

Analysis of Farming Sector from Sustainable Development Perspective

Camelia BURJA, University "1 Decembrie 1918" Alba Iulia, Romania

Abstract: *The farming system plays an important role into economical and social situation of one country but also, it exerts an environmental pressure, in the most part with negative effects on it. In the case of Romania, farming sector constitutes an element of its identity as a nation, not only in other times but also at very present, as the rural economy has had to assure the life means for a great part of population. Application of some principles and methods in accordance with the farming model of the European Union outlined by Common Agricultural Policy, becomes a need for developing of the sustainable agriculture. In the paper it is presented an analysis of the main elements which characterize the Romanian farming sector, concretized into a SWOT analysis.*

In the last years, the Common Agricultural Policy gated new dimensions and began the fundamental transformation of rural economy development policy, referring to 2007-2013 period. The goals of the latest CAP reform concern in principal, *the agricultural sustainable development* by economic, social and environmental point of view. Specially, are important, the influences which agricultural sector have had above the natural environment and its implications in the social and economic life of villages. The agriculture from its specific, using many natural resources, besides the beneficial effects, has contributed to increasing the grade of pollution of soil, water and air, fragmentation of habitats and loss of wildlife.

The developing of some sustainable agricultural practices, viable rural areas and some communities with sustainable traits, must be integrate in a large regional development vision in deeply accordance with EU Sustainable Development Strategy, adopted in 2001 (European Council in Gothenburg) and renewed in 2006.

The framework of sustainable agriculture outlined by present Common Agricultural Policy aims at reducing the environmental implications of the farming sector, meantime encouraging the agricultural exploitations to form their capacity to adapt their production technologies in order to obtain organic agricultural products according to European standards and to continue to play a positive role for the countryside and also, for the natural environment.

Within all member state of the European Union, the CAP has stimulated introducing of a new agricultural model which imposes practicing a type of farming activities environmental friendly, settled by Good Agricultural and Environment Conditions (GAEC). It was created common rules for all EU countries, according to which the EU states could define their own code for good practices of agriculture and environment, depending on the local conditions. In this way the CAP imposed a strict control of the consequences issue from agricultural activities on the environment in order to limit the pollution level and environment protection. The legislative demands related to the environment focus on wild fauna, flower and natural habitat preservation, water protection against pollution with dangerous substances and also, with nitrates resulted from agricultural sources. Sanctions for farmers were introduced if non-compliance with the GAEC standards starting with a 5 % decrease of their agricultural subsidy, up to the total exclusion from the subsidy program for several years.

In Romania, the development of the sustainable rural economy is one of the strategic objectives of Romanian agriculture policy concerning the rural development and the possibility of adapting the agriculture to demands of CAP. To the agriculture exploitations level the modality of used resources managing reflects in practice, the economic reasonable and efficiency principle with take into consideration its impact to the natural environment.

The implementation of the specific framework of the EU Community Agricultural Policy implied adopting *the Code of Good Agricultural and Environment Conditions* those main elements concern: fight against and prevent soil erosion, preserve the uncultivated arable land in good conditions for production, also maintain grassland in good situation.

In the circumstances in which the framework of sustainable agriculture was finalized, the agricultural exploitations will develop their capacity to adapt their production technologies in order to obtain organic agricultural products according to European standards. An indirect effect of GAEC application in Romania is stimulating the gathering of small surfaces of farms, taken into consideration that the minimum dimension necessary of an agricultural exploitation (than as obtains sustainable features) eligible for support, is 1 ha; in 2002 the farms with surfaces less than 1 ha occupied 86000 ha.

In order to better appreciation the present stage of Romanian farming from perspective of its implications on environment, it is necessary a characterization of principle aspects concerning this sector using a *set of general and structural indicators (environmental and agricultural indicators)*. The general indicators outline the level of agriculture competitiveness provided by number of the operators who action within farming sector, agricultural labor force efficiency, extend of agricultural area, agricultural output, situation of purchaser prices. The environmental and agricultural indicators will permit making the links between the environment and farming practices and refers to extend of areas under agri-environmental support, areas occupied by organic farming, livestock density, sales of pesticides, nitrogen surplus, irrigable area. The set of sustainable development indicators have developed like a part of EU sustainable development strategy for monitoring the progress made by the member states towards implementation the new European policy goals and evaluation the numerous areas which might contribute to creation of some sustainable communities, agriculture being one of the first sectors of the economy to receive the attention of European policymakers (tab 1).

