

Exploring the Market Demand for Local Organic Rice in Malaysia

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Abstract

The global organic rice market is in a growing trend. This situation is also found in Malaysia, where the demand for organic rice also on the rise. The increase in demand for organic rice is due to the growth of Malaysian's per capita income that has empowered consumers to have more purchasing power. Health consciousness and demand for more nutritional value food are also the reason for organic rice demand. Besides, the factors such as food safety concerns and environmental concern are also the factors that affect consumers' demand for organic food products in this era. Organic rice can be defined as rice produced from practice management without chemicals, especially in fertilization and pest control. Thus, this study determined the demand status of local organic rice in Malaysia, and the factors influence the demand. Market demand research is critical because it will describe the consumer demand for a given product and the factors that influence it. As market demand increases, so does the price. Thus, this will promote and motivate the farmers towards sustainable or ecologically friendly agriculture. Primary data were collected by using a questionnaire through a survey in Malaysia. The data obtained were analyzed using the basic statistical method, which is descriptive statistics. Descriptive analysis was done in the Statistical Package for Social Science (SPSS) application. The results have shown that organic rice demand is positive but still low in terms of quantity. Socio-demographic factors such as age, educational level, income level, and health purpose have been the factors influencing consumer's demand for local organic rice.

Keywords - market demand, organic rice, sustainable food

INTRODUCTION

Organic rice is a crop or product derived from sustainable agricultural management. Organic rice is good for health as it is free from pesticides, artificial flavors, dyes, and preservatives, thus reducing the risk of developing harmful substances. In other words, organic rice is a food that is naturally produced and environmentally friendly.

U.S. Department of Agriculture's National Organic Standards Board (USDA), which set the national standard for the term "organic" in 2000, organic food is determined by how it cannot be made rather than how it can be made. The organic food must be produced without the use of most synthetic fertilizers, sewer-sludge fertilizers, pesticides, growth hormones, genetic engineering, irradiation, and antibiotics. The term "organic" does not mean "natural". There is no fixed definition as to what constitutes a "natural" food. Nevertheless, the food industry uses the term "natural" to indicate that a food has been minimally processed and is preservative-free. Natural food can be called organic food, but not all-natural foods are organic foods [1, 2].

Organic rice means the products and rice products derived from the organic rice production system. It emphasizes the use of natural materials by opposing synthetic raw materials, transgenic plants, animals, microorganisms, or [raw materials derived from genetic modification](#) [3]. The advantage of organic rice is that it does not contain any chemicals. Thus, organic rice has a softer texture and staying fresher for a more extended time [4, 5].

Therefore, organic rice in Agriculture Malaysia is defined as a crop production system that avoids synthetic fertilizers and pesticides, hormones, antibiotics and takes measures to protect the environment. Crop pests and diseases are managed by cultural, biological, physical, mechanical methods, and bio-pesticides [6]. In conclusion, organic agriculture practices are committed to balancing with nature.

Based on research, organic rice has demand in Malaysia. Consumers are also willing to pay the premium price. However, Malaysia's local organic food industry is still small, as more than 60% of organic food products are imported. Most of the organic products are sold domestically, while some are exported to Singapore. In Malaysia, the food sector has a significant impact on the Malaysian economy's growth and development. In the past decade, Malaysia has been searched for better economic and social opportunities, and it has seen rapid structural transformation and urbanization [1]. This has increased the demand for food safety. Food safety is an important attribute that needs to be considered in food choice [2, 7-9](3)(21)(22). Increasing awareness of health, food safety, and environmental concerns significantly increased the demand for environmentally friendly products[10, 11] There is an increased awareness about the environment that affects consumers' behavior and results in an expansion of the green product market at a remarkable rate[2] (2). According to [12](19), organic products have a lesser negative effect on the environment. Thus, there is a massive increase in the production and consumption of organic products.

Consumers' concern about environment-friendly, quality, food safety, and healthy food is becoming increasingly popular, which provides growing markets for organic foods, including organic rice. The influence of consumers' knowledge of organic rice also impacts their awareness and consciousness about organic rice[10] (10). Thus, a consumer will buy organic rice for their good, and this situation will promote and motivate the farmers towards sustainable or ecologically friendly agriculture to produce more organic rice.

