

ECONOMIC ASPECTS OF ORGANIC PRODUCTION DEVELOPMENT*

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SUMMARY: Organic foodstuff trade has been rising continually. International organisations, countries and corporations can have a significant impact on trade flows of organic products, which poses a significant challenge. More than ever before, consumers' demands for high-quality and healthy food of plant and animal origin produced in unimpaired nature are becoming more and more pronounced. Agricultural enterprises today are faced with many problems in organic production organization. The main research aim of this paper is to provide an analysis and comparison of organic productions in the world. The paper presents the growth of world market of organic foodstuff products, also providing explanations related to functioning of organic retail sale sector in the most developed countries of the world. Profit, as the motive for organic products producers, has been shaken by the current economic crisis which has additionally increased the financial risk of investing financial assets in organic production.

Key words: organic agriculture, sustainable development, organic production, organic retail sector.

INTRODUCTION

Man has, by his activities, caused the changes in natural ecosystems and biosphere, thus hazarding not only their existence but his own existence, too. The results of such activities are numerous negative effects of destruction and pollution of the environment. Instead of natural ecosystems which have been gradually disappearing, there are more and more man-made ecosystems, planted woods, industrial and urban systems, etc.

The economic reasons are the main culprits of big environmental disasters, as the desire of both individuals and companies to achieve greater economic profit, as well as the lack of motive for preservation of the environment, are increasingly taking a toll. Striving for greater profit leads to even larger-scale negative environmental effects.

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Economic thinking means searching for the best solutions and possibilities in given circumstances, i.e. looking for the best ways of exploitation of the limited production resources on one hand and for the smallest negative effects of their exploitation on the other hand (Sredojević, 2002).

In some parts of Serbia, certain forms of sustainable and organic agriculture have been applied, based on various principles, as is the case in hilly and mountainous regions. Grassland resources in these regions are of great importance for the development of the overall economy, as the basis for organic agriculture in hilly and mountainous regions can be breeding of small ruminants. Difficulties and problems related to economic justification of agricultural production can be solved by focusing animal production on producing highly valuable food like meat, milk and dairy products. The production of this food is one of the directions in agricultural production which enables preservation of environment as well as improvement of the quality of life.

MATERIAL AND METHODS

Today agricultural enterprises, farms as well as individual producers face many problems in the organization of organic production. Profit as a motive for selling organic products has been shaken by the current economic crisis. The crisis has even more increased the financial risk of investing financial assets in organic production. According to the previous researches, it can be concluded that the crucial condition for increasing the area under organic production is awareness of the importance of organic products primarily for the people from the developed European countries and the whole world. For this analysis we have used published works covering these issues both from our country and from abroad.

RESULTS AND DISCUSSION

Modern and contemporary agriculture has affected the biodiversity resulting in a very small number of species of cultivated plants and animals. In agricultural ecosystems worldwide in all climatic zones only 12 kinds of grains, 23 kinds of vegetables and 35 kinds of fruit are grown, which makes 70 kinds on approximately 1,440 million of hectares of arable land in the whole world (Willer, Helga et al., 2008, 2009). According to certain data, only 150 plant species are grown for human consumption while only 5 types of grains (wheat, corn, rice, barley and millet) are needed to satisfy 50% of nutrition demands. Certain American researches showed that organic food has approximately 63% potassium, 73% iron, 60% zinc, and 125% calcium more than products produced in conventional agriculture; the content of dry matter in organic products is up to 30% higher, which means that there is a higher concentration of nutrients per mass unit and higher quality for processing industry; also, the levels of magnesium, phosphor and vitamin C are higher. The sale of organic products has been tripled in the EU countries and, according to surveys, 46% of consumers buy this kind of food for health reasons and 40% because of their better taste. Less developed countries which still have their ecosystems preserved as they do not use expensive chemicals have a chance to increase their export through organic products. The WHO data state that about 3 million people are poisoned with pesticides every year.

The main purpose of legislative regulations is protection of people's health and biodiversity while the legislation of environment protection is related to the standards of agricultural products, pollution of stationary and mobile resources, pollution of water, air and to the nature protection. In our country ISO 9000 standards for product quality management and ISO 14000 standards for the environment quality management were accepted. Hereby, our country entirely supported the conclusions of the Rio de Janeiro Convention. However, when the International Community imposed sanctions on Yugoslavia (Serbia) in 1992, our society was not capable of sufficiently investing in improvement and protection of environment. Seven years later (1999) the members of the NATO alliance attacked our country which affected catastrophically all living beings both directly and indirectly by harmful and hazardous substances through contaminated natural resources.

