

RECENT EVOLUTIONS OF LIVESTOCK AT REGIONAL LEVEL IN ROMANIA

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Abstract

In Romania the livestock sector is well developed and presents specific characteristic for each region of development. This paper analysis the livestock sector at regional level, following a previous research made by the authors for all animal species considered for production. For the research method, based on regional analysis has been considered statistical approach, based of national database for the years 2011 and 2015. The results indicates changes in the concentration of livestock at regional level. While the poultry, sheep, goats and cattle sectors increased in terms of livestock, significant decreases were recorded in relation with pigs and horses livestock.

Key words: livestock, regions of development, Romania

INTRODUCTION

The livestock sector in the EU member states, including Romania faced a continuous transformation. The livestock production started to be translated from the developed countries to the developing countries. In the recent years the sector faced challenges in relation with the environmental issues [4], food safety regulations and the market conditions. At the EU level was set up a system of identification and registration, which allow to identify the origin and destination of livestock. In the EU, the evolving of the livestock production various and can be related with the evolution of the consumer demand and the economic level of each country [5]. The principal meat production in the EU was pig meat, which indicates the importance of the pigs livestock. [2]. This paper aimed to identify the recent changes of livestock in Romania, based on a regional analyse. The paper compare the present results with similar studies made in 2011 and published in the same journal in 2013 [1]. As in the case of pigs livestock [3], each type of livestock is influenced by a range of factors: number of animals per farm,

extensive of intensive growing technology, quality of the biological material, feeding, local technical and economical conditions.

MATERIALS AND METHODS

In this paper we quantified the number of each type of livestock and their density per 100 ha. This analyse is made on regional level and national level. The study evaluate the evolution of the livestock from 2011 to 2015. The data are provided by National Institute of Statistic Romania and Ministry of Agriculture and Rural Development, and have been statistically processed and interpreted.

RESULTS AND DISCUSSIONS

The poultry production is the main livestock production in terms of number of heads at national level. The poultry sector didn't developed too much in terms of livestock level since 2011. The number of poultry increased at national level from 78.64 million heads in 2011 to only 79.84 million heads in 2015, which led to the increase of poultry livestock per 100 ha at national level from 552.93 heads/100 ha in 2011 to 562.92

heads/100 ha in 2015.

Table 1. Poultry livestock per 100 ha of land at regional level in Romania in 2011

Regions	Heads	Percent from total (%)	Poultry livestock per 100 ha at region level (heads/100 ha)
Total, 2015	79,841,651	100	562.92
Total, 2011	78,648,098	100	552.93
North West Region, 2011	8,626,527	10.80%	425.68
North West Region, 2015	8,963,865	11.39%	440.73
Centre Region, 2011	8,060,624	10.10%	436.44
Centre Region, 2015	8,840,224	11.24%	470.88
North East Region, 2011	13,906,237	17.42%	670.62
North East Region, 2015	13,952,506	17.74%	672.60
South East Region, 2011	12,488,619	15.64%	562.97
South East Region, 2015	11,594,847	14.74%	521.81
South Region, 2011	20,563,160	25.75%	870.71
South Region, 2015	20,462,181	26.01%	865.50
Bucharest Ilfov Region, 2011	586,022	0.73%	571.80
Bucharest Ilfov Region, 2015	524,272	0.66%	509.32
South West Region Oltenia, 2011	10,170,919	12.74%	591.69
South West Region Oltenia, 2015	8,231,376	10.46%	478.87
West Region, 2011	5,439,543	6.81%	296.45
West Region, 2015	6,078,827	7.72%	332.17

Source: Own calculations based on data NIS Romania

The farmers had financial difficulties since the Russia imposed the embargo on EU food origin and the farmers were affected by the conditions of accessing subsidies under animal welfare commitments. In this sector there are huge gaps between the slaughterhouse price and supermarkets price, which put pressure on producers and advantage the traders.

The South Region of Development remains in 2015 the main area for the poultry production. The Călărași County is the larger poultry producers, with 4.5 millions heads, followed by Prahova County with 3.5 millions heads and Dâmbovița County with 3.2 millions heads. If in 2011 Dâmbovița County was the

first producer in the region, with a share of 18.4 % of total poultry livestock of region, in 2015, The Călărași County took its place with a share of 22.14 % from the region poultry production.

