

**ANALYSIS OF THE EVOLUTION OF LIVESTOCK IN "HAȚEG COUNTRY",
DURING 2000-2017 PERIOD**

**BĂNEȘ ADRIAN¹, RAICOV MIROSLAV¹, FEHER ANDREA²,
ORBOI MANUELA-DORA^{*2}**

¹*Romanian Academy – Timișoara Branch, Romania*

²*Banat University of Agricultural Sciences and Veterinary Medicine "King Michael Ist of Romania" from Timisoara, Faculty of Management and Rural Tourism, Romania*

*Corresponding author's e-mail: orboi@usab-tm.ro

***Abstract:** The paper analyzes the evolution of the number of animals, by species, from "Hațeg Country", Hunedoara County. Following the researches carried out, both by data taken from the field and by the ones existing at the Institute of Statistics, respectively the technical-operative reports on the situation of animal husbandry from DAJ Hunedoara and from the town halls of communes, it was found that in the last year taken in calculation, 2018, the number of cattle, pigs and horses decreased to almost half compared to 2000, in the first two cases, respectively to less than 30% in the case of horses. In contrast, there have been increases in the number of sheep and goats, the latter reaching almost double in 2018, compared to 2010.*

Key words: *livestock evolution, Hațeg Country*

After 1989, there was a decrease in the number of animals, a process that strongly affected the Romanian zootechnics sector and which, unfortunately, continues even today [2, 3].

This process of decrease is one found at the level of the whole country, in 2018, Romania being in the tenth place in the European Union in the cattle livestock, with a number of about 2 million heads, respectively on the antepenultimate place at their density at 100 ha land, 15.6 heads, the only weaker countries being Bulgaria (11 heads) and Greece (14.2 heads). Regarding the pig livestock, Romania ranked 10th at EU level, respectively, increasing by a place (compared to the place occupied at cattle) at their density per 100 ha of land, 46 heads, ahead of Bulgaria (19 heads), Greece (40 heads) and Lithuania (27 heads) [18].

The only increases in livestock were recorded in sheep and goats, in these cases, Romania occupying the fourth place in 2018, both in number and density at 100 ha.

In the "Hațeg Country" (Hunedoara County), the national trend has been mainly respected, large decreases being recorded in cattle and pigs livestock, these reaching to a number of about 60% in 2018 compared to 2000. Also, both in sheep as well as in the goats, there were increases of the livestock, of 20% in sheep, respectively of almost 100% in goats, in the year 2018, compared to the year 2000. However, the biggest decrease was registered in the number of horses, their number reaching in 2018 almost 30% of the one registered in 2000 [1].

MATERIALS AND METHODS

Most of the data from the paper comes from the Directorate for Agriculture and Rural Development of Hunedoara and from the agricultural departments of the town halls in the "Hațeg Country", and presents the situation of the livestock in the households at 31.12 of each year.

The data taken from the town halls of the communes were confronted with the data from the national statistics, in principle those of the National Institute of Statistics. Based on these data, further aggregations were made, as well as determinations of the share of a certain category of animals, respectively the differences between the years studied.

RESEARCH RESULTS

From the analysis of the evolution of the number of animals by species (Table 1), it was found, as previously presented, that the livestock of cattle, pigs and horses decrease during the analyzed period, and the livestock of sheep and goats increase (Figure 1).

Table 1.

Evolution of livestock in “Hațeg Country”, no.

Species	2000	2005	2010	2015	2018
Cattle	13501	11555	9122	8129	8493
Sheeps	36891	29088	28918	41151	44332
Goats	1451	1406	1880	3522	2876
Swine	7570	7083	5133	4643	4328
Equines	2622	2478	1824	812	736

Source: data processed according to the technical-operative reports on the situation in animal husbandry from DAJ Hunedoara and from the town halls of localities [4-17]

