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## IMPLICATIONS OF ORGANIC FARMING UPON SUSTAINABLE RURAL DEVELOPMENT

### ABSTRACT

In recent years, all over the world, the concern for preserving people's health as well as a healthy environment acquired a permanent dimension, meant to ensure the meeting of present consumption needs without jeopardizing those of the future generations. In the European Union, the development of organic farming, as an alternative to conventional agriculture, of industrial type, has experienced great progress. In perspective, the organic dimension of the Common Agricultural Policy will grow, as all the EU Member States are obliged to limit the area of ecological aggressions. For Romania, the organic farming is a sector for the future developments, that has experienced an increasing trend in recent years, both in the crop production and livestock sector.

**Key words:** organic farming, sustainable rural development, natural resources.

**JEL Classification:** Q 57, Q01, Q34.

### 1. INTRODUCTION

Environment protection has become one of major problems of the whole world. In recent years, important concerns have appeared throughout the world in relation to the integration of the environment protection requirements in all the strategies and policies elaborated in the economic sphere and not only.

The evolution of consumers' exigencies in relation to food and environment protection, has acquired, by the intensity and profundity of their consequences, a universal and permanent dimension. The obvious impact of agricultural activities upon the environment quality has determined a more rigorous compatibilization concern between the two terms of the equation, in the sense of attenuating the negative consequences of agriculture, at the same time with the exploitation and development of its ecological functions.

*To ecologize agriculture*, which ensures food for the population and important quantities of raw products for the food and non-food industry, *does not mean not to use the modern production means, leaving everything on nature's "shoulders"*. The agricultural production system compatible with the environment and landscape protection is a complex system, with the goal to obtain "high quality"

foodstuffs. This system appeals to a serie of modern production techniques, which preserve and at the same time improve soil fertility. For this, it either does not use synthetic chemical products, neither in the process of obtaining raw products nor in their subsequent processing (*the organic or biological agriculture pattern*), or it uses them in quantities that are strictly sized by the crop requirements and by the potentiality of the agro-pedo-climate conditions (*the integrated agriculture pattern*).

The Romanian agriculture has an opportunity that is more and more taken into consideration: the real possibility to obtain ecological (organic) products that are in great demand on the European market as well as on the world markets.

## 2. STATE OF KNOWLEDGE

In the developed countries, organic farming appeared as an alternative to intensive agriculture, which uses large amounts chemicals. In the ex-socialist countries, organic farming emerged as a result of political and socio-economic changes, which determined production decline or the decline of the imports of chemical fertilizers, pesticides and antibiotics and the emergence and development, in a short time, of the subsistence production.

In the sustainable agriculture development context, the “organic” or “biological” agriculture pattern, supported by many ecologists, which totally eliminates the use of chemical fertilizers and synthetic pesticides, is applied on relatively small areas, since the beginning of the ‘80s, as people became aware of the dangers implied by conventional, intensive farming.

In the field of agricultural policies, the interest in sustainable agriculture development is materialized in the reconsideration of the effects of agriculture upon the environment and of agriculture contribution to its own protection and preservation. That is why, everywhere in the world, but mainly in the developed countries, agriculture and environment enjoy a preferential system of protection by the society, by stimulating the methods of *agricultural production compatible with the environment, soil and natural areas protection*.

The increase of land areas farmed under the organic system is quite significant in Australia, the European Union, Latin America or the United States. In conformity with the data centralized by the Ecology and Agriculture Foundation from Germany, the agricultural land areas farmed under the organic system increased by 26% each year in Western Europe after 1985 and by 20% in the USA after 1989.

In the last years, the total world area farmed under the organic system reached 22 million ha, out of which, 48% in Oceania (with 10.5 million ha in Australia), 24% in Europe (over 1.2 million ha in Italy), 19% in Latin America (3.2 million ha in Argentina), 8% in North America (over 1 million ha in the USA), under 1% in Asia and Africa.