According to [13](17), there are few studies on the value chain in organic rice, focusing on marketing. Market research is vital because it will describe the demand for a given product, and factors influence it. Individuals make decisions between

bundles of products based on their utility, which is the conceptual basis for assessing a product or service's value. Thus, the study on exploring the demand status on local organic rice had been done. This paper aims to determine the demand status of local organic rice and the factors that influence it.

Materials and Methods

The data of this study was collected through a survey using a structured questionnaire. The design questionnaire was divided into three parts: respondents' socio-demographic, awareness, and demand on organic rice, and willingness to buy. Then, the questionnaires were distributed to the respondents online by using google form.

The respondents of this study were randomly selected by assuming that all the respondents are rice consumers. A total of 267 people were successfully interviewed. Next, the data obtained will be analyzed using the basic statistical method, which is descriptive statistics. The descriptive statistics present information and data in the form of tables and statistical components such as frequency, percentages, and cross-tabulation. Descriptive analysis was done in Microsoft Excel and Statistical Package for Social Science (SPSS) application.

Results

The results can be divided into three parts; A. Demographic information of respondents, B. The demand for local organic rice and C. Factors influencing the demand for local organic rice.

Demographic Information of Respondents

The findings showed that a total of 33.7% of respondents are below 30 years old. Meanwhile, 21.7% are between 31-40 years old, 23.6% are between 41-50 years old, and 21.0% of respondents are over 50 years old. The majority (52.4%) of the respondents are female, while 47.6% are male. The majority (92.5%) of the respondents are Malay, 5.2% are Chinese, and 0.7% are Indian, while 1.5% are others.

In terms of education level, the findings showed that 72.7% of respondents attended University/College, 23.2% attended secondary school, 2.2% attended primary school, and only 1.9% no school. While in terms of total average income per month, most of the respondents (37.5%) earn a total income of RM 1001 to RM 3000 per month, 31.1% earn a total income of below RM 1000 per month, 14.6% earn a total income of around RM 3001 to RM 5000 per month, while 16.9% earn a total income of above RM 5000 per month respectively.

The Demand for Local Organic Rice

The demand status on local organic rice was measured by the quantity of local organic rice bought by respondents per month, and their willingness to buy local organic rice. This study showed that 65.2% of the respondents never bought local organic rice before, while 34.8% had bought local organic rice, respectively.

In term of quantity of local organic rice that bought by respondents per month, the majority (40.9%) of the respondents bought local organic rice between 5-10 kg organic rice per month, 35.5% of the respondents bought less than 5 kg per month, 11.8% bought local organic rice between 11-15 kg per month, 6.5% bought local organic rice between 16-20 kg per month while 5.4% bought above 20 kg local organic rice per month respectively. Meanwhile, in term of willingness to buy local organic rice, the majority (91.4%) of the respondents that never bought local organic rice before, are willing to buy local organic rice in the future.

Factors Influencing the Demand for Local Organic Rice

Table 1 presents the respondent's demography's relationship in terms of age, gender, race, educational level, income, and health history with the quantity of local organic rice bought by respondents per month. The results showed that the most (32.3%) of respondents who had bought local organic rice are 50 and above. The majority (50%) bought local organic rice between 5-10 kg of organic rice per month. The second group of local organic rice buyers is respondents ranging from 21 – 30 years of age. Only 3.2% of the respondent that age below 20 years had bought local organic rice.

The results from Table 1 showed that females are more bought organic rice compare to male. Malay respondents bought more organic rice compare to another race. Based on the educational level, the majority (77.4%) of respondents who had bought local organic rice have a high education level. In terms of income level, mostly (32.3%) of respondents who bought local organic rice earn RM 1000 and below. The second highest (27.9%) is a buyer who earns an average income of RM 5001 and above per month. Besides socio-demographic factors, this study also showed that the majority (85%) of the respondents bought organic rice because of health purposes.