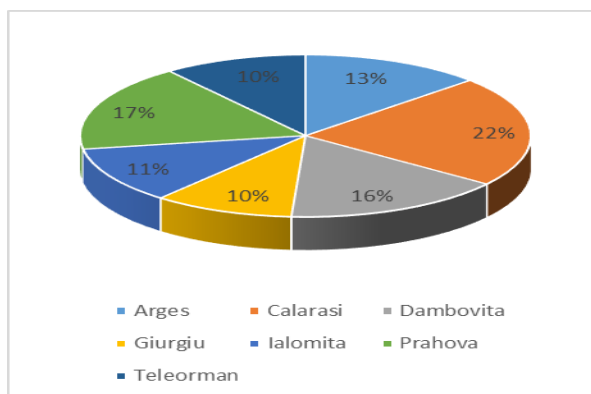


Fig.1. Poultry livestock distribution between counties of South East Region in 2015

Table 2. Sheep livestock per 100 ha of land at regional level in Romania in 2011

Regions	Heads	Percent from total (%)	Sheep livestock per 100 ha at region level (heads/100ha)
TOTAL, 2011	8,533,434	100	60.16
TOTAL, 2015	9,809,512	100	68.96
North West Region, 2011	1,330,825	15.60%	65.67
North West Region, 2015	1,649,303	16.81%	81.09
Centre Region, 2011	1,931,589	22.64%	104.59
Centre Region, 2015	2,117,936	21.59%	112.81
North East Region, 2011	1,258,352	14.75%	60.68
North East Region, 2015	1,395,954	14.23%	67.29
South East Region, 2011	1,302,978	15.27%	58.74
South East Region, 2015	1,508,528	15.37%	67.89
South Region, 2011	812,676	9.52%	34.41
South Region, 2015	935,565	9.53%	39.57
Bucharest Ilfov Region, 2011	25,352	0.30%	24.74
Bucharest Ilfov Region, 2015	30,341	0.30%	29.47
South West Region Oltenia, 2011	610,385	7.15%	35.51
South West Region Oltenia, 2015	679,271	6.92%	39.51
West Region, 2011	1,261,277	14.78%	68.74
West Region, 2015	1,492,614	15.21%	81.56

Own calculations based on data NIS Romania

The sheep livestock which take the second place in terms of number of livestock at national level, increased almost year by year, as you can see it represented in Table 2. In 2015 were recorded 9.8 million heads of sheep at national level, compared to 8.5 million heads which were recorded in 2011. The sheep livestock per 100 ha at national level increased from 60.16 heads/100 ha in 2011 to 68.96 heads/100 ha in 2015.

The Centre Region of Development, remains the main area for sheep livestock, due its natural condition favourable to sheep production, its tradition and due the organisations of the farmers in active organisations of sheep breeders. Within the Centre Region, the Sibiu County remains the main pool of sheep livestock, with a share of 21.59 % of the total sheep heads from the region, but this percentage decrease from 29% which was recorded in 2011.

The sheep livestock in the Sibiu County increased from 558 thousands heads in 2011 to 574 thousands heads in 2015.

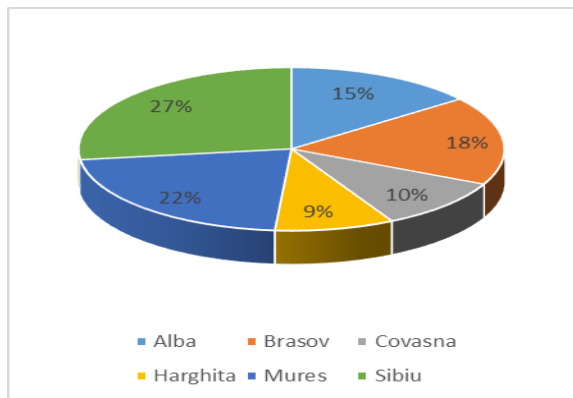


Fig.2. Sheep livestock distribution between counties of Centre Region in 2011

Meanwhile, in Mureş County, the second larger sheep producers of the region, the sheep livestock increased from 409 thousands heads in 2011 to 457 thousands heads in 2015, but its share on sheep livestock in the region remains around 21%.