Although in the developed countries the organic farming rules and principles became a constant of the social life and agricultural policies, however they belong

to the farming of the future, as in the present stage of human society development, the full replacement of inputs by natural resources and mechanisms regulating the agro-eco-systems has the great disadvantage that it increases the production costs by about 60% and reduces the level of profits by 25–30%. In addition, the market of “bio” products is quite small and it is addressed to a small segment of consumers, although it is expected that the share of organic products in total agrifood products market will grow from 1–3% to 5–10% in Europe and USA.

There is few information on the world production and trade with organic products. However, according to the few available data, it is considered that the international organic agri-food market experienced a *strong positive trend*.

The *production* of foodstuffs and beverages in conformity with the organic farming principles is obtained in commercial quantities in the developing countries from Africa; in countries in the Asia-Pacific zone; in developing countries in Central and South America; in the EU-Member States; in countries in Central and Eastern Europe; USA; Canada; Australia; Japan.

*In the developing countries*, the production and supply of organic products mainly consists of fresh fruit and vegetables, aromatic plants and spices, tea, coffee and cocoa, oilseeds, sugar and rice.

*In the developed countries*, the production and supply of organic products mainly consists of meat and meat products, milk and dairy products, alcoholic drinks and other industrially processed organic products, while observing the organic principles.

The consumption of organic products is located in a few EU countries, namely Germany, France, England, Netherlands and Denmark, in Switzerland, in the USA and Japan.

The integration of environment protection into the overall socio-economic activity, the increase of economic and ecological performances as well as the modification of the production and consumption patterns are supported worldwide by a series of legal, institutional and financial tools.

A production management system is applied in the organic farming that promotes and improves the health of agro-systems, protects biodiversity, the biological cycles and the soil micro-biological activity, obtaining high quality and healthy agricultural products, which can be sold at much higher prices than the conventional products. This has a multitude of benefits, both for farmers and for consumers. At the same time it prevents soil erosion, it protects water quality, it promotes biodiversity, saves energy, reduces the effect of the climate disasters, it supports real economy development, it adjusts the social and economic benchmarks in the rural area, it redefines the farmer’s profession, it protects the next generations, removes the chemicals from food, it develops the “good taste for food”, it also protects farmers’ health and provides opportunities for family business development.

### 3. MATERIAL AND METHOD

The whole information volume in this article was obtained through specific selective research methods, while respecting all the methodological stages: identification of the researched issue, research framework delimitation, information collection, data processing, analysis and interpretation and drawing up the conclusions.

The office research also played an important role in the paper, which consisted in the identification of other studies and articles on the same subject, and in the processing of certain statistical data. Hence, the information sources can be classified into governmental sources (statistic, ministerial and from the research institutes), and into non-governmental sources (independent publications).

As the statistical data on organic farming and its impact upon the economy, environment and human society are very few, the research results are based on a series of qualitative analyses, on the one hand, and on a series of logical rationales, on the other hand.

### 4. RESULTS AND DISCUSSIONS

Without pretending to become a priority segment of agriculture, the organic farming, which fully eliminates the use of chemical fertilizers and pesticides, has a chance to develop in Romania. In specialists' opinion, "it might be a historical mistake for Romania if this country did not try to support the organic farming pattern", as the experiments made by other Western countries prove that organic farming is one aspect of sustainable agriculture development, defined by Philippe Vasseur in 1996 as "being an *economically viable agriculture*", which means that it must supply the markets with the necessary products and permit producers to live on their own production; *ecologically healthy*, which means to produce healthy food, not to pollute water and not to erode the soil; and *socially fair*, which means to maintain jobs in place and to have a good land management through a good distribution of land and support".

#### 4.1. Particularities and elements defining organic farming

Mankind's progress is generally based upon the new technical and scientific discoveries. In spite of this, however, the human society's development imposes the reactivation of some older technological systems, that are efficient in solving up the problems that have emerged. Thus, in the last decades of the last century, a new field of activity appeared and developed, i.e. *organic farming*.

