient Levels for the Community (UPGM).
- (b) Examine alternatives for targeting assistance to food insecure households after the OPK program concludes. Such alternatives might include a more targeted OPK effort, ration shops, village granaries, food stamps and subsidized food stalls. Concluding Remarks: Policy Recommendations

(3) *Price Stabilization*

The major objective of the policy is to maintain a level of price stability for rice that can reduce risks for consumers, producers and traders.

Short-term policy reforms policy can be formulated as follows:

- (a) BULOG's price stabilization mandate to be limited to rice;
- (b) Enforce the September 1998 and December 1998 regulations which allow general importers to import rice.

Medium-term policy reforms can be formulated as follows:

- (a) Liberalize rice exports;
- (b) Assess the possibility of a shift to a variate levies system to help stabilize domestic rice prices;
- (c) BULOG to be authorized to undertake more frequent market operations and to utilize options and other financial instruments to reduce costs and enhance domestic price stability;
- (d) Stock distribution should be authorized to bonafide distributors only.

(3) *Public Stocks*

The objective of the policy is to assure that public stocks are managed efficiently and to protect the country from unexpected supply by maintaining stocks. Short-term policy reforms can be formulated as follows:

- (a) Sell off non-rice stocks of BULOG by a target date through sales to qualified private wholesalers and processors.

Medium-term policy reforms can be formulated as follows:

- (a) Gradually reduce the provision of rice rations to civil servants to reduce public stock requirements.

(4) *Rice Marketing Policy*

The objective of the policy is to enhance the information quality of the private rice market.

Short-term policy reforms can be formulated as follows:

- (a) BULOG to establish an information release and outreach effort.

Medium-term policy reforms can be formulated as follows:

- (a) Establish an appropriate set of grades and standards for the traded rice;
- (b) Deregulate the permit requirements for rice mills, and encourage construction of modern, and cost-effective mills.

(5) *BULOG Management and Tasks*

Short-term policy reforms can be formulated as follows:

- (a) BULOG's mandate to be limited to rice market operations;
- (b) A study of rice market policies and restructuring options must be completed;
- (c) Government studies of rice policy options to generate information for making informed policy choices on rice stabilization approaches.

Medium-term policy reforms can be formulated as follows:

- (a) Design a plan for corporatizing BULOG. The plan should address BULOG's balance sheet, and the structure, organization and management of BULOG operated as a commercial entity.
- (b) Restructure BULOG to shed excess assets.
- (c) After BULOG is able to operate successfully as a commercial rice policy implementing enterprise, establish a plan for privatizing BULOG

- (d) As a commercial entity, BULOG should enter into annual performance contracts with the government to satisfy public rice policy tasks.

In addition, a food security policy that relies more on liberal trading arrangements is both possible and desirable. On the one hand, this will involve deregulation of the main agricultural input and output markets. On the other hand, it will require the development of new competencies, within government, to stabilize food prices and ensure adequate food availability by proper management of import tariffs for the major grains. In addition, the policy objectives could be achieved by encouraging private food stock management, by redoubling efforts to promote technological innovation in the food sector, by opening up new regions to food production through irrigation, and by building effective food markets in the poorer villages. These policy instruments should be in consonance with the spirit of capacity-building at the local level and decentralized decision-making process in the food and agricultural sectors.

Even though Indonesia has agreed to liberalize agricultural trade and marketing within the framework of the World Trade Organization (WTO) Uruguay accord, the ASEAN Free Trade Area (AFTA) accord, and the various Asia-Pacific Economic Commission (APEC) accords, progress in this direction has been scant. The issues then rely on the question of whether or not free trade results in more stable prices. If one accepts that stability in staple food prices is a goal worth pursuing, perhaps free markets would provide more stability than the current set of policies in many ASEAN countries.

Dawe (1997) suggests two important factors to consider before accepting the arguments. On the one hand, it is argued that many countries currently maintain policies that insulate the domestic market from the world market. These insulation policies make world markets unstable than they otherwise would be. Therefore, elimination of these policies should help to make world prices more stable. On the other hand, it is also recognized that reform of agricultural policies in the United States and Europe would lead to reduction of grain stocks. Lower levels of stocks would place more of a burden on price changes to absorb the effects in production. This factor should tend to make world prices unstable in the future. The net effect of these two influences is uncertain, so that the world grain prices could be either more or less unstable in a free trade world.

For Indonesia with a very small portion of rice traded, domestic price stability - instead of world price - is the more appropriate basis of comparison in assessing the policy changes in the direction of free trade might affect welfare. One should note that changes in government stocks do not necessarily require adjustments in prices, because the government policy does not have to be governed by profit and utility maximization. Therefore, government stocks can potentially absorb

production fluctuations without forcing consumers and traders to adjust. Under free trade, there would be no government stocks so that any fluctuations must be absorbed by changes in private consumption or stocks. Unless private stocks become significantly more sensitive to price changes (under free trade), then consumption will have to bear more of the adjustments. Finally, there is no compelling case against price stabilization for staple foods, because arguments against protectionism are not arguments against stabilization.

Annex A - Data on Rice Farmers

(INDEF's Survey, 1999)

Table A1
Sample Distribution of Farmer-Respondents

Province	Sample	%
West Java	15	24.6
East Java	21	34.4
Lampung	25	41.0
Total	61	100.0

Table A2
Farming Experience (Year)

Experience (Year)	Number	%
10 and less	8	13.1
10-20	17	27.9
21-30	14	23.0
31-40	20	32.8
41-50	2	3.3
Total	61	100.0

Table A3
Distribution by Land Size (ha.)

Area (ha.)	Number	%
2 and less	52	89.7
3 - 4	3	5.2
5 - 6	2	3.4
more than 6	1	1.7
Total	61	100.0

Table A4
Distribution by Tenure

Land Status	%
Owned by Respondent	91.8
Rent / Lease	3.3
Share Crops	4.9
Total	100.0

Table A5
Seed Varieties Used in Current Year

Seed Varieties	Number	%
1. Cirata	1	1.6
2. IR 64	42	68.9
3. Muncul	2	3.3
4. Ciliwung	16	26.2
Total	61	100.0

Table A6
Marketing Cost (Rp/ha.)

Cost Structure	Mean
Drying	9370.2
Transportation	5500
Packaging	5620
Storing	-
Depreciation	-
Employers	6225
Others	10450
Mean Cost (all items)	17835.17

Table A7
Is Capital a Main Constraint?

Answer	%
Yes	31.5
No	68.5
Total	100.0

Annex B: Data on Rice Traders

(INDEF's Survey, 1999)

Table B1
Sample Distribution of Trader-Respondents by Research Site

Province	Sample	%
DKI Jakarta	16	8.4
West Java	78	40.8
East Java	77	40.3
Lampung	20	10.5
Total	191	100.0

Table B2
Sample Distribution by Age and Research Site (%)

Age	DKI Jakarta	West Java	East Java	Lampung	Total
< 21	0	3.9	0	5.3	2.2
21 - 40	66.7	51.4	40.3	26.3	45.1
41 - 60	33.3	36.8	53.2	57.9	45.6
> 60	0	7.9	6.5	10.5	7.1
Total	100.0	100.0	100.0	100.0	100

Table B3
Classification of Trader Respondents by Sex (%)

Sex	DKI Jakarta	Jawa Barat	Jawa Timur	Lampung	Total
Male	85.7	89.7	68.8	55	77.2
Female	14.3	10.3	31.2	45	22.8
Total	100	100	100	100	100

Source: Indef's Survey, 1999

Table B4
Sample Distribution by Civil Status (%)

Age	DKI Jakarta	West Java	East Java	Lampung	Total
Married	100	92.3	93.5	85	92.6
Unmarried	0	7.7	6.5	15	7.4
Total	100	100	100	100	100

Table B5
Level Education Among Trader Respondents (%)

Education	DKI Jakarta	West Java	East Java	Lampung	Total
Illiterate	0	1.3	3.9	15.8	3.8
Elementary School	0	28.9	31.2	26.3	27.4
Junior high School	21.4	28.9	36.4	26.2	31.2
Senior high School	71.4	34.2	20.8	31.7	31.1
University	7.2	6.7	7.7	0	6.5
Total	100	100	100	100	100

About the Authors

Bustanul Arifin is the lead researcher of the Indonesian rice trade research project. He holds a Ph.D. degree (1995) in Resource Economics from the University of Wisconsin-Madison (USA). He has been an economic consultant of the World Bank, JBIC (then OECF), USAID, WWF, UNDP, ILO and others. He is the Executive Director of the Institute for Development of Economics and Finance (INDEF). He also teaches at the University of Indonesia, Bogor Agricultural University and University of Lampung. He has published several books on economics and development issues such as Policy Controversy and Efficiency Illusion, Policy Strategies for Agricultural Development, Natural Resources Management in Indonesia, Asian Agriculture facing the 21st Century, Political Economy and Public Policy.

