

The Role of Institutional Support in Malaysia's Paddy and Rice Industry

Rosnani Harun and Engku Elini Engku Ariff
Economic and Social Science Research Centre, MARDI,
Persiaran MARDI-UPM, Serdang, Selangor, Malaysia.

e-mail: rosnanih@mardi.gov.my

Introduction

Rice is still the number one Malaysian staple food, though the consumption of rice per capita showed a decreasing trend from 93 kg per capita in 2011 to 88.9kg per capita in 2014. This scenario might be due to people's change of lifestyles, tastes and preferences, especially among the younger generation. Sheng *et al.* (2008) stated that nowadays Malaysians tend to change their diets from rice to wheat-based foods. However, rice consumption in absolute terms has significantly increased mainly due to population increase as well as immigrants from neighboring countries. Currently, the population of Malaysia is around 30.6 million, of which around 2.0 million people are migrants from Indonesia, Vietnam, Bangladesh, Myanmar and India. They work in plantations, other areas of agriculture and manufacturing industries.

Fig. 1 shows the trend of area, production and yield of paddy from 1963 to 2014. The annual growth rate of paddy production and yield is 1.9% and 2.1% respectively. Meanwhile, the paddy harvested area shows a fluctuating trend with the annual growth rate at -0.2%. Rice production in Malaysia was at 1.83 million MT in 2014 with average yield of 4.2 MT/ha. On the other hand, the total consumption for approximately 30.6 million people was 2.72 million MT. The Malaysian government imported around 0.9 million MT of rice from various countries such as Thailand, Myanmar and Vietnam to supplement the short of supply from domestic production.

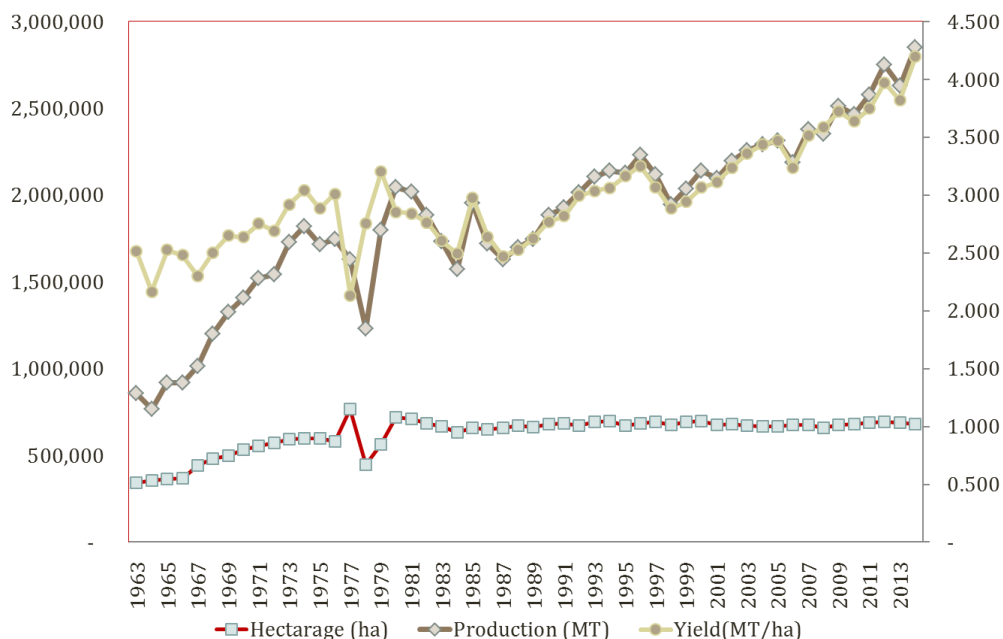


Fig. 1. Trend on Area, Production and Yield of Paddy in Malaysia, (1963-2013)

Government institutions play important roles in the development of the rice industry in Malaysia. The initiatives by the government include the development of infrastructures such as dams, irrigation systems, farm roads and financial support. The government for example, spent around RM550 million (US\$124 million) in 2014 for various incentives. The support by government is to ensure that the supply of stable food in Malaysia is always available, affordable and accessible to all people. Various initiatives such as price controls, subsidies and tariffs were imposed to ensure a secure and sustainable supply of rice. These subsidies and initiatives are managed by the designated agencies under the Ministry of Agriculture and Agro-based Industry (MOA). The objective of this paper is to discuss the roles of institutional support in Malaysia's paddy and rice industry.

