

Critical Obstacles to Adopt the Organic Farming in Jordan: From Marketing Perspective

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Abstract

Bringing the demand and supply of food produce has been a great challenge for the professionals and policy makers all around the globe. The ever increasing attention towards organic farming has motivated the researchers to conduct the present study so as to understand the obstacles in adopting organic farming (OF), in developing countries. Keeping in view the existing gap in the literature of organic farming an exploratory qualitative approach has been used so as to get insights of the organic farming and to explore the new fact so as to contribute in the existing body of knowledge. The study found that: the absence of organization to assess and certify organic products, high cost, lack of financing sources, low yield, high price, specific market of organic food, low environmental awareness of farmers, unsuccessful agricultural reforms, lack of coordination among stakeholders and institutional changes have been the main obstacles needed to be resolved so as to increase the organic farming in developing countries.

Introduction

The organic farming can be defined as the way of farming which is pro-environmental and has a significant contribution in sustainable development rural areas. Furthermore it is a balanced ecosystem of permanent nature, based on the readily available and renewable resources, being managed and harmonized with nature. The statistics regarding the organic farming quotes the figures for 1.8 million farmers in 162 different countries covering the agriculture land of 37 million hectares.

The organic agricultural system helps maintaining the health of soil, and the environment hence benefiting to the society. Organic agriculture combines tradition, innovation and scientific research to benefit the shared environment and promote fair relationships and a good quality of life for all elements involved. Furthermore this is the combination of traditional methods and modern innovations in agriculture aimed to benefit the eco-system and promotes the systematic quality enhancement of all involved components. For this reason, organic farming is an important component of agricultural systems in the more developed countries. It is one of the possibilities of solving structural policies and a number of current issues through the involvement of sustainable development (Palšová et al, 2014).

Organic farming can be considered as the solution to the problems associated with conventional agriculture such as biodiversity loss, nitrate pollution, animal welfare concerns, surplus production or food safety. Hence, understanding the importance of development of organic farming has become an essential element of the Common Agricultural Policy (CAP) and numerous European Member States are eager to develop and prosper in organic agriculture by increasing the land for organic farming (Läpple & Van Rensburg, 2011).

The pesticides, insecticides and fertilizers have been used to for better production on the one hand these have saved the crops and given better production but on the other hand there has been environmental damage ultimately effecting human health (Allred & Addams, 2000). Several researches have evidenced that pesticides and chemical fertilizers are extremely harmful to the human organs (Charlier et al., 2003; Higashijima, Hotta, & Okamoto, 2000), hence leading to the implementation of safety and environmental standards (Al-Darrab, Gulzar, & Ali, 2013).

Organic farming methods facilitates environmental protection, quality of the food, animal health, natural resources on sustainable bases and helps achieving social welfare. These objectives support the market and compensate for the internalization of externalities (Ullah et al, 2015). Organic farming practices is perceive to reduce the environmental impact of agriculture and to preserve the natural essence in the products (Pacifico & Paris, 2016). There has been increase in consumer's demand for green food due to increasing concerns over the quality of food, contamination due to chemicals, serious health hazards and environmental issues. The increasing demand has driventhe policy makers towards a new path of agriculture, popularly known as Organic Agriculture (Meena & Sharma, 2016). These efforts have manifested in the production of pesticide-free agricultural products and chemical free fertilizers. To date the minimum number of countries producing green organic food 141 for commercial purpose. Organic agriculture emerged rapidly and was estimated in 2007, and organic food is produced in about 32.2 million hectares globally, managed by more than 1.2 million producers, including smallholders (Willer and Klicher, 2009).

Several agriculture professionals are looking for the ways to increase the quality of products through implementing organic farming standards. This has led to the widespread adoption of contamination-free and non-destructive agricultural production methods, which has in turn driven the development of organic farming

(Council of Agriculture Executive Yuan, 2010). The International Federation of Organic Agriculture Movements (1972) has defined Organic agriculture as a production system capable of sustaining the health of soils, ecosystems, and people. Tuck et al. (2014) defined organic farming as any farming system where the use of pesticides, herbicides and synthetic fertilizers is prohibited or strictly limited. Organic farms often have other differences, for example they tend to use more complex crop rotations as a weed- and pest-control strategy and use animal manure, green manure or compost in place of synthetic fertilizers. These methods rely on ecological processes, biodiversity, and growth cycles adapted to local conditions. Organic agriculture combines traditional methods with modern innovations based on a scientific understanding of the issues to protect the shared environment and promote fair relationships and a good quality of life for all involved.