Achmad Munir and *Enny Sri Hartati* are research staff of INDEF.

Didik J. Rachbini is the former Executive Director of INDEF. He has a Ph.D. degree in Development Studies from the Central Luzon State University (CLSU), Philippines. He has been working as a researcher in LP3ES, research fellow at ISEAS-Singapore, and economic consultant for international organizations like the World Bank, Asian Development Bank, FAO, ILO, UNDP. He is a member of the People Legislative Assembly (MPR). He is also a professor in economic science at Mercubuana University (Jakarta) and member of Commission on Fair Business and Competition Policy (KPPU) and Indonesian Bank Restructuring Agency (BPPN). He has published several books (e.g. New Paradigm in Political Economy, Economic Diagnose and Public Policy, School of Thoughts for the Indonesian Economy, New Approach for Economic Development).

About MODE

The Management and Organizational Development for Empowerment, Inc. (MODE) is a development organization, which was established in January 1992 to help address the growing demands of other NGOs and funding agencies (FAs) in mainstreaming and integrating their developmental socio-economic projects. By mainstreaming, we mean helping peoples, organizations, together with their partner NGOs and FAs, strengthen their capability to make their economic and/or business projects compete in the market. By integrating, we mean helping our partners and clients realize and expand their potential for economic cooperation.

MODE's developmental programs and services include research and policy advocacy on food security, agrarian reform and agricultural trade issues; project development, project performance and impact evaluations; feasibility studies and pre-investment appraisals of economic projects; organizational diagnosis and management audit; staff and management development training and information technology development.

About the SEA COUNCIL

The Southeast Asian Council for Food Security and Fair Trade (SEA COUNCIL) was established in February 1996. The SEA COUNCIL was envisioned as a mechanism to ensure that the Balay Declaration (the embodiment of the Southeast Asian NGOs, collective aspirations and visions for food security and fair trading in the region) and the establishment of national-based food security councils (where appropriate and possible) would be promoted and undertaken. The SEA COUNCIL is a region-wide civil society network that offers a coordinated program that monitors the activities of multilateral institutions in the areas of agriculture, trade and food security. Based on these monitoring, members counter and lobby against measures detrimental to food security and fair trade. It also offers alternative agro trade strategies based on the principles of fair trade and food security.

The SEA COUNCIL is composed of representatives from seven Southeast Asian countries, namely Thailand, Malaysia, Philippines, Indonesia, Laos, Vietnam and Cambodia and from three regional organizations.



State and Market Interaction in Thailand Rice Trade

**by JOHN DAVID COMTOIS
RRAFA**

Introduction

The three country rice trade study was initiated as a research project under the Southeast Asian Council for Food Security and Fair Trade (the Council). RRAFA, at that time a member of the Council, accepted to implement the Thailand portion of the study.

The country scope of the study was the path unmilled rice (paddy) follows from the farmer to the miller and then the path the milled rice follows from the mill to the consumer or exporter. Several such studies on the Thai rice trade have been done in the past. For this reason, RRAFA did not implement a high-resolution sampling strategy to determine the paths in the domestic rice trade up to and including exporters. Rather, secondary data were reviewed and field trips to interview players in the trade were arranged largely to confirm or, if necessary, update, the already large body of information available on this topic. In interviewing these players, the questionnaire guidelines as provided by MODE (the project coordinator) were used as a framework for what usually ended up being rather informal interviews.

The greater context of the study was Thailand's domestic and international policies on agriculture and their effects on regional food security. As RRAFA is not an organization with expertise in economic analysis, RRAFA drew, instead, on its extensive and intensive history in lobbying for peoples' rights and roles in alternative agriculture and natural resource conservation and management as well as its recent efforts in combining these issues as activities under the umbrella of Food Security. Policy assessments, then, are based not on extensive quantitative economic cost benefit analysis but rather on qualitative assessment of past and present policy and awareness of the effects past policies have had and, by extrapolation, attempt to forecast the effects present policies will have on the farming and consuming public.

RRAFA also drew heavily from secondary information sources on the subject. There exists quite a wealth of papers in both English and Thai on past agriculture, land and domestic and international trade policy structures controlling the rice trade in Thailand. They consist of Master's and Ph.D. theses, institutional assessments and critiques and government studies as well. To offer an in-depth review of those sources here would be superfluous and the reader is encouraged to consult the list of available publications given in the list of references.

There is, however, a relative dearth of information from about 1990 to present, reflecting the country's shift of focus from agricultural exports to industrial manufactures export. This report, then hopefully provides an update to the rice trade and policy information already available

Food Security

The mainstream definition of Food Security is, very generally, access to adequate food calories and nutrition for all people at all times. Access, in this definition, largely means purchasing power, for the main institutional players in the food security realm (UNFAO, WB, governments, etc.) see poverty alleviation (wealth creation) as the way out of hunger.

The Thai government's trend of adopting almost all of the global financial and development institution's proposals in economic and agricultural development reflects either its naivety of its own agricultural situation or its blind faith in the word of the global institutions - or indeed both. This false sense of food security is sourced in Thailand's abundant food production capacity. Thailand is, after all, the major rice exporting country, a major exporter of fisheries products and also a major exporter of fruits and vegetables.

Because of government myopia, unfortunately, Thailand's bounty is its Achilles's heel, as production numbers mask the reality of the producer base (the farmers) and the rural situation. The rural citizenry is too far removed from the seat of government and eyes of the Ministers to reap much concern, but the agricultural foreign exchange revenue they generate is very much front and center in Parliament. Exportable surplus, more, is seen as a sure sign of food security by the Thai government.

The Alternative Agriculture Network of Thailand which represents hundreds of thousands of farmers across all of Thailand, however, has a much more broad definition of food security, including:

- ✓ Enough food to eat for all members of society;
- ✓ Food that is safe, able to meet full nutritional needs and in line with the culture of the locale;
- ✓ A food production system that improves or maintains the ecological biodiversity of the region and uses appropriate technology;
- ✓ A food distribution system that ensures fair and equitable access for all members of society;
- ✓ Security of access to means of production including access to resources such as arable land, water, genetic resources and other resources latent to agriculture;
- ✓ Security of an agricultural livelihood for Thailand's rural population who are the nation's food producers.

Historical Rice Policy Trade Policy Tools

The history and political economy of rice in Thailand, as mentioned already, has

been extensively studied. A brief overview of the major policies that played or are playing a role in the rice trade, however, is necessary to establish context for later argument.

There were several policy tools directly affecting the domestic trade and export of rice. They were:

- Rice premium (1950-1986);
- Rice Reserve Requirement (1966-1982), O Quota (?-c.1995)-,
- Export tax (1955-c.1995);
- Export licensing (since 1946 ... still in existence).

