

IMPACT OF MARKET LIBERALIZATION ON NATIONAL FOOD SECURITY AND RICE MARKETING IN INDONESIA

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ABSTRACT

Liberalization policy affects Indonesia's national rice market through changes in policies on rice farming and marketing. This paper studies the responses of rice agribusiness actors to the changes by analyzing changes in marketing channels and its efficiency. Changes in structure-conduct-performance (SCP) analysis is carried out for Kerinci district of Jambi province and Solok district of West Sumatra province. In-depth interview has been carried out to rice traders at all marketing channels and levels in both districts. Research results show that liberalization of rice market, then called managed market mechanism, proofly strengthennational food security. Indonesia's rice economy was likely less affected against global rice market fluctuation. Domestic market structure is improved due to increasing number of market actors at all marketing levels with low heterogeneity. However, both market conduct and performance are not significantly improved. Quality standard and controlling institution are still absence at farmers and collecting traders level. Price fluctuation is likely more frequence and sharper at present than before liberalization took place. In addition, marketing margin increased and big traders got more benefit. Therefore, for market structure-conduct-performance improvement, we need to formulate quality standard and to establish its controlling institution especially at farmers and collecting traders level. We also need to empower farmer groups and involve them in rice marketing channels. Finally, we have to encourage farmers to plant for whole years to reduce price fluctuation.

Keywords: *structure-conduct-performance, rice marketing, economic liberalization, marketing margin, managed market mechanism, food security.*

INTRODUCTION

Historically, Indonesia's rice market was strictly controlled by government, even since Dutch colonial era till the end of new order regime. Since the collapse of new order regime 1997, Indonesia has been facing rapid changes both economically, socially and politically. Structural adjustment has been taken in response to economic crisis in 1997-2000 through economic liberalization including in agricultural sector. This policy was taken to meet the Lol with international monetary fund and the world bank as the pre-requisite for loan from IMF to stabilize the macro economy due to economic crisis.

This policy also touched national rice market. In 1999, Government of Indonesia (GoI) opened up domestic rice market through free rice importation policy (Suryana dan Hermanto, 2004). Previously, Central government strictly controlled rice importation in Indonesia. Badan Urusan Logistik (BULOG), a national parastatle, was appointed as the only organization for rice importation. Although this policy was revised through Inpres No 9/2001 and Inpres No. 9/2002, it was strongly indicated that Indonesian rice economy is under market mechanism. Inpres no 9/2002 clearly mentioned that Indonesia's rice economy belong to *managed market mechanism* in purpose to protect both producers and consumers. Rice economy is under market mechanism when the market works efficiently, otherwise intervention will be taken.

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Free market has to be monitored to make sure that the market works efficiently (Suryana and Hermanto, 2004). However, it is not well technically understood that has the market been worked efficiently or not?. It is importance to regularly check up for guiding the Gol in deciding time and volume of rice importation. Understanding on market efficiency and its indicators are extremely needed for guiding the government in stabilizing domestic rice price and strengthening national food security. This changing policy affected whole societies from businesses to households. HaryatiandAji (2005) found that Indonesia rice farmers got worse due to this market liberalization. The policy strongly effected to production, productivity and sustainability of rice farming (San, 2000). Therefore, we need to study the behavior of actors in rice marketing in responding this changing policy. Understanding on this issue will assist the Gol in formulating further policy for national food security.

In this paper, we analyze the effect of this policy on national food security and on rice market efficiency.

MARKET LIBERALIZATION AND NATIONAL FOOD SECURITY

Rice Market Liberalization

Liberalization of Indonesia's macro-economy begun with *letter of intents with IMF*. This world financial institution committed to assist Indonesia through "*stabilization package*" up to US\$ 43 billion to recover Indonesia economy after hit by strong turmoil in the mid of 1997. For that, Indonesia has to take adjustment program to reform its macro-economy. The policy which was directly affect rice market was "reducing food importation tariff policy" up to 5%. Gol has to erase all investment obstacles in both retail and wholesale (Pranolo, 2000).

Indonesia opened up rice importation in 1999. This policy was taken as Indonesia was in peak of economic crisis. Some agricultural inputs industries were collapse in resulted fell down Rupiah (Rp) currency against US Dollar. The imported-Inputs industries mostly closed down as inputs rocketing price in Rupiah. Consequently, agrochemical inputs, such as fertilizers, pesticides, were becoming scarcer and high in price. The situation was worsen by long dry season, due to el Nino, during 1997-1998 (Irianto *et al.*, 2004). FAO reported that national rice production reduced sharply from 51 million tones in 1996 to 49 million tones in 1998. Indonesia's food security was under threatening within increasing population. On the other hand, international supply of rice was increasing in the same period. International rice exports increased to 28.8 million tones in 1998 from 19.7 million tones in 1996, as shown in figure 1. Therefore, Gol opened up rice importation, where private companies were allowed to import rice beside BULOG. This policy fell down and stabilized domestic rice price. During 1999-2002, domestic rice price slightly reduced and then tend to increase dramatically. Therefore, rice importation increased sharply from 0.3 million tones 1997 to 4.8 million tones in 1999.

