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THE ROLE OF ORGANIC FARMING FOR THE DEVELOPMENT OF AGRICULTURAL SECTOR IN BULGARIA

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Abstract

Organic farming is a multifunctional set of activities that integrates economic and social issues with those related to environmental protection and is a suitable alternative for producers, processors and traders, helping to make the best decision for the organization, management and development of their farms. This production method contains both its organizational and economic features and all the characteristics of agriculture. The goal of the present scientific paper is to analyse and evaluate the important role of organic farming for the agricultural sector development in Bulgaria. The study is based on directly collected empirical information from 73 organic farms operating on the territory of Plovdiv District in Bulgaria. Our research reveals prerequisites, opportunities, strategic guidelines and recommendations for increasing the economic efficiency of the organic production, and country's agriculture respectively for the next Programming Period 2021-2027. After overcoming the organizational and economic problems that accompany it, we believe that organic farming is substantial practical way and sustainable approach to the future progress of contemporary agriculture in Bulgaria.

Key words**:** *organic farming, strategies, development, agricultural sector*

INTRODUCTION

Agriculture today is finding itself in increasing difficulties. It is being assailed on so many sides that it hardly knows which way to turn. There is one solution that cuts a totally different path. It addresses all the problems currently facing agriculture, and so far, it is performing well. It is organic agriculture [3].

The world faces one of the most serious challenges - to develop sustainably in a way that meets the needs of the current generation, without compromising the ability of future generations to meet their needs. Sustainability refers to three factors - environment, society and economy at the global and in particular at the regional level. Sustainable agriculture is organic, biodynamic, resource-saving, low-cost, etc. Definitely, organic production is the basis of the global concept of unified social responsibility, through which these conditions are linked [4].

Organic farming as a system takes into account environmental, economic and social aspects of agriculture at the local, national and global level. Therefore, the goal of organic agriculture is producing sufficient quantities of high-quality food to the rational use of natural resources and the environment [2].

Due to environmental problems of conventional agriculture in many countries, most agricultural policy makers are considered organic farming system as a new approach of environmental protection to achieve food security and sustainable agricultural development [9].

Agricultural sector that is differed by its own characteristics, arising from the natural, economic, social and other conditions of production. Organic farming has all its characteristics. At the same time, it is distinguished by a number of features that are determined by its place and role in the unified reproduction process. Organic agricultural production refers to the number of intensive agricultural productions. It requires the attraction of large labour and material resources on a small amount of land. The intensification of organic production is related to the limited nature of the land as a basic means and to the possibilities to increase its fertility with the help of scientific and technological progress. World experience shows that organic farms are generally smaller than conventional farms, where production is based on industrial, in terms of arable land, production

volume and income [6]. Organic agriculture is a widespread trend and has the opportunity to attract a higher return for a farmer in a saturated bulk market [8].

In the last three decades, modern conventional (intensive) agriculture is in a serious crisis due to the high degree of chemicalization and its negative impact on the environment, soil, landscape and biological balance in agroecosystems. This is followed by the constantly deteriorating socio-economic indicators of agricultural production [7]

Bulgaria is known with deep agricultural traditions. The growth rate of the output of the agricultural sector is 5% for the recent years [5]. Organic production is a priority in the program of the government. Prerequisites for this are the favourable soil and climatic conditions of Bulgaria for the production of agricultural products and organic products.

MATERIALS AND METHODS

The goal of the present scientific paper is to analyse and evaluate the important role of organic farming for the agricultural sector development in Bulgaria. The study is based on directly collected empirical information from 73 organic farms operating on the territory of Plovdiv District in Bulgaria. The empirical information was collected and analysed after direct interviews with farmers, volunteers practicing organic production methods in Plovdiv, specialists and proven experts in organic farming, representatives of national regulatory authorities, managers of non-governmental organizations defending organic production and supporting its development in the country, lecturers from the Agricultural University – Plovdiv and others.

Based on our theoretical, economic and empirical analysis, we found that the development, sustainability and economic efficiency of Bulgarian organic farming are affected by many factors.

Conclusions are made and strategic guidelines and management recommendations are proposed for the future solution of the identified problems and increase of the economic efficiency of the organic production and thus the agricultural sector for the next Programming Period 2021-2027.

There is an urgent need for a change in the thinking and driving philosophy of both the producers and the policy and national legislation in the subsector and agricultural sector respectively.

RESULTS AND DISCUSSIONS

Currently, the total area of organically managed areas in Bulgaria is 136,629 ha, as the seventy-three studied organic farms are with a total area of 944.8 ha, i.e., 0.7% of the total organic land. Most of the farm's area is less than 100 ha, and only one farm has a remarkable 4,600 ha. Table 1 presents our own view for size categorization.

