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Exploring the Potential of Yam-based Products in Malaysia

Rawaida Rusli
Malaysian Agricultural Research and Development Institute
Economic and Technology Management Research Centre, MARDI.
Persiaran MARDI-UPM, 43400 Serdang, Selangor, Malaysia
rawaida@mardi.gov.my

INTRODUCTION

Yam crop is believed to exist for more than 2,000 years in Malaysia (Ghani, 1984). According to Kay (1987) and Wagner *et al*. (1999), the yam family (*Colocasia*) originated from Indo-Malaysian region, before it started to spread into the Pacific islands, eastern Mediterranean and lastly, to Africa. In developing countries especially in Africa, Asia and the Pacific, yam is consumed as a staple food (Aguegui *et al*., 1992). Yam is also known as taro or cocoyam due to the same family member of Aracea. Aracea family is recognized as *Colocasia esculentum* (L.) Schott and *Xanthosama sagittifolium* (L.) Schott (Dahlgren *et al*., 1985). Therefore, yam or taro is a species from the family of *Colocasia esculentum* (L.) Schott in Malaysia (Vegetables and Cash Crops Statistics, 2012). While taro is from the species of *Colocasia*, cocoyam is from the species of *Xanthosama* (Manner and Taylor, 2010).

THE POTENTIAL OF YAM-BASED PRODUCTS

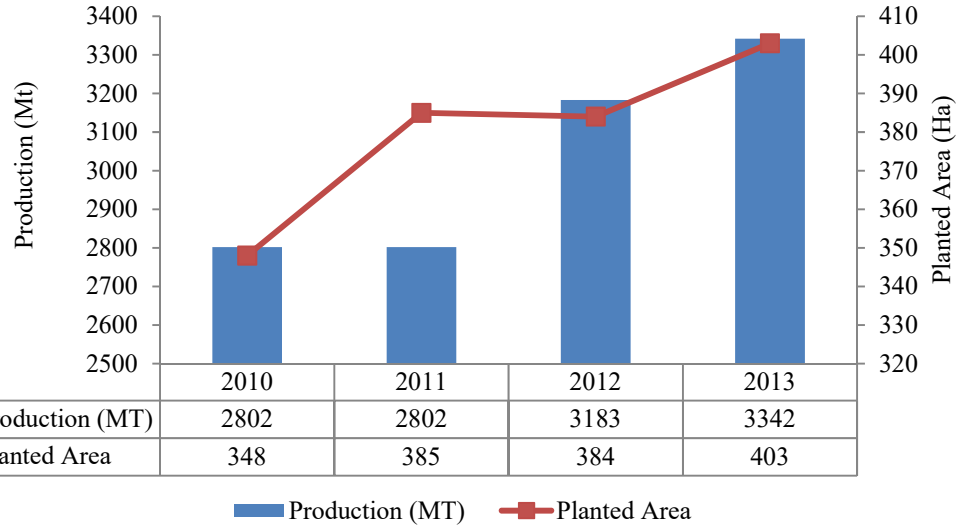
Agro-based Industry

The National Agrofood Policy (NAP, 2011-2020) emphasizes on the production of food crops such as paddy, vegetables and fruits for food security and to generate incomes from export markets. Nevertheless, cash crops are equally important mainly as raw materials for agro-based industries; and yam has been identified as one of the important cash crops. Various yam-based products can be found in the market, such as yam chips, yam flavored ice-cream and traditional yam-based cakes. Generally, the yam-based products represent some of food product lines produced by processed food industries, undertaken by small and medium enterprises. According to the Agro food Statistics, the chip products contributed the highest total sale of agro food industry, amounting to RM 89.40 million which involved around 580 small and medium entrepreneurs (SME), in 2011. The chips products are made of tapioca, banana, sweet potato,

breadfruit, tempe (a traditional soy products originally from Indonesia) and yam. On top of that, the retail sale of savory snacks in Malaysia has increased around 18.4% from 1998 to 2002, with 4.6% annual average growth rate (Anon, 2013). The chips products themselves recorded a 22.8% growth from 1998 to 2002, with annual growth rate of 5.7%. These figures indicate the demand for savory snack that include yam chips is increasing in Malaysia which is contributed by increase in population and changes in consumers' life style.

Production of yam

Yam is relatively a small industry, but one of important cash crops in Malaysia. In 2013, Malaysia produced around 3,342 metric tons of yam which were cultivated in 403 hectares of land areas. Yams are grown by small farmers, and mostly integrated with other crops such as palm oil, fruits and vegetables. The production has increased in line with the increase of land areas. For many years the productivity of yam are never changed because no new variety has been introduced to the industry. On average, a hectare of land produce around 8.2 metric tons of yam. (Fig. 1).



	2010	2011	2012	2013
Production (MT)	2802	2802	3183	3342
Planted Area	348	385	384	403

Fig. 1: Yams planted area (Ha) and production (Mt), 2010-2013
Source: Vegetables and Cash Crops Statistics (2013)

Yam has a high demand for fresh consumption and processed food industry, which is indicated by the increasing trend of its farm, wholesale, and retail prices. The demand for yam is increasing every year due to increase in population and changes of lifestyle in which people are more concerned about eating healthy foods. Yam is considered healthy food because it contains high vitamin C and potassium. Yam has also been recognized as food for energy but less in cholesterol, hence good for health.

