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# Barriers of Conversion to Organic Farming in West Azarbaijan Province

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Abstract

The present study aimed to explain the barriers of conversion to organic farming in West Azarbaijan Province, Iran. To achieve the goals of the study, data were collected from both certified organic farmers and conventional farmers using a questionnaire and in-depth interviews. The sample population consisted of 400 people out of whom farmers were selected by the cluster sampling method by using Morgan's table. The research instrument consisted of a researcher-made questionnaire whose validity was confirmed by an expert panel consisting of specialists in agriculture and development and rural development. Cronbach's alpha coefficient was used to measure the reliability of different sections of the questionnaire and its value was determined to be 0.87. The results of factor analysis showed that the barriers of conversion in organic farming can be classified into five main factors; i.e., economic, social, policy support, informational and educational, and natural barriers. They altogether captured 47.8 percent of the variance in barriers.

***Keywords:***
***Barriers;conventional agriculture; converting; organic farming; West Azarbaijan Province***

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## INTRODUCTION

Agricultural practices play a crucial role when discussing sustainable development in the world. Organic farming is a way to reach sustainable development (Reganold & Wachter, 2016). Organic farming is a production system based on an agroecosystem management approach that utilizes both traditional and scientific knowledge (Macrae, 2002).

The focus on certified organic production aims to promote the supply of labeled organic production to increase the interest from the wholesale side (Daugbjerg et al., 2011). The adjustment in support levels is also a way to promote organic production in areas where production differs substantially from conventional farming production and there is a need for larger support. The relative profitability of conventional and organic farming systems depends on the economic performance of the conventional farms used for comparison and the differences in access to premium prices for different products (Acs et al., 2005). Several studies have shown that organic farming is more profitable than conventional farming. However, not many farmers convert to organic farming. Policymakers and farmers do not have a clear insight into factors that hamper or stimulate the conversion to organic farming (Acs et al., 2007). Organic farming can be considered as an effective development strategy to alleviate poverty and empower small-scale farmers in developing countries (Bennett & Franzel, 2013; Vaarsr, 2010). Despite the generally positive outlook, converting to organic production faces several hurdles like price, income, and education, and labeling plays a crucial role in purchasing organic products. Gardebroek (2006) explains that to convert to organic farming, it is important to understand the barriers. There are psychological and sociological costs for conversion to organic farming from the perspective of peer farmers and family members. Increasing domestic and international demand for organic products, along with environmental and safety issues, has stimulated policymakers and governments in some parts of the world to provide incentives for converting from conventional to organic farming. Despite the advantages and opportunities, many farmers do not convert to organic farming. Studies to find the reasons against and the barriers to the conversion in the world have enumerated factors that are explained below.

According to Acs et al., (2005), financial barriers are the main obstacle and source of risk for conversion. The most important problems are a) labor hiring for the more labor-intensive organic production system, b) the transition period from conventional to organic farming, and c) the analysis of risk and uncertainty concerning the yield and market accessibility after conversion.

Sharifi et al. (2010) reported that major impediments to the adoption of organic farming were productivity, attitude and knowledge, infrastructure, and economy. Omotayo and Chukwuka (2009) argue that the factors limiting the productivity of organic agriculture, including organic matter shortages and poor quality and the slow rate of nutrient release from the organic inputs which can fall insufficient to meet crop nutrient demands at periods of peak demand, may push up the prices of organic products. Therefore, consumers are not ready to pay more for food that has superior quality.

Another challenge is securing marketing channels for organically grown commodities (Acs et al., 2006; Khaledi et al., 2010). This can explain that access to the market is another important issue that should be addressed. Organic farmers cannot market their products directly, but it requires more labor and organizations. Due to the lack of a marketing structure, organic products are sold at the market rate of conventional products (Hazell et al., 2010). There is no relation between consumers and producers, but the poor financial performance of organic farming reflects the financial problems of smallholders in some cases due to a lack of access to premium markets. Acs et al. (2005) explain

that access to organic markets is a problem, which can prohibit farmers from converting to organic farming. In an efficient market, the price of an organic product would account for the associated benefits and costs with a price premium with respect to the conventionally produced products. If organic farmers fail to sell their products at a higher price, their income will drop sharply.