Table 8

The distribution of demography of respondents with the quantity of demand for local organic rice

Variables	Local organic rice bought					
	<5 kg	5-10kg	11-15kg	16-20kg	>20 kg	Total
Socio-economic status						
Age (years)	%	%	%	%	%	%
Below 20	33.3	0.0	33.3	33.3	0.0	3.2
21 – 30	27.3	50.0	18.2	4.5	0.0	23.7
31 – 40	64.7	29.4	0.0	5.9	0.0	18.3
41-50	38.1	33.3	14.3	4.8	9.5	22.6
50 and above	23.3	50.0	10.0	6.7	10.0	32.3
Gender	%	%	%	%	%	%
Male	20.5	47.7	20.5	6.8	4.5	47.3
Female	49.0	34.7	4.1	6.1	6.1	52.7
Race	%	%	%	%	%	%
Malay	37.3	38.6	12.0	6.0	6.0	89.2
Chinese	14.3	71.4	14.3	0.0	0.0	7.5
Others	33.3	33.3	0.0	33.3	0.0	3.2
Education level	%	%	%	%	%	%
No School	0.0	0.0	0.0	100	0.0	1.1
Primary School	0.0	100	0.0	0.0	0.0	1.1

Secondary school	31.6	47.4	10.5	10.5	0.0	20.4
University/ College	37.5	38.9	12.5	4.2	6.9	77.4
Average income (per month)	%	%	%	%	%	%
1000 and below	30.0	33.3	16.7	13.3	6.7	32.3
1001 – 3000	36.0	40.0	12.0	8.0	4.0	26.9
3001 – 5000	25.0	58.3	16.7	0.0	0.0	12.9
5001 and above	46.2	42.3	3.8	0.0	7.7	27.9
Health purposes	%	%	%	%	%	%
Yes	31.6	44.3	12.7	6.3	5.1	85
No	57.1	21.4	7.1	7.1	7.1	15

Source: Survey data

The results of this study showed that local organic rice demand is positive. The respondents that never bought local organic rice before are willing to buy local organic rice in the future. As explained above, organic rice was produced through organic farming. Thus, this is in line with the findings from earlier studies that confirmed the consumers showed positive attitudes towards organic farming products due to the products of organic farming were perceived as healthier than the conventional counterparts [11, 14]. However, the quantity of local organic rice demand is still low, which is between 5 – 10 kg per month. This is due to the local organic food industry in Malaysia is still small, and the majority of organic rice available in the market are imported.

Table 1 showed that respondents ages 50 and above are demanding more on local organic rice. According to [15-17] the older people need more healthy food because they need to prevent illness. Next, it can be seen that higher education respondents have demanded more on local organic rice. Through education, people will have knowledge and awareness and influence them to change towards a better choice. In terms of income, the result of this study indicates that the majority buyer of local organic rice is from a low-income level. According to [18-20], organic food consumers are less likely to pay attention to the price. Thus, the income level of consumers does not necessarily influence them to buy organic food. Consumer makes decisions based on utility as a basis in assessing the attributes and value of the product.

Health purposes are the crucial factors that influence the respondent's demand for local organic rice. Consumers mainly give priority to health as a reason to buy an organic product [17, 18, 21]. Last but not least, according to [1] in Malaysia have awareness about health and safety perspective while consuming rice.

Certification Organic Rice in Malaysia

The Department of Agriculture (DOA) is the agency under the Malaysian Ministry of Agriculture and Agro-based Industry involved in activities related to crops' quality and productivity. The department introduced MyOrganic to promote sustainable development. MyOrganic is a certification program to recognize farms that cultivate crops organically according to the criteria and requirements spelled out in the scheme. The standard is essentially based on the Malaysian Standard, MS 1529: 2001.

Organic rice farming in West Malaysia began in the early 1990s under the guidance of a Non-Governmental Organization (NGO), working with smallholder farmers on rice storage in Selangor. They found that the system was not sustainable due to several factors, such as low production technology support, marketing problems, certification, and farmers' commitment. Then, in 1999, Kahang Organic Rice Eco Farm (KOREF) pioneered the organic method of rice and got certified organic farms in Malaysia [13, 22, 23]. Currently, Srilovely Farm, Sik, the only certified organic rice farm in Peninsular Malaysia, uses natural resources to produce organic rice and brown rice [7, 12].

In conclusion, in Malaysia, organic rice demand is on the rise, and the government supports this activity with a certificate. The increase in demand is due to the increased Malaysian's health consciousness and demand for more nutritional value food). Besides, the factors such as food safety concern [8, 16, 24], health benefits and environmental concern (23), religious concern in Halal concept [12, 13] are the main factors that affect consumers' demand for organic food products in this era.

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