ISSUES REGARDING AGRICULTURE DEVELOPMENT IN BOTOSANI COUNTY AFTER ACCESSION TO THE EUROPEAN UNION

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Abstract

Development and efficiency strategy of agricultural production in a certain area is based on the analysis of the economic and financial situation of the agricultural sector, which should take into account the adoption of those measures aimed primarily at increasing agricultural production and, secondly, making it more efficient by accessing European funds (1, 4, 6, 8, 11, 12, 13, 14, 16, 18, 21, 23, 24). These measures will have a major influence on increasing the efficiency of the Romanian agriculture by promoting farmers' managerial and marketing skills and orientation of farming activities to profitable investment, including integrated projects, by accessing EU funds (5, 6, 10, 15, 16). National Rural Development Programme is the instrument through which the European Agricultural Fund for Rural Development (EAFRD) and the European Economic Recovery Plan (EERP) can be accessed, which complies with the strategic guidelines of the EU rural development (15,20). Achieving the desired objectives of the National Rural Development Programme 2007-2013 is provided by the Managing Authority for P.N.D.R., namely the General Directorate of Rural Development, belonging to the Ministry of Agriculture and Rural Development. Common Agricultural Policy (CAP), in its actual form, consumes, through the complex system of subsidies and other financial incentives, about half of the common budget and is built around two pillars: the first is the common market organizations and covers common regulation measures of agricultural products integrated markets functioning, and the second, which gained magnitude in the past decade, is rural development and includes structural measures that target a harmonious rural development (diversification of activities, product quality, environmental protection) (24).
Accessing European funds for agriculture and rural development is closely linked to the Agency for Payments and Intervention in Agriculture, which operates in three main areas, developing support measures financed from the national budget and European funds (6.16): a) direct payments and market measures; b) some measures financed from European funds for agriculture and rural development, established by the Minister of Agriculture and Rural Development; c) payments which represent financial support from the national budget. Through the presented paper, the authors have proposed to highlight the main aspects that characterize the evolution of Botosani county's agriculture after Romania's adherence to the European Union (8, 11, 12, 22).

Key words: agriculture, development, integration

MATERIAL AND METHOD

The research methodologyfollowed severalstages:

- actual information from theresearched area;
- ordering, processing and presenting the resultsinsummary form(tables, figures, diagrams);
- analysisand interpretation of results;
- drawing conclusionsand recommendations.

The case studyfocused on theagriculture ofBotosani County,which is locatedin the N.E. of Romania (*figure 1*).

Overall population density in Botosani county decreased from 92.5 inhabitants/Km^2 in 1994 to 80 inhabitants/Km^2 in 2011, however, the density of rural population increased from 25.4 inhabitants/Km^2 in 1994 to 48.2 inhabitants/Km^2 in 2011.

Complex indices, which show the landload that belongs to a person, werein the range from 0.87 to 0.98 ha/capita. All this demonstrates that Botosani county has a high potential of human resources that canprovide the necessary laborin agriculture.

Figure 1 **Administrative-territorial location of Botosani county**

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RESULTS AND DISCUSSIONS

Evolution of agricultural land in 2007-2012 shows that there were nosignificant changes (*table 1*).

Of the total agricultural area of 392 800 hectares located in the agricultural circuit, the biggest share is represented by the private domain (*figure 2*).

Fragmentation of land ownership mentains small farms owned by farmers who reached retirement age. Moreover, 42.45 % of the agricultural area is found among the 506 associative units (*table 2*).

On average, in the studied period, arable land occupied the largest share in the structure-shift of agricultural land (76 %), in which cereal grains arein first place: 51.4 %.

Regarding the situation of main crops cultivated areas, we have observed variations from one year to another (*table 3*).

The comparative analysis of 2007 – 2012 shows a slight decrease in areas cultivated with wheat, rye, barley, barley, oats, sunflower, soybean, rapeseed, sugar beet, potatoes, and vegetables-total.

However, there were significant increases in maize, grain legumes, oil plants - total, and fodder plants.

Average yield per hectare achieved in major crops showed a fluctuating trend and the absolute level was quite low (*table 4*).