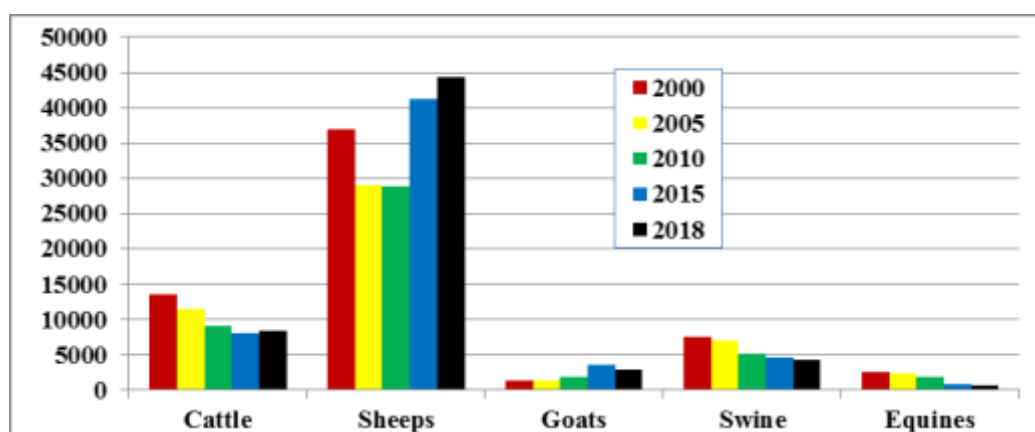


Figure 1. Evolution of livestock in “Hațeg Country”, no.

Introducing the evolution of livestock by species and by localities (Table 2), it was found that the cattle population in “Hațeg Country” is on a strong downward trend, decreasing to 62.91% in total in 2018 compared to 2000. This collapse of the flocks is the result of the involutions registered in the cattle breeding in each of the 12 component localities.

Table 2.

Evolution of the livestock of cattle from the localities of the “HațegCountry”, no.

Localities	2000	2005	2010	2015	2018
Hațeg	915	401	311	344	496
Baru	881	706	515	571	536
Bretea Română	2000	1790	1500	1040	905
Densuș	1037	621	620	442	447
General Berthelot	437	420	346	256	328
Pui	2110	1938	1950	1700	2090
Răchitova	1020	935	673	765	597
Râu de Mori	1290	1202	908	846	823
Sarmizegetusa	582	470	327	391	259
Sălașu de Sus	1724	1537	1211	793	784
Sântămăria-Orlea	966	927	449	560	920
Totești	539	608	312	421	308
Hațeg Country	13501	11555	9122	8129	8493

Source: data processed according to the technical-operative reports on the situation in animal husbandry from DAJ Hunedoara and from the town halls of localities [4-17]

From the point of view of the share of cattle livestock from each commune in total bovine herds in the “Hațeg Country” (Table 3), in the 2000-2018 period, possible generators of agricultural activities in this field or of developing existing businesses are Pui, Sântămăria-Orlea and Bretea Română, which have a cumulative share of 46% (in 2018) of the cattle population, very close to these being placed Sălașu de Sus and Râu de Mori.

Table 3.**The share of cattle livestock in the localities from “HațegCountry”, %**

Localities	2000	2005	2010	2015	2018
Hațeg	6.8	3.5	3.4	4.2	5.8
Baru	6.5	6.1	5.6	7.0	6.3
Bretea Română	14.8	15.5	16.4	12.8	10.7
Densuș	7.7	5.4	6.8	5.4	5.3
General Berthelot	3.2	3.6	3.8	3.1	3.9
Pui	15.6	16.8	21.4	20.9	24.6
Răchitova	7.6	8.1	7.4	9.4	7.0
Râu de Mori	9.6	10.4	10.0	10.4	9.7
Sarmizegetusa	4.3	4.1	3.6	4.8	3.0
Sălașu de Sus	12.8	13.3	13.3	9.8	9.2
Sântămăria-Orlea	7.2	8.0	4.9	6.9	10.8
Totești	4.0	5.3	3.4	5.2	3.6
Hațeg Country	100.0	100.0	100.0	100.0	100.0

Source: data processed according to the technical-operative reports on the situation in animal husbandry from DAJ Hunedoara and from the town halls of localities [4-17]

A more favorable situation is registered with regard to sheep herds (table 4), whose development is supported by the existence of considerable areas of pastures and meadows. Even though, in total, the number of sheep decreased by 18.9% in 2010, compared to 2000, in the following years their numbers increased in almost all the localities of the “Hațeg Country”, increasing with 20.17% in 2018 compared to 2000, respectively 52.4% in 2018 compared to 2010, confirming so the traditional character of this occupation. Unexplained decreases in sheep herds are recorded in Râu de Mori and Sălașu de Sus, localities with great potential from this point of view, taking into account that they have large areas of pastures and meadows.

Table 4.**Evolution of the livestock of sheeps from the localities of the “HațegCountry”, no.**

Localities	2000	2005	2010	2015	2018
Hațeg	992	405	518	1774	2081
Baru	1888	1253	1370	1712	2139
Bretea Română	3318	4000	4180	6800	7500
Densuș	3983	2757	2614	2192	2192
General Berthelot	681	1100	1450	4857	4100
Pui	9800	9700	8510	8500	9400
Răchitova	875	1100	1076	1228	2319
Râu de Mori	4150	1831	1213	2415	1589
Sarmizegetusa	3020	1470	840	690	745
Sălașu de Sus	5025	2571	1966	2254	2167
Sântămăria-Orlea	2095	1085	2990	3300	5700
Totești	1064	1816	2191	5429	4400
Hațeg Country	36891	29088	28918	41151	44332

Source: data processed according to the technical-operative reports on the situation in animal husbandry from DAJ Hunedoara and from the town halls of localities [4-17]

From the point of view of the structure on the component localities (Table 5), it is worth noting the high increasing share of sheep herds in the localities of Pui, Bretea Română and Sântămăria Orlea, which together hold 51% of the sheep population of the “Hațeg Country” in year 2018.