Opening up rice importation gave two implication on Indonesia's rice economy. First, it reduced domestic and international rice price disparity. Domestic rice priced tended to reach international price trend. It resulted in improving efficiency of domestic economy due efficient in resources allocation to support rice economy. Consumers got lower price and almost reach international price. Second, producers (rice farmers) are facing tight competition against international rice producers. So, opening up rice importation worsen the farmers but benefited consumers (Haryati dan Aji, 2005). This policy is acceptable as long as it does not pressure the price farer below than farmers investment return, otherwise

domestic paddy farming would collapse. For last five years, international rice price tended to increase that also enhance Indonesia's domestic price. The paddy farming is even benefited.

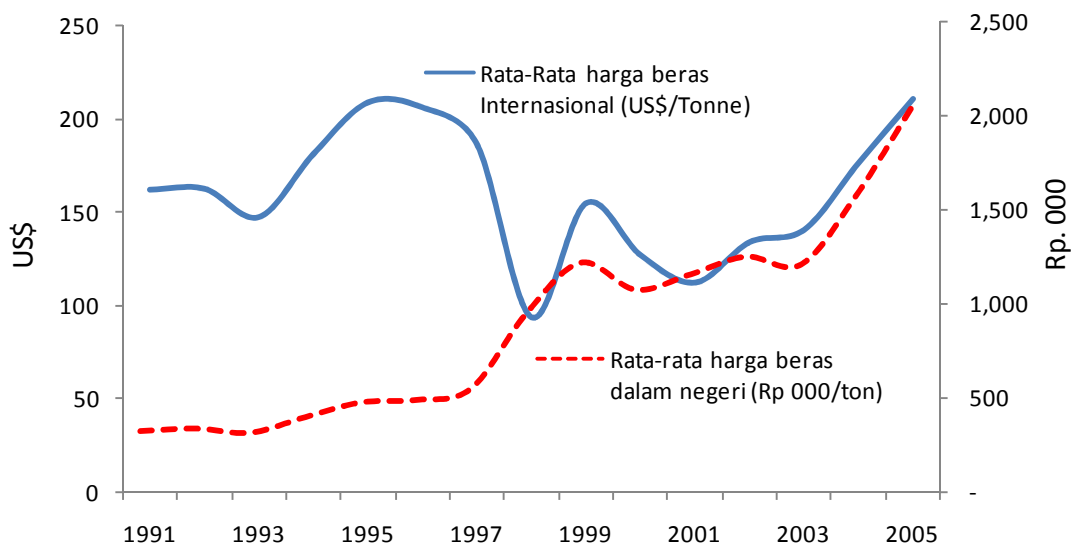


Figure1. Average both domestic and international rice price 1991-2005

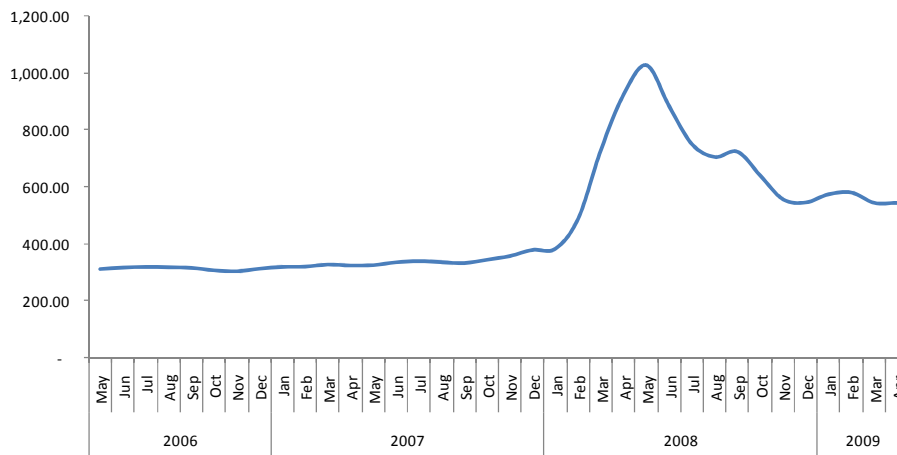
Free rice trading needs market distortion removal, which mostly due to government intervention. Although the main reason for intervention is for fairness of trading, however, the government intervention led to high cost trading. Ultimately, the intervention hurted the farmers in some cases.

High domestic rice price for last two decades is mostly due to high and increasing price in international market. This benefited paddy farmers which provides incentive for further paddy farming investment by the farmers. Both the area and production of rice are increasing for last five years. However, increasing domestic rice prices hurts the consumers. So, government intervention on reducing and stabilizing rice price is likely needed. It is possible to be taken as the responsibility to IMF according to Lol has been met during 2001 and 2002, as Indonesia has repaid the loan. The GoI decided to re-control rice price trough presidential instruction (Inpres) No. 9/2001, then revised in Inpres No. 9/2009(Suryana dan Hermanto, 2004). The policy emphasized on promoting rice agribusiness and protection of both producers and consumers. The policy, then, called "Managed Market Mechanism". The policies on promoting rice agribusiness released trough some policies instrument such as production enhancement, diversification, and price controlling. While the policies on both producers and consumers protection are taken trough rice importation and distribution control especially for poor families (Suryana dan Hermanto, 2004). Policies on promoting agribusiness is strongly needed for domestic production enhancement to supply increasing rice demand due to high population growth. While protection policies are needed to protect poor families against the negative impact of rice market liberalization.