Table1

Evolution of agricultural land in Botosani county, by use, in the2007-2012 period

Category of use	2007		2012		
	ha	% of agricultural	ha	% of agricultural	% / 2007
Agricultural – total, from which:	392792	100,0	392767	100,0	100,0
arable	298762	76,06	298747	76,06	100,0
natural pastures	75146	19,13	75146	19,13	100,0
natural hay	14635	3,73	14635	3,73	100,0
vineyards and nurseries	1690	0,43	1680	0,43	99,4
orchards and nurseries	2559	0,65	2559	0,65	100,0

Source: Data processed by theBotosani County Statistics Centre

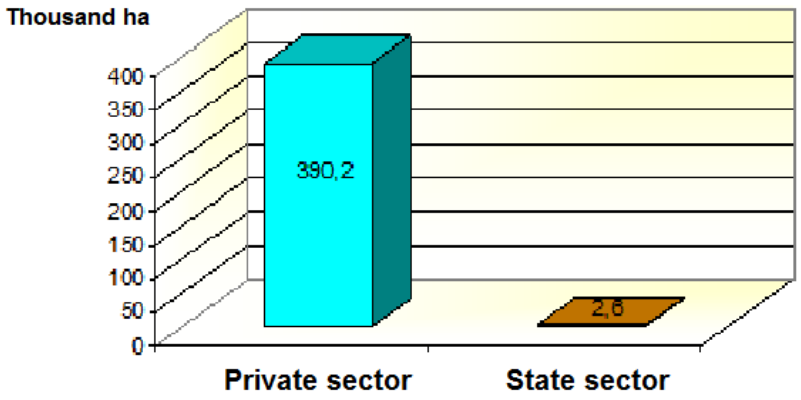

Figure 2 **Ownership structure of agricultural land**

Table 2

Agricultural land use in associative forms in Botosani

No.	Specification	Number	Area - ha -	% of total agriculture land
1.	Agricultural companies	8	3434	0,87
2.	Trading companies	99	43500	11,07
3.	Family associations	110	7470	1,90
4.	Tenants - individualproducers	95	5600	1,43
5.	Research stations	1	1143	0,29
6.	Other use forms	193	105589	
7.	Total associative forms	506	166736	42,45
8.	Individual small farms	148659	226303	57,55

Source: Data processed by the Botosani County Statistics Centre

Table 3

Arable land cultivated area incrop groupsandmain crops–ha

Specification	2007	2010	2011	2012	Period average	% of total
Cultivated area – total, from which:	247618	270576	283125	290139	272864,5	100,0
Cerealgrains, from which:	130690	142396	142658	145508	140313,0	51,4
corn grains	87146	94473	103128	105851	97649,5	35,8
wheat and rye	23766	30952	24265	21557	25135,0	9,2
barley	7621	5951	4976	4740	5822,0	2,1
oat	11745	10605	10289	10830	10867,3	4,0
other cereals	412	415	-	2530	761,7	0,3
Vegetables for grains	2285	2672	2646	2516	2556,5	0,9
Oil plants, from which :	52123	54357	55565	59552	55740,3	20,4
- sun flower	30401	27706	22290	28380	27194,3	9,9
- rape	3926	4495	6478	1130	4007,3	1,5
- soybean	17336	24584	26664	29083	24416,8	8,9
Sugar beet	2239	1460	1645	2266	1902,5	0,7
Potatoes - total	7152	9129	8020	9877	8544,5	3,1
Vegetables - total	9205	8900	7862	8481	8612,0	3,1
Fodder plants– total	43290	51662	63971	61939	55569,3	20,4
Other cultures	634	-	758	-	348.0	0,1

Source: Data processed by theBotosani County Statistics Centre

Table 4

Average yield per hectare of the main crops in the county of Botosani during 2007 - 2012 - Kg / ha

Specification	2007	2010	2011	2012	%/2007
Wheat and rye	3092	2960	3098	2531	81,9
Barley	2324	2174	1861	1535	66,0*
Oat	1796	1730	1663	1370	76,3
Corn grains	3484	3706	3695	1210*	34,7*
Sunflower	1372	1433	1440	650*	47,4*
Rape	1834	1310	1332	1075*	58,6*
Soybean	2027	2013	1450	580*	28,5*
Sugar beet	29208	34127	29830	23650	81,0
Potatoes-total	14158	16665	15992	9877	69,8

Source: Data processed by the Botosani County Statistics Centre

* cultures withpartial disaster

In 2012, comparedwith 2007, average yield sper hectare were lowerdue to natural di-sasters (prolonged drought and high temperatures during the growing season) recorded for barley, maize, sunflower, rape and soybeans.

