

## OBSTACLES OF ORGANIC AGRICULTURE IN IRAN

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### Abstract

*Nowadays, thousands tons of chemicals material are used to increase agricultural production that provides a risky situation for the communities. Recently, biological or organic agriculture is considered to get rid of such problems. But this style of agriculture is facing with many difficulties and challenges. The purpose of this research is to investigate the obstacles to the development of organic agriculture in Kohgiluyeh and Buyer-Ahmad provinces of Iran. This study was performed in three phases by using Delphi method. In this regard, the statistical population of the study were 32 experts of Jihad Agricultural Organization of Kohgiluyeh and Buyer-Ahmad Province, Iran. The results show that, regarding economic barriers, lack of governmental support; regarding social - cultural barriers, lack of consumption culture of organic products and regarding the political and administrative barriers, lack of clear policies and legislation in the field of organic farming are the main obstacles. Weakness in the education system for the production and consumption of organic products is also among the highest priorities in educational barriers. Education and culturalization in the field organic agriculture and appointing a special organization for this purpose seems to be essential.*

**Key words:** organic agriculture Delphi Study barriers, Iran

### INTRODUCTION

One of the basic requirements of people is the need for food and people. Governments around the world are trying to meet that need and to achieve food security by using agricultural production in different ways. But one of the problems of providing safe food the world's growing population is the excessive use of fertilizers and chemical pesticides causing health and environmental problems for communities. To get rid of problems including environmental pollution, food poisoning, destruction of soil structure, all due to the uncontrolled use of chemicals, organic or biological farming is now considered [6].

Organic agriculture is a new production system which avoids the use of artificial fertilizers, pesticides, growth regulators and livestock feed additives [18]. [6] and [16] believe that organic agriculture has the potential to solve some of the problems that modern agriculture can provide; also, this type

of farming affects deeply on environmental issues of rural communities [3].

But [11], as quoted by Roberts (2004), stated that organic farming is a system that started in Europe long before the emergence of the effects of the great revolution of technology in agricultural. The idea of its pioneers is to develop a farm as a system that uses its resources. The external resources are used only when it is needed. An important organic agriculture theory states that: modern technology must be used in a selective manner and the use of risky or harmful elements should be avoided. Using such elements may lead to the separation of agriculture from its natural environment [10].

In different countries, in the last several years the tendency toward consuming organic products has increased due to some of the reasons that mentioned above.

Organic agriculture has been fundamentally established in Iran after developing national standards and is called "Guide to producing, processing, labeling and marketing organic

foods". This valuable national standard was approved in National Standard of Food and Food Products Committee on 3 October of 2008. After its approval, broad activities had been started in Iran Organic Association and private enterprises to execute all stages in accordance with this standard, from production to supply. The first organic inspection company received its approval from Iran Standards and Industrial Research on Summer of 2010. All of these activities lead to the creation of Iran National Organic Program. Various stages of the implementation of such activities have been facilitated since then [9].

According to what was mentioned above, the production of organic agricultural products must be taken seriously, and in order to produce, in terms of both the quantity and the quality, there must be a careful and systematic planning.

Kohgiluyeh and Buyer-Ahmad Province has 157,251 hectares of agricultural land and it has around 48,764 units of agricultural land exploitation (Iran Statistics Center, 2007) [7]. This province can be a very suitable region for organic agriculture due to climatic characteristics and also numerous talents in agriculture and gardening. But, organic agriculture is not implemented in production units and it is not highly welcomed among individuals. So, for this reason, in this study barriers and inhibitors of organic agriculture in this province are identified and reviewed.

Several researchers have been carried out many studies in Iran and other parts of the world regarding the importance organic agriculture; and, for ease of understanding, some of them are mentioned below. [13] have evaluated the status of organic agriculture as the context of sustainable development of agriculture. Findings show that lack of awareness of farmers is the most important barrier in organic agriculture and, informing the farmers is a viable solution in adopting organic agriculture. They also stated that factors such as lack of government support and market guarantees for organic products with reasonable prices are the other obstacles of organic agriculture [13].

