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Original Research Article

SWOT Analysis of Organic Food Production in Bursa Province

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ABSTRACT

Ecological agriculture, nowadays contributing to sustainable agriculture, is seen as one of the options to solve the problems created by traditional agriculture. Starting from the 1930s, ecological agriculture, which has developed in different countries and different extents, gained commercial importance in the 1980s. This development was reflected onto our country in 1985-86. The exports are mainly dried grapes, dried figs and other dried fruits. Today, there are approximately 80 million hectares of ecological farming in the World, the number of producers is approximately 2 million, and the ecological product market has reached the level of 72 billion dollars. Bursa Province has an important place in the whole country in terms of the developments it has shown in recent years in the production of ecological agriculture. In 2016, field farming activity of 5334 decares was carried out by 167 farmers in Bursa. In Bursa, especially in the mountain regions, there is mostly organic arable land, and intensive studies are continuing for the development of organic agriculture.

Keywords: Bursa, ecological agriculture, SWOT

INTRODUCTION

Nowadays, a significant number of conscious consumers are turning to the consumption of ecological products for healthy living, soil and water. This new and modern understanding leads consumers to an ecological philosophy. People understand the importance of ecological products for their health and environment. Families want to consume high quality products that are assured for their healthy life. Usable agricultural land and irrigation capacities are decreasing in the world (Ak and Atay, 2008). For this reason, a sustainable agriculture strategy should be implemented in our country as in the whole World. Appropriate application of agricultural techniques and the conscious use of inputs reveal the importance of dissemination of environmentally friendly production methods such as ecological agriculture. In addition, dissemination of ecological agriculture contributes to the reduction of environmental pollution (Aksoy, 2001).

Ecological agriculture has been rapidly developing in recent years in the World. With a total area of 80 million hectares, approximately 1% of the World's agricultural areas is used for ecological agriculture. The number of ecological farming producers around the World is approximately 2 million, while the ecological product market is 72 billion dollars. The share of the total area of agricultural land under organic agriculture in Turkey is 2.2 percent.

Ecological production started in 2004 in Bursa. Ecological agriculture is carried out in 11 districts, namely, Osmangazi, Nilüfer, İnegöl, Keles, Orhaneli, Büyükorhan, Kestel, Mustafa Kemalpaşa, Karacabey, Mudanya and Gürsu. In 2015, ecological agriculture activities were carried out by 158 producers in 5654 areas in Bursa. The reason for this is that the conventional agriculture in the province is intense, in the villages where ecological agriculture is carried out, the population is elderly and there are sources of income other than agriculture, the certification fees are high for the producer, the producers have difficulty in marketing their products, the methods of endeavour are difficult and expensive, and the farmers cannot give up the old habits. However, especially in the mountain region, there are lands suitable for organic agriculture and the interest of producers in organic agriculture is increasing. In this study, an attempt will be made to evaluate the opportunities for and threats to the development of ecological agriculture opportunities in Bursa Province by using SWOT analysis.

Current Status of Ecological Agriculture in Bursa Province

The province of Bursa, which has an important place in the agriculture of our country, does not contain many large areas in terms of agricultural area. However, it is of great importance for agricultural production and marketing.

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The province of Bursa is located in a 1,081,954 hectare area and 40% of the agricultural activities are carried out on 429,323 hectares of land. Bursa has a body of farmers who are open to innovations and developments. In addition, it provides a great contribution to the development of the agricultural industry and provincial economy (Vural *et al.*, 2013). Bursa's climatic characteristics, water quality and flora-fauna make it a very special region in terms of geography. The province has an ideal environment for ecological agriculture.

Ecological agriculture production, which started in 2004 in Bursa, decreased over the years, but gained momentum again in 2016 (Table 1). One of the important problems of ecological agriculture in Bursa Province is the small size of enterprises, which hinders efficient production. Production in large areas will bring advantages to the manufacturer in every aspect. Ecological agriculture is not a return to traditional agriculture. Rather, it is a form of production that requires more information. Producers cannot obtain the desired income from agriculture made in small areas and thus, they give up ecological production. In ecological agriculture, yield is not a direct target and healthy and quality products are in the foreground. As such, many manufacturers are unable to rapidly produce ecological products.

Table 1. Ecological Agriculture in Bursa Province.

Year	Number of Producers	Production Area (da)	Produce amount (ton)
2005	317	5664	10907
2010	229	5035	7358
2015	158	5654	2861
2016	167	5334	3017

Resource:http://bursa.tarim.gov.tr

In Bursa, the number of towns, villages, producers, production areas and the major products produced by ecological agriculture in 2016 are given in Table 2. According to OTBIS (Organic Farming Information System) registrations for 2016, ecological agriculture activities are carried out in 56 neighbourhoods in 12 districts and in an area of 5334.06 da by 167 producers in our province. The main products are: strawberries (951.2), cherries (313.4 da), walnuts (239.1 da) and olives (286.8 da). In addition, there are total of 7200 chickens with 4 ecological egg poultry farms and 49 hives and 1 organic beekeeping company. In order to increase consumer awareness for ecological agriculture, 20 posters were hung on the billboards at 13 different points in Nilüfer, Osmangazi and Yıldırım districts between 12-19 December 2016. Training and extension activities are continuing rapidly (http://bursa.tarim.gov.tr).