Between 2007 and 2012, in 2010, the majority of crops have recorded total production increases, except for rape (*table 5*).

In 2011, higher production were achieved in maize, soybeans and potatoes-total, as in 2012, an unfavorable crop year, only sugar beet-total was higher than 2007 (3.7 %), while other cultures that have been analyzed had lower productions, between - 14,5 % (in oat), and - 83.1% (rape).

Although Botosani county has a large area of agricultural land, this resource cannot be fully exploited, productivity being low due to the following factors:

- agricultural land use is done on small plots (1-3 ha) due to land fragmentation by switching land areas to private property, as well as the low level of mechanization;
- aging work force (more than 28 % of the rural population is over 60 years old);
- high level of poverty of the land owners, who have great difficulty in establishing crops and livestock, hence the choice to not cultivate certain areas;
- lack of capital for agriculture restructuring and modernization;
- soil instability erosion, mainly due to non-application of culture technology and good agricultural and environmental practices (GAEC);
- destruction of irrigation systems, which in Botosani county represents an area of 20234 ha, which is 6.77 % of the arable area of the county;
- adverse weather conditions;
- reduced use of chemical and natural fertilizers;
- unfinished tabulation process of the city limits agricultural area sand outputs of individuals by introducing cadastre, which should have been borne by the state, in order to solve the problem of land disputes.

Another analysed indicator refers to livestock,which had a downward trend (*table 6*):

Thus, in 2012, compared to 2007, goat herds were 76.1 % higher, while cattle, swine, sheep and bees were heavily declined, ranging from - 38.5 %

(swine) to - 8.1 % (sheep). In 2012, the average yield perfed animal forcow milk showed a slight increase compared to 2009 (+1.7%), with a still under performing absolute level, which ranged from 3,600 liters/ capita (in 2011) to 3865 liters/capita (in 2012) (*table 7*):

Sheep milk registered a significant decrease (- 20.9 %), the absolute level being only 53 liters / milkedsheep (in 2012).

The average production of chicken eggs has decreased from 170 pcs./fed chicken (in 2009) to 142 pcs./fed chicken in 2012 (- 16.5 %).

The average production of wool decreased by 10.0 %, reaching 1.8 kg/shorn sheep versus 2.0 kg in the first three years.

Between 2009 and 2012, total milk production has increased slightly, while total production of swine live weight and total production of honey have increased by 5.5 % and 14.2 %, while other animal products (wool, eggs and beef) had a negative trend (- 31.5 % - eggs, -20.8 % - wool and - 21.7 % -beef) (*table 8*).

Regarding livestock, it should be noted that in Botosani county specialized livestock farms are few and most livestock are grown in individual households to ensure a subsistence level. In this context, the total output produced in livestock is insufficient to meet demand processors to promote and sell using specific marketing techniques in order to gain stable market segments and broadening the sales market as a whole, these parameters being behind the genetic and technologicalprogress recorded in western European countries.

Table 5

Aggregate production of the main crops in Botosani county during 2007 - 2012 – tonnes

Specification	2007	2010	2011	2012	%/2007
Wheat and rye	85962	90917	72746	54561*	63,5*
Barley	15235	14587	9190	6754*	44,3*
Oat	19764	19293	17111	14838	75,1
Corn grains	334130	305661	376420	128080*	38,3*
Sunflower	40322	39580	31424	18447*	45,7*
Soybean	35146	49483	38670	16868*	48,0*
Rape	7186	5888	8630	1215*	16,9*
Sugar beet	51699	56310	49070	53590	103,7
Cartofi - total	128695	149490	128256	78870	61,3