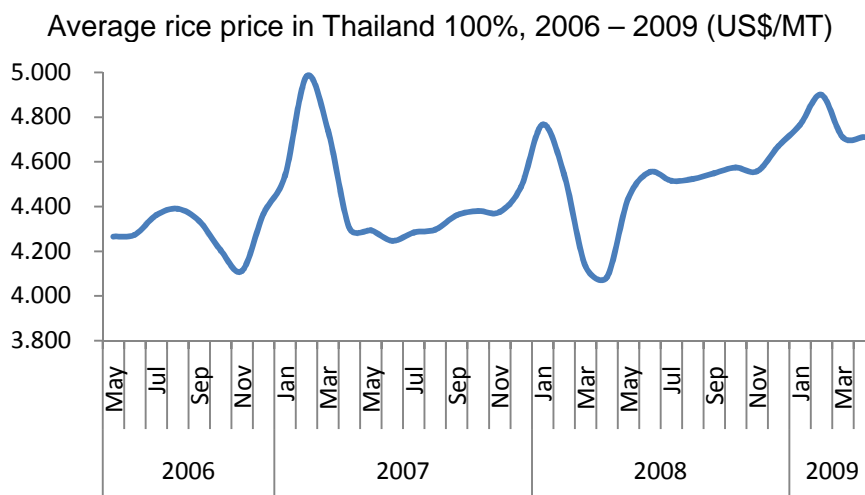
Managed Market Mechanism

Managed market mechanism, then, was improved by including post harvest treathment, avoiding paddy field conversion, cathment area and irrigation infratsructure

rehabilitation. These last three instrument were included through presidential instruction No. 13/2005. Then in presidential instruction No 8/2008 promoted organic fertilizers using, when reduction of subsidy for an-organic fertilizer was taken. These policies were taken because of strong indication that some irrigation areas have lack of water due to destructed cathment areas. In Addition, lack of chemical fertilizers in the market was the common fenomena that harm ricefield productivity and production.



Sources: http://www.bulog.co.id/data/doc/sta_hrdunia_brcrthai.htm



Sources: Departemen Pertanian RI, 2009

Average price of medium quality of rice at farm gate in Rice production centres of Indonesia of Indonesia, 2006 – 2009 (Rp/kg)

Figure2. Average international and domestic rice price 2006-2009

As shown in figure 2, the policies effectively stabilized domestic rice price. Gol succesfully protected domestic market. International rice price fluctuated dramatically in 2008-2009, while domestic rice price was relatively stable within the same period. Lack of rice supply, especially from Thailand and Vietnam, to international market was blamed for increasing international rice price in 2008. Rice price in Bangkok, Thailand, increased from US\$ 383/ton in January 2008 to US\$ 1.028/ton in May 2008. Many rice importing countries were panic when rice stock at international market sharply reduced to only 70 million tonnes at the beginning of 2008 from 170 million tonnes in 1999 (Sulandari dan Andrida, 2008).

Fortunately, rice even reached the lowest price in Indonesia's market in April 2008. So, those policies successfully increased Indonesia's food security.

Policies for production promotion also effected on production enhancement. Although Indonesia faced sharp reduction of both production and productivity from 4.43 ton/ha in 1997 to 4.20 ton/ha in 1998 and to 4.25 ton/ha in 1999, due to long dry seasons of el-nino (Irianto *et al.*, 2004), rice production and productivity went up to 4.89 ton/ha in 2000. It was the highest land productivity in Southeast Asia.

Reposition and Reorganizing of BULOG

A real action in national rice market liberalization was shifting the role of BULOG. Previously, BULOG played a central role in Indonesia's rice marketing and distribution. It was a government institution which was mandated to control price, to distribute rice and control rice exportation and importation. Lol with IMF mandated Gol to reposition and reorganizing BULOG from government agencies to be state-owned enterprise. Through Government Regulation No. 7/2003, BULOG is now become Perusahaan Umum (PERUM) BULOG.

From institutional perspective, reposition and reorganizing of BULOG has three fundamental changes (Yonekura, 2005). First, changes the function and role of BULOG from controlling price, importation and distribution of rice to doing business like other enterprises with limited right of monopoly. BULOG has monopoly right in sugar importation only. This change was strongly supported by the law of anti monopoly no. 5/1999.

Second, change in sources of budget. BULOG's was financed from state budget called Bantuan Likuiditas Bank Indonesia (BLBI) to support its operation. BULOG currently is not allowed to received state budget. It has to finance itself from its operational revenue. Third, BULOG is now becoming pure business organization rather previously as the government agencies, directly under president. It is under private business regulation.

However, PERUM BULOG is still playing three important roles in rice marketing as government needs. First, BULOG is an only agencies to buy rice at government decided-price or "harga pembelian pemerintah". Government decide-price is the lowest rice price when government buys the rice during decreasing price, mostly during harvesting season. Second, PERUM BULOG is appointed by the government to manage government rice stock. Perum BULOG buys, distributes, and storages on behalf of government. PERUM BULOG is only the agency which has facilities to carry this duty (Saifullah, 2001). In each presidential instruction, which are released after 2003, these roles of PERUM BULOG are clearly mentioned. Third, PERUM BULOG also procures, provides and channels subsidized-rice for poor families throughout the country.