[9] examined the barriers of converting of agriculture to organic agriculture in Canada. The results of the study indicated that farmers lack any conventional information about many areas of organic agriculture. Related institutions to organic agriculture can play an important role in providing useful information for organic farmers. Lack of knowledge and skills to manage an organic farm and lack of market opportunities for organic products might be the most important barriers of using it [16].

[14] also surveyed the role of extension in the development of Organic Agricultural in Iran. They believe that agriculture production in a sustainable and organic way leads to reducing healthcare costs, increasing the quality and quantity of agricultural production, increasing the exports and protecting the environment; and, this would be possible only if a holistic extension system is used. They also offer that in order to establish a sustainable movement for initiating and tracking of a biological agricultural system in Iran villages, the first step is to open an academic institution for research and education of production and consumption culture of agricultural products and food processing within a framework of an organic system [14].

On the other hand, [1] have studied the possible areas of the applications of organic agriculture from the perspective of agricultural experts of Kermanshah Province. The results of their study demonstrate that there is a significant relationship between educational and economic factors and the potential of organic agriculture [12].

[12] in their study about the factors affecting the knowledge of agricultural experts in the field of organic agriculture in Khozestan province, found that access to agriculture - environment information and job experience had significant and positive impact on the knowledge of agricultural experts in the field of organic agriculture. A better access to agricultural - environment information can be taken into account an achievement of dynamic and effective extension system [11].

[4] consider the performance reduction of products in the transition process to organic

agriculture. It is the most important concern of the farmers who are deciding to choose organic agriculture. They also examined the risks of such conversion mechanisms. They virtually estimated the rate of wheat production in Khorasan Province by using organic cultivation. The results of their study showed that the elimination of chemical inputs from the production process will decrease 18/95 percent the wheat performance. This size of reduction is even higher in small farms. Based on their findings, they proposed the following items: support such as extensional and financial supports, and also providing non-chemical inputs [17].

In a research on factors influencing adoption of organic agricultural products by consumers, [2] expressed four major factors in terms of their importance: education and information dissemination, servicing - supporting, supervising and economic factors. Education and information dissemination can be interpreted as extensional trainings. Organizing the granted subsidies to the agriculture sector can be considered as the servicing - supporting activities [15].

[8], in their research, have identified principles, foundations and challenges of organic agriculture. They mentioned two major problems in organic production: firstly, *social issues*, such as uncertainty over the quality of organic products, inappropriateness of the appearance of organic products compared to other products; and second, *economic problems*, such as higher price of organic products than non-organic products due to higher cost of production. They also compare the usual agricultural products and organic products, and they attribute the common agricultural problems to some factors such as environmental issues, pesticide residues, chemical fertilizers, etc [8].

[18], in their paper, claim that organic agriculture in Europe has grown dramatically in terms of intervening, significant and various policies in recent years. They also investigated organic agriculture policy development in the Europe Union. They discussed the basic concepts of organic

agriculture policies in Europe and the role of law in supporting and controlling of organic agricultural. They added that the role of rules can be very useful in achieving the goals [6]. On the other hand, [5], in their study, had compared organic agriculture to traditional one in terms of biodiversity impacts through a comparative investigation and the studies of two systems. These studies aims if there are some strong evidences about the advantages of biodiversity claimed by organic agriculture fans. They concluded that organic agriculture is inherently beneficial for wildlife and farmland and they pointed out that the farmers' knowledge of the environmental impacts of organic agriculture in agriculture and livestock is limited. And this is one of the major inhibitors of accepting organic agricultural [1].

[3] have investigated the factors influencing adopting organic products and they concluded that the major barrier in adopting such products is the consumers' uncertainty about higher quality of organic products [5].

[16] have examined awareness methods and developing organic products procedures in Malaysia and the results of this study suggest that sources of information used by farmers are extension agents, other farmers, researchers and the media, respectively [4].

In another article, Souza et al in their study in the West Virginia in America, have examined the factors influencing the adoption of sustainable farming practices. The results indicated that there is a negative significant relationship between the adoption of sustainable farming practices by farmers of West Virginia and with the farmers' age and cooperation. There is a positive significant relationship between the adoption of sustainable farming practices by farmers of West Virginia and the farmers' level of education.