MacInnis (2004) suggests that the lack of marketing channels for organic products can be a significant barrier against conversion to organic farming. Mzoughi (2011) revealed that farmers who placed high importance on economic considerations were less likely to adopt organic farming. From an economic perspective, a key factor that inhibits the conversion to organic production involves the conversion process, which requires the restructuring of the farm business. Based on Crowder and Reganold (2015), organic farmland will expand only if it is considered to be financially profitable. Bonn et al. (2016) indicate that financial incentives are important to support the decision to convert to organic farming, but they fail to be a driving factor where ideology is more important. This might be due to the fact that wine is an important commodity, the trust in which is crucial for consumers to decide on it.

Flaten et al. (2010) found that regulations regarding organic farming and economic reasons were the primary reasons for discontinuing organic production. During this period, a lot of changes and investments should, also, be done which can cause financial problems for farmers. Additionally, financial risks are unavoidable. For instance, once determined to convert to organic farming, farmers have to go through a three-year transition period during which they are required to practice organic farming but not allowed to sell products as organic. With the typically lower yields during this transition period, the conversion process reduces the cash flow of the farmers. Poor knowledge has, also, been identified as a barrier within the human capital as it increases the risk of conversion for farmers if they do not perceive that the concept can be grasped with all its implications as found by, for example, Koing (2004). This lack of knowledge was also mentioned as a barrier in the study of Samian et al. (2012) in which the farmers exhibited a lack of knowledge as to the economic advantages and disadvantages of compost production. Farm management practices require new skills or broader knowledge of farmers themselves too (Lauwere et al., 2004). For example, Bartulović and Kozorog (2014) concluded that challenges and innovations were important for the converters.

Low yield in organic farming is one of the most important issues regarding the capability of organic farming to improve food security (Hiroki & Ashok, 2012). During the conversion period, yields are often lower and weeds and diseases may be a problem. Seufert (2012) states that yields at organic farms are around 25 percent lower than those at conventional farms although it is important to note that this difference is strongly dependent on the context and on local characteristics. Aune (2012), also, states that yields are 30–50 percent lower in organic farming than in conventional and conservation agriculture. Insufficient soil nutrients and limited options for soil enrichment, as well as poor management of diseases, pests, and weeds, have been enumerated as the chief reasons for lower yields in organic farming systems (Kirchmann et al., 2008). In addition to yield decline due to organic production characteristics, farmers cannot sell their products at organic premiums. This period will have substantial negative impacts on farm income, so the conversion period has been identified as a major barrier in several studies, e.g. Acs et al. (2007) and Kerselaers et al. (2007) among others.

Similarly, a recent study on yield gaps between the two systems shows that under improved management practices, organic yields are on average 19.2 percent lower in organic systems than in conventional systems (Ponisio et al., 2015). In contrast to some research,

Khaledi et al. (2010) showed that the non-profitability of organic farming is not a significant reason for not adopting organic farming practices. Another important barrier of conversion can be the lack of information and knowledge as to organic farming, specifically concerning appropriate agroecological practices, the certification process, and key information about marketing (Jouzi, 2017). Organic farming needs different production techniques and farm organizations. Information is the key to making sound decisions. It is a fact that organic farming is a knowledge-intensive system, not an input-intensive system (Giovannucci, 2005). Some farmers think that organic farming is back to the old techniques, and they would like to fully utilize the technical possibilities. The lack of farmers' own initiative can be a barrier too (Asadoallapour et al., 2013). This aspect will most likely be persistent because farmers often show an aversion to complying with regulations that restrict them so that this has even caused reversions to conventional farming in the past (Sahm et al., 2013).

The conversion period is another problem if the farmer wants to convert to organic farming. It is a challenging period during which yields usually decrease and farmers need to invest money and time to get through it and achieve their organic certification (Hanson et al. 2004; Seufert et al., 2014). Based on the results of Seufert et al. (2014), organic farming is generally perceived to be unable to support and sustain the high levels of productivity needed to meet local and global food demand. Additionally, organic farming may require more transportation and storage facilities, which are quite costly for farmers. Moreover, the transition period to organic farming might be costly (Soltani et al., 2004). Farmers are worried that their ability to treat pests may be so limited that pests may emerge as a principla barrier because the risk of poor yields increases. As argued by Reaves and Rosenblum (2014), farmers will face large amounts of uncontrollable weeds, which will damage their profits, and it will become too complicated to manage them sufficiently. Considerably, organic farming requires more organic farming skills. Some farmers do not want to convert to organic farming because they think that it is not easy to fight with diseases (Cukur, 2015). Midmore et al. (2001) cite the lack of technical, financial, and marketing information as a barrier to the wider adoption of organic farming systems. Padel (2001) suggests that addressing these information gaps could help farmers become more confident that organic farming is a viable alternative.