Table 2. Ecological Agriculture at District Level (2016).

District	Producer	Production Area (da)	Products
Büyükorhan	29	1743.213	Strawberry 165.2 da, Common vetch 326.6 da, Trefoil 75 da, Wheat 47.28 da, Hungarian vetch 429.1 da, Potato 25.5 da, S. Corn 81.25 da, Fodder 36.1da, Fodder 105 da, Oat 161.3 da
Inegöl	2	105.510	Apple 25.5da, Plum 28.7 da, Sunflower 18.7 da, Watermelon 17 da
Iznik	4	371.924	Blueberry 147.7da, Cherry 20 da, Walnut 46.9 da, Blackberry 22 da, Apple 10 da, Plum 10 da
Karacabey	1	190.518	Olive 55.1da, Cherry 10 da, Almond 16.6 da, Walnut 14.4 da, Tomato 4 da, Plum 8 da
Keles	56	1158.929	Strawberry 441.6 da, Cherry 210 da, Walnut 122.8 da, Clover 139.4 da, Wheat 42.5 da, Fallow 72.6 da, Common vetch 40.4 da, Sour cherry 13.3 da

Kestel	6	120.394	Raspberry 82 da, Blackberry 38.3 da
Mudanya	1	165.329	Olive 96.3 da, Peach 15.9 da, Apple 36 da, Pear 12 da, Quince 12 da
Mustafakemalpaşa	3	156.936	Fallow 111.4 da, Peach 12,3 da, Nectarine 8.5 da, Trefoil 7 da, Oat 5 da,
Nilüfer	4	34.402	Walnut 18 da, Artichoke 9 da, Pepper 1.2 da, Okra 1.2 da
Orhaneli	34	769.481	Strawberry 243.1 da, Walnut 29 da, Cherry 63.4 da, Sour cherry 35.9 da, Common vetch 105.7 da, Wheat 25 da, Plum 16.6 da, Hungarian vetch 35.1 da, Fodder 18.9 da, Oat 14.3 da
Orhangazi	2	146.148	Olive 134.8 da, Clover 7.5 da, Trefoil 3.8 da
Osmangazi	25	371.276	Common vetch 118.8 da, Raspberry 83.7 da, Blackberry 27.2 da, Strawberry 96.8 da, Walnut 11.2 da, Chestnut 5.5 da, Cherry 4.4 da, Clover 4 da
TOTAL	**167**	**5334.06**	

Resource :http://bursa.tarim.gov.tr

SWOT Analysis of Ecological Agriculture in Bursa Province

SWOT analysis is a basic, analytical framework that assesses what an entity — usually a business, though it can be a place, industry or product, can and cannot do, for factors both internal and external. Using environmental data to evaluate the position of a company, a SWOT analysis determines what assists the firm in accomplishing its objectives, and what obstacles it must overcome or minimize to achieve desired results: where the organization is today, and where it may go (Dyson, 2004, Houben *et al.* 1999, Aktan, 1999).

SWOT analysis consists of 4 components. The subject or area to be planned is handled from these four perspectives. Strengths, (S), weaknesses (W), opportunities (O) and threats (T). In the SWOT analysis, Mugabi *et al.* (2007) suggested that 4 questions about the area to be planned should also be answered.

1) Where is the place for planning?

2) What are the impacts of the area to be planned (what is the subject to be planned)?

3) What is the potential of the area to be planned?

4) What should be done to be successful in planning?

With these four questions, the area to be planned with the help of SWOT analysis is determined. The subject to be planned is determined, the natural and human characteristics of the area to be planned are determined and the planning suggestions which are most suitable to the existing potential are developed. In SWOT analysis, the area and subject are examined by two different groups, internal elements and external elements (Puiu *et al.*, 2009, Demirdöğen, 1997). Strengths and weaknesses are treated as a group, while opportunities and threats are treated as another group. The strengths and weaknesses of these should be considered as internal elements because of their potential. Opportunities and threats are to be considered as external elements because they originate from outside. It is necessary to consider internal and external elements together. In some areas, the inner elements are much more prominent, while in some areas the external elements come to the fore. Internal and external factors should be dealt with together and focus on weak or missing points when developing planning recommendations (Taş, 2011). In this context, SWOT analysis of ecological agriculture of Bursa Province was made by taking into consideration the relevant sources (Pepper, 2002, Hill and Westbrook, 1997). As a result of the analyses, ecological production in the province was evaluated by SWOT analysis and given in Table 3.