RESEARCH METHOD

Changes in *structure-conduct-performance* (SCP) is studied to learn the effect of liberalization of rice economy on the markets actors and institutions. Changes was tracked before (in 1996) and after (in 2009, when the field work carried out) market liberalization. The study has been carried out through field survey in two rice production centres, which supply rice to surrounding cities in Sumatra and Batam island, i.e. Solok District of West Sumatra and Kerinci district of Jambi. Marketing channels of rice from these two districts have been tracked in order to interview the farmers, traders, rice processors, and retailers during field work for data collection. Table 1 recapitulates the interviewed respondents.

Table1. Fieldwork location and interviewed-respondents

No	Respondents	District/Sub-district		Jumlah
		Sitinjau Laut, Kerinci	Gunung Talang, Solok	
1	Collecting traders	3	3	6
2	Rice Milling Owners	2	3	5
3	Middle traders	-	2	2
4	Big Traders	2	2	4
5	Village cooperative	1	-	1
6	Extension workers	5	5	10
	Total			28

The impact of market liberalization is learned from the differences or similarities of rice marketing behavior before and after policy was taken. For technical reasons, the time before policy is year 1996 and after policy is 2009, when fieldworks was carried out. We analyzed the changes of *Structure-Conduct-Performance* in rice marketing. Changes of market structure was studied from numbers, size and diversity of market actors in every market chains. Changes of *conduct* are observed from quality control and standarization of traded rice at all marketing chain and price stability. Changes of performance are studied from changes in duration for price adjustment, stability and marketing margin. Duration for price adjustment is the duration for changes of price at farm gates following price change at consumers level. Price stability is studied from fluctuation of farm gate rice price for last ten years. Divergencies of price between marketing chain is calculated as marketing margin.

CHANGES IN RICE MARKETING

Changes in institutions and chains of rice marketing

Changes in rice marketing chainsform Kerinci district are shown in figure 3 and figure 4. There are three fundamental changes of rice marketing from Kerinci. First, markeitng chains became shorter. To reach consumers, rice streamed through five marking chains in 2009 (figure 3), while it flown through 6 chains in 1996 (figure 4).

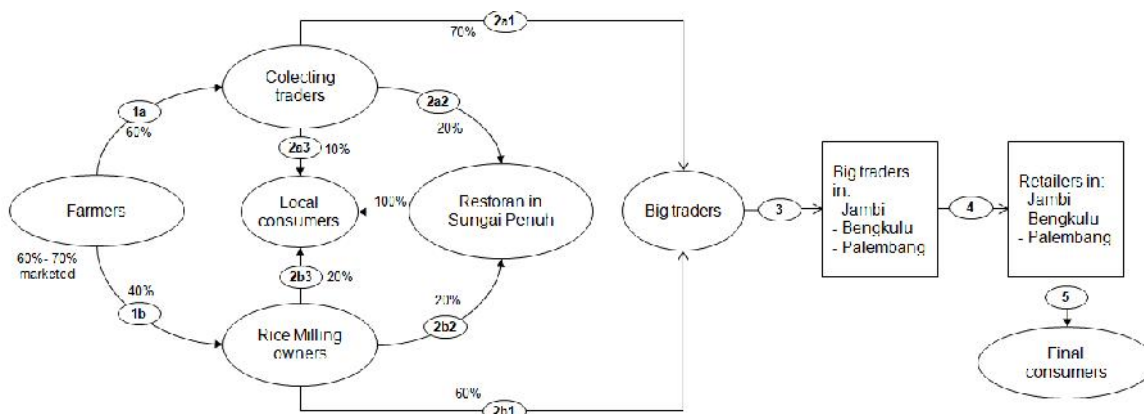


Figure3. Marketing chain of rice from Kerinci district 2009 (in liberalized rice market)

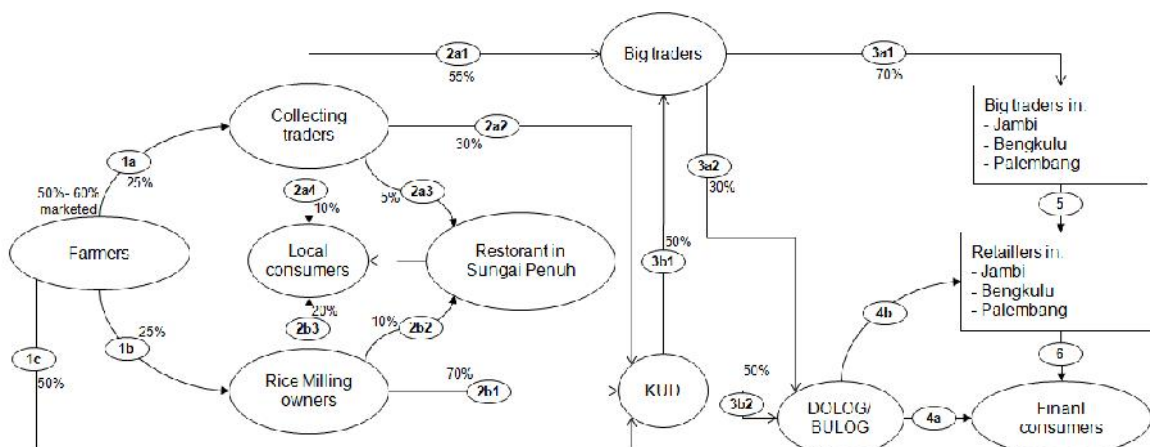


Figure4. Figuring out rice marketing chain from Kerinci district 1996 (before market liberalization)

