ANALYSIS REGARDING THE LEVEL OF DEVELOPMENT OF AGRICULTURE IN BIHOR COUNTY

ANALIZA NIVELULUI DE DEZVOLTARE AL AGRICULTURII ÎN JUDEȚUL BIHOR

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Abstract: *European Union Common Agricultural Policy promotes a rural development policy that supporting job creation in rural areas, both in agriculture and also in upstream and downstream from it, in a way as to strengthen the economic, social and environmental structure, in all rural areas.*

Bihor County, situated in the north-west of Romania, on the rivers Crisul Repede and Crisul Negru, bordered to the east part of the Apuseni Mountains and on the west part of the Tisa Plain, has many opportunities for economic growth through agricultural recovery, an specific activity of county residents, because the favorable natural environment of its allow the development of this branch.

The authors of this paper presents an analysis of Bihor county agriculture, considering that this sector can help to increase income of rural inhabitants, as well as the relaunch activities related upstream and downstream agriculture

Key words*: rural areas, agriculture, farmland, agricultural production*

INTRODUCTION

In rural areas, agriculture is the backbone of the economy, because it constitutes an industry producing agricultural products and underpins the development of multiple activities related to agriculture.

Bihor County has a natural environment conducive to recovery in agriculture and, over the time, it was the main activity of the inhabitants from this county.

Piedmont hills make the transition to the lowest step, for the Western Plain (The Criş Plain, in the south and the Barcău Plain, in the north).

Thus, Bihor county has a varied landscape, the relief being arranged in steps witch descending from east to west, from the peaks of the Apuseni Mountains to the Western Plain.

In East County, there are high-western peaks mountain massif of Bihor, with heights over 1,800 m – and and the massive Codru-Moma, Pădurea Craiului and Şes, with lower heights (between 500-1000 m).

These lower peaks, that descend to the west part are separated by the valley of Beiuşului, on Crişul Negru river and the valley of Vad-Borod, on Crişul Repede river.

Bihor County climate is moderate and continental and it is influenced by air masses from western, more humid and cooler.

The average annual of temperature varies between 6 ° and 10.5 ° C and rainfall amounts increase from west to east, ranging between 500 and 1,200 mm.

The hydrographic network is represented by the rivers: Barcău, Crişul Repede and Crişul Negru witch flowing from east to west.

MATERIALS AND METHODS

To achieve the objectives of this paper, the working method used were: study data collection, processing, analysis and interpretation.

RESULTS AND DISCUSSIONS

Agriculture, the basic branch of national economy and plays an important role in Bihor county economy. The county's rural communities agriculture is an important source of income for the vast majority of the population.

- **Farmland**

Bihor County has 496,765 ha of agricultural land, which holds the largest share of arable land 62.2%, respectively 309 265 ha of natural grassland and 36.4%, respectively 180 736 ha.

Table 1

Farmland, by use, on december 31

ha

Bihor County	1990	1995	2000	2004	2005	2006	2007	2008
Total area	754427	754427	754427	754427	754427	754427	754427	754427
Agricultural area	493360	499508	499562	499209	497167	496907	496907	496765
Arable	306911	302514	302493	308412	309084	309327	309327	309265
Pastures	126282	138635	138778	138371	136370	136201	136201	136121
Meadow	43090	42490	42567	44754	44752	44615	44615	44615
Vineyards[1)]	5733	5493	5483	2111	2109	2057	2057	2057
Orchards [2)]	11344	10376	10241	5561	4852	4707	4707	4707

Source: Data processed according to Bihor County Statistical Office

- **Agricultural production**

In 2007, the crop production accounted for 63.8% of total production value of the Bihor county, while the livestock production accounted for 35.2%, and the agricultural services have only 1% of total agricultural production, although the share of livestock production was meant to be always greater than 50%, which did not happen today in the county, but not at national level (Table 2).

Table 2

The value of agricultural production of agricultural goods and services

-thousand current prices-

Bihor County	2001	2002	2003	2004	2005	2006	2007
Total	**983765**	**1163368**	**1463573**	**1880535**	**1574790**	**1633051**	**1888932**
Crop	600910	642455	847890	1258193	879070	890689	1205067
Animal	378271	516199	608847	615732	686317	724361	665796
Agricultural Services	4584	4714	6836	6610	9403	18001	18069

Source: Data processing according with Bihor County Department of Statistics

The high percentage of fertile soils, favored in the Bihor county, especially the cultivation of cereals. Some of this cereals are grown in a high proportion of wheat and maize, and crops of sunflower, sugar beet and potatoes.