Institutional Support

The Ministry of Agriculture and Agro-based Industry (MOA) is the highest authority mandated by the government to administer the paddy and rice industry. Under the MOA, there are many agencies mandated to develop the paddy and rice industry, such as the Department of Agriculture (DOA), the Malaysian Agricultural Research and Development Institute (MARDI) and the Farmers Organisation Authority (LPP). This industry is strongly supported by 12 designated agencies that are responsible for managing the granary areas in Malaysia namely MUDA Agricultural Development Authority (MADA), KEMUBU Agricultural Development Authority (KADA), North West Integrated Agricultural Development Project (PBLIS), Integrated Agricultural Development Project (IADA) Seberang Perak, IADA Penang, IADA KETARA, IADA KERIAN, IADA Kemasin Semerak, IADA Rompin, IADA Pekan, IADA Batang Lupar and IADA Kota Belud.

Padi Beras National Berhad (BERNAS) or literally translated as the National Paddy and Rice Limited Company is a Government Linked Company that manages the country's rice market, including buying paddy from farmers. BERNAS is the sole company which holds a licence to import rice for the domestic market. BERNAS distributes the imported rice to retailers in the country. At the same time, the company is entrusted to carry its social responsibility towards rice farmers. Under the privatization agreement with the government in 1996, BERNAS is obliged to maintain and manage the national stockpile of rice to ensure sufficient supply and to stabilize the price.

Government agencies play roles in the rice industry through support programs or initiatives, research and development (R&D), commercialization technology, farmers training and loans or financial support. Table 1 shows the roles and contributions of the government and private institutions in the country's rice industry. The Malaysian government provides price support to farmers through the Guaranteed Minimum Price (GMP). The price support is managed by BERNAS and given to all registered farmers who sell their paddy to its rice mills. Besides that, farmers also received input incentives to increase paddy yield.

Table 1. Role of Government and Private Institutions in Malaysian Rice Industry.

Institutions	Roles and contributions
MARDI	<ul style="list-style-type: none"> • Development new paddy varieties that are tolerant to pest and diseases, of higher yield and better quality of rice. • Introduction of new production system that is cost-effective, sustainable and environmentally friendly with an emphasis on optimum use of inputs. • Management of major pests and diseases. • Development postharvest handling technologies and efficient product development • Introduction of agronomic package. • Management of weeds, pests and diseases. • Mechanization and precision farming
DOA, FAO, MADA, KADA, AIDA	<ul style="list-style-type: none"> • Provision of extension services • Provision of training for farmers • Provision of machineries and input services
BERNAS	<ul style="list-style-type: none"> • Representation of the government in the management and payment of subsidies to farmers; manage Scheme Bumiputra Rice Milling, buys rice from farmers at a guaranteed minimum price (GMP). • Provision of subsidies inputs. • Provision of incentives increase yields. • Provision of continuous supply of rice at affordable prices to citizens by optimizing the supply chain.
Agrobank	<ul style="list-style-type: none"> • Provision of credit facilities to farmers • Provision of funds and grants

Source: Harun, R., 2016.

Research and Development (R&D) in the agriculture sector is largely undertaken by public agencies and universities. MARDI is an important institution that undertakes research in food and agriculture, including rice. In general, R&D in paddy and rice focused on priority research areas such as the development of new varieties that could increase the production, become resistant to pests and diseases, produce quality seeds, breeding, agronomic package, weed control, and mechanization.

Meanwhile, agencies that are involved in technology transfer activities to the target group are DOA, Farmers Organization Authority, and 12 agencies in respective granary areas in Malaysia. These agencies are also involved in organizing related courses and training for farmers. Technology transfer is a long process before it can be adopted by target groups. The extension officers must have strong knowledge about the new technology and should be capable of persuading farmers to accept and used this technology.

The effectiveness of technology transfer to the target group is highly dependent on farmers' understanding and trust about the technology, and its impact on productivity. It's important to ensure that the technology generated by government research institutions be adopted by farmers. In addition, extension agencies also need to address issues related to the quality of extension services to improve their capability in technology transfer.

The role of extension services needs to be revised to become more relevant in technology transfer to farmers. A few issues still need to be addressed such as lack of knowledge and technical know-how on the latest farming technology among extension officers. As a result, they have limited and ineffective services, particularly in transferring the latest technology to farmers. In addition, emerging issues such as climate change, pests and diseases as well as higher operational costs have posed more challenges to effective service delivery. Besides that, a low ratio of extension officers to farmers as well as low adherence of the agencies to

the MS ISO 9001:2008 Quality Management Systems on Agriculture Extension Service and Training have also affected the quality of advisory services.

Agrobank and Tekun National are mandated to provide financial aids or funds and grants for farmers. These agencies offer a cheaper or lower interest rate as compared to commercial banks. In some cases, the payment of the loan can be made in a more flexible manner, especially if the farms are affected by floods. The infrastructure, specifically irrigation system in granary and non-granary, is developed by the Department of Irrigation and drainage and other agencies or stakeholders in the paddy and rice industry. In some cases, farmers use private credit services from input suppliers and service providers. These service providers are called middlemen who are known for manipulating the price of rice or the weight for a bigger profit margin. From the positive perspective, these middlemen are the source of funds for the farmers, especially during difficult times.