Table 3. SWOT Analysis of Ecological Agriculture Sector in Bursa Province.

Strengths	**Weaknesses**
*The existence of clean soil and water resources, especially in the mountain region *Widespread use of training *Environmental protection in the world, animal and plant health-oriented rural development policies and food security *Chemical fertilizers, pesticides and energy inputs *Bursa's eco-tourism potential in various areas such as nature, culture and plateau	*Informality *Market shortage *Lack of information *Small and fragmented land in the province *Very limited internal market development *Problems in supplying inputs that can be used in ecological production *Inadequacy of producer organizations *Lack of demand due to high price of ecological products and marketing problems *Not enough advertising
Opportunities	**Threats**
*Increased demand for ecological products in the World and Turkey *Consumers are becoming more conscious *Increased demand for agro-ecotourism and health tourism *Land consolidation work is being done *Ecological tourism is developing rapidly *World ecological agriculture market grows 10-12% every year *The purchase of ecological products at higher prices *Support for ecological agriculture in the region	*Distrust of ecological products *Industrialization in the province is increasing rapidly *Problems in export *Relatively high input prices *Inadequate development of the domestic market

RESULTS

Bursa Province is Turkey's economically fifth most advanced province, and comes after Istanbul, Ankara, Izmir and Adana. Bursa's economy is based on agriculture and agriculture-based industry, trade and tourism. The soil is very fertile and its climate (temperature, humidity and precipitation) is very favourable for agriculture. Bursa plain, which is one of the most fertile agricultural areas of our country, is used mainly for irrigated agriculture as it is used as vineyard-garden land. In terms of land use, 40% of the land in Bursa is suitable for agriculture. The existence of land in Bursa has a significant potential in terms of land availability and irrigated land. The area of 1.-4. class land is 241 thousand hectares. This accounts for 55 percent of the total agricultural land. Of the 431 thousand hectares of agricultural land, 71 percent is used for fields, 13 percent for vegetables, 6 percent for fruit, 2 percent for vineyards and 8 percent for olive groves. 56 percent of the 431 thousand hectares of agricultural land is irrigable. When the agricultural structure and production shape by districts are considered; Karacabey is the biggest producer of the province in all other product types except fruit and legumes production. In addition, districts such as Mudanya, Gemlik, İznik and Orhangazi in coastal areas maintain their superiority in fruit production. Table olive production in the districts of Iznik, Orhangazi, Gemlik and Mudanya and chestnut production in the foothills of Uludag have a large place. Peach and black figs, which are well known all over the country, are grown widely in Bursa, Mudanya and Gemlik districts. Agricultural products in the province are diverse and abundant. 60% of the active population is engaged in agriculture and 20% of the gross income is derived from agriculture. Bursa ranks first in the production of some fruit and vegetable products. The main agricultural products produced are cereals such as wheat, barley, corn, oats and rice (Anonymous, 2016).

Rich biodiversity, clean ecological areas, plant and pest-resistant plant varieties and low levels of chemical input use are among the main advantages for the development of ecological agriculture in our country and Bursa as well as in developing countries. Therefore, the province of Bursa has a great potential for growing many products (except some tropical fruits) due to its ecology, geographic and topographic structure, and various climatic features. In addition, Bursa, which is well developed in terms of agriculture-based industry, will be able to avoid the environmental problems caused by intensive chemical input agriculture, which is a problem of many developed countries, with the development of ecological agriculture. Rural employment can be provided to some

extent by increasing the ecological production of value-added and labour-intensive products. However, our domestic ecological food market has not reached the desired level yet. Also, the annual development rate is very low (Demiryürek, 2011). This is due to the limitations of consumer awareness about ecological products, lack of incentives, insufficient infrastructure problems with legislation and relatively high prices.

Ecological agriculture should not be seen only as a method of food production. At the same time, ecological agriculture, sustainable agriculture and development, eco-tourism, and biodiversity conservation should be seen as elements in reducing the impact of factors that cause erosion, desertification and climate change. Ecological agriculture, as previously described, is a system of agricultural practices that requires ecological principles and standards, continuous supervision and certification, is based on soil fertility and plant health, does not keep environmental destruction out of sight, and more precisely, always protects the environment and limits the use of agricultural chemicals or even forbids agricultural chemicals (Argül *et al.*, 2017). As the effects of conventional agriculture on the environment and human health emerge, countries are moving towards and supporting ecological agriculture. In this respect, our country should follow the developments closely and evaluate the advantages of ecological agriculture. In our country and in Bursa province, producers should be encouraged to increase ecological agriculture, the environmental effects of conventional agriculture should be explained, existing domestic and foreign product markets should be developed and more systematic data should be established.

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