According to the research conducted primarily in economically developed countries, the prevailing opinion today is that contemporary organized agricultural production significantly contributes to pollution and destruction of our environment; only the production performed in natural environment and depending on the effects of natural factors can contribute to the preservation and stability of environment and ecosystem.

Organic agricultural production means that the system of production prohibits or excludes application of synthetic mineral fertilizers, pesticides, growth regulators and feed additives. This kind of production depends substantially on crop rotation, plant residues, on manure, green manure, biological measures against weed, on diseases and pests. At the level of an agricultural enterprise or farm the following regulation must be met: the overall economic results and profit can be maximized only under the condition of achieving ecological optimum. Agricultural enterprises and farms with organic production are supposed to produce seed, fertilizers and feed by themselves (Milić and Sredojević, 2004).

The products produced in accordance with the principles of organic technology must have the label: Organic Farming-EEC Control System only if they are actually produced by the rules of such production and if they passed the required inspection.

The consumers' demand for high quality and healthy food of plant and animal origin produced in undisturbed natural environment are becoming more and more prominent.

The opponents of organic agriculture state that organic products are more expensive than those produced in conventional production. On one hand, it is true because the higher prices of organic products result from larger engagement of labour force which is very expensive in developed countries, and on the other hand there is a great market deficiency of these products, which affects the price.

WORLD ORGANIC PRODUCTION TODAY

Organic agriculture has been developing very fast. The portion of land under organic production has been continuously growing in many countries (Willer, Helga et al., 2008, 2009). According to the latest measuring, almost 30.4 million ha have been used for organic agricultural production (Table 1).

Africa has over 400,000 ha of land under organic production. The countries with largest areas of land with organic production are Tunisia (155,000 ha), Uganda (88,500 ha) and South Africa (50,000 ha). The organic products grown on this continent are

mostly exported to EU countries because the African countries have generally accepted the standards regulated by EU. Asia has 3.1 million ha under such a production. Countries with the largest land areas are China (2.3 million ha), India (530,000 ha) and Indonesia (40,000 ha). The greatest demand for organic products is in Japan, South Korea, Singapore, Taiwan and Hong Kong. At the beginning of 2007 Europe had 7.4 million ha of land under organic production. The countries with the greatest land areas with organic production are Italy, Spain and Germany (Graph 1). The largest markets of organic products are in Germany and the UK, while the greatest consumption of organic food per capita is in Switzerland. South America has 4.9 million ha under such organic production. The three countries with the largest areas of such a production are Argentina (2,220,000 ha), Uruguay (930,000 ha) and Brazil (880,000 ha). Almost all organic products on this continent are exported. North America has 2.2 million ha under organic production. The largest share of 1.6 million ha is in America while the rest of 600,000 ha is in Canada. Australia, including New Zealand and island countries of Fiji and Papua New Guinea have around 12.4 million ha of land with organic production. The countries with largest areas under this production are Australia (12,295,000 ha) and New Zealand (64,000 ha).

Table 1. Area of land under organic production in 2007.

Tabela 1. Površine zemljišta pod organskom proizvodnjom u 2007.

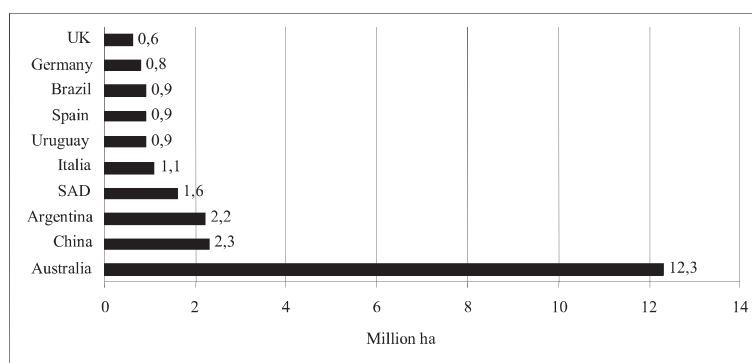
Continents <i>Kontinent</i>	Organic land (ha) <i>Organsko zemljište</i>
Africa	417,059
Asia	3,090,924
Europe	7,389,085
South America	4,915,643
North America	2,224,755
Australia and Oceania	12,380,796
TOTAL / UKUPNO	30,418,262

(Izvor: Willer, Helga et al., 2008)

The greatest importers of organic products are the EU, the USA and Japan, thus their regulations have significant impact on world trade and standard improvement in other areas and regions. In 2007 the EU completely changed the regulations for organic production, which came into force on January 1st, 2009.