The pig production was relaunched after 2007 in Romania, this time based on competitive conditions. The producers made high efforts to assure the EU standards for production. But from 2011 to 2015, the pig livestock continued to decrease in Romania. The

international market conditions were not favourable for this sector, and the intern production faced strong competition in terms of quality and price with the similar products from European Union.

Table 3. Pigs livestock per 100 ha of land at regional level in Romania in 2011

Regions	Heads	Percent from total (%)	Pigs livestock per 100 ha at region level (heads/100 ha)
TOTAL, 2011	5,363,797	100	37.82
TOTAL, 2015	4,926,928	100	34.63
North West Region, 2011	681,074	12.70%	33.61
North West Region, 2015	663,666	13.47%	32.63
Centre Region, 2011	534,442	9.96%	28.94
Centre Region, 2015	479,522	9.73%	25.54
North East Region, 2011	580,468	10.82%	27.99
North East Region, 2015	525,687	10.66%	25.34
South East Region, 2011	869,479	16.21%	39.19
South East Region, 2015	772,094	15.67%	34.74
South Region, 2011	948,429	17.68%	40.16
South Region, 2015	885,263	17.96%	37.44
Bucharest Ilfov Region, 2011	126,677	2.36%	123.60
Bucharest Ilfov Region, 2015	28,129	0.57%	27.32
South West Region Oltenia, 2011	690,887	12.88%	40.19
South West Region Oltenia, 2015	620,505	12.59%	36.09
West Region, 2011	932,341	17.38%	50.81
West Region, 2015	952,062	19.32%	52.02

Own calculations based on data NIS Romania

While in 2011 the South Region of Development, had the largest livestock of pigs between regions, in 2015 the main concentration of pig at regional level can be found in the West Region. The livestock of pigs has decreased these years from 948 thousands in 2011 heads to 885 thousands heads in 2015 in the South Region, while in the West Region their number increased from 932 thousands heads to 952 thousands heads. In 2015 in Timiş County were recorded 638 thousands pigs, which represent 67 % of total

number of pigs from the West Region of Development.

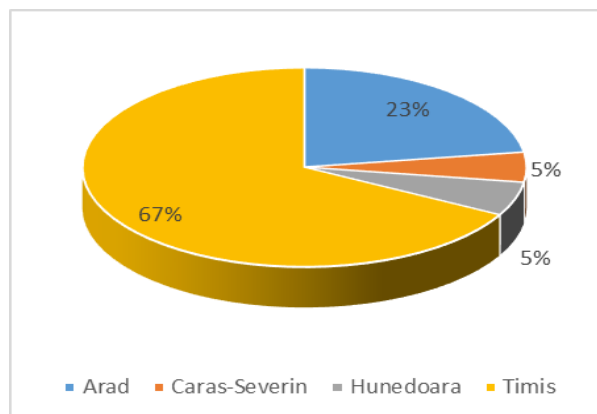


Fig.3 Pigs livestock distribution between counties of South Region

Table 4. Cattle livestock per 100 ha of land at regional level in Romania in 2011

Regions	Heads	Percent from total (%)	Cattle livestock per 100 ha at region level (heads/100 ha)
TOTAL, 2011	1,988,939	100	14.02
TOTAL, 2015	2,092,414	100	14.71
North West Region, 2011	347,662	17.48%	17.16
North West Region, 2015	369,130	17.64%	18.14
Centre Region, 2011	313,255	15.75%	16.96
Centre Region, 2015	339,579	16.22%	18.08
North East Region, 2011	510,817	25.68%	24.63
North East Region, 2015	534,001	25.52%	25.74
South East Region, 2011	231,879	11.66%	10.45
South East Region, 2015	245,110	11.71%	11.03
South Region, 2011	237,696	11.95%	10.06
South Region, 2015	241,650	11.54%	10.22
Bucharest Ilfov Region, 2011	7,171	0.36%	7.00
Bucharest Ilfov Region, 2015	6,756	0.32%	6.56
South West Region Oltenia, 2011	196,712	9.89%	11.44
South West Region Oltenia, 2015	196,841	9.40%	11.45
West Region, 2011	143,747	7.23%	7.83
West Region, 2015	159,347	7.61%	8.70

Own calculations based on data NIS Romania

The major producers from this region have developed the trade with meat within the EU

countries, and their effort for export in the Asia can develop the production in the next years.