Table 1
Agricultural and environmental indicators, 2005

Indicators		Romania	EU-25	EU-15
General indicators: Agricultural sector	Number of agricultural holdings	4484900*	9870600*	6238600*
	Land area, 1000 hectares	22899	.....	312422
	Arable land (+ perm. crops), 1000 hectares	9430	108659	84168
	Agricultural GDP, %	10	.....	1,9*
	Import of agricultural products, mill. euro	2424,8	.....	58200**
	Export of agricultural products, mill. euro	854,0	.....	58000***
Agricultural labor force	Total farm labor force, annual work unit	2700000	9804000	6290000
	Full-time regular farm labor force	338000	3874000	2749000
	Agricultural holders < 35 years old	392000	793000	386000
	Agricultural holders > 65 years old	1719000	2706000	1898000
Agricultural production	Cereals production, 1000 tones	19710	.....	199365
	Vegetables production, 1000 tones	4685	.....	52894
	Cow milk, 1000 tones	5716	.....	109448
Agricultural output	Gross value added at producers prices of agricultural industry, mill. euro	4121**	127162 (128726**)	116758 (119434**)
	Crop output, mill.euro	4887**	149452 (143768**)	135816 (131857**)
	Animal output, mill. Euro	2984**	123318 (121509**)	109475 (110031**)
	Income from agricultural activity, (2000=100)	283,4	104,8	103,7
Sustainable development indicators for agriculture	Organic area (fully converted and under conversion), hectares	170000	.....	4886979**
	Organic farming area of UAA, %	0,1	.....	3,8**
	Area under agri-environmental support, %		.....	24**

sector	Livestock density index, LU per hectare	47,7	.....	0,9**
	Nitrogen surplus, kg per hectare	.....	.....	55
	Pesticide sales, tones of active ingredient	.....	.....	327280**
	Irrigated land, %	0,8*	.....	12*
	Organic producers	3676	.....	135191**

Source: Eurostat yearbook, 2006-07; FAOSTAT, World Bank – website;

* 2003 or 2004 year

** 2000 year

The present situation of the Romanian farming sector illustrates the strong agrarian specific of economy, with a rural economy fable development. In rural area lives almost half of Romanian population, so that agriculture remains a very important activity for many people. This economical sector still has to perform its base functions, assuring the food security, place works, revenues and a rural life's quality. The high GDP provided by agriculture sector (10 %) might be a serious cause of concern for policymakers, because shows the not modern type of economy and its increase dependence by farming activities. In other European countries the agricultural GDP is more reduce: Czech Republic 3 %, Estonia 4 %, Hungary 4 %, Latvia 4 %, Lithuania 6 %, Poland 5 %, Bulgaria 9 %, Slovenia 3 %, Slovak Republic 3 %, Croatia 8 %. Being interested by the indicator which could reflect the one nation's economic situation, namely GDP per capita at current market prices, comparative with the countries' same group, Romania has the smallest GDP per capita, 8100 PPS in 2005, except Bulgaria with 7500 PPS. It represents only 35 % from EU-25's GDP and there is to a very long distance by indicator size in EU developed counties like, Luxembourg (58000), Ireland (32000), Denmark (29000), Netherlands, Austria etc.

Another feature of Romanian agriculture sector is the high percentage, 12 % from total labor force who works in farming domain, so it can suggest the extensive feature of agriculture. The numerous agricultural labor force (2,7 million persons) can assures using of some technologies that have big labor consumption, as so together with promoting the restructuring investments to realize sustainable practices, could be a chance for developing sustainable farming in Romania. Full-time regular labor force is much more reduce, almost 9 times reducer than total agricultural labor force, this fact showing that agricultural activities are practiced by numerous individual farmers and their families and constitutes a specific life's way within one rural economy. Within the all 15 developing countries of the European Union, the agricultural labor force has a permanent and regular character in a great measure than Romanian's (full-time regular labor force is only 2,3 times smaller than total agricultural labor force). The labor force who works in the farms which have an agricultural area greater than 5 ha was only 33 %. An important problem of agriculture sector is the numerous people over 65 years old, 1,7 million persons, which represents almost the similar labor force segment of the whole EU-15.