The area planted with major crops in Bihor county during 1990-2008 decreased from 274,799 hectares to 299,437 hectares, as shown in Table 3. Furthermore Bihor County had a strong grain character of agricultural production.

Table 3

Cultivated area, with the main crops

ha

Bihor County	1990	1995	2000	2004	2005	2006	2007	2008
Cultivated area – total	299437	305307	267610	265856	270183	258218	278810	274799
Cereal grain	176161	211898	170834	201218	190559	168282	192502	184476
Wheat and rye	71416	92209	45327	76613	74442	58638	59496	62305
Barley	16921	17937	11624	13458	17963	13871	16872	16287
Grain maize	76657	84397	96242	94857	81758	82881	101985	88889
Potatoes	10387	10137	10539	11388	9950	10405	10659	10908
Sugar beet	6060	5602	3415	1453	1357	1692	1748	1785
Oil plants, of which:	8673	12930	19357	22414	26807	25252	29333	29487
Sunflower	4764	12171	17502	21873	25286	22645	23278	23940
Vegetables	8249	7618	7970	7859	6328	6432	7185	8446

Source: Data processing according with Bihor County Department of Statistics, 2008

In the structure of the cultures in the last 20 years: maize, wheat, barley, sunflower and forage plants are crops that have the largest share, but there are also conditions to increase the areas planted with soybean, rapeseed, flax and hemp, because the Bihor County has a long experience in technical crop.

Table 4

Total production, the main crops

tone

Bihor County	**1990**	**1995**	**2000**	**2004**	**2005**	**2006**	**2007**	**2008**
Cereal grains	502017	628798	279030	881640	677588	568565	557861	750974
Wheat and rze	218179	278702	93672	300942	235462	165616	135452	232116
Barley	68333	51295	19636	45385	47828	30817	38126	41267
Maize grains	198723	277389	151367	493748	365399	349474	368484	440676
Potatoes	110459	109002	94536	149686	133814	145872	155966	173909
Sugar Beet	130598	106888	29153	58540	40861	54910	50494	73575
Sunflower	5482	16937	13215	42031	41516	36051	25834	57602
Grapes	9705	17302	21568	15042	8640	8362	13926	11562
Fruits	63850	24565	38531	79654	36306	35995	27336	37241

Source: Data processed according to Bihor County Statistical Office

Table 4 shows that the production of cereal grains and potatoes produced in the year 2008 is higher than in 1990, but notice that in other crops such as sugar beet, due to the decrease of cultivated area from 6060 hectares to 1785 hectares, the total production decreased from 130 598 t to 73.575. The decrease of beet growing areas due to closure of all sugar factories in the Western part of the country, and manufacturers have not been able to sell their production.

Bihor County has 180,736 ha of natural grasslands (3.7% of the pastoral heritage of Romania), which is an important natural resource in developing livestock sector.

Table 5

Livestock

capete

Bihor County	1990	1995	2000	2004	2005	2006	2007	2008
Cattle, total	192200	142671	106762	112416	106897	106763	105800	89652
of which: dairy	69900	68856	62091	66704	68716	66835	55600	49622
Pigs, total	370600	259760	205746	331257	328533	256455	242776	241397
of which: reproduction sows	31300	17499	12301	27279	23019	23431	18743	14221
Sheep, total	410900	174487	114770	143955	159800	173898	178024	193573
of which: females	208300	108591	79389	115295	134744	140119	152169	168583
Goats	24017	19119	13186	17930	18692	19232	17042	18505

Source: Data processed according to Bihor County Statistical Office

We find that livestock of Bihor county continues to decrease from 1990 to 2008 in all species, even if the district has high potential animal exploitation, given the existing pasture and meadow areas - 36.4% of agricultural land , ie 180 736 ha.

- **The endowment of agriculture in Bihor County**

Analysing fleet of tractors and agricultural machines in the county during the period 1990-2008 can be found significant increases in the number of tractors, compared to 1990. In 2008 their number was 9979 pieces, respectively by 57.3% more than in 1990. The number of plows and seeders compared with 1990 increased by approximately 70%.