The Rice Premium is, by far, the most famous, most debated and probably most studied rice policy device a country could ever have devised. It was, ultimately, only a variable *ad valorem* tax rising or falling in tandem with the international price of rice. Thai exporters would have to pay the tax thereby ultimately putting extreme downward pressure on the farm gate paddy price. The idea was simply to curb exports to maintain domestic supplies at a level sufficient to ensure low domestic prices and generate very significant revenues for the ever growing public budget.

The rice reserve was also an export tax but payable in rice. Again, it was a variable rate tax changing in tandem with global rice prices. It was levied against exporters as a percentage of the export volume. The 'normal' rate was 33% meaning that for every 3 tonnes of rice exported, the exporter had to give 1 tonne to the government as its reserve requirement. At times, the rate reached as high as 200% (for each tonne of rice exported, the exporter had to give 2 tonnes of rice as its reserve requirement).

There also existed a quota system to control the amount of rice leaving Thailand. Quotas would be assigned pro-rated to the historical volumes that each exporter handled. Quotas were used as a floodgate against sudden flows of rice out of the country. A quota may have been quickly erected and just as quickly dismantled depending on changes in the yield forecasts.

The export tax is probably the simplest device implemented by the Thai government to control export volumes and domestic prices. Again, it was a variable tax levied against rice exports at approximately 10% of the official price estimate. This estimate was calculated from domestic prices, price forecasts of the Association of Rice Exporters as well as F.O.B. prices in export contracts.

Export licensing or registration is a method that was instituted in 1946 and is still being implemented today. It serves as a means to regulate the number of exporters and the volume of rice leaving the country. Today, this device is particularly important as it remains the sole device in place to monitor the volume of rice leaving the country. Exporters must declare volumes of rice to be exported under their contracts as well as declare volumes of rice in storage if they indeed operate storage facilities.

These measures were used collectively and in varying amounts and were often very restrictive but also very successful in maintaining sufficient domestic supply to maintain a low domestic rice price as well as the particularly important feature of being the single largest source of government revenue. While this was wonderful for the urban electorate and fuelled economic growth by keeping the cost of living down (and therefore the cost of labour down), it was terrible for farmers. For example, in 1974 the rice premium alone was at a rate of 5000Bt/t while the price of rice was only 7000Bt/t. This put tremendous downward pressure on the farm gate price, leaving the farmer to bear the brunt of domestic economic expansion.

Other market intervention/support

The government has tried to directly support rice prices in periods of depressed rice prices by buying rice at guaranteed prices in the domestic market. This was largely a failure for a variety of reasons, one of them being that the government agencies buying the rice did not have the means to buy enough rice to influence the domestic price. Another reason for its failure was that the support was aimed at the farmers who would be suffering from the lower farm gate prices. But since the government was buying milled rice and not paddy, the residual (the 'trickle' of the 'trickle down' effect) evaporated before ever reaching the farmer. The effect was indirect support for the rice trader or wholesaler.

In response to the real effect on the ground, government changed its level of intervention to buying paddy instead. Again this was largely a failure as the government funds were often released only some time after harvesting. The farmers had already long since sold their rice to the mills or paddy traders at a price lower than the government dictated price (the farmers often do not have the means to hold off for a better price). The scheme was that the millers were to keep a log of who they bought their paddy from and when the government money would come in the miller was to be the distributor of the riches, going back to their logs to determine who got how much.

Talks with the farmers over the course of this study reveal, however, that the millers would seek the signatures of any farmer for a small price and then take these signatures as 'proof' of buying a certain volume of rice at the guaranteed price. The miller or trader would then be issued the difference between the going price at the time and the government guaranteed price and the 'distribution' of funds would stop there. The effect here was an indirect support for the miller with very little of the money ever reaching the farmers.

The government was aware of rumors of discrepancies in the price intervention system so initiated some 'surprise' cross-checks on stocks of rice reported to have been purchased. The check, of course, resulted in the government

reporting that everything was in order - that the amount of rice reported by the mills was verifiable so that the farmers were getting their money². They never seemed to bother asking the farmers themselves. Again, the approach to farmers is not to approach them directly but rather to give the businesses surrounding the farmers the assistance. This is a consistent trend in the approach to agriculture in Thailand.

It would also seem strange to have farm gate price support policies in place when there is another level of policy to ensure deflated rice prices for the urban consumers. Surely only one can be pursued with any firm conviction. It is quite obvious which group benefited from that conviction in the past.

An indirect support that is still being implemented is the packing credit. This is a low-interest loan for registered exporters. It is guaranteed by the Bank of Thailand and administered by various commercial banks. It was originally focused solely on rice but now is available to exporters of non-agricultural goods as well. The commercial banks maintain the right to screen applicants based on their credit history.

Finally, there is another form of aid that could be seen as support and it is in the form increased access to rural credit. In 1975 the Bank of Thailand instructed all commercial banks to provide a proportion of their available loan supply (ranging from 5% to as much as 13%) for agricultural credit.³ This was an attempt to reduce the exposure farmers had to informal money lenders. Partly through lack of collateralizable land, as explored later in this paper, this scheme still has big holes in its nets. In 1998, it was estimated that of the 250 billion in agricultural loans, as much as 20% was in the hands of the money-lenders⁴ (some estimates reaching twice that).

Credit , Land control policies and the Royal Forestry Department

Access to credit at reasonable interest rates is a very real limitation to agricultural expansion or intensification. Indeed one of the reasons Thailand's agricultural growth up until the early 1970's was based on expansion instead of intensification was a lack of rural residents' access to credit. Before 1975 (and certainly very much after 1975) informal lending by merchants and rural rich was central to the rural economy. But the interest rates were tantamount to extortion.

It has been documented that tenant farmers feel they "... receive less return for their labour in intensive commercial production than they did when they worked to grow mainly for subsistence.", and that "Most of their surplus labour is now captured by landlords through high rent."⁵ Farmer's interviewed in this survey reported paying interest in the form of paddy at the rate of 10kg of paddy for each 100Bt borrowed. At today's milled rice prices that is on the order 65%!

Very many families lost their land to calls on the collateral by the lenders. It is now been estimated that of the nation's approximately 5.7 million farming families, approximately 4.7 million have no land or have inadequate land to sustain themselves⁶.

After 1975, when formal credit was promoted through the Bank for Agriculture and Agricultural Cooperatives (BAAC), only those families with title to their land (or other collateralizable holdings) could gain access to the credit. Those who no longer had such luxury were left to continue seeking credit through the non-formal routes by which they had already lost their land. Squatting on public land became quite rampant.

The Royal Forestry Department (RFD), through a law which predates even this rapidly waning century, officially had authority over an improbably vast area of land amounting to 50% of the country's surface area⁷ (recently revised down to 40% under the National Forest Reserve Act of 1964). Upon last directly speaking with a representative from the RFD in 1997, there did not exist an institutional operating definition of 'forest'. By this, even a parking lot could theoretically be viewed as a degraded forest. This paucity of operational definition has been and will continue to be the source of many conflicts over land use and land title for the foreseeable future.

This very central obstacle will therefore be a hindrance to proper land tenure, sustainable land and water use and a hindrance to rural credit where credit is most direly needed. Unfortunately, there is no political will or gaul to address this root cause of poverty and environmental degradation. The RFD is a very dangerous target politically so there is unlikely to be an elected party able to tackle the issue without suffering heavy political casualties.

Looking for strategy in this 'do-nothing' approach to the RFD problem, one might squint to see that eventually, once all other options around this problem have been exhausted, there will remain only one problem standing in very plain sight as the single largest obstacle in maximizing the 'positive externalities' of all these agricultural efforts - the RFD. If it is the only chunk of rock left on the carving that hasn't been chiseled off in an attempt to sculpt a otherwise powerful agricultural masterpiece...then maybe that will be the time when the hammer meets the chisel for the final, triumphant blow.