Agricultural Cooperatives

Aside from government institutions, Agricultural Cooperatives and Associations also play very important roles in the paddy industry. Agricultural cooperatives and associations are established to maximize economic benefits by pooling resources in procurement of inputs, facilitating marketing and distribution as well as providing technical advice, machinery and financing. Among the successful model of agricultural cooperatives in paddy industry are those who provide machinery services, those who sell agriculture inputs at discounted prices, manage members' farms as mini estates.

Despite their important functions and roles, in some cases, agricultural cooperatives and associations in Malaysia are poorly managed as they have limited capital, lack of business acumen, lack of innovations, and ineffective governance. Hence, the involvement of such cooperatives and associations is limited to upstream activities such as distribution of inputs and sales of agriculture produce. Lack of comprehensive institutional support by agricultural cooperatives in providing agricultural related services have affected the productivity and sustainability of the industry to respond to current market requirements.

Agencies' Contribution from Farmers Point of View

The success of institutional support is very much dependent on the targeted group. Development programmes by the agencies also need to take into account the views and opinions of farmers. Farmers have different perceptions about the government's contribution to the paddy and rice industry. A study was carried out by MARDI to investigate farmers' perception towards services provided by government institutions. Fig. 2 shows the perception of farmers to government agencies in terms of their contributions. One-third of farmers (28%) said the supporting and advisory services are important to them, and should be more focused on government agencies. This finding indicates that the extension agents are the best source of information for them to get new technology, knowledge or skills. The second expectation from government institutions is to get financial support through subsidies and loans (22%) and the third is producing new technologies (16%). In other words, farmers require modern technologies that could enhance the efficiency in production practices and increase their productivity.

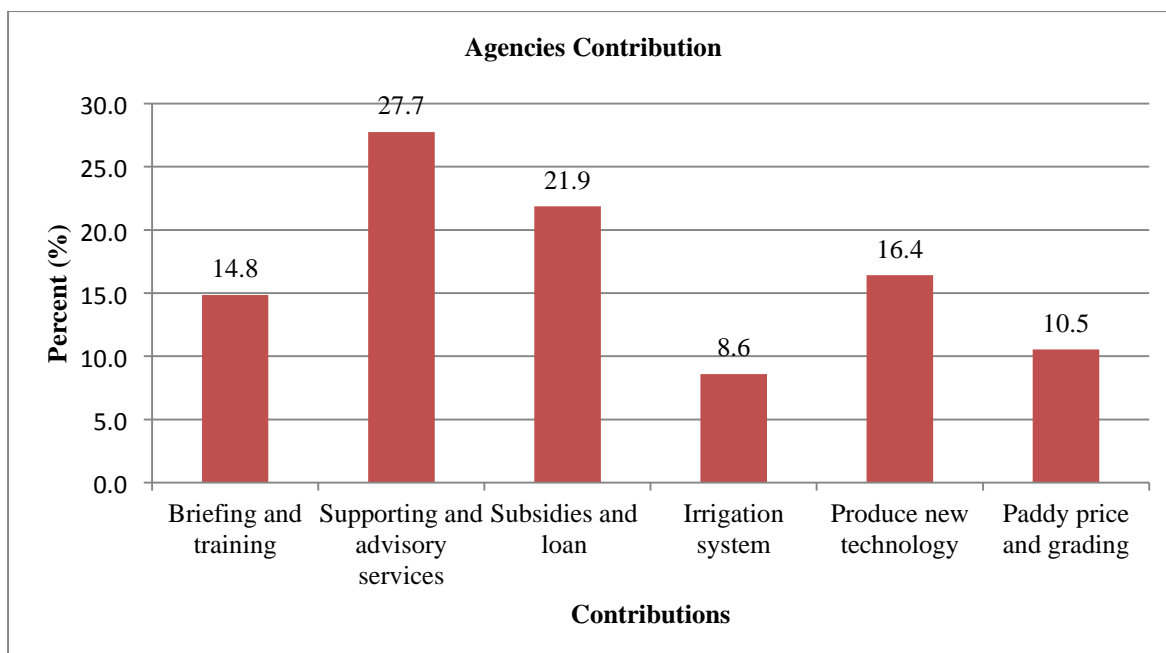


Fig. 2. Agencies' Contribution from Farmers Point of View

Advantages and Disadvantages of Institutional Support in Rice Industry

Institutional support gives advantage and disadvantage to the Malaysian paddy and rice industry either for farmers or to the national rice production. The advantages from institutional support through government initiatives are:

Food Security

Government involvement in the rice industry is to ensure that citizens have access to sufficient food supplies. In the Malaysian perspective, food security refers to the ability of local farmers to provide adequate rice at any time and at affordable price by all citizens. Since rice is a strategic crop, it is essential to maintain or achieve an increased domestic production level for food security purposes. Since 1995, the level of self-sufficiency (SSL) has not changed much. In 2015, the level of SSL for rice was at 72%. In other words, the local supply of rice is insufficient for local consumption. As a result, Malaysia imports rice from its neighboring countries as to fill the short supply by local producers.

