

Short Review on organic food supply chain management in Malaysia

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Abstract: - The organic food market has not reached its maturity yet in Malaysia. Consumers of organic food have increased in the last year. The development of organic food supply chain management shows substantial opportunities. Although it is only a small part of the food market, it gains the interest of consumers researchers and businessmen. Consumers became interested to know if the food they purchase is fully organic and what are the activities involved in the supply chain management of the organic food. This paper will discuss the factor that affects organic food supply chain management in Malaysia. In addition to that, the study discusses Malaysia's policy in certifying organic food and standards. Also, the challenges facing food supply chain management. This paper will give a short review of the importance of organic food supply chain management in Malaysia which will give the reader a clear view of the standards and concepts of organic food in Malaysia.

Key-Words: - Supply chain management, organic food, Malaysia, organic food policy.

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1 Background of the study

Organic food and drinks are the new trends nowadays. people are concerned for their health and what they eat. Organic food can be defined as food that is grown without using artificial chemicals or hormones antibiotics or genetically modified organisms. Organic foods also include fresh produce, meats, and dairy products as well as processed foods such as crackers, drinks, and frozen meals.

Organic foods are fresh foods like dairy, meats, and freshly processed foods. Unlike genetically modified organisms, organic foods are grown and processed without synthetic fertilizers and chemicals. Organic agriculture relies on the health of ecosystems and soils. The supply chain value of these foods lies in tradition, science, and innovation, looking up to benefit the environment and people. Organic producers have production norms upheld in all stages, from seeding, and processing, to packaging for consumers [1][2][3]. The process of natural and organic farming has been becoming popular among developing nations. North America is the largest organic domestic market, and Europe is the largest producer. The Middle East and Asia are third-world countries where organic foods are broadly demanded to eliminate poverty.

Because of the increasing population in the Middle East, demand for food and beverages has increased. Despite the expansion in population, people are still looking for healthy and fresh foods over GMOs. The GCC is the leading organic food market in the region, mainly Saudi Arabia and the UAE. Informal content creators and social media use has inspired the value of staying healthy and immunity. Organic products and chemical-free foods have become parts of extensive conversations as people look to consume plant-based foods [4][5][6].

The government in the UAE is focused on supporting local organic foods. The ministry of environment in the nation is committed to analyzing the soil, improving farming quality, and verifying the absence of chemicals twice a year. Positive attitudes toward organic foods have improved organic farming, and public institutions support the supply chain process. End customers include restaurants that have established their independent farms to ensure direct sourcing of organic raw materials for their specialized menus. Consumer perceptions are the driving factors in the organic foods supply chain Fig.1.

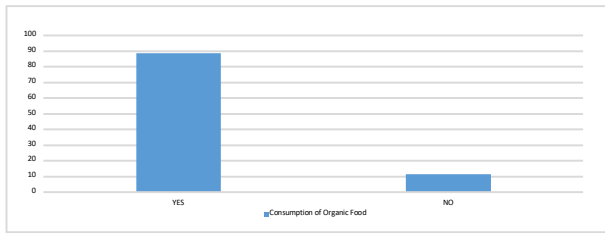


Fig.1: Consumption of Organic Food in the UAE [7]

Organic food production and agriculture in Asia have substantially grown. Corporate agri-food actors have evolved through discursive and structural power forms. Distribution in the region is domestic and international because the rates of productivity growth have created room for exports. The development of the urban middle class in Southeast Asia has popularized organic foods in the corporate retail sector. With the government’s support, small-scale farmers have gotten certifications and increased access to the markets [8][9][10]. Corporate retailers are used as intermediaries to like farmers to be local and commercial markets. Certification and commercialization of organic foods have attracted more organic food suppliers and farmers in Asia.