Organic farmers suffer from high labor costs and labor scarcity. A study by Crowder and Reganold (2015) also mentions that labor costs are 7–13 percent higher in organic farming than in conventional systems while the profitability of organic farming is generally dependent on the price premiums applied to organic products, usually ranging from 29 to 32 percent. Organic farmers need to hire laborers because family members are not enough to cover the labor requirement fully (Beuchelt & Zeller, 2011). Problems as to labor mainly arise from the fact that farmers have to work with seasonal labor and they may not be able to organize the work with one another sufficiently. Organic farmers have to be more careful and have a greater understanding in order to know how to tweak their farming system to correct the causes of the problem rather than simply putting a plaster over its effect. Organic farming requires greater interaction between a farmer and his crop observation and timely intervention for weed control, for instance. Some farmers also think that organic agriculture requires more effort than conventional agriculture (Cukur, 2015). However, organic farms require more intensive management than specialized conventional farms.

Regulations or rather the changes in regulations seem to be a major concern, especially in animal husbandry (Flaten et al., 2010). As recommended by Kuminoff and Wossinnk (2010), politicians should be cautious about policy changes to reduce the uncertainty of

the farmers who are considering conversion.

In West Azarbayjan province, policymakers and farmers are largely uninformed about the economic potential of organic production. Organic farming has been neglected in the agricultural policy, so there is less government assistance to promote it as it exists for the conventional agriculture in the form of subsidies, agricultural extension services, and official research. Therefore, this paper aims to identify the factors that limit the conversion to organic farming in West Azarbaijan province. Investigating the barriers of converting to organic farming can provide policymakers and the other stakeholders wanting to motivate further conversion to organic farming with valuable information. By applying these results, we provide empirical evidence on the most important barriers for stakeholders – the barriers that need planning to be solved in the agricultural sector of West Azarbaijan province.

## METHODOLOGY

This research was an applied study carried out by the survey method and descriptive correlation. In order to achieve the goals of the study, we collected data from the individuals by means of a questionnaire and in-depth interviews, among a cross-section of 208,000 farmers including both certified organic farmers and conventional farmers. Out of the study population, 400 respondents were selected using the cluster sampling method. To determine the validity of the questionnaire, the content validity was checked by an expert panel composed of the faculty members of Islamic Azad University of Mahabad and specialists. Cronbach's alpha was used to measure the reliability of the questionnaire. It was estimated at 0.87, showing the high reliability of the research instrument. Data were analyzed using the SPSS software package. Descriptive and inferential statistics were used to analyze the collected data. Factor analysis was applied in the inferential analysis to classify and extract barriers of conversion to organic farming.

## RESULTS

The research sample was composed of 400 respondents, all of whom were male. The respondents were, on average, 45 years old. Educational qualification shows that the majority of the sample population were illiterate or literate at the elementary school level (36.5%), 18.5 percent were graduates from secondary school, 9.5percent were at the high school level, 29.2 percent had a diploma or a bachelor's degree, and 6.2 percent had a master's degree. The respondents' experience in agriculture was, on average, 24.3 years in length (Table 1).

The majority of the respondents (90.2%) expressed that they had a privately-owned land whereas 9.8 percent had a rental land. The average size of cultivated land was 12 ha (62% rain-fed, 38 percent irrigated) including three patches.

Factor analysis was used to summarize the variables of the research to a smaller quantity and to determine the effect of each barriers factor of conversion to organic farming in West Azarbaijan province. The computations revealed that the internal coherence of the data was appropriate (KMO=0.74) and Bartlett's statistical data was significant at the 0.01 level. According to the Kaiser Criteria, there were five factors whose eigenvalues were derived to exceed 1 (Table 2).

The research variables were categorized into five factors using the varimax rotation method. Rotation is used to reorient the factor loadings to make the factors more interpretable. The Varimax rotation option, which tries to minimize the number of variables that load highly on a factor, was used.

Barriers to convert to organic farming dominate in numbers in the economic barriers, social barriers, policy support barriers, informational and educational barriers, and natural barriers. However, economic barriers against conversion to organic farming are probably the most important to consider.