Table 6

Tractors and agricultural machinery park in agriculture

bucăţi

Bihor County	1990	1995	2000	2004	2005	2006	2007	2008
Agricultural tractors	4257	6197	7351	9246	9520	9941	9961	9979
Tractor plows	2134	4373	5709	6918	7152	7475	7492	7544
Mechanical drills	1049	1669	2200	3089	3167	3220	3226	3251
Self-propelled combine harvester cereals, maize, fodder	1336	1597	1473	1419	1339	1349	1352	1284

Source: Data processed according to Bihor County Statistical Office

Self-propelled combine harvesters has seen a downward trend reaching cuts in 2008-1284, 3.8% fewer than in 1990 due to normal wear and tear during this period and it is impossible for farmers to invest in new ones.

- **Population and labour force**

Population by sex and area in 2010 is shown in Table 7.

Table 7

Population by sex and area

Bihor County	TOTAL (persons)			Urban (persons)			Rural (persons)			Inhabitants / km^2
	Total	Males	Females	Total	Males	Females	Total	Males	Females	
1990	662540	326810	335730	320299	157291	163008	342241	169519	172722	87,8
1995	632753	309823	322930	311588	150477	161111	321165	159346	161819	83,9
2000	621628	303043	318585	308858	148594	160264	312770	154449	158321	82,4
2001	620817	302614	318203	307968	148105	159863	312849	154509	158340	82,3
2002	603743	293905	309838	293568	140809	152759	310175	153096	157079	80,0
2003	602206	292828	309378	293538	140326	153212	308668	152502	156166	79,8
2004	598381	290755	307626	290389	138621	151768	307992	152134	155858	79,3
2005	596670	289880	306790	300877	143608	157269	295793	146272	149521	79,1
2006	595448	289154	306294	300277	143203	157074	295171	145951	149220	78,9
2007	594615	288773	305842	299988	142956	157032	294627	145817	148810	78,8
2008	593897	288260	305637	298723	142112	156611	295174	146148	149026	78,7
2009	593606	288180	305426	297744	141432	156312	295862	146782	149114	78,6
2010	592957	287974	304983	297712	141469	156243	295245	146505	148740	78,6

Source: Data processed according to Bihor County Statistical Office

Since 1990, Bihor county population declined steadily, from 662,540 in 1990 to 592,957 inhabitants in 2010, following a negative trend in the birth rate and foreign population in the area. Population density in 2010 was 78.6 inhabitants/km2, lower than the national population density (about 90 inhab/km2).

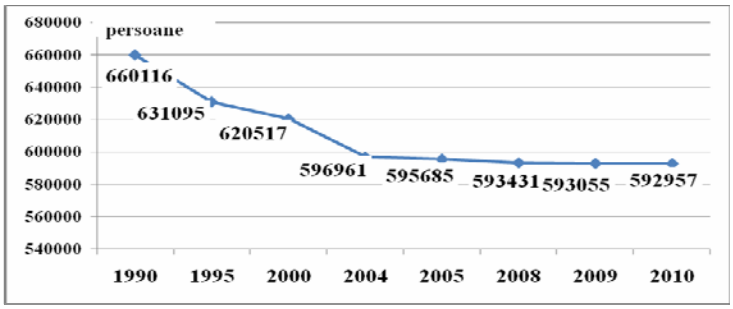


Fig. 1. Evolution of the population during 1990-2010, Bihor

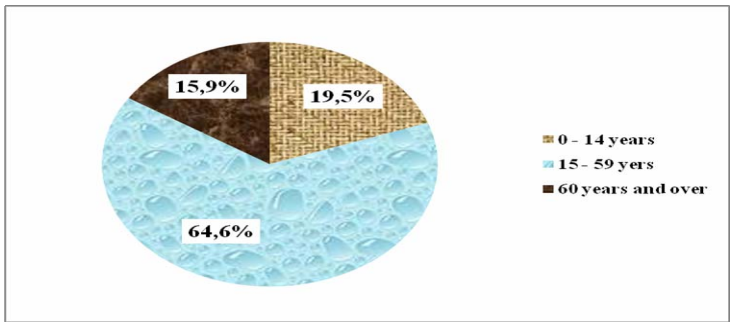


Fig. 2. Population structure by age, Bihor County

Bihor County faces an aging population, its effect on economic and social life is being felt after 2005 when the population of working age generations have been added, small in number, born after 1990. Population aged 15-59 years is the largest representing 382,925 people, 64.6% respectively of the total, followed by age group **60 years or over** with 115,825 people - 19.5%, and the age group between **0 - 14 years has only 15.9% of the total,** ie 94,305 persons (Table 8).