## MATERIALS AND METHODS

This study discusses on the obstacles of the organic agriculture in Boyer-Ahmad province by using Delphi method. In this regard, the statistical population of the study are 32

experts of Jihad Agriculture Organization of Kohgiluyeh and Buyer-Ahmad Province which were selected based on targeted sampling. In the first phase, some open questions were handed to the respondents, and their opinions about identifying barriers and inhibitors of organic farming in this province was discussed. Then in the second step, factorial analysis was used for analyzing the findings. These barriers are categorized into four groups: economic, social-cultural, political-managing and educational barriers. Then, after prioritizing and identifying these barriers, questionnaires were designed based on the mentioned barriers. The validity of the questionnaire was approved by the Faculty members of Yasuj University Department of Rural Development; and, to estimate reliability, 20 questionnaires were distributed out of statistical population, and then the collected data were analyzed by using SPSS

software. The Cronbach's alpha coefficient of the questionnaire was more than 0.65 that shows that the questionnaire has high reliability. After gathering information, these barriers had been prioritized using the coefficient of variation.

## RESULTS AND DISCUSSIONS

Descriptive analysis of the demographic characteristics of the respondents showed that the average age of the respondents is about 42.8 and the standard deviation was about 12.2 years. Regarding respondents' level of education, the degree of 4 people (12.5 percent) was General diploma 15 people (46.5 percent) was Bachelor of Science, and 6 people (18.7 percent) was Master of Science. Most of the respondents were male (87.5 percent or 28 people) and 12.5 percent of them (4 people) were female (Table 1).

Table 1. Frequency distribution of respondents according to demographic characteristics (n=32)

Variable	Levels of variable	frequency	percentage	Cumulative percentage	Mean	SD
Age	Less than 30	4	12.5	12.5	42.85 years	12.23
	30 to 40	15	46.5	59		
	41 to 50	10	31.2	90.2		
	More than 50	3	9.8	100		
	Total	32	100	—		
Level of education	General diploma	5	15.6	15.6		
	BS	21	65.7	81.3		
	MS	6	18.7	100		
	Total	32	100	—		
gender	Male	28	87.5	87.5		
	Female	4	12.5	100		
	Total	32	100	—		

Source: research findings.

As it can be seen in Table 2, regarding the economic barriers, the following items are the main priorities: low governmental supports (the coefficient of variation 0.15), the lower performance of organic products than non-organic ones (with a coefficient variation of 0.17), and financial weaknesses of the farmers and their needs to more products (with a coefficient variation of 0.18).

Table 3 also shows that regarding the cultural-social barriers, the following items are the main priorities: lack of consumption culture of organic products (with a coefficient variation of 0.10), the farmers' consideration of the quantity rather than the quality (with a coefficient variation of 0.12), uncertainty over higher quality of organic products and lack of necessity to produce and consume organic products (with a coefficient variation of 0.13).

Table 2. Prioritizing economic barriers to the implementation of organic agriculture

Economic barriers	Mean	SD	CV	Priority in group
Low governmental supports (loans and bank credits)	4.44	0.71	0.15	1
The lower performance of organic products than non-organic ones	4.53	0.80	0.17	2
Financial weaknesses of the farmers and their needs to more products	4.38	0.75	0.17	3
Organic products are less market-friendly	4.31	0.82	0.18	4
Increase in unemployment and migration due to organic cropping	3.94	0.84	0.19	5
Not-providing proper tools and infrastructure for organic agriculture	4.19	0.89	0.21	6
High costs of producing organic crops	4.06	0.91	0.22	7

Source: research findings.

Table 3. Prioritizing social - cultural barriers of the implementation of organic agriculture

Social - cultural barriers	Mean	SD	CV	Priority in group
Lack of consumption culture of organic products	4.62	0.49	0.10	1
The farmers' consideration of the quantity rather than the quality	4.41	0.56	0.12	2
Uncertainty over higher quality of organic products	4.28	0.58	0.13	3
Lack of necessity to produce organic products	4.34	0.60	0.13	4
Lack of necessity to consume organic products	4.31	0.69	0.16	5
More inappropriate appearance of organic products	4.38	0.70	0.16	6
Poor participation of the farmers	4.41	0.71	0.16	7
New technologies are difficult to be understood by farmers	4.19	0.79	0.21	8

Source: research findings.