The restructuring measures of Romanian agriculture initialized after 1990 year and specially, the efforts of Common Agricultural Policy implementation, have purposed to adapt to Romanian conditions to European agricultural model, in order to attenuate the subsistence feature of rural economy and increase the welfare in the countryside. In these conditions the income provided by agricultural activities in 2005 is almost 3 times grater than 2000 but farmers revenues are still reduce.

Disposing a big land area, 22,9 million hectares which represents almost 7,3 % of whole EU-15 land area, Romania has also, an important number of agricultural holdings (4484900 in 2004) that count for about half of EU-25' ones. The situation is due to the legislative transformations that reinstated agricultural property, as so, it resulted numerous small agricultural holdings, which in proportion of 91,6 % from private arable soil have surfaces less than 5 ha and it represents only 54,5 % from the entire arable land. Have to be mention that these 4,48 million agricultural holdings are only those having more than 1 % of national agricultural activity. Considering their expression in European Size Unit (ESU), in 2005, the number of agricultural

holdings had more reduce, they were about 1,24 million ESU and among these only 317800 had a surface greater than 5 hectares (26 %), while 1 % used 100 ha or more.

Although, Romania owns 9,4 million hectares of arable land, which means a percentage of 8,7 % from EU-25 arable land, it has a poor agriculture productivity; it ensures only a small part of agro food products that are necessary to the population. The value of total agricultural imports needs a big financial effort (2424.8 million euro) that is 3 times greater than agricultural exports and contributes to no equilibrate the country's payments balance.

Looking at the agricultural output, we can observe that Romanian agricultural industry produced in the latest year with statistical information, 4121 million euro, that represent about 3,2 % from gross value added by this sector at the al EU-25 countries level, had a crop output by 4887 million euro (3,2 % from EU-25 crop output) and produced 2984 million euro animal output (2,4 % from EU-25 animal output). Physically productions are important, comparative with assembly of those 25 countries which form the European Union until the integration second wave, Romanian cereals production representing almost 10 % from EU cereals production, vegetables production count for about 9 % by that of the EU' and cow milk production is more than 5 % from EU-25 same indicator.

After the legislative framework for the development of organic agriculture was initiated (2000), the interest to convert the conventional practices of culture plant growing animals and processing products has increased towards organic agricultural ones, many organic agricultural producers associations being born: Agroecologia, Romanian Association for Sustainable Development, Bioterra, Society for Organic Agriculture, Ecorural. They are situated mostly in Transylvania, Bioterra owned 67 % from total of organic farms and 68 % from total of ecological surfaces of Romania.

Compared with the EU-15 utilized agricultural area devoted to organic farming, which represents almost 4 %, Romania has an insignificant agricultural area organic farmed, only 0,1 % (170000 ha from utilized agricultural area, in 2006, fully converted or under conversion). In the EU member states, Germany registers the highest number of hectares cultivated through organic methods, over 760000 ha, followed by Italy and United Kingdom. These countries form a group of EU member states which have the largest organic areas and numerous organic producers who manage a average surface by 35,1 ha. The area under agri-environmental support at the overall EU level is much extend, represents 24 % of UAA and this figure has to be the goal for the Romanian policy decisions as so they could facilitate the ongoing development of organic farming in the next years.

The number of the agricultural holding which practice organic farming is also reduces, being almost 4000 producers. Only 0,2 % from all Romanian farms practice organic farming methods, 2,1 % has an irrigating system and almost 70 % of them work with a tractor but only 9 % benefit by their own tractor. From all arable land is irrigated a few number of hectares which represents more less than 1 %.

Using the sustainable practices in Romanian agricultural holdings is not very simple. Most regions have a poor infrastructure, there is no domestic market for organic products where farmers could sell their products at better prices, the possibility of financing the agricultural exploitations investments are reduced and concerning this aspect, up until now it, the opportunities to stimulate sustainable development were the pre-accession SAPARD funds and beginning with 2007, the rural development funds specific of CAP are in operation.

However, the efforts made by Romania in the last years to encourage sustainable agriculture development are highlighted by an accelerated dynamic of specific indicators.

In the late years it remarks a positive evolution to the direction of implementing the sustainable agriculture elements. The statistics show that only 37 % from entire Romanian agricultural area accomplishes the conditions for practicing the sustainable agriculture, the other

surface being degraded and although we can notice nowadays that the extend of the organic area is by 10 times greater than in 2000, it remains still reduce.