Recent Developments in Thai Agriculture

Small and Medium Enterprise Focus and Food Security

A central example and principal theme in agricultural development policy over the

last year is the considerable investment in support infrastructure for agricultural small and medium enterprise ^{8,9,10} (usually referred to as SMEs, they are being instituted under the goals agreed upon by APEC member.¹¹). The investment figure for SMEs at the time of writing is approaching a total of approximately 55 billion baht¹² seeing the establishment of government consulting and assistance services^{7,13}, bills limiting the domination of any one large corporation in a given sector or market ^{14,15*} and the establishment of an agricultural futures exchange.

This latter feature was claimed to be of tremendous advantage to farmers: “Farmers can expand plantations when they see higher prices and reduce production if they see losses...” ¹⁶ reads a quote from the local media. It is our observation, however, that farmers would not have the financial means to suddenly change planting decisions in light of news of an expected lower price of their crop. Once they have decided and spent their meagre resources on inputs for one crop, they will not be able to readily switch to the more favorable crop as forecasted.

If this board is considered in light of the recent opening of the export rules allowing any company to export rice (a decision many larger and long established exporters eye with disdain¹⁷ and an issue that will be addressed in more detail later on), however, it becomes apparent that the focus of the commodities exchange is not the farmers but rather the small or medium enterprise that needs such information to more accurately stake out profitable positions for the next harvest and export season.

Furthermore, the idea behind SMEs is to promote increased contract planting as mentioned by the government in an earlier unveiled ‘Master Plan’ to establish greater opportunities for the private sector in the agricultural marketplace (and whereby the establishment of an agricultural futures exchange was listed as an item to be fast-tracked):

Under the plans, “contract farming”, an important market mechanism, will be introduced. The [agriculture] ministry will create greater opportunities for the private sector to work with farmers and help in the marketing of farm products. ¹⁸

Contract planting, while only possibly providing the farmer a guaranteed price for the crop, provides considerable downside. Firstly, contract planting usually involves monocropping of a prescribed seed variety or the raising of an engineered animal strain along with the regular application of pesticides or administration of hormones and antibiotics. This reduces the farmer to merely a labourer for an agri-manufacturer, it fails to recognize that

agriculture is the way of life for the majority of Asia’s population and to take that away from them through imposition of various policies that put trade ahead of culture is to turn the majority of Asia’s population from free-living producers into market-

*serving consumers.*¹⁹

Secondly, contract farming is not being “introduced” by these policy announcements. Contract farming has been an active part of various Thai agricultural markets for some time. Not only that - it has also been a long-standing observation that the contract planting efforts *that have not already failed* (i.e. contract farming of chicken, swine and maize) has been successful precisely because “...the use of hybrids makes a tight relationship between farmers and firms both logical and efficient.”²⁰ The ‘introduction’ of more contract farming necessarily means, then, the eventual loss of more indigenous varieties and increased release into the environment of harmful agricultural effluents such as antibiotics and pesticides.

By this evidence, the entrance of SMEs into the agricultural production and market stages will not achieve the goal, as laid out by Deputy Minister of Agriculture Newin Chidchob, of middlemen no longer exploiting farmers by putting pressure on prices.¹³ Rather, the face of the middleman will simply change to be the face of the SME which will have access to the 55 billion baht of support and have access to the forward looking price information of the soon-to-be-established agricultural futures exchange. The farmer, meanwhile, is still left in the dust of the government’s agricultural overhaul efforts.

An important question to ask, after so much hope is placed in the single SME basket, is ‘How likely is it that SMEs will sprout up to nurture the agricultural economy of Thailand as hoped?’ We would venture to answer ‘Not very likely.’

The first step of establishing an enterprise is getting the enterprise from an idea to a legal entity. This step is partly being addressed by all the various SME support focus as discussed above. There is an important irregularity in that government lense, however, as today Thai banks are sinking with massive nonperforming loan portfolios. With many banks teetering on bankruptcy and shareholders very concerned about non-performing loans, bank management will be very, very selective in their SME loan approval process. What per cent of the many SME dreams will become legal entities?

The second step in establishing vibrant SMEs is ensuring an environment that allows the enterprise to flourish. This second step is where much more doubt lies regarding the government’s efforts. Creating a nurturing environment for SMEs necessarily entails creating a proper institutional balance to allow SMEs the opportunity to find and tap various ‘positive externalities’ that lay in wait in the agricultural sector. The Thai government does not exactly have an encouraging track record in creating chances to capitalize on those externalities. As already noted in one study (emphasis not my own):

At issue is not the comparative advantage of the agricultural sector, but rather *the comparative advantage of the state and its institutional capacities to intervene effectively in agriculture.*²¹

A typical failed contract planting venture failure that highlights the downsides for the farmer as well as the incapacity of the various Ministries involved is captured in the Cashew Nut Tree Contract scheme of 1985²². Here the company Ma Boonkrang Sirichai Cashew nut Co. Ltd. engaged in a plan to contract plant cashew trees. Yields were tested in one area of the country but the program was enacted in a completely different area without taking into consideration the difference in climate and soils. The MAAC was lured into the game as well, with the idea that cashew planting would be promoted as an option to those farmers getting out of cassava. Farmers gained credit through a special plan from the BAAC and bought into the plan. The farmers were told they would get a guaranteed price level for the nuts. They were also told to expect a yield of 180kg of nuts per rai. The MAAC never confirmed these figures but promoted the program none-the-less. In the end the farmers only ever realized a yield of 27-32 kg per rai. 20,626 households were left having to shoulder the bill for all these trees and other inputs while the company and surely others walked away with sizeable profits from the sale of the trees and the various inputs.

Indeed, there have been no shortage of elaborate government schemes that failed either because of ignorance, blatant corruption or simply a lack of proper data to elucidate the core situation and satellite issues that have relevance in the effective implementation of a plan. Thailand Development Research Institute, when addressing efforts to overcome the problems facing the agricultural sector in their 1998 year-end conference, cited lack of accurate data as having "...contributed to macro-economic mis-management of investment..."²³. The recent refocusing by government on agriculture as a principal means of foreign exchange earnings surely will suffer equally from this same disregard and lack of discipline.

PART TWO RICE

Recent production figures

In 1992, of the total area of 320,697,000 rai delimited by Thai national boundaries there was 131,773,000 rai used for farm land (2.5 rai equal one acre). Of these agricultural land holdings, approximately 80% was owned outright, the remainder rented or otherwise under various access agreements between farmers and landowners²⁴. Only about 20% of the total agricultural land area is irrigated. This total is divided amongst 5,149,000 'farms' (it was not noted in the source whether these included industrial farms as well as family-run farms) for an average farm holding of 25.7 rai.²⁵

There were approximately 3,728,000 families engaged in rain-fed paddy production in 1992 putting approximately 56 million rai of land under paddy. The average land holding of these families is approximately 15.4 rai (or 6.15 acres). These families produced 17,300,000 tonnes of paddy under rain-fed conditions. An additional 4,550,000 tonnes of paddy were subsequently produced in the irrigated holdings.