Table 1
Demographic Distribution *of Respondents*

| Age (years) | Frequency | Valid percent | Cumulative percent | Mean | SD | Max. | Min. |
|---|---|---|---|---|---|---|---|
| 30-40 | 140 | 35 | 35 | 45 | 9.08 | 65 | 30 |
| 41-50 | 124 | 31 | 66 | | | | |
| 51-60 | 114 | 28.5 | 84.5 | | | | |
| 61 or older | 22 | 5.5 | 100 | | | | |
| **Educational qualification** | **Percent** | | | | | | |
| Elementary school | 36.5 | | | | | | |
| Secondary school | 18.5 | | | | | | |
| High school | 9.5 | | | | | | |
| Diploma or bachelor's degree | 29.2 | | | | | | |
| Master's degree | 6.3 | | | | | | |
| **Ownership Area** | | | | | | | |
| Private | 90.2 | | | | | | |
| Rental | 9.8 | | | | | | |
| **Cultivated Area** | | | | | | | |
| Rain-fed | 62 | | | | | | |
| Irrigated | 38 | | | | | | |

Table 2
*Classification of Barriers of Conversion to Organic Farming by Using Factor Analysis*

| Factors name | Eigenvalue | Variance by factor (%) | Collective variance(%) |
|---|---|---|---|
| Economic barriers | 10.31 | 11.55 | 11.55 |
| Social barriers | 4.98 | 11.33 | 22.88 |
| Policy support barriers | 2.55 | 11.12 | 34.01 |
| Informational and educational barriers | 2.28 | 8.01 | 42.02 |
| Natural barriers | 1.87 | 5.78 | 47.8 |

Factor 1 accounted for 11.55 percent of the total variance. This factor was named "economic barriers". As shown in Table 3, the absence of price differences between organic and non-organic products, loss of production, and capital intensity of organic farming are the most important economic reasons for not converting to organic farming practices. In addition, the results showed that production problems, marketing and sales restrictions, the lack of capital inputs, and reduced production performance are among the main economic barriers hindering the use of organic practices.

Second factor captured 11.33 percent of the total variance. It was named "social barriers". The main variables loaded in this factor included inappropriate attitude towards organic farming, unavailability of manpower required, and unwillingness to change agricultural habits and methods. In addition, the results revealed that the lack of professional staff for training, the lack of trust in organic farming experts, and insufficient information of consumers about organic products are among the main social barriers that inhibit the application of organic practices (Table 3).

Table 3
*The Main Variables of Each Factor and Their Loadings*

| Factors name | Variables | Loading factors |
|---|---|---|
| Economic barriers | The absence of price differences between organic and non-organic products | 0.914 |
| | Loss of production | 0.911 |
| | Capital intensity of organic farming | 0.905 |
| | Production problems | 0.868 |
| | Marketing and sales restrictions | 0.852 |
| | Lack of capital inputs | 0.807 |
| | Reduced production performance | 0.618 |
| | Low demand for organic products | 0.609 |
| | The high cost of organic inputs | 0.545 |
| | Inability to take risks | 0.514 |
| | Loss of income | 0.504 |
| Social barriers | Inappropriate attitude towards organic farming | 0.921 |
| | Unavailability of manpower required | 0.823 |
| | Unwillingness to change agricultural habits and methods | 0.713 |
| | Lack of professional staff for training | 0.684 |
| | Lack of trust in organic farming experts | 0.673 |
| | High age | 0.646 |
| | Insufficient information of consumers about organic products | 0.625 |
| | Lack of consumer trust in organic products | 0.548 |
| | Lack of social participation in social institutions | 0.539 |
| Policy- support barriers | Lack of product certification | 0.891 |
| | Inadequate subsidies to provide inputs, tools, and equipment | 0.809 |
| | Inadequate insurance protection for organic production | 0.745 |
| | Uncertainty of the organic process | 0.721 |
| | Lack of consulting services | 0.702 |
| | Easy access to chemical pesticides and fertilizers | 0.632 |
| | Lack of experience | 0.601 |
| | Lack of technical support | 0.569 |
| | Poor and costly certification | 0.545 |
| Informational and educational barriers | The inadequacy of agricultural information | 0.951 |
| | Lack of knowledge and skills | 0.872 |
| | Insufficient training | 0.789 |
| | Uncertainty of the organic process | 0.631 |
| | Low literacy level of farmers | 0.593 |
| Natural barriers | Abundance of weeds and pests | 0.901 |
| | Lack of climate information | 0.891 |
| | Unfavorable climate conditions | 0.852 |
| | Inadequate subsidies to provide inputs, tools, and equipment | 0.809 |
| | Inadequate insurance protection for organic production | 0.745 |