Table 5.

The share of sheeps livestock in the localities from “HațegCountry”, %

Localities	2000	2005	2010	2015	2018
Hațeg	2.7	1.4	1.8	4.3	4.7
Baru	5.1	4.3	4.7	4.2	4.8
Bretea Română	9.0	13.8	14.5	16.5	16.9
Densuș	10.8	9.5	9.0	5.3	4.9
General Berthelot	1.8	3.8	5.0	11.8	9.2
Pui	26.6	33.3	29.4	20.7	21.2
Răchitova	2.4	3.8	3.7	3.0	5.2
Râu de Mori	11.2	6.3	4.2	5.9	3.6
Sarmizegetusa	8.2	5.1	2.9	1.7	1.7
Sălașu de Sus	13.6	8.8	6.8	5.5	4.9
Sântămăria-Orlea	5.7	3.7	10.3	8.0	12.9
Totești	2.9	6.2	7.6	13.2	9.9
Hațeg Country	100.0	100.0	100.0	100.0	100.0

Source: data processed according to the technical-operative reports on the situation in animal husbandry from DAJ Hunedoara and from the town halls of localities [4-17]

At present day, in the “Hațeg Country”, the growth of sheep and goat herds is also stimulated by "Vîrșli de SĂLAȘU", traditionally certified product, the basic raw material in their preparation being the "lean" sheep and goat meat, of native breeds, and the membranes used to obtain these sausages being the intestines of sheep. As a result, the period 2000-2018 is characterized by a tendency of growth on the number of goats both in total, and in most of the component localities (Table 6).

Table 6.

Evolution of the livestock of goats from the localities of the “HațegCountry”, no.

Localities	2000	2005	2010	2015	2018
Hațeg	49	11	19	248	470
Baru	47	48	160	424	400
Bretea Română	120	110	150	690	320
Densuș	53	58	483	286	282
General Berthelot	50	36	40	95	27
Pui	127	50	53	73	89
Răchitova	35	44	52	66	43
Râu de Mori	665	758	636	598	483
Sarmizegetusa	60	50	46	101	65
Sălașu de Sus	119	82	80	643	377
Sântămăria-Orlea	99	117	124	250	268
Totești	27	42	37	48	52
Hațeg Country	1451	1406	1880	3522	2876

Source: data processed according to the technical-operative reports on the situation in animal husbandry from DAJ Hunedoara and from the town halls of localities [4-17]

Thus, out of the 12 localities of the “Hațeg Country”, in 9 of them the percentage of goat population increased during the analyzed period. Significant increases were registered in the localities of Hațeg, Baru, Sălașu de Sus and Râu de Mori, which together hold 60.1% of the goat herds from total “Hațeg Country”. Lower weights of goat herds are recorded in

General Berthelot, Răchitova, Totești, Sarmizegetusa and Pui (Table 7).

Table 7.**The share of goats livestocks in the localities from “HațegCountry”, %**

Localities	2000	2005	2010	2015	2018
Hațeg	3.4	0.8	1.0	7.0	16.3
Baru	3.2	3.4	8.5	12.0	13.9
Bretea Română	8.3	7.8	8.0	19.6	11.1
Densus	3.7	4.1	25.7	8.1	9.8
General Berthelot	3.4	2.6	2.1	2.7	0.9
Pui	8.8	3.6	2.8	2.1	3.1
Răchitova	2.4	3.1	2.8	1.9	1.5
Râu de Mori	45.8	53.9	33.8	17.0	16.8
Sarmizegetusa	4.1	3.6	2.4	2.9	2.3
Sălașu de Sus	8.2	5.8	4.3	18.3	13.1
Sântămăria-Orlea	6.8	8.3	6.6	7.1	9.3
Totești	1.9	3.0	2.0	1.4	1.8
Hațeg Country	100.0	100.0	100.0	100.0	100.0

Source: data processed according to the technical-operative reports on the situation in animal husbandry from DAJ Hunedoara and from the town halls of localities [4-17]

Referring to the swine herds, a decreasing tendency is also registered regarding them, a reduction in the 18-year period by not less than 43% from the initial total. The only exception from the general trend we find it in Totești, where the number of swine increased, it is true that very few, from 511 heads in 2000, to 649 heads in 2018 (Table 8).