Indonesia and China have the most prominent export-oriented and domestic organic foods market. Certification in Indonesia has led to organic production of \$250 million, increasing exports and streamlining the supply chain [11][12][13][14]. EU regulations and local government certification regulate organic land in China. Private standards have made regulatory agencies and governments a part of the organic production supply chain. Organic food has helped eliminate poverty in China [15][16]. Overpopulation created a food crisis and poverty, but the growth of organic fresh foods provides domestic consumption and generates revenue through exports. Main exported organic products include soybeans, herbal beans, green tea, and processed vegetables.

European organic foods are distributed through different retail sectors. Some of the retail outlets include supermarkets in France and Belgium. Spain, Greece, and Ireland. There are specialized shops for distributing organic foods. Discount stores are also standard in Austrian and German markets for selling organic foods. There are still struggles with market realities discrepancies and value chain delivery systems in the organic food industry [17][18]. Long retail chains are used to add value to the products and increase the distribution density. These are the most common channels for retail food exports from Europe. Short channels add value through sustainable production methods, and food is sourced from the producers directly Fig 2. The region has been

working to overcome supply chain challenges like poor reliability, lack of alignment, different values, and limited chain members’ collaboration.

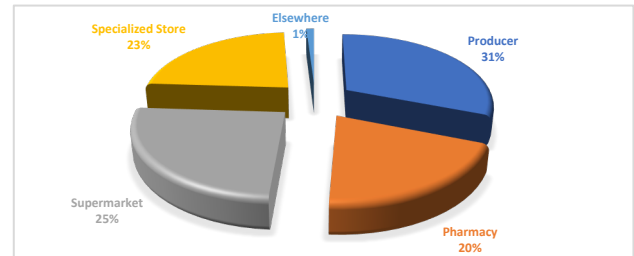


Fig.2 sales channels proffered for organic food purchase [19]

Organic farming has grown in popularity, and they are a sustainable means for empowering middle-class consumers and local farmers in Europe, Asia, and the Middle East. Most of these regions have improved organic production beyond domestic markets. Direct channels are used to supply to grocery and speciality stores. Conventional marketing channels have become popular as supermarkets and hypermarkets are used to increase organic food sales. The value chain of organic foods depends on the products' composition, quality, prices, and convenience.

The organic food market has not reached its maturity yet. It is growing and developing especially in Asian countries. Malaysia is one of the countries that’s known for its agriculture [20][21].

2 Overview of organic food supply chain management (OFSCM)

The main reasons behind using organic food are human health and environmental sustainability. The main challenge of organic food is the gain of people's trust that the food is organically grown. The certification and labels are given to prove what makes a successful business in this area. The organic food industry grew from small niche stores into mainstream markets. The distribution channel numbers depend on the increasing numbers of stores that accept to promote organic food at a competitive price. Also, the consumers' opinions matter a lot in the case of organic food. Especially that processed organic food has a long way to compete with the artificially processed food that is cheaper and easily the taste can satisfy the consumers [22][23][24].

3 Factors enhancing organic food supply chain management in Malaysia

Organic food production is linked to a healthy agricultural ecosystem. Instead of using modified chemical fertilizers, organic farmers rely on dynamic organic cycles, rich biodiversity, and biotic soil activities. Using synthetic fertilizers is polluting the environment, so organic farmers go for environmentally friendly means. Consumers around the world are increasingly choosing organic foods because it is a safer healthier option despite costing 20%–100% more than conventional foods. Organic food demand is a new concept in Malaysia, although 60% of organic products are imported, there is rapid growth in the market of organic food in Malaysia. Local demand has increased due to an increase in consumers' interest in organic foods, especially after the pandemic crisis [25][26][27]. Health consciousness has become a significant motivator for organic food purchases. Malaysia has created agricultural policies that regulate farming and promote organic food production. Public trust for organic foods has increased after introducing certification and food standards for organic farmers and distributors. The paper discusses the Malaysian certificate and standard for organic food. Malaysia uses its certification policy and regulatory measures to manage organic food after increased local consumption and increasing export efforts [28][29].