For the 1997 harvest season, 57.3 million rai of paddy land, of which 6.4 million rai is irrigated farm holdings produced 17.78 and 4.55 million tonnes of paddy with an associated production cost of 4,580 and 2,943 Baht/rai respectively. The 1997 season saw an average farmgate price for paddy of 5,659 Baht per tonne. Combining the two paddy production figures and multiplying by 0.66 (the number used in Thailand for average amount of head rice yield after milling one tonne of paddy), rice production in 1997 was approximately 14.7 million tonnes and fetched a wholesale price (5% broken rice) in Bangkok of 8,415 Bt/t. Exported plain rice, F.O.B. Bangkok was fetching 10,283 Bt/t and realized an export demand of 5.56 million tonnes. Rice products, including rice flour, noodles and rice cakes, etc, realized an export demand of 135,000 tonnes comprising a total value of 3,719.84 million Baht.²⁶

As of mid 1998 there were a total of 1,780 registered paddy mills in Thailand. Of this total, 76 were registered but not operating, leaving a total number of 1,704 registered mills producing milled rice at a total maximum capacity of 62,700 metric tonnes per 24 hours.²⁷

Looking at the 1997 production figures and the maximum national milling capacity, there was enough paddy produced to keep all mills running for 355 days of the year. This is a interesting calculation in light of the presently available information.

The mills that were interviewed said they did operate at peak capacity (24 hours a day) but only for some very short periods of the year in line with the annual rain-fed harvest (December-January). In light of the calculated number of milling days apparently necessary to mill the paddy produced in Thailand, it is more intriguing to note that all interviewed mills reported long periods where operations were no where near peak capacity and in fact most reported periods during which no milling took place at all (the latter period being through the months September - November).

Furthermore, if the vast majority of the paddy is made available in the period December/January when the rain-fed harvest occurs, then it is not illogical to assume that these mills would have to have adequate storage space to store paddy coming off the fields in that period. No mills interviewed reported storage space adequate to maintain 24 hour operation for the majority of the year.

Two conclusions can be drawn from the above observations on milling and storage capacity. Firstly, the government information on national maximum total milling capacity is grossly underestimated. Secondly, there must be a large amount of rice either stored by farmers for later release into the market place or later milling for home consumption (domestic consumption accounts for the vast majority of production) and/or the economic significance of the innumerable very low capacity ‘back-yard’ mills that satisfy a considerable proportion of the nation’s domestic milling needs is being ignored.

Recent Policies and Trends

The MAAC has established policy proposals to promote the efficient use of fertilizers and agricultural chemicals including the use of agricultural wastes as fertilizers.²⁸ This is a positive sign that there is at least some recognition that increased dependency on agricultural production to see Thailand through its recession holds intrinsic negative impacts on the land and other agricultural resources.

One of those other agricultural resources is water - specifically water from the small area of total agricultural land that benefits from an irrigation system: “Improve the efficiency and therefore the potential of irrigated agricultural areas.”²⁹ is how another of the MAAC’s economic policies reads. Indeed the Rice Policy Committee has stated that it plans to push for reduction of the second rice crop area (the irrigated area) and push for replacement with higher value crops including flowers and fast growing trees. Also - in the main rice crop area, there are plans to promote increasing the area under higher value rice¹ for increased export earnings.

In a conventional trade sense, these two approaches certainly *seem* to be the proper move ... at least for the short term. Demand for rice is projected to drop next season as Indonesia puts in place its policy to depend more heavily on its own production capacities in lieu of imports¹⁸. Furthermore, with the popular view in Thailand that Viet Nam is poised to become a greater threat to Thailand’s export position in the low-grade rice market³⁰, Thai farmers may have a hard time competing with the lower cost of Vietnamese low-grade rice.

In a recent discussion with a Vietnamese agricultural development worker, however, it seems that Viet Nam may not be so much of a threat to Thailand’s export lead in low-grade rice but rather its high-grade rice in the near term. Viet Nam is apparently positioning itself to increase production of higher-value rice strains over any focus on capturing the low-value rice market.³¹ Thai agri-business, however, is not taking any chances either way.

Thailand’s recent efforts at pro-active engagement with Viet Nam in improving the latter’s rice production and marketing systems^{32, 33} would suggest that Thai

agri-business sees considerable potential (i.e. a serious threat) in Viet Nam's rice production potential. This cross-border marketing and production effort, while hailed by Thailand as pro-active efforts under its APEC commitments (the ECOTECH agreements)³⁴, is really a prophylactic courtship with a country poised to be a serious competitor to Thailand in the international rice markets. Both countries will be facing increased trade stress through the various agreements they are signatories to including WTO, APEC, AFTA and others and both countries are obviously sharing concern over what that will hold on their respective rice production and marketing positions.

A renewed Malthusian perspective on forward looking rice demand projections have estimated that over 4 billion people will be consuming rice early into the new millennium.³⁵ This may mean a good price for rice farmers but if Thailand has forsaken its ability to control rice exports vis-a-vis its desire to bend to the winds of open international trade regulations, what does that drain on domestic supplies mean for Thailand's own domestic needs? Will it be able to ensure enough food for its own population? What effects will that hold on the domestic price of rice in Thailand?

Export Trends

Thailand's large and long-established millers/exporters are quite upset about the recent decision to deregulate the rice export business. Presently any company can register to export rice. There is serious concern expressed by the established exporters that such open access may allow 'fly-by-night' operators to ruin the name of Thai rice that older companies have spent years building up.

More importantly, since Thailand has opened the country for rice exports, the government's sole remaining means of assuring domestic supply is the regular monitoring of miller's and wholesaler's stocks of paddy and rice. The history of the government's inability to effectively monitor national situations brings into question its capacity to assure a proper domestic supply and so its capacity to maintain stable domestic availability.

Furthermore, as a world leader in rice exports, Thailand has assumed the very important role of feeding a large proportion of the region's people. Unfortunately, in the Thai government's haste to please the international trade community, it has seemingly forsaken its ability fine-tune its export controls. In 1998 when Indonesia's rice situation captured global concern, the Philippines began to fear that too much of the world's rice surplus would be sunk into Indonesia. It publicly aired concerns for its own access to a fair share of the market's available rice to meet its own shortages³⁶.

Thailand's response to the growing demand for its rice was increasingly

stricter terms for overseas customers such as cash-only sales even on government-government transactions³⁷. At the peak of the concern, Thailand suddenly found itself preparing to cease exports all together³⁸. It would appear that the government's only course of action open to it, should it find stocks too low, is to impose an export ban. This does not bode well for regional rice stability.

Rice Farmers

What also is the future of the Thai farmer? There seems to be a distinct lack of focus on the development of fresh public institutions providing information and assistance directly to farmers. If indeed the future holds a significant demand for agricultural products, this holds in store great earnings potential for those many new small, medium and of course, the older, large enterprises too. This will create pressures on farmers to sell their land to the agri-manufacturer so that these enterprises can consolidate land holdings to maintain their competitive edge. Landlessness and therefore hunger is looking to increase in the developing picture of agriculture in the new millenium.

Thailand is quite unique in the region in that it has a sizeable paddy production outside of the rainy season production period. In the north, this irrigated rice production is becoming a sizeable proportion of a family's income. It is encouraging many farming families to tap groundwater for irrigation. With fewer and fewer farmers owning their own land, there is less and less chance for farmers to dry their own paddy (rents on land are too prohibitive to make drying paddy profitable). It is therefore sold to paddy traders at a discount because of the moisture content. Drying paddy is quickly becoming a value-added niche in the irrigated-paddy trade chain in the North of Thailand - a niche being tapped by various cooperatives in irrigated areas of the North and Central regions.

