

Factors affecting the production of rice in malaysia



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FACTORS AFFECTING THE PRODUCTION OF RICE IN MALAYSIA We would like to point out the factors affecting the production of rice in our country.

Climate and the nature of soil, insect-pest and weed management, land areas, infrastructure, technologies and mechanization, dependency on other rice producers, investment and collaboration with international organization are the major factors that affect the rice productivity in Malaysia.

In temperate and tropical climate areas, rice is grown mostly under irrigated lowland ecosystem, once a year during the warm months that are when the temperature regimes are suitable for growth and development of rice plants. However, with available irrigation water, rice can be grown more than one crop per year in tropical climate areas such as Malaysia. Other than that, rain fed lowland ecosystems also found in tropical areas which water supply to rice crops comes principally from rainfall.

The low grain yields of the rice is attributed to the poor management by the farmers during the cultivation period, where fields are left unattended after sowing without any monitoring on plant nutrients and other critical aspects, such as weeds, diseases, and insect-pest attacks. Therefore, with good management practices, the application of adequate plant nutrient and water, together with weeds, diseases, and insect-pests management, the grain yields of upland rice varieties are expected to increase. All these aspects are therefore important in obtaining higher yields.

However, MARDI will use fewer pesticides and go into organic farming with bio-fertilizer. It very important to reduce the importation of pesticides and chemicals, considering their cost and affect on our environment. The rice production areas in Malaysia are decreasing (in the year 1970-1980) because

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good rice areas, near development centers are being converted for other uses (refer to figure 8). As the results, the grain yields of rice are expected to decrease. Since the 1980s, Malaysia's land area for rice remained fairly constant at no more than 0. million hectares. Even though the land area for rice has remained rather constant, Malaysia's rice productivity increases every year from 2. 1 ton/ha in 1961 to 3. 6 ton/ha in 2008 (refer to figure 5). Thus, Malaysia's total rice production would also increase each year. Since 1985, Malaysia sees an average increase in total rice production of about 28, 000 tons per year. The varieties of rice which produce high grain yields and quality (fragrance, colour) were collected from selected locations in the Peninsular Malaysia, Sabah, and Sarawak.

The government is constantly opening more fields and in Kota Belud, Sabah, a large field was recently opened. (said Deputy Minister of Agriculture and Agro-Based Industry Chua Tee Yong). New padi farming areas in Sarawak which were at Bijat/Stumbin, Lingga/Banting, Daro, Nanga Merit, Pulau Baruit, Paloh, Sungai Seblak and Limbang, involving 43, 821 hectares. ([http://www. mysinchew. com/node/29442](http://www.mysin Chew.com/node/29442)) The effort to develop and modernize rice sub-sector has been directed to several major rice growing areas of the country.

The schemes to drain and irrigate two of these areas, Muda in Kedah and Kemubu in Kelantan have been financed by the World Bank. The purpose of drainage and irrigation in rice areas is to enable double-cropping which in turn requires high yielding varieties (HYV), chemical inputs such as fertilizer and pesticides and farm machineries to cope up with the new and tight schedule of rice farming. The provision of irrigation facilities has expanded

double-cropping areas, improved the quality of rice land which was formerly either rain-fed or had not been properly irrigated and opened new areas for cultivation.

Under the 10MP (10th Malaysia Plan), the government is spending about RM1 billion this year itself on agriculture, and a lot of that would be going to the construction of irrigation systems including dams to upgrade infrastructures. (said Deputy Minister of Agriculture and Agro-Based Industry Chua Tee Yong) Faced with higher wages and sharply reduced labor supply, farmers have mechanized land preparation, seeding, and harvesting to reduce production costs, labor inputs, and production time.

Besides that, the technologies have make the life p of the paddy plant from seed to harvest has been lowered through research to 110 days from the traditional 150 days. Hence, double cropping is practiced. The crop cycle starts immediately after a crop harvest where the farmer cuts the stubble and burns it together with the straw strewn on the ground. This is the preferred crop management practice in order to reduce pest and to return the nutrients to the ground. Ploughing is carried out generally by a four-wheeled tractor with an attached rotovator and up to three rounds of ploughing are carried out.

This is done to loosen the soil also to attain a level field which is a preferred way to improve crop establishment and increase both grain quality and yields. Crop establishment is accomplished normally through direct sowing of pre-germinated seeds on the fields or using transplanting. Harvesting is done mostly by machines using large combined harvesters imported from Europe and modified for use in paddy harvesting. We do not have as much as land

as Indonesia so we have to go into high tech farming and adopt new technologies. So, we need to transfer new, innovative technologies to the end user and targeted groups.

This is where the role of MARDI comes in, in terms of transferring technology to the farmers as well as the extension workers. The role of MARDI is to acquire, adapt and adopt technology as well. However, Malaysia was among the developing nations caught in the chaotic situation given its dependency on rice imports, especially from Thailand and Vietnam over the years. The difficulty in securing consistent supplies on the back of soaring international rice prices had prompted the government to seriously reassess and tighten its food security of food, especially in boosting rice production in Malaysia.

Under the Ninth Malaysia Plan, a target has been set to raise Malaysia's rice self-sufficiency level to 90% by 2010 from about 70% currently. In addition, without private sector involvement in the rice-growing industry, it would be difficult for the sector to grow or even maintain its 65 per cent output by 2010. Realizing this, the Agriculture and Agro-based Industries Ministry is drawing up incentives schemes to attract private sector investments. The private sector does not find the rice industry profitable as the cost is high and the returns slow, but the government is working towards this. (said by Parliamentary Secretary Datuk Rohani Abdul Karim). The government was focusing on automation, precision farming and implementing various mechanisms to develop and modernize the rice industry, so private sector involvement was crucial. The investment also goes into training facilities and advisory activities, especially in developing new groups of farmers who are

receptive to technology and skill. It is important to develop a collaboration of international organizations or a networking system to exchange information, knowledge, technologies, and experiences.

IRRI operates the Integrated Rice Research Consortium for research and development of new technologies, and the Crop and Resource Management Network (CREMNET) to facilitate the exchange and evaluation of knowledge-intensive technologies (KITs) among primarily Asian National Agricultural Research Systems (NARS). The Consultation therefore advocates that collaboration between national and international organizations (FAO, IRRI, CIMMYT, UNDP, NARS, etc.) should be strengthened to avoid duplication of efforts and to promote the use of sound practices and technologies in intensive rice cropping systems.

In addition, the consultation recommends that the existing networks of NARS should be strengthened to facilitate the exchange and evaluation of promising KITs, and to freely share information, knowledge and experiences in promoting KITs for intensive and sustainable rice production. A collection of research scientists is working together with our international partners from the industry sectors, especially in China. China has very simple, cheap technology that we can adopt very fast.