The results shown in Table 4 also suggest that regarding political and managing barriers, the following items are the main priorities: lack of determined policy and legislation in the field of organic agriculture (with a coefficient variation of 0.10), lack of specific sponsorship

in Agriculture Departments for organic agriculture (with a coefficient variation of 0.11) and lack of proper planning for the development of organic agriculture (with a coefficient variation of 12.0).

Table 4. Prioritizing political and managing barriers to the implementation of organic agriculture

Political and managing barriers	Mean	SD	CV	Priority in group
Lack of determined policy and legislation in the field of organic agriculture	4.69	0.47	0.10	1
Lack of specific sponsorship in Agriculture Departments for organic agriculture	4.56	0.50	0.11	2
Lack of proper planning	4.56	0.56	0.12	3
Lack of familiarity of some of the managers and politicians with organic agriculture	4.49	0.61	0.13	4
Lack of adequate coordination between policy organizations and extensional centers	4.44	0.59	0.13	5
The existence of some troublesome rules	4.56	0.87	0.21	6

Source: research findings.

Table 5 also shows that regarding the educational barriers, the following items are the main priorities: weaknesses of the schools and educational books to distribute the culture of the production and consumption of organic products (with a coefficient variation of 0.10), the farmers' limited ecological knowledge

(with a coefficient variation of 0.11), weaknesses of mass media for extending the culture of using organic products (with the coefficient variation 0.12) and weakness of extension system in informing farmers about organic agriculture (with a coefficient variation of 0.12).

Table 5. Prioritize the educational barriers of implementing organic agriculture

Educational barriers	Mean	SD	CV	Priority in group
Weaknesses of the schools and educational books to distribute the culture of the production and consumption of organic products	4.66	0.48	0.10	1
The farmers' limited ecological knowledge	4.62	0.55	0.11	2
Weaknesses of mass media for extending the culture of using organic products	4.56	0.56	0.12	3
Weakness of extensional system in informing farmers about organic agriculture	4.44	0.61	0.12	4
Limited awareness about organic products	4.59	0.61	0.13	5
The farmers lack of knowledge about the hazards of pesticides and chemicals	4.44	0.71	0.16	6
The low level of education in the community	4.31	0.78	0.17	7
The low level of education in rural communities	4.34	0.74	0.18	8

Source: research findings.

## CONCLUSIONS

In economic barriers, the following priorities had been identified: low governmental supports (loans and bank credits), the lower performance of organic products than non-organic ones, and financial weaknesses of the farmers and their needs to more products. The main social – cultural barriers are: lack of consumption culture of organic products, the farmers' consideration of the quantity rather than the quality, uncertainty over higher quality of organic products, lack of necessity to produce and consume organic products. The major political and managing factors are lack of determined policy and legislation in the field of organic agriculture, lack of specific sponsorship in Agriculture Departments for organic agriculture and lack of proper planning. And, finally, the major educational factors are weaknesses of the schools and educational books to distribute the culture of the production and consumption of organic products, the farmers' limited ecological knowledge, weaknesses of mass media for extending the culture of using organic products, and weakness of extensional system in informing farmers about organic agriculture.

As this study and other studies indicate, there are many obstacles facing the implementation of organic agriculture. Regarding the importance organic agriculture and in order to removing the obstacles, the following actions are recommended:

-Serious and increasing investment of the government to support organic agriculture;

-Considering the market of organic products and adopting policies such as guaranteed purchase of these products at a higher price;

-Culturalization and need creation for the production and consumption of these products;

-Legislations and specific policies and principled and professional planning for producing organic products;

-Creating an organization or a specific center in the community or agriculture departments which are responsible for this mode of production;

-Making attempts and planning of the media and educational system for organic culture;

-Developing coordination between policy-making organizations and extensional centers in order to extend this cropping method.

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