Table 1. Distribution of the studied organic farms by area, (ha)

Category area, (ha)	Organic farms, (number)	Share of the total number of surveyed farms, (%)
< 1 ha	5	5.08
1.01 – 2	8	1.19
2.02 – 5	18	7.37
5.01 – 10	37	25.83
10.01 – 15	1	1.06
15.01 – 20	-	-
20.01 – 30	1	3.17
30.01 – 40	1	3.52
40.01 – 50	-	-
50.01 – 60	-	-
60.01 – 70	-	-
70.01 – 80	1	7.83
80.01 – 90	-	-
90.01 – 100	-	-
100.01 – 200	-	-
201.01 – 1,000	-	-
1,000.01 – 2,000	-	-
> 2,000 ha	1	48.68

Source: Own research and analysis.

The table shows that the majority of the farmers organize and manage relatively small sized farms. More than a third of the farms occupy less than 10 ha. Our study shows that the largest-sized organic farms are concentrated in the production of the following: cereals; raspberries; perennials; meadows and essential oilseeds. Where the smaller-sized farms are producing vegetables; organic vermicompost and honey.

We found that organizational and management strategies have key role for the development and increase of economic efficiency of organic farming, and hence of the agricultural sector in Bulgaria. The first step in our country is to raise consumer awareness about global natural and climate change and the importance of consuming organic food. This is a prerequisite for a conscious and increased interest in organic products, respectively increased demand. The study cites as a good strategy the example of a number of countries (Spain, etc.) that have achieved positive results through this model. An example of a positive effect for the sector is the construction and implementation of new business models such as independent stores for organic products, focused on the removal of plastic packaging, supporting the commercialization of bulk products. Organic zero-waste supermarkets such as Yesfuture in Barcelona and Unpacked in Madrid are examples of this new business model.

In addition to specialty stores with native organic products, a major impact at the national level is the emphasis on increasing retail trade. In this way better and safer conditions are created for the realization of the production of the small organic farms. In our opinion, municipalities can contribute by offering free and/or lower rent stands and/or buildings for the construction of local outlets and markets for the promotion and trade of organic products.

Our survey shows that in Germany, Poland, Romania and France, farmland areas are provided free of charge by the state and municipalities. More than 90% of Bulgarian organic farms are small and/or medium in size and carry out their business mainly in rural areas, which confirms their vital role in supporting the economic situation in rural areas and preventing a future population migration. This organizational and managerial direction is a real opportunity to increase the level of employment in the given regions and in the country as a whole.

Another strategic model, taking into account the low purchasing power of the population in rural areas and small municipalities, is the formation of social groups or cooperation for the purchase of organic products (weekly, monthly, etc.). This ensures access to high-quality organic food, reduction of waste and packaging and a choice to support ethical food production and local organic farmers. A real advantage is the possibility of price discounts of up to 40% of equivalent products in supermarkets. In our view, this alternative way of shopping is a real chance to improve the domestic market of agricultural products in Bulgaria. That way, by reducing the cost of food and products, transport costs are also reduced, the use of plastic packaging is reduced, and all this contributes to the well-being of us and our families, our community and the planet as a whole.

It is essential to include a high percentage of organic food in Bulgarian children's kitchens, nurseries and kindergartens, schools, hospitals and other institutions. According to the survey, in Austria and France, this percentage is almost 30%, and in Poland and Romania - 15%. Undoubtedly, in view of the eating habits of modern human and the established organizational and economic problems in organic and conventional production in the country, this is a highly effective organizational strategy to support the sector and maintain the health of the Bulgarian population.

The next step is in the widespread implementation of precision farming methods. Where a very high cost of manual labour is required, it is rational to introduce equipment and technology in order to compensate for the serious lack of motivated and qualified labour. This concept includes the use of advances in computer science, electronics and fine mechanics, chemistry and biotechnology. We share the opinion of Vodenicharov [10] that the implementation of technologies for precision agriculture would have the following positive effects: Precise control over crops due to minimizing the use of fertilizers and plant protection products; Clarifying control will in turn optimize farmers' costs; The widespread penetration of these technologies would lead to stimulating the development of the accompanying sectors of the Bulgarian economy; Precision farming

technologies are a key prerequisite for a successful mass transition to organic farming.

Fundamental moment for the formation of a complete qualitatively new image of Bulgarian agriculture is the transition to a complex organic orientation of the farms. Thus, they can offer solutions to the problems of climate change, the rational use of water resources and soil protection and can be a key factor in ensuring food security.

A significant problem for Bulgarian organic producers is the definition of a mission and development strategy. The main task for them is to build viable and competitive farms on European markets. The lack of vision and developed strategy has a negative impact. Strategies for development and increasing the economic efficiency of organic farming in Bulgaria in our opinion are the following: general strategy, business, financial, marketing, human resources strategy, information, research, investment, etc. They should be combined to obtain better economic results [1].

On the one hand, the study proves that specialized consulting services in the sector are vital for the implementation of the agricultural method and the development of organic farming in Bulgaria. The main purpose of consulting services in the field of organic farming is to support producers in the subsector. On the other hand, scientific and technical progress, accumulated theoretical knowledge and practical experience allow for the most rational organization of the technological process in the cultivation of crops and groups of animals, which will ensure maximum efficiency of the natural, material and labour resources used in sector.