Second, the numbers of actors in first and second chain were also reduced. In 2009, figure 3, there were two options for farmers to sell their paddy, collecting traders and rice milling owners. In 1996, beside collecting traders and rice milling owners, farmers have option to sell their paddy to village cooperative. Most farmers sold their paddy to cooperative as it offered higher price than the traders did. In addition, as the members of cooperative, farmers also shared the profit every end-years.

Third, the role of KUD and DOLOG totally changed. Previously, They bought most of paddy in Kerinci. Presently they do not operate any more. Their role took over by collecting traders and rice milling owners. Therefore, market actors increased in liberalized rice market. The numbers of collecting traders also went up from about 5 traders in 2000 to 25 traders 2009. Rice milling also increased from 2 units to 28 units.

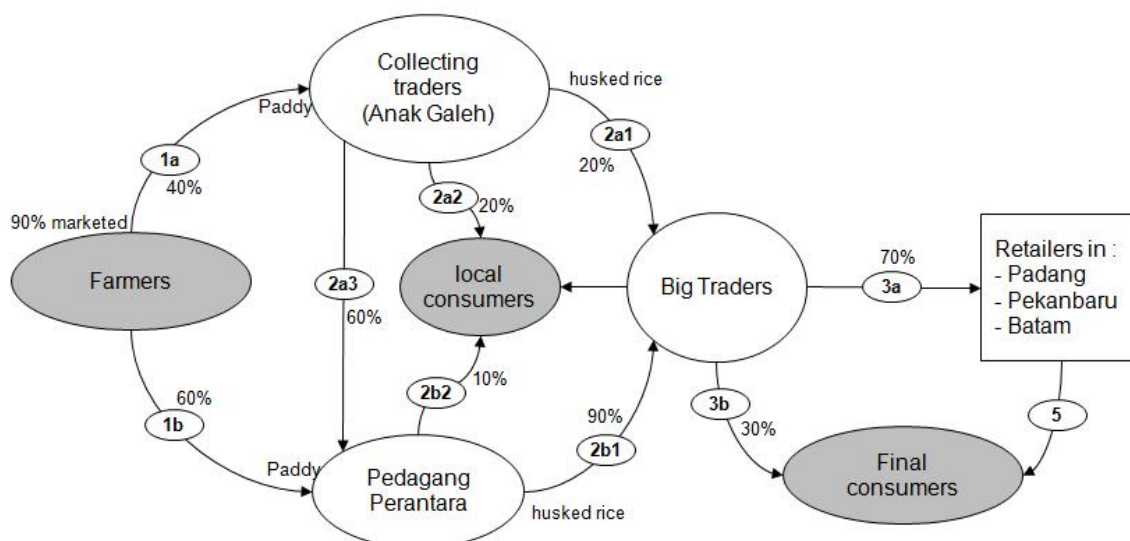


Figure5. Marketing chain of rice from Solok district 2009 (in liberalized rice market)

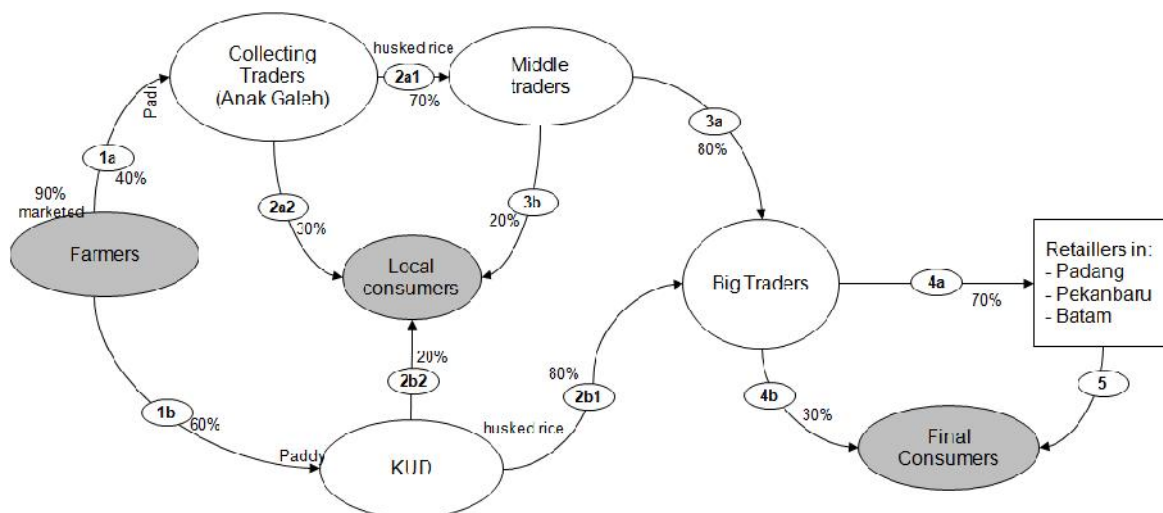


Figure6. Figuring out rice marketing chain from Solok district 1996 (before market liberalization)