Most specialists agree that *organic, biological or ecological agriculture* promotes a component of a sustainable agriculture system, as well as an alternative to *conventional, intensive agriculture, of industrial type*, which, day by day proves its limits and drawbacks with regard to the quality of the products obtained and its negative influences upon the environment, by the use of huge amounts of chemical substances (chemical fertilizers and chemicals for the control of pests and diseases).

In the European Union, in conformity with the *European Council Regulation (EEC) no. 2092/1991*, of June, 24 and its amendments, the following terms are used, with the same meaning: organic agriculture (in England); biological agriculture (in Greece, France, Italy, Netherlands and Portugal); ecological agriculture (in Denmark, Germany and Spain).

The organic agri-food production favours the use of renewable resources, the recycling and return to soil of the nutrients from waste. It avoids the use of chemical synthetic products and of the Genetically Modified Organisms (GMOs) – organisms/crops to which, by means of some modern genetical engineering techniques (named biotechnologies), certain genes are transferred by reproduction and/or recombination. In organic farming, only organisms/crops obtained by conjugation, transduction and hybridation are used.

The ecological, biological or “bio” agrifood products are obtained in smaller quantities, are more expensive than the agri-food products resulting from conventional farming; they are extremely favoured by consumers instead, as they are high quality products, healthy and tasty, mainly when they are consumed fresh or less processed.

The organic or biological agri-food production is obtained according to a series of *regulations*, which govern both the production of raw products, processing, labelling and sale of products, as well as the imports and exports of organic agri-food products from third countries, whose organic production and control criteria have been acknowledged by the habilitated international bodies. Beside these regulations, farmers also have to comply with certain basic environmental standards, the respect of which is compensated by agro-environmental premia, others with no financial compensation, the “polluter pays” principle being applied.

#### **4.2. The Romanian agri-food production development according to the organic farming principles**

In Romania, in conformity with the legislation into effect, the term *ecological* is similar with the terms *biological*, *organic* or with their combinations: *organo-biological* and *bio-organic*. The process of national legislation harmonization with the EU legislation was completed in the year 2003; the terms ecological, biological, organic agriculture are used with the same meaning, conceptually defining the systems of productions which create conditions for re-using the lost energy in the production process and ensure a balance between the three dimensions of the agricultural system: economic, social and ecological.

In our specialists’ opinion, Romania has national and human potential for organic farming. That is why, the concern for promoting the organic farming specific rules and principles is supported by a legal framework harmonized with the EU legislation, as well as by an institutional framework from both the public and the private sector.

The organic agri-food production is a relatively new field for the Romanian farmers. It emerged as an alternative to the approach to get closer to the EU

standards, where the conventional industrial-type agrifood production proves its limits as time passes, as well as its drawbacks as regards the quality of products and the negative influences upon people and environment.

#### **4.3. The legal framework of the Romanian organic agrifood production**

*The organizational and technical framework* under which organic agri-food products are obtained, prepared, imported/exported and/or sold in Romania is regulated by: Government's Emergency Ordinance no.34/2000 on organic agri-food products; Law 38/2001 – law-framework for organic farming, harmonized with the EU Regulations; Government's Decision no.677/2001 on the establishment of the Institute for Food Bioresources as body for accrediting the inspection and certification bodies and for quality testing and research in the field of organic farming; Law no.166/2002 on farm operation, by which family farms are stimulated to use the organic farming practice; Government's Decision no. 917 of September 13, 2001, for the approval of the Methodological Norms for applying the provisions of the Emergency Ordinance no.34/2000 on the organic agri-food products; the Order of the Minister of Agriculture, Food and Forestry no.70/2002 on the establishment of the "Commission for Organic Farming Development in Romania"; the Minister's Order no.186/202 for the approval of the inspection requirements and precaution measures within the program of inspection and registration of the operators on the organic agrifood market. The Minister's Order no.721/2003 for the approval of Rules regarding the imports and exports of organic agri-food products; the Minister's Order no.527/2003 for the approval of the Rules regarding the inspection and certification system and the conditions for accrediting the inspection and certification bodies in organic farming, etc..