The continent with the largest areas under organic agricultural production is Australia and Oceania (12.4 million ha), the second largest is Europe (7.4 million ha) and the third large is South America (4.9 million ha), followed by Asia (3.1 million ha), North America (2.2 million ha) and Africa (0.4 million ha).

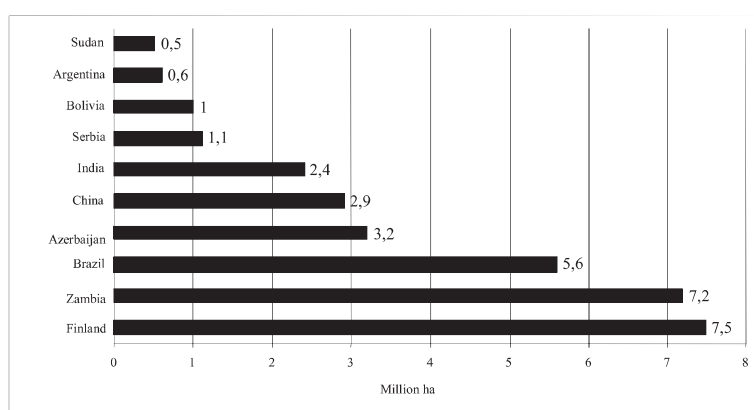
As in the previous years, Australia has been the country with largest areas under organic production, China takes the second place while Argentina takes the third place.



Graph 1. Countries with the largest areas of land under organic production in 2007.
Grafikon 1. Zemlje sa najvećim površinama zemljišta pod organskom proizvodnjom u 2007

(Izvor: Willer, Helga et al., 2008)

Today we know all the forms and results of using organic land. Of course, it should be noted that not all information from all the countries is available. Arable land is mostly used for grains, flowers, green fodder, industrial crops, aromatic and spicy herbs, root-rhizome crops and vegetables. There are the areas with permanent crops like citrus, cocoa, coffee, fruit, grapes, industrial crops, aromatic and spice herbs, olives, sugar cane and tea.



Graph 2. Countries with the greatest land areas under wild-growing plants in 2007.
Grafikon 2. Zemlje sa najvećim površinama pod samoniklim biljem u 2007.

(Izvor: Willer, Helga et al., 2008)

The land for organic production under wild-growing plants is equal on all four continents: Africa, Asia, Europe and South America. Australia and Oceania are almost without such kind of land while there are very small areas in North America. Out of the total world land areas under wild-growing plants, Europe accounts for 28%, Africa for 25%, Asia for 24% and South America for 22%.

EUROPEAN MARKET OF ORGANIC FOOD

Europe has the largest and most complex market of organic products in the whole world, worth about 20 billion US dollars (2006). Europe has taken the leadership partly due to the depreciation of American dollar, so we can expect Europe to take a very

important role related to the issue of organic agriculture in the years to come. Western Europe, or precisely, its four countries: Germany, France, Italy and UK, account for over 75% of the overall regional income. The other countries like Denmark, Sweden or Holland show a constantly high growth but they have smaller markets because of their small retail stores. German market has been growing most rapidly in Europe. Such high market growth is the result of the fact that organic food is widely available in supermarkets, drugstores but also in retail shops. The populations of Switzerland and Scandinavian countries are among the largest consumers of organic food, followed by the Danish, the Swiss and the Austrians. The populations of south, central and south-east Europe take the last place regarding organic food consumption.