We perceive precision agriculture as a set of technological operations for cultivation of different parts of the field, taking into account the conditions of plant development. A key role in this approach is played by the high degree of automation of labour and digitalization. Nowadays, agriculture is becoming more scientific, with remote sensing, GPS and data analytics being added to agricultural machinery. Precise agriculture is a modern agricultural innovation and a strategic tool for digitalization in agriculture.

In our opinion, the adaptation of new tools gaining popularity in agriculture, such as blockchain technology and digital hubs, are a chance to improve the organization and management of organic farms; increasing their flexibility to new technologies; contributes to the adequate solution of the accompanying organizational and economic problems. Apart from farmers, these technologies are a prerequisite for better control and organization of the official database for agricultural production in Bulgaria. Undoubtedly, the assessment of the added value and the correct implementation of the digital innovations are a reasonable investment for the contemporary Bulgarian farms.

Integrated production is now on the rise, as more and more farmers are realizing that they need to be economically efficient while increasing the contribution of agriculture to the environment and natural resources.

We found the following innovative environmentally friendly production agricultural practices: No-till technology; biodynamic agriculture; the use of green manure and vermicompost; possibilities for applying the mobile beekeeping as an alternative to the stationary one, etc.

Short-term, medium-term, long-term and research priorities have been developed in the study. Thus, the ways for increasing the economic efficiency of organic farming in the District of Plovdiv are indicated.

They are also systematized guidelines and recommendations proposed in the research outlining the direction of the organization and management of organic farming in Bulgaria, with a view to increasing its and the country's agricultural economic efficiency. Our main organizational and management strategies proposed in the scientific work are the following:

(1)Promoting agricultural production and increasing consumer confidence;

(2)Developing a functioning market strategy that minimizes the risk of the market factor;

(3)Creation and implementation of new technologies for precision agriculture;

(4)Development and implementation of technologies for integrated management of agricultural holdings;
(5)Applying production technologies in order to preserve and/or increase soil fertility;
(6)Establishment of local farmers' associations protecting the interests of organic farmers in a given subsector;
(7)The inclusion of a high percentage of organic foods in Bulgarian children's kitchens, nurseries and gardens, schools, hospitals and other institutions;
(8)Clear, transparent and fair subsidization of the sector;
(9)Practice oriented research, education, training and consultancy in the field of organic agriculture in Bulgaria.

CONCLUSIONS

Based on the research we found: **First**, organic farming in Bulgaria is an alternative family business model with great potential for economic benefit and a favourable agricultural production method for our stressed environment. Its economic, environmental, social and political influence is essential for the development of both local and national agriculture; **Second**, organic production is specific and has a wide range of organizational and economic problems and challenges. Contemporary organic farmers are interested in their quick and timely solution, which is a sure prerequisite for building environmentally friendly and profitable organic production. Undoubtedly, as with any successful business, good management of the organic farm is essential; **Third**, the knowledge and technologies of the 21st century allow Bulgarian organic producers to find better ways of living a healthy lifestyle and profitable farming business, applying best practices to optimize the available natural, climatic and production resources. The development and implementation in practice of proven, improved and/or new innovative goods and services, processes, marketing or organizational and management methods, leads to increasing the environmental, social and economic efficiency of organic farming in the country; **Fourth**, the existence of a high natural and climatic potential for the creation and development of a stable and sustainable structure of Bulgarian organic farms has been proven, which is accompanied by many closely interrelated organizational and economic problems; **Fifth**, a clear policy, goals and management strategies are needed in the organic and agricultural sector in Bulgaria. More adequate support for the organic production of the production lines with emphasized high labour intensity. Minimizing the obstacles to the studied organic productions is a guarantee for achieving economic success in the agriculture as a whole; **Sixth**, the empirical results of the research show that the increased interest in organic production in recent years in Bulgaria makes it a strategically important segment for the development of agriculture and the economy;
Seventh, the study finds that impartial institutional recognition of the full potential of organic food and organic farming systems is vital for the future development and prosperity of organic production in Bulgaria, in order to ensure the standard and nutrition of current generations, without compromising the needs of future generations; **Eighth**, dealing with the main organizational and management strategies proposed in the scientific research, namely: transparent, effective and balanced legislation in the field of organic farming; search for common ways to increase the national educational qualification and the respective agrarian literacy of the employees in the sector; maximum use of scientific and technical achievements and the advantages of modern innovations; removing or easing administrative burdens and bureaucratic procedures for organic producers; establishment and support of local farmers' associations, protecting the interests and rights of farmers in the respective production areas; greater support for the organic livestock sector; the creation and maintenance of real feedback along the chain organic producer-farmers' associations-competent authority; generating trust between producer – end user; adequate market regulation and improvement

of the marketing mix; supporting and stimulating short chains for direct sales, in order to increase the efficiency of small and medium-sized organic farmers; improving the quality of life and work through economic and social motivation and stimulating labour resources; improving the condition of the road infrastructure in the small settlements/hard-to-reach places and rural areas; the construction of municipal stands and/or markets for fair sale of finished organic products; creating and developing a coherent relationship between organic farming and the sectors of agri-tourism and food industry. All this in order to achieve environmentally friendly, cost-effective and competitive organic farming and so thriving agricultural sector in Bulgaria for the next Programming Period 2021-2027.

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