At the establishment of rules and principles of organic agri-food production from the Romanian legislation the following regulations were taken into consideration: the European Council Regulation (EEC) no.2092/1991 June 24 and its amendments; the European Council Regulation (EC) no.1805/1999; the Regulations of the International Federation of the Movements for Organic Agriculture (IFMOA), etc.

#### **4.4. The institutional framework of the Romanian organic agri-food production**

*The institutional framework for promoting the Romanian organic agrifood production* is supported by a series of governmental bodies and many non-governmental organizations.

*The governmental bodies* in Romania have at their head the Ministry of Agriculture, Forests and Rural Development. The following are under the subordination of this ministry: the National Authority of Organic Products; the Institute for Food Bioresources; the Food Research Institute; the National Agency for Agriculture

Consultancy; The Academy of Economic Sciences; The Academy of Agricultural and Forestry Sciences “Gh. Ionescu Sisesti”; the University of Agricultural Sciences and Veterinary Medicine; Bioterra University – Bucharest, etc.

The number of *non-governmental organizations* identified in Romania total more than 27,000, with activities in the cultural, scientific, environmental areas etc.; out of these, about 60% are associations, 30% foundations and 10% unions and federations, all being established by Government’s decisions.

After 1990, about 300 NGOs emerged concerned with environment protection. These are located in big cities, have 10–50 active members; they are generally based on international funding, although they do not function at international level; in general, they are established as local citizens’ organizations or as groups of professionals in the field of environment protection.

In the university and research sector, NGOs emerged from lack of resources necessary to ensure an efficient educational process. They co-operate with the local authorities and less with the central authorities, being confronted with problems related to: (insufficient) technical assistance, (inadequate) legal framework, official registration, limited access to the communication means, lack of specialized staff.

Here are some examples of NGOs in Romania concerned with the organic farming practice: The National Federation of Organic Farming (NFOF) – president: Ion Toncea; The Farmer’s House Foundation, Bucharest – president Emil Grasu; vice-president Alberto Palombi; Agroecologia, Cluj-Napoca – president Avram Fitiu; The International Center of the Environmental Association in the Balkans for Agricultural and Food Protection – secretary: Ph.D. engineer Cristian Kleps, etc.

At present, in specialists’ opinion, the municipality Cluj-Napoca is the “integrating pole” of farmers who put into practice the organic farming principles in Romania, because, at a yearly conference initiated by “Bioterra”, the National Federation of Organic Farming (NFOF) was created, several associations of farmers-ecologists from our country being part of this federation, namely: “Bioterra”, “Agroecologia” and “Agri-eco” from Cluj Napoca; The Romanian Association for Sustainable Agriculture – “RASA” located in Fundulea, Calarasi county; “Eco-rural” with the central office in Bucharest, ect.

#### **4.5. The market for organic agri-food products in Romania**

With the EU enlargement, the ecological side of the agricultural policy will increase in focus; this trend is also a concern of the EU Member States, as they are obliged to limit the sphere of ecological aggressions and to comply with the quality standards imposed for all agri-food products, supported by an extremely rigorous certification system.

Organic farming is a field with great opportunities for our farmers. In this respect, most specialists agree that “the concern for organic farming is neither a whim nor a fashion”.

The potential of Romanian agriculture to produce agricultural products under organic farming conditions accounts for minimum 15% of the agricultural area of our country, according to the specialists' estimates. At this moment, in Romania, quite a large share of agriculture may shift to the organic farming practice, as millions of hectares of land have not been fertilized or chemically treated for many years; organic farming is not only a profitable alternative, but also an ideal change in the production system.

The Romanian organic agri-food products have been exported, even since 1998, mainly to Germany, France, England, Netherlands, Denmark, such products being appreciated by most EU consumers.

The German market for "bio" products is considered to be an extremely competition market from the point of view of marketing networks, of the quality of products, of prices and advertising methods; Germany is the greatest European market for such products and the second market in the world, after USA; the consumption of these products will follow an increasing trend in the years to come, according to the estimations of UNCTAD/WTO International Trade Center from Geneva.

On the French market, the consumption of "bio" products increased by about 20% on the average each year in the last few years, representing an important outlet for the specialized exporters.