The demand for yam-based products is increasing every year and higher especially during festival seasons. As consumers are willing to pay for higher prices, farmers increase their production. For example, the price of yam at the farm level had increased from RM0.75 per

kilogram in 2000 to RM1.65 per kilogram in 2014 (Figure 2). Meanwhile, the retail price also had increased from RM2.85 to RM5.50 per kilogram in the same period. The increase in price shows a great potential for the yam industry in Malaysia. The industry is expected to grow due to higher demand from the processed industry. Thus, yam can be considered as a new source of income for farmers and at the same time, support the processed food industry. The increase in local production will reduce the importation of yam from Indonesia and Thailand. This situation will improve the national balance of trade.

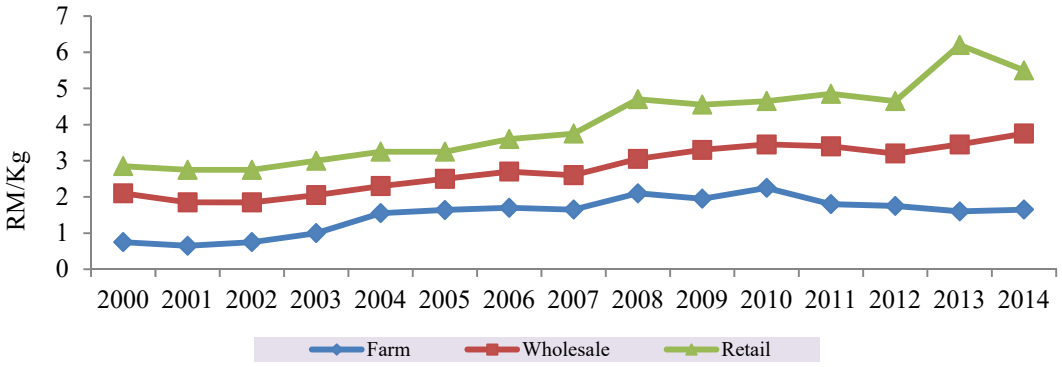


Fig. 2: Farm, wholesale, and retail price of yams, RM/Kg (2000-2014)
Source: Federal Agriculture Marketing Authority (FAMA) (2000-2014)

Consumer preferences

A consumer study was carried out to identify the potential of yam-based products in Malaysia. The study was carried out in the eastern states of Peninsular Malaysia involving more than 600 respondents. It aims to examine consumers' perception and preferences towards fresh and processed yam.

The study found that most of respondents (65.8%) in the eastern states of Peninsular Malaysia consumed yam-based products. The most popular yam-based products are ice-cream with yam flavored (86.7%), yam chips (79.7%), and boiled yams (59.7%). Consumers always buy fresh and yam-based products from agricultural markets or night markets, while the processed yam-based products from supermarkets and retail shops. In other words, agricultural markets are important marketing channels for yam and yam-based products. However, about 43% of consumers purchased yam unplanned or impulse purchased.

POLICY IMPLICATION

Yam is an important cash crop in Malaysia. It produced raw materials for the processed food industry, generated income for farmers and contributed to the economic development of the agricultural sector. Despite its being small, the yam industry has contributed to the balance of trade by reducing the importation of yam from neighboring countries. The higher growth in demand for processed food indicates the great potential of the yam industry in Malaysia. Hence, it is timely for the government to formulate a policy that can transform the yam industry from a small scaled and conventional one to a modern and dynamic industry. This policy will include

the improvement of planting materials, the production of new variety that can increase farm productivity, production system, postharvest handling and marketing of fresh and processed products. At the same time, awareness programs such as advertisement and promotion on the benefit of consuming yam must be increased from time to time. In other words, the transformation of this industry requires government intervention throughout the supply chain.

CONCLUSION

Yam is an emerging industry that can be enhanced for the improvement of the socioeconomic condition of farmers and the development of the agricultural sector in Malaysia. However, this industry requires government support and intervention in order for it to grow and become successfully sustainable.

REFERENCES

Jabatan Pertanian Malaysia, (2013). Perangkaan tanaman sayuran dan tanaman ladang.

Jabatan Pertanian Malaysia, (2012). Perangkaan tanaman sayuran dan tanaman ladang.

Jabatan Pertanian Malaysia, (2011). Perangkaan tanaman sayuran dan tanaman ladang.

Lembaga Pemasaran Pertanian Persekutuan, (2000-2014). Warta Barangan FAMA.

Parkinson, S. (1984). The contribution of aroids in the nutrition of people in the South Pacific. In Chandra S. (ed), *Edible Aroids*. Clarendon Press, Oxford, UK, pp 215-224

Plucknett, D.L. (1970). Status and future of the major edible aroid *Colocasia*, *Xanthosama*, *Alocasia*, *Cyrstosperma* and *Amorphophallus*. In *Tropical Root Crops Tomorrow: Proceedings of the 2nd International Symposium on Tropical Root Crops*, Hawaii, pp 127-135.

Splittstoesser, N.E., Martin, F.W. and Rhodes, A.M. (1973). The nutritional value of some tropical root crops. *Proceedings of the Tropical Region of the American Society for Horticultural Sciences,* 17: 290-294

Wang, J. (ed) (1983). Taro: *a review of Colocasia esculenta and its potentials.* University of Hawaii Press, Honolulu.

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