The cattle livestock in Romania increased from 1.98 million in 2011 to 2.09 million in 2015. These led to a concentration of cattle livestock per 100 ha from 14.02 heads/100 ha in 2011 to 14.71 heads/100 ha in 2015. The North East Region of Development continued to have the largest number of cattle, with an increase from 510 thousands heads in 2011 to 534 thousands heads in 2015. The West Region of Development which has also important tradition in cattle livestock, recorded an increase of cattle livestock from 347 thousand heads in 2011 to 369 thousands heads in 2015. At the opposite part is situated the Bucharest Ilfov Region, with a decreasing which seems that will led soon to the abandon of cattle livestock production in this region.

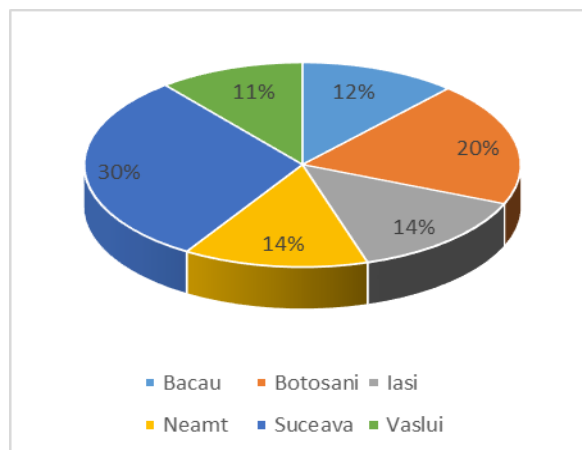


Fig.4. Cattle livestock distribution between counties of North East Region

The Suceava County continued to have the largest livestock of cattle within the North East Region of Development, and the number of heads increase from 155 thousand in 2011 to 161 thousand in 2015.

Due to increase share of market for the goat products, the goat livestock Romania increased from 1.23 million heads in 2011 to 1.44 million heads in 2015. The goat livestock per 100 ha at national level increased in these conditions from 8.72 heads/100 ha to 10.12 heads/100 ha.

The South East Region of Development, continue to have the largest livestock of goats between regions in 2015. The number of goats

increased in this region from 317 thousands heads in 2011 to 367 thousands heads in 2015.

Table 5. Goats livestock per 100 ha of land at regional level in Romania in 2011

Regions	Heads	Percent from total (%)	Goat livestock per 100 ha at region level (heads/100ha)
TOTAL, 2011	1,236,143	100	8.72
TOTAL, 2015	1,440,151	100	10.12
North West Region, 2011	90,643	7.33%	4.47
North West Region, 2015	107,415	7.45	5.28
Centre Region, 2011	105,768	8.56%	5.73
Centre Region, 2015	130,551	9.06%	6.95
North East Region, 2011	198,332	16.04%	9.56
North East Region, 2015	224,245	15.57%	10.81
South East Region, 2011	317,218	25.66%	14.30
South East Region, 2015	367,808	25.53%	16.55
South Region, 2011	224,370	18.15%	9.50
South Region, 2015	256,864	17.83%	10.86
Bucharest Ilfov Region, 2011	8,935	0.72%	8.72
Bucharest Ilfov Region, 2015	12,101	0.84%	11.75
South West Region Oltenia, 2011	235,949	19.09%	13.73
South West Region Oltenia, 2015	270,292	18.76%	15.72
West Region, 2011	54,928	4.44%	2.99
West Region, 2015	70,875	4.92%	3.87

Own calculations based on data NIS Romania

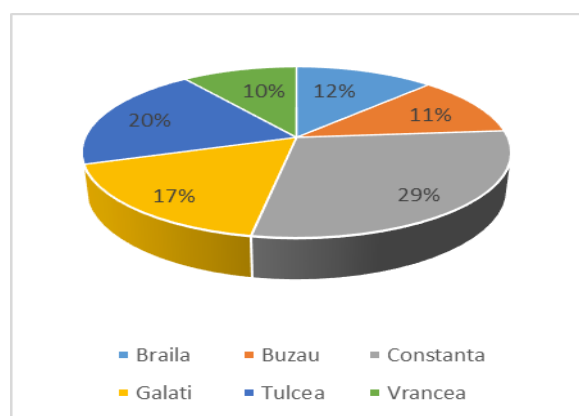


Fig.5. Goats livestock distribution between counties of South East Region

The Constanța County had 29 % of the total goats livestock of the South East region in

2015, while Tulcea County was ranged in the second place with 19 % of the total number of goats from this region.