Germany has the largest market of organic products in Europe. During 2006 retail sale increased for 18% reaching 4.6 billion euro. The demand for organic products increased faster than the supply: the demand for organic milk in retail sale increased for 35%, for cheese for 70%, frozen vegetables for 60% and yogurt for 50%. There was also higher demand for butter, pastry, fruit juice etc. The sale of cookies, sweets, cakes and other confectionaries increased for more than 100% and thus it represents the highest rate of increase. The retail sale market, which is traditionally insignificant, had the growth rate above the average. Organic supermarkets also had the above average growth of 25% while traditional organic stores lost their market share. Organic retail sale sector in Germany is aimed at increasing interaction with conventional marketing structures. For example, after having researched organic retail market, the national retailer REWE with 3,000 conventional supermarkets all over the country opened two very successful organic supermarkets, with plans for further expansion and capacity enlargement. The market growth of the UK was estimated to 22% in 2006 which represents the highest growth in comparison with the previous years. The retail sale of organic products was estimated to almost 2.8 billion euro (or about 2 billion pounds) in 2006. Sale of organic products by mail or by customer order increased by 53%. Children organic food (baby food) increased for 7%, the organic poultry market has been increasing and the production of organic eggs was larger than "cage" egg production for the first time. 79% meat, 96% milk and eggs and 73% vegetables were produced by domestic producers, but with the demand larger than the supply, the import of organic products increased. The Italian market reached the estimated value of about 2.65 billion euro in 2006. The results of organic food retail sale reached the value of 1.9 billion euro while the export was estimated to 750 million euro. The sale in specialized stores increased by 10%, but it also increased in conventional stores by 7.5%. The sale in processing companies and whole sale stores increased by 55%, while in supermarkets it increased only by 2%. The export of organic products increased by 25.8% in 2006. Retail sale of organic cooking oil, sugar, coffee, tea, bread and confectioneries increased, while the sale of soft drinks, milk products, vegetables, fruit, pastry, baby food and eggs decreased. While the turnover of food in conventional retail sale sector stagnated, organic retail sale sector increased its sale by 15% in Italy in 2006. The largest whole sale trader ECOR opened its own chain of organic supermarkets on 60 locations all over the country. Organic whole sale traders in Italy realize great profit (income) from continual increase of number of children's meals in school cafeterias. In France the value of retail sale market was estimated to 1.7 billion euro and it is still increasing. The number of consumers buying organic products keeps on growing (Willer, Helga et al., 2008, 2009).

The market value of Switzerland was evaluated to 764 million euro in 2006. The

consumers of that country spend averagely 102 euro per capita on organic products more than the consumers from any other European country or any other country in the world (Tab. 2).

Organic products account for 4.5% of the overall food market. In Switzerland there are currently two chains of specialized stores of healthy food. These are MUELLER and EGLI. Other companies, like the supermarket of organic products YARDO and the chain of national cosmetic stores, are still at the beginning of their development. In 2007 three leading trade chains of whole sale merged and established a new company which currently has the market share of about 80% of retail organic trade.

Table 2. European market of organic products – consumption per capita in 2006.

Tabela 2. Evropsko tržište organskih proizvoda – potrošnja po stanovniku u 2006.

Country <i>Zemlja</i>	Consumption per capita (€) <i>Potrošnja po stanovniku (€)</i>
Switzerland	102
Lichtenstein	86
Denmark	80
Austria	64
Germany	56
UK	47

(Izvor: Willer, Helga et al., 2008)

CONCLUSION

Organic agriculture is developing rapidly and the share of land under organic production is growing in many countries. According to the latest data (from 2009) there are about 32.2 million ha of land under this type of production. The demand for organic products is the largest in North America and in Europe, while Asia, South America and Australia are significant producers and exporters of organic food. According to the data from 2009, land with organic production increased from 7.4 million ha to 7.8 million ha in Europe and the countries with the largest land areas under such a production are still Italy, Spain and Germany.

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EKONOMSKI ASPEKTI RAZVOJA ORGANSKE PROIZVODNJE

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Izvod

Trgovina proizvodima organskog porekla beleži stalni rast. Međunarodne institucije, države i preduzeća mogu značajno uticati na trgovinske tokove organskim proizvodima što predstavlja poseban izazov. Zahtevi potrošača za kvalitetnom i zdravstveno bezbednom hranom biljnog i životinjskog porekla koja je proizvedena u nenarušenoj prirodnoj sredini sve su više izraženi. Poljoprivredna preduzeća se danas susreću sa velikim brojem problema prilikom organizovanja organske proizvodnje.

Predmet izučavanja ovog rada je analiza i poređenje organske proizvodnje u svetu. Prikazan je razvoj svetskog tržišta organski proizvedene hrane, a objašnjen je i kako funkcioniše organski maloprodajni sektor u najrazvijenijim zemljama sveta. Dobit kao motiv koju proizvođači mogu da ostvare prodajom organskih proizvoda je uzdrman zbog postojeće svetske ekonomske krize, koja dodatno povećava finansijski rizik prilikom ulaganja novčanih sredstava u organsku proizvodnju.

Ključne reči: organska poljoprivreda, održivi razvoj, organska proizvodnja, organski maloprodajni sektor

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