The population growth in Jordan is the cause of increase in the demand of argi-products however the increase in the produce is the result of discounting the environmental protection, hence damaging the eco-system. Ultimately driving the farmers in Jordan towards the implementation of organic farming. Now the farmers and agriculture professionals are in search of modern techniques which are not only good for environment but also cost effective and returns more yields. This is aimed to increase the global production of organic food and meeting the needs of consumers, hence prompting the Agriculture Ministry for stepping towards the creation of special unit which would deal with the issues and opportunities regarding organic agriculture and setting up the rules and policies for agricultural reforms and facilitating the all stakeholders of organic farming, regulating and spreading awareness of green farming among the farmers so as to increase the agricultural area where the production can be done and increase in awareness of the common man regarding the significance of free food, however only a little number of farmers say 54 farms have implemented. Despite the rapid growth of organic farming, its adoption is not easy and it has several barriers before it can be adopted. Therefore, countries wishing to establish organic farming including Jordan should understand the obstacles and seek their possible solutions.

Agriculture sector in Jordan

Jordan is considered as one of the world's poorest countries and is underdeveloped in terms of water resources too. The geographical area of the country is approx. 90,000 square kilometers, where 90% of this area receives less than 200 mm rain. The country's population is about 5.5million with a high annual growth rate of 2.3% which is not only due to natural growth but rather to regional events mainly wars. This high growth rate is combined with a small economy, \$US 9.12 billion per annum, and a per capita income of \$US 2,325, where the agricultural sector accounted for very small average contribution, 3.8% to the GDP in recent years. This low contribution is due to various constraints such as lack of water resources, poor soil fertility, pest and disease, small cultivable area 0.9 million Hecter (3.4% of the total country's area), and lack of official support with the overall government policy of minimal direct involvement in this sector. These hurdles put the growth and development of this sector at risk. The country is self-sufficient in vegetables, fruits, and poultry resources, and insufficient in dairy related products as well as cereals.

The farming system in Jordan is conventional and farmers depend highly on external synthetic inputs. The sustainability of this system is at risk and therefore there is a need to adopt a holistic approach to maintain this system. This holistic approach is epitomized by organic farming, which complies with the objective of the MoA to achieve a sustainable agricultural system. However, there has been no official government policy to support organic farming, although the current JAP aims to establish a sustainable and an environment friendly farming system. But there are a number of reasons which suggest that proposing organic farming to Jordan is necessary. One of the main reasons is that the aim of Jordan's government is to develop more sustainable, environmentally friendly, less chemically-dependent agricultural systems, which can be achieved by organic farming. Reasons also include Jordan's water policy concerns, environmental concerns, health concerns and global market trends and GDP contribution. Another two important reasons are that organic farming complies with the objectives of the NASD 2002-2010, and organic farming with its principles meets the sustainable development strategy of the JBRDC. However, it is important first to investigate the potential and barriers to organic farming, and the following chapter explains the methodology used to achieve this.

Literature review

The global statistics provides the evidence that organic industry is a high growth sector in food market having increased from around 15 billion dollars in 1999 to 72 billion dollars in 2013. United States and European countries are the main markets with 90% of the whole market while the other developing countries are having the remaining small share of 10% of the organic market (Willer and Lernoud, 2015). Organic farming is not only cost-effective but also is a good contributor to the development sustainability specially in the poor countries (Kilcher, 2007) and is a good method to reduce the poverty specially for the small land holders and who have very limited resources available (El-Hage Scialabba, 2007). Crowder and Reganold (2015) provided a meta-analysis regarding the concern over the economic competition of organic farming in five continents and found that although organic farming has low yields still it is more profitable (22-35%). The main factor contributing

towards the profitability of organic farming is the premium from price. In a study Ramesh et al (2010) discusses the figures regarding organic farming in India and reveals that even though decline in the productivity by 9.2% and the net profit of the farmers increased by 22%. In most of the developing economies, organic farming is one of the factor of high profitability because of high yield and low cost and above all the price premium of organic products (Nemes, 2009).