The same changes also took place in Solok district of West Sumatra. Rice marketing chains is becoming shorter, as shown in figure 5 and and figure 6. There were also three fundamental changes of rice marketing chains from Solok district. First, village cooperatives (KUD) has not totally played their role in rice marketing. There is absence of KUD in present marketing chains. While in 2000, KUD were the main buyers of rice in Solok where farmers sold rice up to around 60% to KUD. Second, middle traders, who are trading at sub-district and district level) took over previous KUD's role. Before market liberalization, the middle traders did not buy rice at farm gate, rather the bought from collecting traders only. Third, some big traders, both at district and provincial level, sell rice directly to local consumers. Previously, they sold rice to retaillers in surrounding big cities; Pekanbaru, Padang and Batam.

Changes of *Structure-Conduct-Performance* in rice marketing

Changes of structure

Changes of market structure was studied from numbers, size and diversity of market actors in every market chains. As shown in tabel 2, we found that both traders and other market actors increased in number within both district. Significantly increasing collecting traders indicates improvement of competition among them. It also mirrors that market is open up for the actor to enter and out from the market. It was possible due to exiting KUD from the market. KUD does not get "farming credit" any more. So most KUD could not operate and compete in liberalized rice market. In 1996, KUD played big role in rice market both in Solok dan Kerinci districts.

Size of collecting traders was observed from their trading volume. We found that their trading volume are not varies significantly. All interviewd collecting traders aknowledged that none of them could influent others in determining price and volume of rice buying in the market. This indicates that market competition is much better in liberalized rice market. The unit of Rice Milling also increased within both district that indicates competition among rice processors is also improved. Most rice milling owners are also the middle and big traders in Kerinci. They processed paddy to be husk-rice and sold

to next traders. A little bit different in Solok district, where the rice milling owners are specialized in processing only. The owners here milled the paddy of collection and middle traders.

Table 2. Change in rice market structure in Kerinci and Solok district, 1996 and 2009

Market actors	Structure			
	Number		Size	
	2009	1996	2009	1996
KERINCI				
Collecting traders	20 traders	5 Traders	Less variety Trading volume is around 50-100 kaleng paddy a day	Less variety Trading volume is 500-1000 kaleng paddy a day
Rice Milling	28 Units	2 units	Less variety Trading volume is around 50-100 kaleng paddy a day	Less variety Trading volume is around 80-150 kaleng paddy a day
Big Traders	5 Traders	1 Traders	250 tonnes paddy a month during harvesting season 40 tonnes paddy a month during non-harvesting season	1.000 tonnes paddy a month during harvesting season 500 tonnes paddy a month during non-harvesting season
Village Cooperative		2 units		
Association of farmer group (Gapoktan)	10 groups			
SOLOK				
Collecting traders	315 traders	75 traders	Less variety Trading volume is around 50-75 kaleng paddy a day	Less variety Trading volume is around 100-200 kaleng paddy a day
Rice Milling Unit	40 Units	20 Units	Less variety Trading volume is around 50-100 kaleng paddy a day	Less variety Trading volume is around 80-150 kaleng paddy a day
Pedagang perantara	45 traders	25 traders	Less variety Trading volume is around 200-400 kaleng paddy a day	Less variety Trading volume is around 400-600 kaleng paddy a day
Big traders	13 traders	4 traders	500 tonnes paddy a month during harvesting season 80 tonnes paddy a month during non-harvesting season	2000 tonnes paddy a month during harvesting season 750 tonnes paddy a month during non-harvesting season
Village Cooperative		4 units		
Association of farmer group (Gapoktan)	20 groups			

Big traders are also rice milling owners in Kerinci. Their milling capacity are much higher than the others. They bough paddy from collecting traders and bough rice from smaller rice milling owners. They, then, processed paddy and rice before selling out to retailer in the next cities. Number of big traders also increased in liberalized rice market that leads to increasing competition among them at this level. In addition, size of trading among them is not significant varies both in Kerinci and Solok. So, none of them could monopolize the market especially in the price and buying volume.

Rice market in Solok district involved the farmers, collecting traders at village level, collecting traders at sub-district, middle traders at sub-district, big traders at sub-district and big traders at district level, retailers and consumers. Before libelarized-rice market, collecting traders within Gunung Talang sub-district were around 150 traders, big traders were around 4. Even big traders from Padang and Jambi directly came to and bough from collecting traders In liberalized rice market, the number of collecting traders increased to 250 traders and big traders increased to 13. Average trading volume went down due to increasing number of traders at all level. Currently, collecting traders are trading around 2000-4000 sukek paddy (3000 kg – 6000 kg of rice) a month, while big traders are trading around 10000 kg – 30000 kg rice amont. Then, rice is transported and sold to Padang, Pekanbaru, Batam, Jambi and Teluk Kuantan.