The British market of "bio" products doubled its size in the last two years, the coverage of the demand for fresh vegetables and fruits, cereals, meat and dairy products from imports amounted to 60–70% on the average, with extremely favourable development perspectives.

The consumption of "bio" products on the Dutch market is lower than in Germany, France or England, although Netherlands is one of the main European importers of such products, which they process in their own industrial plants, re-exporting them to other European countries afterwards.

Denmark is a market with a high quality standard for the organic agri-food products, the average annual growth rate of the organic products sales in the last years being very high, i.e. 30–40%; this country's government encouraged the domestic production and consumption of such products.

Spain and Italy are important cereal, vegetables, and olive producers, as well as consumers of organic agri-food products.

In perspective, the CAP concern for organic farming will increase. The experts in this field expect that the food products obtained under organic farming conditions will reach 5.5% of turnover.

#### **4.6. Financial support of organic farming in Romania**

Considering the main contribution of organic farming to sustainable development through its capacity to enhance biodiversity, to protect the environment and increase soil fertility, the farmers in this sector receive support through the agro-



environmental measures of the European Commission. In Romania, the organic farmers can benefit from financial support for the certified production, through the National Rural Development Plan (NRDP) – agro-environment sub-measure under Axis 2, through the European Agriculture and Rural Development Fund (EARDF) non-refundable, in conformity with the (EC) Commission Regulation no. 1698/2005.

*Table 1*  
Agro-environmental payments by sub-measures and support packages

Sub-measures		Payment (EUR/ha/year)
Sub-measure 1. Organic Farming		
Package 1.1: Conversion to Certified Organic Farming		
Option 1.1A	Crops on arable land in conversion	233
Option 1.1B	Permanent grassland in conversion	101
Option 1.1C	Vegetable crops in conversion	343
Option 1.1D	Aromatic and medicinal plants in conversion	220
Option 1.1E	Perennial crops in conversion	414
Package 1.2: Maintaining the Certified Organic Production		
Option 1.2A	Certified arable crops	205
Option 1.2B	Certified permanent grassland	81
Option 1.2C	Certified vegetable crops	319
Option 1.2D	Certified aromatic and medicinal plants	195
Option 1.2E	Certified perennial crops	375
Sub-measure 2: Extensive Grassland Management		
Package 2.1: Extensive management of grassland outside the mountain area		
Basic package 2.1	Extensive management of grassland outside the mountain area	134
Option 2.1A	Fertilization limitation	59
Option 2.1B	Traditional rural landscape preservation	91
Package 2.2: Extensive Management of Grassland in the Mountain Area		
Basic package 2.2	Extensive management of grassland in the mountain area	194
Option 2.2A	Fertilization limitation	59
Option 2.2B	Traditional rural landscape preservation	127
Sub-measure 3: Water and Soil Protection		
Package 3.1:	Green crops	144
Package 3.2:	Transformation of arable land into grassland	115

Source: National Rural Development Program 2007–2013.

At the same time, community support is received for promoting the organic products, through co-financing programs, with 50% funding from the European Commission, 20% from the professional organizations and 30% from the state budget, according to the procedure from (EC) Commission Regulation no. 1071/2005.

The agro-environmental payments can be received by the farmers or other agricultural land users (arable, pasture, grassland, vineyards and orchards) who make voluntary agro-environmental commitments for a 5-year period from the date of first payment receipt.

These payments can be also received by other land users in the case when this is justified by reaching the environmental objectives.

The agro-environmental payment is a fixed amount and represents a compensation for the income losses, the additional costs and transactional costs borne by farmers as a result of undertaking the commitment. According to (EC) Council Regulation no. 1698/2005, the agro-environmental payments cover those commitments that exceed the compulsory standards specified by the (EC) Council Regulation no. 1782/2003 (Art. 4 and 5 and Annexes III and IV), as well as the minimum requirements, with regard to the Good Agricultural and Environmental Conditions (Annex V of the Regulation) referring to the application of fertilizers and crop protection products and other compulsory requirements from the national legislation and specified in NPARD, which means that the minimum requirements are not included in the calculation of compensatory payment.