Various effective organic activities like natural tea in China and Sri Lanka (Qiao et al., 2015), rice in the Philippine (Panneerselvam et al., 2013), nectar in Ethiopia (Girma and Gardebroek, 2015), cotton in India (Fayet and Vermeulen, 2014) and pineapple in Ghana (Kleemann, 2011) are a few cases of this potential. Table 1 shows these contextual analyses. IFAD additionally led a few reviews in China and India that were for the way that OF as a system that is financially valuable for little holders (Giovannucci, 2005). Fourteen contextual analyses on various products have been chosen from an immense assortment of agro-biological circumstances (Giovannucci, 2006), in which the greater part of agriculturists were needy individuals with a pay of short of what one USD every day, taking a shot at a land generally short of what one ha. The contextual analyses included helpless gatherings like minorities, ladies and tribal individuals. The outcomes recommend that OF is a possible choice for little holders, particularly for little holders that live in more troublesome ecological circumstances. Another investigation of natural cotton agriculturists in India uncovers that OF expanded ranchers' pay from 10 to 20%. Another illustration is natural tea ranchers in Kenya who expanded their salary by 40% accordingly of embracing OF practices (UNEP, 2008). Likewise, because of intercropping vegetables, the ranchers could add new harvests to their sustenance crate (Hohmann, 2004).

From an economic perspective, decreasing outside data sources and creating access to natural markets by natural ranchers and the chance to offer their items at premium costs are among the most vital monetary favorable circumstances OF for farmers (Giovannucci, 2006; Rundgren and Parrott, 2006; Kilcher, 2007). The cost premiums for natural items are in the vicinity of 10 and 300% and it is evaluated that ranchers get 44–50% of this cost premiums, therefore expanding the capability OF needs to annihilate destitution in creating nations (Setboonsarng, 2006). By substituting concoction contributions with locally accessible natural data sources, creation costs inside the OF framework has the potential (Setboonsarng, 2006). By the by, OF is a work concentrated sustenance creation framework and because of the way that relatives of ranchers are typically taking a shot at subsistence cultivates, the generation cost can be even lower (Kleemann, 2011). Another essential issue that ought to be tended to is hazard administration. By and large, because of the absence of access to hazard lessening instruments like product protection, little holders' ability to deal with hazard is normally low (Halberg and Muller, 2013). Be that as it may, OF can possibly decidedly influence ranchers chances by differentiating of items through agroforestry, intercropping and pivot to help them lessen the danger of fundamental harvest disappointments (Giovannucci, 2006). What's more, by lessening input costs, ranchers will be less helpless against product disappointment created by environmental change. Subsequently, OF as a generally safe technique is a possible choice for poor agriculturists (Müller, 2009).

Methodology

Due to lack of existing empirical work in this research area, we conducted exploratory qualitative fieldwork to ensure that our research was grounded by insights specific to the context of organic farming and to narrow the focus to a research that adds to existing knowledge. To maximize variability and generalizability, we sought farms of different sizes, based in various geographic locations, and exhibiting different levels of organic farming. In total, we interviewed six farmers, each working in a different farm. The in-depth interviews lasted between 20 and 40 min and were conducted by the lead author. First, farmers were asked general questions about environmental issues, their importance to farms, and factors that motivate farmers to embrace sustainability. Second, farmers were asked more specific questions related to their farms' organic farming practices, and possible conditions affecting their adoption and effectiveness. In addition to the interview data, internal documents (e.g., memos, guidelines), internal publications (e.g., newsletters), and external publications (e.g., sustainability reports) related to the study's topic were inspected. These subsequently were compared with information gathered during the interviews to check the accuracy and consistency of responses.

Results and discussion

Jordan is a net food importer with 60% of the food consumption imported, while 20% of its agricultural production is exported. Agriculture contributes 3% to GDP, though with backward and forward linkages it is responsible for 28% of GDP and 20% of exports, employs 3% of the labor force, and supports livelihoods for 20% of the population. Agriculture is the largest consumer of water in Jordan, while productivity of farmland is decreasing due to over-use of soil and a rapidly increasing population. Agriculture also suffers from cyclical droughts and unpredictable frosts. It is estimated that if 5% of the total agricultural land becomes organic farmland, it will lead to JOD 111 million in investment and the creation of 1,700 jobs. However, a large obstacle to the promotion of organic farming is the absence of an organization to assess and certify organic produce

(Towards a Green Economy in Jordan, 2011). One of the main obstacles to the promotion of organic agriculture in Jordan is the lack of an organization that can independently assess whether the goods sold by farms are indeed organic. However, as of 2008, the Institute for Market-Ecology started offering official certification services, in Jordan. So far, over 30 farms have begun this process. One key recommendation for the government is to streamline regulations regarding proper labelling.

Another obstacle is high cost of producing organic crops. The reason for the high cost of producing organic crops might be the elevated cost of the chemicals, synthetic pesticides. There are some factors contributing to the high price of organic food, such as, higher cost of fertilizer for organic crops, crop rotation, post-harvest handling cost, organic certification and cost of covering higher loss. On the other hand, weak financial capacity of farmers was referred to the absence of a specific market for organic products, and the presence of brokers whom share profits with those farmers.