Farmers Welfare

To a certain degree, government's efforts had achieved an impact that has benefitted the farmers. These include reduced production cost through subsidies and incentives. Malaysia is a high-cost producer and for this reason, a lot of subsidies and incentives were given to farmers to ensure that they achieve a certain level of sustainability in this industry. As compared to Vietnam, the cost of production by Malaysian farmers was 47% higher (Nguyen, 2010). Due to government subsidies and incentives, farmers received higher net income ranging from 18 - 25%. According to Fatimah *et al.* (2005), the government support in rice industry through fertilizer input and price support constitutes 58% of total farm income. The important impact from institutional support is poverty alleviation among farmers.

Expand Farm Production

The government contributions in enlargement paddy production are attaining production scale through group farming or estate approach. The concept of group farming and paddy estates is an effective tool for farm management to enhance rice production and create a harmonious social relationship among farmers and officers through the established committees.

Sustainable Farming

The efforts to attain sustainability in rice farming requires careful adaptation of agricultural technologies to local social, economic, political, and ecological realities. So, a program is needed for government institution to manage so that there will be an increase in farmer's livelihood without adversely affecting the environment. Sustainable agriculture and farmers' income are heavily dependent on government support and subsidies as incentives.

Expediting Technology Transfer

Through government institutions, technology transfer process can be accelerated and simplified. Farmers no longer need to find technology for rice cultivation. Therefore, the requirement of knowledge or technical know-how among extension agents is essential to ensure that technologies are acceptable and are delivered to farmers.

Meanwhile, disadvantages of government support are:

- i. Farmers have no self-motivation in increasing their production.
The attitude of farmers haven't changed towards improving productivity. Majority of farmers feel comfort with the services provided by government institutions and they do not feel that they are ready to change. This could affect national rice industry in the long term.
- ii. Farmers do not efficiently use the inputs.
The average level of efficiency in Malaysia varied between 65 - 81% which indicates that inputs can be reduced by 19% - 35% to achieve the same amount of outputs. Therefore, the governments spending on subsidies is high, especially on inputs and then some go to deadweight loss.
- iii. Farmers were not self-reliant to sustain the industry.
Farmers are very dependent on government subsidies and incentives. There is no effort to increase rice production because they are satisfied with the income from the farming activities. Some cost of production is subsidised by the government.
- iv. Market is distorted
The government controls the price of rice in the market. The retailers are prevented to sell rice more than the ceiling price set by the government. The imported rice must also be sold at more expensive price compared to the locally produced ones. In this regard, the price of rice doesn't reflect the actual market price.

Conclusion

Institutional support is still very relevant and important in the development of the rice industry in Malaysia. The government institutions will continue to support the industry

through various roles and initiatives. This is to ensure that the production of rice is always sufficient, affordable and accessible to all citizens.

Currently the institutional support is carried out through the National Blue Ocean Strategy or NBOS approach. Collaboration between organizations can be realized through the cross-functional expertise among different agencies that are directly or indirectly involved in the paddy and rice industry. The provision of subsidies and incentives from government should be monitored closely due to inefficient use of inputs. The extension officers should be more focused on training programs for farmers especially on how to optimize the use of inputs to achieve optimal outputs. Therefore, extension services have to be strengthened and new approaches should be suited to the current needs and market conditions. Moreover, extension agents have to equip themselves with knowledge and skills which are relevant to the current market.

Most of the farmers were not aware of the potential of rice and paddy industry as a business opportunity. In the future, the government agencies need to focus on training programs for farmers, especially in terms of shifting farmers' mind set on the concept of "Agriculture is Business" in order to transform the rice sector to be more competitive. Agricultural cooperatives have to be transformed as "real" agribusiness organizations.

To overcome the lack of knowledge in related technology, government agencies, which are involved in training, should increase the related programs for farmers. Rice development program by the agency needs to be strengthened by including the views and opinions of farmers to get more info on the needs. With the continuous support of the government institutions, this sector can be sustained. However, in the long term, incentives and guidance support are much needed to boost the industry for at least to meet the domestic demands.

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