Factor 3 accounted for 11.12 percent of the total variance. It was loaded by eight variables significantly (loadings range from 0.569 to 0.891). This factor was named "policy support barriers". Organic farming needs different production techniques and farm organizations. The barriers of conversion can be the lack of product certification, inadequate subsidies to provide inputs, tools, and equipment, inadequate insurance protection for organic production, the uncertainty of the organic process, and the lack of consulting services (Table 3).

Factor 4 explained 8.01 percent of the total variance. It was named "informational and educational barriers". Some barriers against conversion, as presented in Table 3, include the inadequacy of agricultural information, the lack of knowledge and skills, and insufficient training. It was found that the farmers had little education, training, knowledge, and skills about improved technologies and they lacked a scientific understanding of the process involved in their farming systems. In addition, extension service is inefficient because of the low literacy level of the farmers (Table 3).

Finally, we noted that some barriers we faced in this study rooted in nature. This factor accounted for 5.78 percent of the total variance and loaded by four variables significantly (loadings range from 0.618 to 0.901). This factor, which was named "natural barriers", included the abundance of weeds and pests, the lack of product certification, and unfavorable climate conditions. Weeds and pests are among the most important issues in this regard. This aspect still needs further research as to how it can be tackled in organic farming (Table 3).

## DISCUSSION

The results indicate that there are many reasons why conventional farmers are discouraged from managing their farms organically. Barriers are divided here into economic, social, policy support, informational and educational, and natural groups. The findings, however, suggest that focus should be placed on the economic and social barriers, in which farmers' economic situation and their unwillingness to change play a crucial role in the decision process to convert to organic farming. Economic barriers were determined to be the most important obstacles for the farmers' willingness to produce organic products. On the other hand, the lack of suitable pricing and market opportunities for organic products are the most important reasons for not using organic farming practices. Low organic price premiums are one of the main reasons for opting out of organic farming. This result is in agreement with those reported by several researchers (Acs, et al., 2006; Acs et al., 2005; Beuchelt & Zeller, 2011; Hiroki & Ashok, 2012; Khaledi et al., 2010; MacInnis, 2004). Mzoughi (2011) showed that farmers who placed high importance on economic considerations were less likely to adopt organic farming. As supported by Alexopoulos et al. (2010), the main reasons for farmers' adoption of organic farming were the better prices and a secure market for organic products, environmental protection, and health problems arising from the use of chemicals, as well as agronomic problems in conventional farming. Nieberg and Offermann (2008) found that price premiums on organic products would compensate for the lower yields. Leifeld (2012) shows that conversion to organic farming is frequently accompanied by a decline in crop yields.

The loss of production and capital intensity of organic farming are among the most effective economic barriers for the farmers. The results show that price is the most important economic barrier hindering the conversion to organic farming. As reported by different studies, lower yield in organic farming is a controversial issue (Connor, 2013) whilst some studies argue that yields in organic farming systems are higher than those in conventional systems (Auerbach et al., 2013). Additionally, Madelrixeux and Alvoiane-Mornas (2013) reported that financial problems were the most apparent reason for reverting

to conventional farming. However, as Crowder and Reganold (2015) conclude, organic farming will only expand if the concept is proven to be economically profitable.

Because prices of organic products are higher, consumers are not ready to pay more for food that has superior quality. Also, the lack of marketing channels for organic products, financial risks and low returns during this transition period limits the demand for these products. Markets for organic products are poorly developed and organic products are either home delivered or sold in a few supermarkets and hotels. Market opportunities and price premiums are variables that are difficult for a producer to predict and are much less controllable. As Reaves and Rosenblum (2014) argue, organic growers also face marketing challenges such as distance to markets and the lack of a clear and transparent pricing policy.

The second most common barrier was directly related to social conditions. Inappropriate attitude towards organic farming, unavailability of manpower required, and unwillingness to change agricultural habits and methods are important barriers for the conversion to organic farming by farmers. This is reasonable since a lot of knowledge and perceptions are derived from society, which influences the personal views on organic farming. Skeptical attitudes of social networks could also present a barrier to convert to organic farming (Bartulović & Kozorg, 2014).