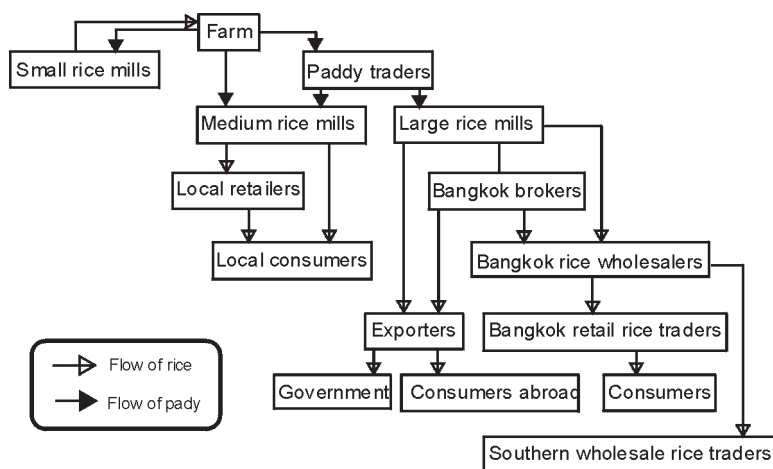
This could be argued by some to be a 'positive externality' that can be tapped by a start-up business. While there is truth to this, it begs the questions 'The land the SME purchases to run its drying operation used to belong to who?' and subsequently 'Why has that previous owner lost the land?' More often than not in those rural areas, the answers, respectively, will be 'The farmer' and 'Call on the loan collateral'. Unfortunately, the farmer has not been given a chance, under all this investment in business opportunities but no dedicated focus on land reform, to get their land back; the 55 billion baht of opportunity recently unleashed by the government is offered to 'creditworthy' business first.

It could also be argued that if the farmer is told he can make more money by simply pumping groundwater to produce dry-season rice and sell the non-dried rice to some drying outfit, there is little to encourage the farmer to take care of the groundwater situation. It encourages mining of the agricultural resources.

Structure of Rice Trading

It was earlier stated that there are innumerable reports, studies and other papers on the structure of the rice trade in Thailand. This now needs to be further qualified. There does exist a plethora papers on the subject but none of them ever get much more specific than what appears in Figure 1. This is because to say more than simply who the players are is very difficult and will probably become even more difficult in the future. Our own attempts to chart the path of rice from the farm to the final consumer proved equally futile. While we can say that what appears in Figure 1 is still generally true today, there are a couple of levels where we are now able to expand.

Figure 1 : Flow of paddy and rice in the rice trade in Thailand



After the paddy leaves the farm, it can be sold to any one of a number of buyers who will in turn sell the rice to any one of a number of mills that may or may not be as far as several hundred kilometers away. Once milled (by even the medium or large mills), the rice may travel back to the original area of production for retail sale or settle in the Bangkok market or be exported.

This untraceable trading path has arisen as a result of three important factors. Firstly there exists the freedom of people and business to move to other sites in the country and/or open other 'branches'. Secondly, with the preferred means of business association being simply old and trusted business relationships, migration of the trading or milling company has extended trade associations across considerable distances. Finally, a more recent phenomenon at work is an increase in the options open to the farmer in selling his or her paddy.

This study found that in any one village, there will be a choice of paddy traders a farmer can approach to sell paddy. This is a rather recent development in the production side of the rice market. While up until very recently there was no choice of buyer (it was sold to the person from whom the farmer borrowed money or rented land to plant the crop) today the more open market system has been credited with creating enough competition to force moneylenders to assume a more passive role in finding farmers to buy paddy from.

It was furthermore learned from one source that more and more paddy traders are entering the market. Apparently with the economic collapse, noted the respondent, many educated persons with several years business experience are finding work in the countryside. These young, otherwise unemployed urban professionals are taking their knowledge and their contacts into the countryside and establishing small paddy trading businesses.⁴⁰ More and more farmers are now able to select their preferred service providers such as paddy weighing services, paddy transportation services (transporting paddy to the scales and/or to the point of sale), and paddy buyers. It is under this context that community cooperatives and other privately held market places are finding increasing importance as a service provider - particularly in offering trustworthy scales as well as a place for the creditor(s), debtor and the paddy buyer to meet to conclude a transaction.

Profit margins

Table 1 shows the figures for cost of production and prices of paddy and rice in various markets. When comparing the figures for paddy versus rice, paddy figures need to be corrected by a factor of 0.66 (the generally accepted rice milling return in Thailand). The differences between farm gate and end market is considerable. To add to that information, one respondent offered that in his experience with the irrigated rice market, the difference between the price the farmer gets for wet paddy and the price paid for the same wet paddy by the miller will differ by about 700Bt/t. The greater the number of intermediate transfers, the lower each player's margin. Another respondent said anyone paddy trader could expect to make 400 Bt/t and occasionally as much as 500Bt/t.

This study could not obtain profit margin figures from all the various players in the market nor from all respondents. This is obviously information that is quite well guarded by the business owners. Farmers, in general, keep very poor records of their expenses. As farming is more a way of life than a business, expenses are not closely monitored. Figures we were able to collect from two families were much lower than what is reported in Table 2. The publicly available data as shown in Table 1 would certainly suggest that margins must not be too small.

Figure 2 : Monthly farmgate price trends for ‘regular paddy for 1987, 1997 and the average for the 11 years 1987-1997 inclusive

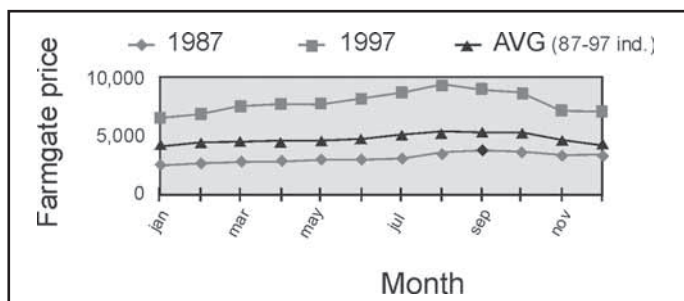
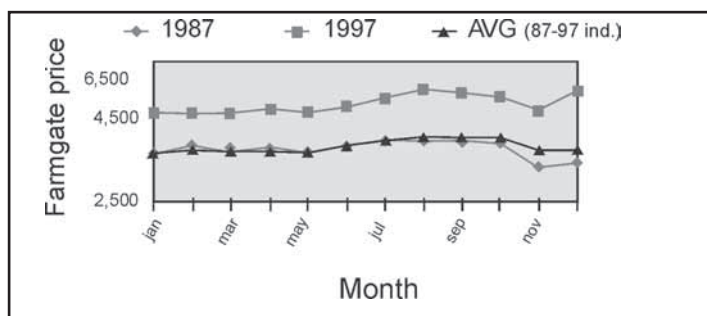


Figure 3 : Monthly farmgate price trends for paddy of the high-value jasmine rice for the years 1988, 1997 and the average of the 10 year period 1988-1997 inclusive.



Small and medium millers are known to keep bran and husks as milling fees from farmers who come to mill their family paddy stocks. It has been this way for some time (Chaiyuth Punyasavatsut) and still seems to be the main fees charged for household level milling services. The husks are sometimes sold as fuel or even used by the mill itself as fuel either as a heat source to run paddy driers or burned by the mill in those mills that operate on steam.

Tables 1 shows yield and value trends for the 10 years 1988-1997 inclusive and Figures 2 and 3 are graphs of regular and jasmine paddy prices, respectively. Moneylenders are a very important pre-production part of the economy of rice. Their role and impact as well as profits to be earned have been discussed above.

Farmers realized an unusually high return on their 1997 production. The devaluation of the baht led to a higher than usual demand for Thai rice putting significant upward pressure on paddy prices. It also led to a concern by the government of the amount of rice leaving the country (a point discussed later).

Local central markets and farmers cooperatives in particular are rapidly becoming a trusted service provider to many farmers while the very large government run central markets are being phased out (only one such market in Suphanburi remains in operation and its future is uncertain). With the opening up of the rural trade system and more lenders and traders entering the system, farmers are realizing greater choice in finding weighing services and paddy buyers they trust. The cooperatives and central markets are providing this to many farmers today and they charge for the service. Rates will vary but are approximately 40 Bt/t. Drying services will vary between 100-200Bt/t. These markets will also sometimes offer paddy storage services to buyers at rates from 50 to more than 100 Bt/t.

Opportunities in the developing rice market.