In addition, the organic farmers cannot compete with the very cheap prices of vegetables in Jordan. The farmers try to be moderate and put prices that are reasonable. Unfortunately, the prices of conventional vegetables in Jordan are very low, and farmers suffer from these low prices.

The yields from organic farms are generally lower than conventional yields. Therefore, the lower yields of organic farming may therefore have the unfortunate result of increasing the total area of land under agricultural production. Thus, the revenue (financial revenue) of the organic farming will not cover the cost of production. Farmers who think that cutting production costs and reducing the risk of output loss are important and motivated to adopt the organic farming.

Even the organic farming required high cost but there are other, often unmeasured, potential positive environmental benefits of organic farming. For example, nitrogen and phosphorus pollution caused by leaching from intensively managed fields is still a major problem in many countries and incurs significant costs to society (Heathwaite, Sharpley & Gburek 2000).

The number of organic farms in Jordan was found to be 54 ranches which is a small number when compared to the world in general. Thus, the weakness of knowledge regarding the organic farming among Jordanian farmers is considered as a critical factor that effect the adoption of organic farming in Jordan.

Moreover, some aspects regarding organic farming couldn't be fulfilled by farmers such as the lack to a success reform of agricultural policies because of the poor infrastructure for transportation, warehousing and manufacturing. However, if organic farming is to be promoted to a larger scale in Jordan, an action plan is needed, possibly by reviewing the "Jordanian Agricultural Policy" to promote and encourage organic farming. In addition, the government could also offer tax exemptions. Also, the lack of having quality standards and specifications, weak competitiveness of Arab agricultural products, and the low number of specialists found in agricultural marketing.

The low environmental awareness of farmers or possibly the low levels of concern for public health issues and environmental quality were appeared to be a discouraging factor for adoption of organic farming.

In 2015, new organic farmers' markets have been opening in Amman. Promoting sustainable development and local, organic produce and vegetables, a small community of like-minded farmers and consumers is slowly raising awareness about the importance of sustainable farming practices and healthy eating.

In addition, farmers stated that it is not only the government who should play a role in the adoption of the organic farming sector, but also farmers, consumers and the private sector are involved, since they are considered to be the driving force behind organic farming adoption worldwide. Providing a direct link between agricultural producers, consumers and the public sector. The public sector could also assist in labelling and finding markets for organic goods, both within Jordan and in foreign markets. It is important to note that Jordanian farmers have been successful in growing jojoba and other draught resistant crops.

Moreover, policy support for organic farming should consider two important issues: a legal framework (definition, standards, and certification and inspection systems) and financial support schemes. The legal framework is to regulate and protect organic farming. The financial support schemes should not only be for subsidizing farmers to cover extra costs during the conversion period but also to continue to support training, extension, marketing and infrastructure to ensure the sustainability of organic farming.

Institutional changes is also needed because it has a effect on the adoption of organic farming specially in developing countries. Institutional changes should aim to restructure the agriculture sector and change the role that it plays. For example in Jordan, extension departments should aim to provide more information on organic farming and develop new extension means to promote organic farming. The involvement of the private agricultural sector in organic farming is vital, which could be stimulated by encouraging this sector to provide marketing and other agricultural production inputs, which could act to stimulate private initiatives for organic farming.

Conclusion and recommendation

In this study, adoption of organic farming in developing countries was explored in Jordan. Most farmers

indicated that the main obstacles that facing the adoption of organic farming are the absence of an organization to assess and certify organic produce, high cost of producing organic crops, weak financial capacity of farmers, the weakness of knowledge regarding the organic farming among farmers, the presence of brokers whom share profits with those farmers, the low yields of organic farming, high price of organic food, specific market of organic foods, low environmental awareness of farmers, lack of a successful reform of agricultural policies, weak coordination between government, farmers, consumers and the private sector, and finally, institutional changes is also needed because it also has significant effect on the adoption of organic farming specially in developing countries. The above explored obstacles are the main factors of slow growth in organic farming and they need to be addressed. These constraints cannot be overcome only by discussion they need to be taken seriously and related authorities are having a great responsibility to practically come in the field and play their part. Jordan being a small, developing country is facing several social evils one of them is poverty and lack of food to fulfill the food needs of the country the government needs to take step regarding the development of organic food sector so as to prosper and the dependency on import can be reduced. The farmers need to be fully skilled for using the modern techniques of organic farming which may help in increasing field per hectare and achieve cost effectiveness. There is also an extreme need of improved communication among the different stakeholders of organic farming from farm to markets, including the government department so as to develop the organic farming in the country.

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