Some farmers think that organic farming is back to old techniques and they would like to fully utilize the technical possibilities. Higher age was a barrier for conversion. Kaufmann et al. (2011) showed that converters to organic farming were significantly younger than conventional farmers. The lack of trust in the representatives of organic farming (such as experts and government policy) was another important barrier of conversion for some respondents. The lack of social participation in social institutions can also create a barrier to converting to organic farming. Farmers' participation in organic farming-related training and visits, farm size, and compatibility of organic farming to their situations are the main determinants of the adoption of organic farming (Kalfle, 2011).

The third most common barrier was directly related to informational and educational barriers. Some farmers are unaware of the importance and applications of organic farming. Although some farmers had information about organic agriculture, the main reason for farmers' reluctance to engage in organic farming in the future was their inadequate information about organic farming because of their low literacy level and insufficient training. However, they had an inadequate opportunity to learn about organic production before starting conversion too. Knowledge and information barriers relate specifically to market and technical and financial issues. The lack of knowledge and skills is frequently identified as a barrier to conversion (Bartulović & Kozorg, 2014; Soltani et al., 2014), and knowledge and information are also vital during the conversion process. In fact, information can be a source of change in farmers' attitudes. These results are consistent with the findings of Jouzi et al. (2017) and Soltani et al. (2014). Farmers have insufficient information on improved technologies and scientific understanding of the process involved in their farming system. Knowledge and capacity building is crucially important in this system (Scialabba, 2000). Insufficient knowledge was identified as a barrier within the human capital as it increases the risks for the farmers who intend to convert to organic farming, as found, for instance, by Konig (2004).

The result showed that another most common barrier was directly related to government policy. The government has no accurate policy for the production and marketing of organic products. The lack of product certification, inadequate subsidies to provide inputs, inadequate insurance protection for organic production, the uncertainty of the organic process, and the lack of consultation

services are some other barriers. These results support the findings of Bartulović and Kozorog (2014), Best (2009), and Sahm et al. (2013). More bureaucracy in the form of paperwork and inspections were seen as a constraint to converting to organic farming. Strict legislation and bureaucracy are a barrier mentioned in the literature even though they only appear as minor barriers. Policymakers and farmers do not have a clear insight into factors that hamper or stimulate the conversion to organic farming (Acs et al., 2007). Also, the lack of consultation services, the lack of technical support, and the uncertainty of the organic process are considered important barriers. Institutional risk is also regarded as political uncertainty affecting regulations and subsidies to organic farming.

Evidently, the most important natural barrier to conversion into organic farming was the perception of potential problems. Most producers believed that agricultural production was impossible without using chemical fertilizers and pesticides. They also believed that the abundance of weeds and pests forced them to use pesticides. The restricted use of fertilizers and pesticides decreases potential yields. The perceived problem of weeds and pests, which could potentially destroy the whole harvest, seems to be a major barrier for conversion. Managing soil health is an ongoing management challenge and lack of access to organic fertilizer inputs in some places is a significant barrier to improving soil health and fertility. The inability to use these measures increased the production risk as well as the financial risk and was thus a barrier to conversion (Mackie et al., 2012). Some farmers do not want to convert to organic agriculture because they think that fighting against disease is not easy (Cukur, 2015).

The study shows that farmers are faced with strong barriers to converting to organic farming, including economic, social, policy support, informational and educational, and natural barriers. Economic barriers were determined to be the most important barriers for farmers. This means that constraints are more economic in nature than technical or cultural. The absence of price differences, low yields, marketing and sales restrictions, and high costs of organic inputs are the main economic barriers for the farmers. Therefore, the following recommendations can be drawn:

The government and financial services have to support organic farmers to grow the market and consider economic incentives for organic production.

As shown in the results, farmers are most unaware and unfamiliar with organic farming while it is very important for converting to organic practice, so the government and other promoters need to increase information in this area.

Organic farming has been neglected in the agricultural policy, and therefore there is less government assistance for the promotion of organic farming. Requirements to decrease these barriers are farm planning and extension, development of programmers promoting environmental issues, legal issues, and education.

Despite these barriers, organic farming is often more profitable, delivers more environmental benefits, and is healthier in terms of increased nutritional benefits and reduced dietary pesticide exposure. Therefore, farmers should be supported and trained to overcome barriers of conversion into organic farming.

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