As noted above, the government is working to increase the 'economic' efficiency of the irrigated land holdings by encouraging their withdrawal from rice production and refocusing their use for production of high-valued exportable. What the government may be overlooking, however, are potential value-added domestic market niches created by the irrigated rice areas.

In irrigated areas, there is a strong push to get in as many crops as possible during the dry season (many cooperatives in the irrigated areas see no less than 200 tonnes of paddy exchanged within its fences every day!). This has had two effects on cropping attitudes in the central and north areas. Firstly, farmers are selecting extremely fast-growing rice varieties. Secondly, farmers do not field dry their rice.

Under such second cropping situations, farmers will contact as many buyers as possible to determine the best and average prices. If the prices are presently favourable, they will hire a local combine to harvest the paddy as quickly as possible to catch the favourable price and the harvest will be sold wet (unlike the rain-fed crop which is usually left to dry in the field). This has created two readily identifiable 'positive externalities' that can be tapped by local entrepreneurs or farming cooperatives: harvesting services and drying services.

Presently either the paddy buyer (rarely) or the miller buying the paddy (more likely) will dry the paddy. This creates an important bottle neck in the trade chain. The paddy must be dried within approximately 36 hours or it will start to ferment, with an associated rapid decrease in value to the farmer or paddy trader.

Some cooperatives interviewed have begun selling drying services at reported rates of 100 Bt or more per tonne.

Dried paddy can be sold at higher prices than wet paddy. One respondent said the difference between wet and dry paddy ranges from 800 to 1000 Bt. While it has yet to be calculated if it is in the farmers' interest to dry the paddy, it may well be in the interest of the trader to haul dry (lighter) paddy to the mills for resale. There exists, then, a possible opportunity to establish paddy drying services for either the trader, farmer or even the miller to purchase.

There is reportedly also a third very interesting niche being tapped at the level of paddy transportation. There exists a regulation in Thailand that anyone transport vehicle in Thailand cannot haul more than 22 tonnes. Many respondents noted, however, that traders generally haul twice that amount all the time. Many independent responses have revealed that there is apparently active a scheme involving the highway police and the traders/hauling companies. There will be announced to those privvy to the game a given symbol that transporters will display on their vehicles (this symbol may be something as simple as a sticker of a popular singer portrayed in predetermined spot on the vehicle).

At police inspection points those vehicles hauling in excess would normally be fined accordingly - unless the vehicle displays the pre-determined symbol. In the case that the offending vehicle displays the symbol, 'fees' are paid by the hauler at a rate less than the would-be the fine. The rate would necessarily follow some scale economically advantageous to the hauler to offset the cost of gasoline, vehicle and driver needed to haul what would otherwise be a second 22-tonne load.

Another consideration in hauling wet-paddy in excess of the legal limit is the ability to get more wet paddy to a dryer before fermentation starts to reduce the value of the trader's stock. Anyone considering to offer drying services to traders would have to then consider the the traders 'hidden' fees such as described above for the extra-legal haulage.

Biotechnology, Global Trade and Food security

The recent policy path is squarely in support of increasing the role of private enterprise in agriculture which leaves the access to the various resources and access to the agricultural livelihood as farmers know it now very much in question. Comparing this path to the parameters delimited by the AAN, then, Thailand's agricultural development decisions are veering towards the path of food *insecurity*. Other trends in Thailand's developing picture of agriculture are also quite disappointing.

GMOs: Their Import and Domestic Production

After a public consultation with NGOs and business representatives and some pressure from the UNFAO^{41,42}, Thailand has just recently decided that it will undertake to identify (label) any export product containing ingredients from genetically modified organisms (GMOs). This will be done through the establishment of an inspection service to be implemented as an effort between the Departments of Fisheries, Agriculture and Livestock⁴³.

The impetus for this progressive expression of caution by the government seems largely based on fears of trade discrimination arising from concerns of Thai exports containing GMO materials. The EU is very strict on barring imports from sources that may indiscriminately use GMOs in the production of exports. Very recently an EU country turned back a shipment of flour from Thailand on the basis that it showed presence of GMO materials, also Greece is now demanding Thailand to label canned tuna to differentiate those products having genetically modified oil³².

While this can be seen as a positive step towards safety of foods, there are two very important things that must be kept in mind before consumers start to feel comfortable with the government's seemingly proactive steps. Firstly, labelling will only be implemented for exports and the incorporation into those exports of GMO foods imported from the US. *Secondly, the importing or growing of GMO foodstuffs for use beyond research is presently illegal in Thailand.*

Keeping these two points in mind, it is very illuminating to read that GMOs are in Thai food exports at all, for if their entry for such use is illegal, who is letting them in? As though the question deserves an immediate answer, we get some wonderful clarification as to why and how the GMOs ever got into the Thai food chain straight from the horse's mouth. Permanent Secretary of the Ministry of Agriculture, Petipong Pungboon na Ayudhaya, states "I don't know what GMOs mean to the Thai public and consumers, but we have to be aware that they are already all around us..."³¹. He certainly seems quite comfortable with the fact that even though illegal, GMOs are 'all around us'.

NGOs and other groups are calling for Thailand to be a GMO-Free Zone but that is quite unlikely. The MAAC's Permanent Secretary already tipped his hat towards the fact that in the Ministry's eyes, GMOs are *afait accompli* in agriculture. Also, other government initiatives, such as participation in an international team to map the full genome of a Japanese strain of rice (with an associated investment from Thailand of 110 million Baht)⁴⁴ as well as the recent announcement that the Thai Science Ministry research agency Biotec is about to launch test planting of its own GM cotton⁴⁵ lends enough weight to the observation that Thailand is unlikely to be a GMO-Free Zone at all.

Agriculture for Trade Only

The ever continued focus on money and foreign exchange by the various Ministries having a role in the development of agriculture is not helping national food security. Recently, through invitations by various business groups, the government has been intrigued by the potential returns from investing in dairy and beef cattle operations to tap export markets. Dairy alone won the focus of 400million Baht for the establishment of 800 new farms with the supporting argument that presently most milk is now imported⁴⁶. A week after that announcement was made, another newspaper article appeared citing a reduction in local demand to the extent that a major producer was cutting production by 3% that year to date⁴⁷.

Dairy requires at least 5 acres (12.5 rai) per animal for feed production under the best of conditions. Clearly, those in need of access to land to provide basic foodstuffs could make far better use of that land for production of rice and vegetables than beef and dairy products for export to a richer market.

Beef cattle demand more space for feed production than that. While beef cattle production has dropped 30% in the last 5 years, there is a renewed focus to lift the number of cattle raised in Thailand. The argument is that presently Thailand spends 28 billion Baht to meet the demand shortfall. One can be sure that the majority of that 28 billion goes to importing high quality beef from Canada and the U.S. for the luxury tastes of those people with the affluence to afford such imports. Already it has been noted that per caput consumption of rice in Bangkok is lower than the national average and in fact domestic consumption of the staple crop is showing to be inversely proportional to income (Isvilandonda, 95). It was certainly revealing, then, to hear from then MAAC Deputy Minister Somchai Sunthornwat the argument for supporting *increased public investment* in the beef sector being to "...reduce the need for costly imports."⁴⁸ It is clear whose interests the Deputy Minister is looking out for.

An Australian company is looking to expand and possibly move beef cattle rearing operations to Thailand owing to the much lower overhead involved including feed⁴⁹. The article hinted at a possible number of head of beef cattle in excess of 150,000. Under the various WTO agreements on investment, Thailand can say little in its efforts to protect its agricultural resources from international joint ventures seeking to take agricultural land out of production of basic food goods to supply an export market.

Further evidence that Thai policy makers see food security as a commodity available on an open world agricultural market is the combined policies of the MAAC and the Rice Policy Committee to encourage the substitution of rice for flowers or other higher-value cash-crops on rice-marginal irrigated land. This is stark evidence that Thailand's technocracy feels it can readily trade non-food

items to obtain those nutrient sources it has forsaken for industry.