Source: Data processed by the Botosani County Statistics Centre

* cultures withpartial disaster

Table 6

Dynamics of livestock in the 2007-2012 period - heads

Specification	2007	2010	2011	2012	%/2007
Cattle – total	136647	116638	107876	102083	74,7
Swine – total	105303	65252	58509	64783	61,5
Caballine – total	40314	38170	26693	25434	63,1
Goats – total	114812	19544	21724	26079	176,1
Birds – total	1838555	1902239	1845996	1355850	73,7
Sheep – total	323269	331777	313891	296953	91,9
Bees – No. families	26265	26190	25200	21939	83,5

Source: Data processed by the Botosani County Statistics Centre

Table 7

Average production per fed animal in Botoşani countybetween 2007 and 2012

Specification	2009	2010	2011	2012	%/2009
Cow milk – liters	3800	3700	3600	3865	101,7
Sheep milk – liters	67	70	70	53	79,1
Whool – kg	2,0	2,0	2,0	1,8	90,0
Chicken eggs – pcs.	170	160	157	142	83,5

Source: Data processed by theBotosani County Statistics Centre

Table 8

Total animal production in Botosani county during 2009 - 2012

Specification	2009	2010	2011	2012	%/2009
Milk total – ths. hl, from which:	1895,9	1835,3	1921,2	2136	112,7
cow milk – ths. hl	1772,3	1707,9	1808,0	1953	110,2
sheep milk – ths hl	123,6	127,4	113,2	183	148,1
Beef – tons	16815	18094	36933	13172	78,3
Swine meat – tons	7064	6359	15222	7454	105,5
Eggs – mil. pcs.	194,1	172,3	190,0	133	68,5
Whool – tons	674	608	574	534	79,2
Honey – tons	309	398	234	353	114,2

Source: Data processed by the Botosani County Statistics Centre

CONCLUSIONS

Botoşani county has a total area of 4986 km^2 and a population of 398900 inhabitants, being placed entirely on the Moldavian Platform.

Botoşani county territory is characterized mostly by general relief waves, with inter-hillparallel rivers, separated by valleys with wide meadows and ponds filled.

Climate is temperate continental, with excessive tendency, which differs in relation to the two major geomorphological units (Hills of Siret and Moldova Plain), but also depending on landforms (plateaus, slopes, valleys).

Annual average temperature is 8.6 ºC and the annual amount of rainfall was 550 mm (the normal multiannual being 560.7 mm), irregularly distributed during the growing season.

Bythe agricultural area (392800 hectares), Botoşani county has a strong agricultural character, each inhabitant assuming 0.985 hectares of agricultural land, respectively, 0.749 hectares of arable land.

Although Botoşani county has a large area of agricultural land, this resource cannot be fully exploited, productivity being low due to the following factors:

- agricultural land use is done on small plots (1-3 ha) due to land fragmentation by switching land areas to private property,as well as the low level of mechanization;
- aging workforce (more than 28 % of the rural population is over 60 years old);
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duals by introducing cadastre, which should have been borne by the state, in order to solve the problem of land disputes.

On average, in the analyzed period, in the structure of agricultural land, the largest share is occupied by arable land, with grain cereals on the first place. Regarding the situation of main crops cultivated areas, we have observed variations from one year to another. From the comparative analysis of the period 2007-2012, compared to the reference year 2007, itresulted a slight decrease in acreage in most cultures, however, there were significant increases in maize, grain vegetables and fodder plants.

Improving business efficiency and the profitability of the companies can be achieved by:

- maximizing added value: a focus on making best use of company resources to enter the market with high added value (cost of entry as low as possible, high processing level better capitalization price);
- addition of increased net value of inputs received from the external environment provides the long-term existence of companies;
- to obtain an added value of a higher level, a thorough strategic review is needed, which aims the two areas of intervention: increasing the value of output and reducing the cost of inputs, the analysis being done differently, in the market and industry profileactivity.

Current situation analysis should be supplemented with information on the new Common Agricultural Policy (CAP) and its effects on the RDP and on rural deve-lopment policies in general. Not enough attentionhas been given within the RDP to the disparities between urban and rural areas and between the regional and national level, and the causes that have generated them. Disparities have an important role in development policies establishment.

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