3.1 Organic Food Certificate

Certification of organic farming and food began with the Malaysia Organic Certification Scheme known as the MS 1529. The scheme provided the specific standards to be followed and a logo to show that the products meet organic standards. The MOS logo was for plant-based food products, excluding livestock and processed food. Farmers conducting primary fresh organic foods production participated in this certification scheme. Trained officers would inspect farms to ensure compliance with organic standards. It was the certification system that began the development of Malaysian organic agriculture. Farmers received MOS accreditation for local and export organic products.

The Malaysian Organic Certification Program expanded after organic food has gained popularity in the country. The agriculture department created the Malaysian Standard MS1529:2001 to regulate all organic plant and animal-based products. The four principles for the certification program are care, fairness, ecology, and health. Farmers have to grow food that promotes the health of plants, soils, and

humans. Meeting the balance and fairness of an ecological ecosystem makes producers in Malaysia MOS certified. The certification follows the EU organic certification principles that define organic production as a farming and food production system that follows climate action regulations and environmental standards. The Malaysian government is prioritizing the production of foods using natural processes and substances (Sulaiman, 2020). Between 2016 and 2020, the government managed to improve organic farmers' income by 26.7%. Organic production has become a dual social role where it responds to the increasing demand for natural products while responding to animal welfare, environmental protection, and national development efforts.

The entire organic food value chain is regulated from any harmful practices. Qualified products are completely synthetic-free. Local farmers are increasing investing in organic farming because it is natural and cost-friendly. In addition to that, 87% of consumers prefer certified organic foods because they are healthier [31]. Certification helps build consumer trust because it is proof that the food products are free from synthetic additives, irradiation, and harmful industrial solvents [32]. The regulatory framework is stringent, and the label is reassuring to consumers. The entire organic food supply chain feels responsible for protecting the environment by consuming foods without chemical residues. Certification is proof of non-toxicity in the organic food produced by the farmers or exported from abroad.

The Malaysian certification standard covers all stages in the value chain. The logo is included in the production, handling, marketing, and labelling of organic products because it is proof of compliance. Certification protects consumers and producers from fraud and deception through unsubstantiated claims. Malaysia has been increasingly exporting organic products, and the certification shows a focus on international standards. The certification is given after three years of producing and processing organic foods. Farmers should apply ethical farming practices like mulching, crop revolution, hand weeding, intercropping, thick planting, and other practices that improve soil health [33]. With the department of agriculture implementing and monitoring standards, all organic food producers must adhere to all standards. Certified farms are examined by the Malaysian DOA each year and 240 have been certified by 2020 [34]. The government interest and participation in the organic food supply chain means there will be accreditation scheme

changes to respond to new standards and preferences.

3.2 Organic Food Standards

The government's commitment to organic food production has led to the introduction of the organic agricultural practice. There is a standard built for the Farm Certification Scheme for good practices. Malaysia has an integrated system that manages any production hazards that deal with the farm, input, process, and output of organic agricultural production. The standard ensures that anyone offered the certification scheme maintains sustainability, and productivity and provides socially acceptable products [35]. The standards are measured during every inspection to ensure all processes are followed, and foods meet safety and quality standards. Malaysian Standard MS1784 follows national hazard control laws related to food safety, consumer health, and environmental protection.

The standard document is crucial because it is used as a reference point by key organic production players like farmers and producers. The guiding rules lie under a 'must' and 'encouraged' spectrum. Some of the rules are mandatory and certified members must follow them to achieve Good Agricultural Practice objectives. Farmers must strictly follow the standards because they are the first step in the supply chain [36][37]. Non-compliance means losing certification and facing sustainability and food safety legal action from the department of agriculture. Encouraged rules are not mandatory in organic food production, but they make the process better. Impacts are not hazardous if these rules are not followed. They are ethical organic agriculture practices like hand weeding and intercropping. If the encouraged standards are ignored, it is not a threat to food safety, environmental well-being, and ecosystem sustainability. Good Agricultural Practice has become a priority in Malaysia as the awareness about organic foods improved and production expanded to an international scale.