The horse's livestock has dramatically decreased in the last years from 1.2 million in 2011 to 504 thousands heads in 2015.

Table 6. Horses livestock per 100 ha of land at regional level in Romania in 2011

Regions	Heads	Percent from total (%)	Horses livestock per 100 ha at region level (heads/100 ha)
TOTAL, 2011	1,236,143	100	8.72
TOTAL, 2015	503,466	100	3.53
North West Region, 2011	90,643	11.88%	4.47
North West Region, 2015	61,242	12.16%	3.01
Centre Region, 2011	105,768	12.22%	5.73
Centre Region, 2015	64,250	12.76%	3.42
North East Region, 2011	198,332	26.21%	9.56
North East Region, 2015	135,571	26.92%	6.53
South East Region, 2011	317,218	16.25%	14.30
South East Region, 2015	75,758	15.04%	3.40
South Region, 2011	224,370	13.89%	9.50
South Region, 2015	73,974	14.69%	3.12
Bucharest Ilfov Region, 2011	8,935	0.61%	8.72
Bucharest Ilfov Region, 2015	1,657	0.32%	1.60
South West Region Oltenia, 2011	235,949	13.60%	13.73
South West Region Oltenia, 2015	64,953	12.90%	3.77
West Region, 2011	54,928	5.35%	2.99
West Region, 2015	26,061	5.17%	1.42

Own calculations based on data NIS Romania

In The North East Region of Development, which had the largest livestock of horses between Romanian regions of Development in 2015, the Iași County has 22 % of total livestock of region with 30 thousand heads,

while Vaslui County was in second place with 20 %, corresponding to 26 thousand heads.

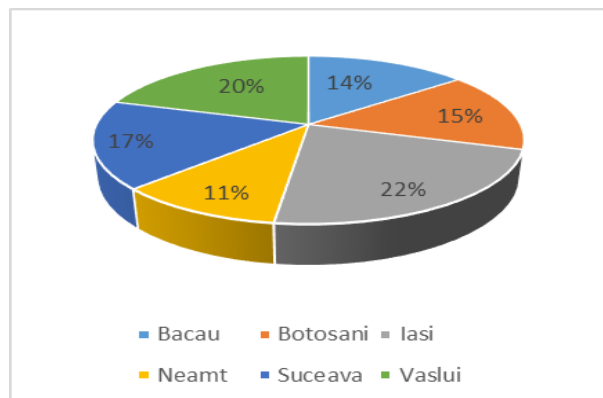


Fig.6. Horses livestock distribution between counties of South East Region

The livestock level is in relation with the feed resources at regional level. The total area of land that served for the all livestock increased form 9.35 million ha in 2011 to 9.39 million ha in 2015.

Table 7. The land fond by use at regional level in Romania in 2015 (ha)

Regions	Arable	Hayfields	Pastures	Total
TOTAL, 2015	9,395,303	1,556,246	3,272,165	14,223,714
North West Region, 2015	1,021,392	401,608	610,850	2,033,850
Centre Region, 2015	750,930	480,899	645,549	1,877,378
North East Region, 2015	1,381,790	200,983	491,639	2,074,412
South East Region, 2015	1,829,009	63,809	329,195	2,222,013
South Region, 2015	1,968,944	108,792	286,449	2,364,185
Buch. - Ilfov Region, 2015	100,646	58	2,230	102,934
South West Region Oltenia, 2015	1,251,902	89,136	377,876	1,718,914
West Region, 2015	1,090,690	210,961	528,377	1,830,028

Source: NIS Romania

CONCLUSIONS

The evolution of the livestock at region level in Romania suffered important changes from 2011 to 2015. While some region as Bucharest Ilfov seems to completely lose its role in the livestock production, some category of livestock, as horses had a negative trend which will also lead in time to the elimination of the role of this species in the agriculture production.

Some types of livestock as goats and sheep had increased their number within regions due a good demand of their products on the market, while pig's livestock continue to decrease, due the quality and prices which are not competitive with the external offer which presses the internal markets. New efforts are made in supporting the Romanian products, by offering a minim space of 50 % in any supermarket, which can led to the increase of livestock at the region level after these regulation will be implemented on the market.

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