Under the measure, in relation to the genetic resource in agriculture and biodiversity preservation, additional sub-measures are also stipulated, referring to the preservation of endangered autochthonous breeds and preservation of traditional orchards; under the objectives targeting biodiversity preservation and water and soil protection, additional sub-measures are stipulated to support the grass belts and protect the natural habitats, the wild species, with implementation in the period 2009–2010.

The agro-environmental payments are complementary to the support provided under CAP Pillar 1, as well as to other rural development payments provided under NRDP and interact with the measures of Axis 1 with agro-environmental relevance – support for professional training, counselling systems, farm modernization and adding value to primary products from the agricultural and forestry sector. It is necessary to combine these measures, where possible, in order to support the complex development of organic farming and of the high-natural value agricultural systems and increase the number of beneficiaries.

In the countries with a developed organic farming sector, there are complex financial support mechanisms, tax exemptions, production and export premia, direct payments, etc. These are meant to make up for the production losses and the additional costs associated to organic farming.

The economic efficiency analysis and the establishment of modalities to ensure the viability of the organic farming activities and increase the organic farm profitability, through governmental subsidies included, are priorities that, conjugated with the individual and group efforts at local level and with the political support, can contribute to the support to sustainable development of the Romanian countryside.

## 5. CONCLUSIONS

In the European Union, the trend followed by agriculture development is sustainable agriculture. Thus, the agrifood production of the EU Member States

should follow the market economy co-ordinates, while caring for environment protection and improvement, and meeting the domestic needs and the requirements of the world community. The drawing up of the strategy of agriculture development harmonization with maintaining the ecological equilibrium is identified with the implementation of the sustainable agriculture system (viable, stable, ecological, organic).

Environment protection has become a distinct policy in the European Union with the signing of the Single European Act (1989), which relaunched European construction and legally integrated the environment issues into the sphere of Community competences. It got a clearer shape and became one of the most important European concerns after the Maastricht Treaty (1992), when the objectives, principles and decisional procedures were established, necessary to repair what was called an “ethnic fracture” between nature and agriculture.

In perspective, the Common Agricultural Policy will focus much more on the *ecological aspect of farming activity*. The European farmer is more often regarded both as a producer and an active entity in the protection and preservation of the natural environment. This new image will be increasingly promoted in order to justify public intervention in favour of farmer income support.

The organic products contribute to keeping people in good health, ensures water protection against synthetic pesticides and fertilizers, provides solutions for farmers to surmount their professional difficulties and for rural area development; it also ensures a healthy future for the next generations. The reasons why we should have an ecological agriculture are the following: protect the next generations; remove chemicals from our tables; try better tastes; protect farmer's health; support to small farmers; security against bad weather conditions; soil erosion prevention; water quality protection; save energy; promote biodiversity; support to a real economy.

The ecological agriculture does not exclude the use of modern production means. The agricultural production system compatible with the requirements of environment and natural landscape protection is a complex system. This system appeals to a series of modern production techniques, which preserve and at the same time improve soil fertility. In order to achieve this, either it does not use synthetic chemical products, not even in the process of obtaining raw products or in their processing, or it uses these synthetic products in limited amounts according to the strict requirements of crop development and to the potentiality of the agricultural, soil and weather conditions.

The obvious impact of farming activities upon the environment quality determined an increased concern for compatibilization between the two terms of the equation. These orientations reflect the new evolutions of the sustainable development process in the rural area and an ecological approach to agriculture.

In Romania, organic farming is a dynamic sector that has experienced an increasing trend in recent years, both in crop production and in the livestock sector. The state and private organizations are deeply involved in producers' information,

in the training activities and promotion of ecological agriculture, while the higher education institutions are concerned with training specialists in this field. The direct expression of this phenomenon is represented by the great contribution of the producers in this sector to the sustainable development through biodiversity growth, environment protection and soil fertility increase, as well as by the emergence and affirmation of the Romanian organic products on the domestic and world markets.

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