Increased local production and government involvement in Malaysian agricultural practices has popularized organic supply chain certification and regulation standards. Although organic agriculture is still a new concept in Malaysia, it has made massive progress through consumer awareness and government recognition. The regulatory system creates a solid organic food supply chain system and achieves national agriculture objectives. Although the certification process might be too complex for small-scale farmers, they have made notable progress in familiarizing themselves with the process

[38][39][40]. The certification and standards are necessary to ensure organic farmers and retailers meet food quality and safety standards. The Malaysian Department of agriculture needs to identify small-scale organic farmers who might need assistance understanding and meeting organic certification and Good Agricultural Practice standards [41].

4 Supply chain management challenges in the Malaysian organic food market

Malaysia's organic food sector-main problem is the Inconsistency between market realities, the value delivery system and the value chain. For organic food in Malaysia the separate distribution can be described as long channels and short channels, where in long channels the retail chains add the value through the price and high distribution intensity, while in short channels directly from the producers, they add value through manufacture methods and sustainably practices [42].

The structure and performance of organic food supply chain management is the main concern of most studies. Issues concerning structure and performance are high operating cost, poor reliability of supply, lack of collaboration among chain members, the sources of motivation are different for the people who represent the chain and the values as well and most importantly lack of information flow. In addition to that, supply chain management (SCM) faces challenges regarding the food origin and distance to import it, the size of the farms and the market unpredictability. The distance from the place of production until it reaches the consumer affects the idea of organic food which in many cases it can be ruined if the time of production and transportation is long. Such as some types of vegetables where it cannot last as long as the non-organic. In this regards the origin of organic food plays a big role in the predictive and confidence value of the product. The organic food sector is mainly owned by privet businesses such as families that manage small farms. Usually, these farms are affected majorly by the economic scale [43].

The instability of organic food is defined by the fact that fresh produce is perishable, also they are seasonal, in addition to the fact they depend on the change in the climate. These characteristics affect the certainty of the market price and quantities highly. This has discouraged the organic food owners from getting into contracts in the produce trade.

In regard to the distribution of the organic food strategies, there are two types of sales channels. The first one is the hypermarkets which are the most popular in Malaysia, and the second one is a direct sale where the organic product is sold directly through specialist stores [44][45].

The market for organic food is growing in Malaysia. And the number of stores and organic brands is increasing. Malaysia's market also depends on exporting organic products from neighbouring countries such as Australia.

The operating price of organic products is very high compared with non-organic products. This affects the supply chain management of organic food. Also, the weak communication between supply chain members slows down the process of OFSCM [46].

5 Conclusion

This paper discussed the challenges and concept of organic food supply chain management. Growing organic food requires traditional methods that do not include using artificial chemicals. Traditional methods require more manpower and time. This plays a big part in the supply chain management of organic food. In order to meet the demand of the customers, the food must be available as a replacement for non-organic. While nowadays food is produced in large number and artificial methods are practised, which require a market of organic food that interest a small number of customers people in the present. This market can grow although the population is growing, due to the increasing awareness of health and the bad effect of non-organic food in Malaysia. Many challenges face the supply chain of organic food in Malaysia.

Including producing an organic product that competes with the non-organic which is 20%-100% cheaper than organic food. Malaysia's supply chain management must be improved in terms of shortening the time transporting the product from the farm to the shelf and reducing the price of organic products. Communication between retail and farmers must be improved. And the production of organic products must increase locally instead of exporting from abroad. It is suggested to work on supply chain mapping and traceability to improve the OFSCM.

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Contribution of individual authors to the creation of a scientific article

Abdullah E M F Alrashidi carried out the writing and research of the article, Waleed Fekry Faris worked on the editing of the review paper, and Ahmad M S Arafat was responsible for the Statistics.

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