Some of big traders in both districts got credit from government program in 2005. The program was called “Lembaga usaha Ekonomi Desa (LUEP)” or rural economy institution development. LUEP provided zero cost of credit for big traders in order to promote them buying rice at government setting up price or called “Harga Pembelian Pemerintah (HPP)”, when market price fell below than HPP. PERUM BULOG, then, bought the rice at negotiated-price. Although the market price has not been fell down lower than HPP, the credit for big traders has no effect on local rice market in these two district.

Based on above findings, we concluded that the competition in liberalized rice market is improving. Rice price was formed based on supply and demand in the market. This happened due to increasing number of market actors at all level of marketing chains. Each marketing actors can monitor any price changes directly from the consumers level or from other traders. Farmers are also well informed on changes in price on consumers level trough free flow of information and telecommunication technologies.

In addition, new market actors entered the market in liberalized-rice market regime that was not able before. It is association of farmer groups or called “Gapoktan”. It is new established farmers organization that set up by government in order to improve rice market structure. In 2009, some Gapoktans got credit around Rp. 300 million from government program called LDPM. The main purpose of the program was to strengthen farmer groups to buy rice by themselves. Although the Gapoktans do not buy yet the rice, during our field work, as the program is under preparation of implementation.

In conclusion, market structures have been improved in liberalized rice market both in Kerinci and Solok District. The market is becoming more competitive than before as the increasing numbers of actors and less trading volume diversity in each marketing chain.

Changes of Conduct

Changes of *conductare* observed from quality control and standarization of traded rice at all marketing chain. We found that the quality control for traded-rice was based on rice variety only in both districts, as shown in table 3. The highest rice price was given to “anak daro” variety, while the lowest price went to IR variety. Before market liberalization, there was no trading for cisokan variety, but presently cisokan variety dominate the market. Technically, there was and is absence of quality control at collection and middle traders. Quality control was and is done at big traders only. There is no change of quality control in liberalized market.

Table3. changes of *conductin* Kerinci and Solok district, 1996– 2009

Chains level	Conduct			
	Quality Standard		Quality Control	
	2009	1996	2009	1996
Collecting traders	Absence	Absence	Absence	Absence
Rice Milling Owners	Absence	Absence	Absence	Absence
Big Traders	Established	Established	Done	Done
Village Cooperative		Absence		Absence
Gapoktan		Absence		Absence

Changes of Performance

Changes of performance are studied from changes in duration for price adjustment, stability and marketing margin. Duration for price adjustment is the duration for changes of price at farm gates following price change at consumers level. Both farmers and traders in

both district reported that price adjustment at farm gates took faster presently due available telecommunication technologies. Almost all farmers and traders are friendly with mobile phones. They have access to information both provided by government and market. In addition, tighter competition among traders at all marketing chains leads to opening up information. Therefore price at farm gates rapidly adjusted when price change at consumers level.

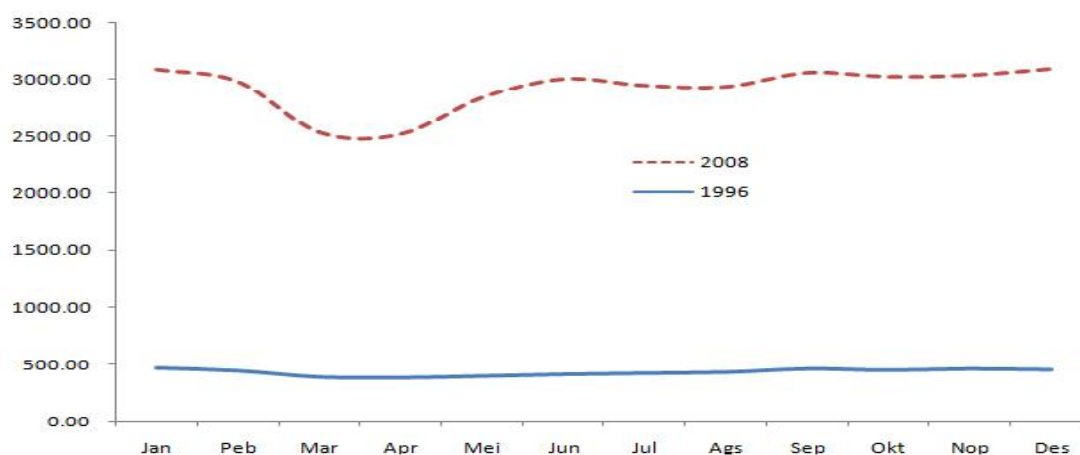


Figure 7. Rice farm gate price fluctuation for Sumatera, 1996 and 2008.

Price stability is studied from fluctuation of farm gate rice price. Time series data on farm gates rice price, which is collected and published by PERUM BULOG, is analyzed to show the price fluctuation. The data for these two district were not available, so, in this study, we analyzed region II (for Sumatera) of national data. As shown in figure 7, fluctuation of price is likely much higher for 2008 in compare to 1996, although the pattern was same. Price is low at the beginning of 2008 due harvesting season. For Sumatera region, harvesting season is in march and april. Furthermore, rice production was also increased in 2008. Generally, price was not shraply fluctutated both before and in liberalized market.