Table 8

Employed population, on national economic activity

thousands persons

Bihor County	1992	1995	2000	2004	2005	2006	2007	2008	
								thsd pers.	%
Economy, total	317,4	266,1	281,2	269,4	272,4	273,2	278,1	**275,6**	**100**
Agriculture, hunting and forestry	120,7	111,0	126,9	93,1	94,6	89,0	86,9	**85,2**	**30,9**
Fishery	0,1	0,1	0,1	0,1	0,1	0,1	0,1	**0,1**	
Industry, of which:	93,0	73,9	66,5	75,1	74,2	73,9	71,6	**70,0**	**25,4**
Mining and quarrying	11,3	10,3	4,2	3,7	4,9	3,4	2,6	2,3	
Manufacturing	76,7	58,4	57,3	68,2	65,8	66,9	65,6	62,8	
Electricity, gas and water	5,0	5,2	5,0	3,5	3,5	3,6	3,4	4,9	
Constructions	14,4	7,4	7,3	10,0	9,2	10,3	14,5	**16,5**	**6,0**
Trade	22,8	18,0	27,6	32,7	33,4	35,7	37,6	**37,6**	**33,4**
Hotels and restaurants	5,6	1,8	3,3	4,3	4,6	4,6	5,4	**5,1**	
Transport, deposits and communication	16,5	12,6	10,9	12,3	12,1	13,3	13,8	**13,1**	
Financial Intermediation	1,6	2,2	2,0	1,9	2,1	1,9	2,4	**2,4**	
Real estate and other services	12,6	6,7	5,2	7,0	8,6	9,5	10,4	**1,2**	
Public administration and defence	3,2	3,8	3,6	4,0	4,4	4,7	5,3	**5,1**	
Education	12,6	12,5	12,5	13,7	13,5	13,8	13,6	**13,6**	
Health and social assistance	9,8	12,7	12,1	11,3	11,8	13,0	13,0	**13,9**	
Other activities of national economy	4,5	3,4	3,2	3,6	3,8	3,4	3,5	**11,8**	

Source: Data processed according to Bihor County Statistical Office

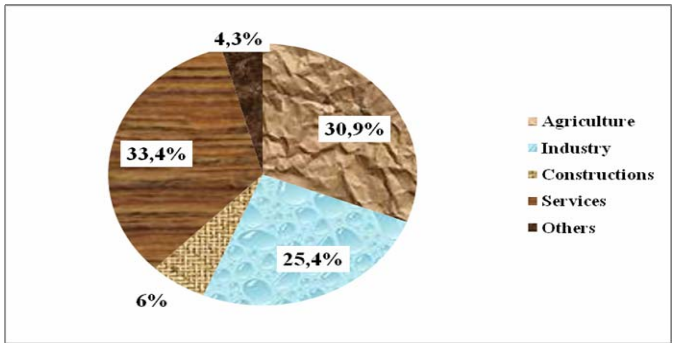


Fig. 3. Employment structure by economic activity, Bihor

In 2008, employment in national economic activity was the most significant weight in the tertiary sector 33.4%, followed by agriculture - 30.9%, and industry - 25.4%.

CONCLUSIONS

- The economy shows significant differences depending on the regions, the specific demographic characteristics, social and economic. This distinction is particularly evident in the low level of income in the Romanian rural area, reflected by low living standards and lack of alternative income sources.
- The analysis was performed using statistical data showed that agriculture and food industry are of paramount importance for the economy of Bihor county. The presence of the non-agricultural activities related to the primary sector, especially natural resources exploitation and processing, are insignificant in economic terms.
- Restructuring of agriculture will have a significant impact on the economy Bihor county, since the agriculture remains the most important activity in rural areas and a key source of income for the population.
- Evolution of the cultivated areas, the total and average production achieved during 1990-2008, reveal that the main resource available to Bihor county, land is not exploited in terms of productive performance.
- As a potential development of livestock, Bihor lies within 10 counties throughout and excellent natural conditions existing open the prospect of increasing numbers and quality of livestock in all species.
- Bihor County, has a high potential for sustainable development, but this could be achieved only if the program will assume able to mobilize energies and resources to attract the cooperation, support and EU funds.

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