Also, increase about 10 times the crop production obtained in organic system but specially, it registered an accelerated dynamic of apicultural products which are most exclusively sold to exports. Although some producers have expressed interest in selling their organic products in the domestic market, the principle obstacle which keeps it at a low level, is the existence of a small segment of population with higher incomes. For government, the development of sustainable farming and organic production became one of the priorities of its strategy, mostly that the organic products could constitute an important group of goods orientated to export.

In these situation, we can consider that the Romanian agriculture has a great potential of sustainable development and taking-over the communitarian acquit, it engaged to adapt the agricultural practices in accordance with European standards for obtaining the ecological products.

The made analysis evidenced some aspects of the sustainable farming stage, namely the weakness elements which have to be diminished and also, some strong elements that have to be developed (table 2)

Table 2
SWOT analysis of the sustainable agriculture

Weakness elements	Strong elements
<ul style="list-style-type: none"> • existence of one rural economy fable development, with poor infrastructure, mainly farms orientated to agricultural activities (68,7 %), the other activities being: processing of farm products (23,2 %), contractual work (1,9 %), wood processing (0,2%), tourism (0,1), handicraft (0,1) 	<ul style="list-style-type: none"> • the great favorability potential of the country for practicing farming activities (big agricultural land, specific climate, numerous agricultural labor force)
<ul style="list-style-type: none"> • extend of the subsistence economy, 69 % from agricultural holdings produce mainly for their own consumption 	<ul style="list-style-type: none"> • tradition in farming for ages
<ul style="list-style-type: none"> • existence of a most part of labor force in the agrarian sector (12 % of total labor force; almost half of population lives in the countryside) 	<ul style="list-style-type: none"> • initiation of the agricultural restructuring process since 1990
<ul style="list-style-type: none"> • the great number of agricultural employers who have more than 65 years old; increase dependence of economy by farming sector (agricultural GDP is 10 %) 	<ul style="list-style-type: none"> • implementation of the legislation concerning the natural environment protection in accordance with the European Union standards
<ul style="list-style-type: none"> • the numerous agricultural holdings which have an economic size of least 1 European Size Unit as that the fragmentation of land is unfavorable for application of production and management technology 	<ul style="list-style-type: none"> • adopting of the sustainable agriculture principles and methods by a segment of producers
<ul style="list-style-type: none"> • the reduce labor efficiency, the farming production couldn't assure the overall demand of population as so the agricultural products import means a great payment effort 	<ul style="list-style-type: none"> • the changes carried out in the last years concern a rapid rise in the amount of land and number of processing facilities adhering to organic standards
<ul style="list-style-type: none"> • the domestic organic market represents a very small share of total market 	<ul style="list-style-type: none"> • the increase of organic production requirements mainly, on external markets
<ul style="list-style-type: none"> • conventional farming practices generate various kinds of pollution 	<ul style="list-style-type: none"> • beginning of the certification activities of producers, so that these will be stimulated to implement the organic principles for reducing non-approved input residues in the fields
	<ul style="list-style-type: none"> • starting the access of the CAP rural development funds (2007)

Promoting the sustainability in the agricultural sector implies taking into consideration of those strategic aspects which could contribute to develop this domain, namely: concentration of land areas, large capital investments, large-scale farms, rapid technological innovation, increasing the labor efficiency, biophysical aspects concerning soil, water and air conservation.

Also, including the own needs of villages in the territory arrangement strategy, will generate a diversification of activities in agrarian sector and also, a diversification of all economic sectors in the rural area, a better management and use of the local natural resources with direct implications in life's quality within the rural space and health of the environment. In these conditions, agriculture but also, territorial restructuring have become important conditions for implementing the sustainable development. Sustainable agriculture policy has to encourage improvement of the farmers behavior changes so that they to be promoters of the various rural development measures as: stimulate markets development, increase the degree of commercialization of agricultural small-scale production, introduce new technologies, diversifying activities (rural crafts), stimulate food processing on farms, tourism with rural specific and especially and mostly, developing the organic farming.

Although Romania made some important steps for transition to the principles, methods of the new European model, it was still at the beginning of its actions as so, for implementing the sustainability in agricultural sector there are necessary integrated analytical approaches due to the complexity of the problems which concern in the same manner increasing the farming sector competitiveness, respect for the natural environment, meaning respect not for only the present generation needs but also for assure the next generations requirements satisfaction, health of people, life's quality.

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