Marketing margin changed significantly in both districts. In Kerinci district, as shown in table 4, marketing margins increased at all marketing chains. In total, margin nominally increased from Rp. 1,850/kg in 1996 to Rp 2.850/kg in 2009. Furthermore, marketing margin for collecting traders and rice milling owners reduced and for big traders increased. More benefit of changes of market structure went to big traders.

Table4. Changes of margin in average for all chains of rice marketing from Kerinci district, 1996 and 2009

No	Chains level	2009		1996	
		Margin (Rp/kg)	Dist. Margin (%)	Margin (Rp/kg)	Dist. Margin (%)
1	Collecting traders	1750	61.40%	1150	62.16%
2	Rice Milling owners	1750	61.40%	1150	62.16%
3	Big traders	500	17.54%	200	10.81%
4	Retailers in destination cities	600	21.05%	300	16.22%
5	Village cooperative		0.00%	200	10.81%
	Total	2850	100.00%	1850	100.00%

While, in Solok district, changes of margin is likely equally benefited collecting and big traders, as shown in table 5. These two actors gained increasing marketing margin. Retailers, however, got less margin than before.

Table4. Changes of margin in average for all chains of rice marketing from Solok district,1996 and 2009

No	Chains level	2009		1996	
		Margin (Rp/kg)	Distr. margin (%)	Margin (Rp/kg)	Distr. margin (%)
1	Collecting traders	3,166.67	81.20%	2,166.67	77.38%
2	Big traders	400.00	10.26%	300.00	10.71%
3	Retailers in destination cities	333.33	8.55%	333.33	11.90%
	Total	3,900.00	100.00%	2,800.00	100.00%

In conclusion, marketing performance do not significantly changed in liberalized rice market. Farm gate price has been adjusting even before liberalization. Although the adjustment became faster, but mostly due to increasing access of marketing actors on mobile phone facilities. Price is not strongly fluctuated both before and in liberalized market. Marketing margin does not also improved.

POLICY IMPLICATIONS

Above findings and analysis guide us to come with some recommendations both on macro rice economy and on improving rice marketing efficiency. For macro rice economy, following are some suggestions. **First**, Indonesia can supply domestic demand on rice with both domestic production and from international market. However, domestic production should be the main pillar as the international rice supply is very volatile. Managed market mechanism policy has been proved effective in maintaining domestic supply on the one hand, and on the other hand it also successfully removed market distortion. Regularly market monitoring and scrutinizing is needed to on time signalling decision makers in determining time and volume of rice importation.

Second, Indonesia needs to increase and strengthen domestic rice production capacity to reduce dependency on international market supply. Indonesia's paddy field productivity is still lower than its potential. So, improving land productivity might enhance national rice production. Furthermore, strictly protecting forest conservation and protection in catchment area is extremely needed to maintain flow of sufficient water throughout the year for rice cultivation. At the same time, Indonesia also needs to expand ricefield especially in Sumatra, Kalimantan and Papua islands. Although these recommended-policies have been written down in presidential regulation, however, their implementation is too slow on the ground. These policies are the most acceptable within the context of free trade regime of ASEAN, ASEAN economic community (AEC) which will be fully enacted by the end of 2015.

Market liberalization has proofly improved rice market structure. Rice market became more competitive due to increasing number of market actors at all marketing chains. However, market conduct and performance do not change significantly. Absences in quality standard and control at farm gate and collecting traders, unequal distribution of marketing margin are the existing challenges for improving marketing efficiency. Following are the implication of those findings and analysis on effort to improve rice marketing efficiency.

First, we strongly need to strengthen farmers institution especially in rice marketing. Farmers organizations, such as farmer groups, Gapoktan, and farming cooperative, should be actively involved in marketing channels. LDPM program, which launched for assisting farmer groups and Gapoktan, is the stepping stone in strengthening farmer organization. Furthermore, farmers also have to be trained on quality standard and control. So, the farmers will understand the quality and how to control it in purpose to provide incentive for quality improvement both by farmers and traders.

Second, planting season has to be regulated in a year and within a region to maintain stability of rice supply. In doing so, improvement and maintainance of irrigation facilities are crucial to provide sufficient water for cultivation throughout the year.

Third, distribution of marketing margin has to be equalled among marketing chains. Strong farmer and collecting traders organization could provide pressure to big traders in doing fairer rice trading. So, strengthening their organization is the way to distribute marketing margin in more equal.

CONCLUSION

Indonesia's rice economy has been changed from fully government control to be more liberalized since 1999. This policy improved to be managed market mechanism, that Gol take intervention when market does not efficiently work. Managed market mechanism policy has been proofed effective in maintaining domestic supply on the one hand, and on the other hand it also succesfully removed market distortion. Volatility of international rice supply has less effect on domestic rice price as domestic productivity and production increased. Less government intervention in Indonesia's rice market has proofedly positive effect on enhancing price at farm gate level, which provide incentif for the farmers. Poor families consumers are protected through subsidized-rice for poor families. From rice marketing perspective, market liberalization effects on improving market structure. It has less effect on conduct and performance changes. Therefore, for market structure-conduct-performance improvement, we need to formulate quality standard and to establish its controlling institution especially at farmers and collecting traders level. We also need to empower farmer groups and involve them in rice marketing channels. Finally, we have to encourage farmers to plant for whole years to reduce price fluctuation.

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