Outlook: Some Concern for Farmgate Rice Prices

The three major crops across the central, North and Northeast of Thailand are rice, sugar and cassava (tapioca). They are important crops both domestically and for exports. They are extremely valuable foreign exchange earners but the associated industries for both sugar and cassava are facing some extremely challenging times.

The sugar industry has been facing financial troubles for years now. There has been a de facto support of sugar exports through imposed high domestic sugar prices. This can also be interpreted as a de facto social welfare program for sugar cane planters. The domestic cost of sugar in Thailand has reached as high as twice the global market prices. The onset of the economic crisis, however, has put the sugar industry on a heightened level of panic.

Sugar producers are facing much higher debts owing to the devaluation of the Baht. They were therefore demanding that the government help them out with loans and again increasing the domestic price of sugar. The government, in bending with the WTO trade winds, however, has finally cornered itself in this issue. Any further direct government support will result in cries from other global producers that Thailand's sugar industry is receiving unfair subsidies. Raising domestic prices even more to further support the export side of the industry will not be well received by the electorate.

The real threat to Thailand's sugar industry, however, comes from outside Thailand. Brazil produces far cheaper sugar than does Thailand (especially after the Brazilian currency devaluation). The threat lies in the fact that under the WTO's Trade Related Investment Measures (TRIMs) agreement, *combined with the vast opportunities presented by Thailand's own push to support new SMEs*, has together set the stage for Brazilian companies to enter Thailand under various joint venture efforts to sell its own sugar here in Thailand and grossly undersell the Thai producers.⁵⁰ That would spell the end of the domestic sugar industry in Thailand. Gone would be the *de facto* export supports of the artificially high domestic prices. *More importantly, gone would be the de facto farmer social supports realised through the same artificially high price structure.*

Sugarcane was planted to over 6.3 million rai in 1996/97 season. 1.71 million tonnes of granulated sugar was consumed domestically and 3.97 million tonnes were exported in 1997 with an export value of approximately 27.8 billion baht (critical ag data).

The cassava industry is presently facing trying times as well - which is of direct concern to its estimated 3 million⁵¹ participating farmers. Together they put

over 7.9 million rai of land under cassava. Total export value of pelleted, rod and flour forms of cassava reached 22.386 billion baht in 1997(critical ag data). With drastic cuts in demand from the EU partly owing to a restructuring of its quota allocation to Thailand and partly owing to improved yields in Thailand, the cassava industry is today finding itself with a 3 million tonne surplus. This has manifested itself in a price drop of about 70% over the course of 1998 alone. The government was then ready to inject 3 billion baht in price supports.⁵²

Looking at the trends as outlined above, it is not unreasonable to be concerned of at least a short-term collapse of these two industries. Should this occur, those farmers will most likely switch to the other crop they know the best - rice. Should this scenario play itself out, there stands the potential to see a tremendous glut on the rice market in Thailand. While this would bode favorably for the world's rice consumers, it would certainly have negative impacts on household incomes for very many rural Thai families.

Without any formal social safety net for farmers (or anyone, for that matter) Thailand may find itself again precipitously positioned for social upheaval. With the improvements in the democratic foundations made over the last 5 years having only barely begun to solidify, social upheaval on a broad scale would present serious threats of a return of a more strong-handed government. This would be a political catastrophe for the whole of ASEAN as Thailand is quickly becoming a more respectable moral voice in the region. It would be a shame to lose that progress to a poorly thought-out rural development and agricultural trade policy.

Policy proposals

1. Tax food items such as beef and other non-indigenous non-essential food stuffs in the same way other luxury items are taxed. Thailand has more than enough indigenous foodstuffs to ensure a very balanced diet for the whole country.
2. Enact strict guidelines to monitor and make public the domestic production capacity of all domestically consumed food staples:
 - a. Make it clearly available to the nation what the government policy and business ambitions in agriculture are - especially as regards the production of non-essential (non-indigenous or for-export only) foodstuffs and the impact these trends may have on the domestic prices of local staple foodstuffs;
 - b. Establish an ASEAN regional basic foodstuffs availability monitoring board. This board would be responsible for monitoring the regional

fair trade and distribution in food staples to ensure financial and/or physical access in times of local production deficiency. This could be a sub-committee under the ASEAN Ministers of Agriculture and Forestry (AMAF) which already stage regular meetings and have some monitoring mandates including issues on Food Security

3. Establish severe penalties for CEOs of corporations and Officials of Government offices found guilty of illegal possession, use, importation or distribution of GMOs.
4. Thailand should reserve its right to impose barriers in the trade of foodstuffs.

Table 1. Production areas, yields, costs and prices of rice and rice products for the 10 years 1988 to 1997 inclusive
(SOURCE: Important production figures for ag products.. office for —)

Year	Rainfed area (1000 rai)	Harvest (1000 t)	Cost of Production (B/tt)	Irrigated area (1000 rai)	Harvest (1000 t)	Cost of Production (Baht)	Farmgate Paddy Prices (B/tt)	Wholesale price at BKK market	Cost of plain rice (BKK Wholesale Bt/t)	Export Volume of plain rice (1000 t)	Export Value (Bt)	Rice Products Export ^a (t)	Export Value (Bt)
1988	54324	15658	3065	4564	2771	2448	4170	6437	7595	5089.4	34676.4	91011	1160.9
1989	59372	17882	2684	5306	3381	2517	4207	7156	8202	6140.3	45462.3	94672	1366.74
1990	59195	18477	3653	5244	2124	3452	3831	6413	7336	4017.1	27769.5	103832	1494.57
1991	58205	14902	3119	3705	2291	2523	4089	6935	7992	4333.1	30516.3	124100	1745.76
1992	55177	17518	3249	4494	2882	2573	3822	6228	7269	5151.5	36213.8	147816	2167.37
1993	56295	17302	3444	4158	2615	2732	3215	5220	6809	4989.2	32958.6	148041	2636.56
1994	56153	16483	3731	3098	1965	2827	3854	5875	8936	4858.6	39187.3	174085	3154.29
1995	56373	18161	4163	4304	2950	2866	4053	7343	8137	6198	48626.8	143679	2786.29
1996	57407	17729	4460	5946	4286	2706	5189	7817	9193	5460.2	50734.8	143504	3304.05
1997	57291	17782	4580	6437	4550	2943	5659	8415	10283	5567.6	65094.4	135076	3719.84

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The Southeast Asian Council for Food Security and Fair Trade (SEACON) provides a coordinated approach to food security, agriculture and trade issues. We integrate local initiatives of agrarian reform and agricultural development with trade concerns at the Southeast Asian level. In each of our member countries, we support people centred national based food security councils that enable government, private sector and civil society representatives to meet and dialogue on agriculture and trade issues.

The establishment of the national food council is to ensure that whatever analysis / positions taken on at the regional level, would have the secure backing from the grassroots and vice versa.

Our role is thus to:

- Monitor and keep in check the adverse effects of free trade on peasant farmers
- Monitor the development of relevant economic and social domestic policies in the region ecologically that promote economically and sustainable production
- Offer alternative agro-trade strategies based on the principles of fair trade and food sovereignty
- Improve and lobby for policies related to food, agriculture and trade at regional and international levels

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**SOUTHEAST ASIAN COUNCIL FOR
FOOD SECURITY AND FAIR TRADE**

No. 24, Jalan SS1/22A, 47300 Petaling Jaya,
Selangor Darul Ehsan, Malaysia.

Tel : (6) 03-7876 0520

Fax : (6) 03-7873 0636

Email : seacon@tm.net.my /

seaconfood@yahoo.com

Web : www.seacouncil.org

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