Table 8.**Evolution of the livestock of swines from the localities of the “HațegCountry”, no.**

Localities	2000	2005	2010	2015	2018
Hațeg	781	327	472	45	121
Baru	236	207	182	202	70
Bretea Română	899	1200	840	800	750
Densus	837	553	416	283	128
General Berthelot	352	380	235	327	120
Pui	920	940	945	660	920
Răchitova	385	450	304	364	275
Râu de Mori	1111	1146	814	974	830
Sarmizegetusa	220	150	102	222	121
Sălașu de Sus	729	347	223	342	195
Sântămăria-Orlea	589	378	40	80	270
Totești	511	1005	560	389	649
Hațeg Country	7570	7083	5133	4643	4328

Source: data processed according to the technical-operative reports on the situation in animal husbandry from DAJ Hunedoara and from the town halls of localities [4-17]

As a percentage of the swine livestock in each locality from the total, it is worth noting the communes Pui, Râu de Mori, Bretea Română and Totești, whose cumulative share from total was 72.8%, in year 2018 (Table 9). The number of pigs also decreased due to the fact that, in the area, there is no point for slaughtering and processing the pork meat. Pigs are bred in individual households, most of them for their own consumption.

Table 9.

The share of swine livestocks in the localities from “HațegCountry”, %

Localities	2000	2005	2010	2015	2018
Hațeg	10.3	4.6	9.2	1.0	2.8
Baru	3.1	2.9	3.5	4.4	1.6
Breteia Română	11.9	16.9	16.4	17.2	17.3
Densuș	11.1	7.8	8.1	6.1	3.0
General Berthelot	4.6	5.4	4.6	7.0	2.8
Pui	12.2	13.3	18.4	14.2	21.3
Răchitova	5.1	6.4	5.9	7.8	6.4
Râu de Mori	14.7	16.2	15.9	21.0	19.2
Sarmizegetusa	2.9	2.1	2.0	4.8	2.8
Sălașu de Sus	9.6	4.9	4.3	7.4	4.5
Sântămăria-Orlea	7.8	5.3	0.8	1.7	6.2
Totești	6.8	14.2	10.9	8.4	15.0
Hațeg Country	100.0	100.0	100.0	100.0	100.0

Source: data processed according to the technical-operative reports on the situation in animal husbandry from DAJ Hunedoara and from the town halls of localities [4-17]

A similar situation, but at the same time different, is registered regarding the number of horses, whose number registered a strong downward trend, of over 350% on the total “Hațeg Country” in 2018, compared to 2000, practically, the largest decrease recorded at the animals livestock in the area (Table 10). If we refer to the component localities, the biggest decreases were registered in Pui, Sălașu de Sus and Baru. The largest number of horses, over 100, are in Râu de Mori (165) and Densuș (105), who, however, have not had a large number of horses before.

Table 10.

Evolution of the livestock of equines from the localities of the “HațegCountry”, no.

Localities	2000	2005	2010	2015	2018
Hațeg	86	53	68	34	44
Baru	284	293	180	99	62
Breteia Română	235	245	144	54	55
Densuș	152	148	134	115	105
General Berthelot	67	56	42	22	13
Pui	730	712	550	160	98
Răchitova	45	38	38	26	25
Râu de Mori	258	241	197	65	165
Sarmizegetusa	138	122	90	92	57
Sălașu de Sus	329	313	216	43	32
Sântămăria-Orlea	186	161	88	88	88
Totești	112	96	77	48	36
Hațeg Country	2622	2478	1824	812	736

Source: data processed according to the technical-operative reports on the situation in animal husbandry from DAJ Hunedoara and from the town halls of localities [4-17]

The utility of the equines in carrying out certain activities with agricultural and non-agricultural character has led to a high share of them in Râu de Mori, Densuș, Pui and Sântămăria-Orlea, amounting to 62% of the total number of herds in year 2018 (Table 11).

Table 11.**The share of equines livestock in the localities from "HațegCountry", %**

Localities	2000	2005	2010	2015	2018
Hațeg	3.3	2.1	3.7	4.2	6.0
Baru	10.8	11.8	9.9	12.2	8.4
Bretea Română	9.0	9.9	7.9	6.7	7.5
Densuș	5.8	6.0	7.3	14.2	14.3
General Berthelot	2.6	2.3	2.3	2.7	1.8
Pui	27.8	28.7	30.2	19.7	13.3
Răchitova	1.7	1.5	2.1	3.2	3.4
Râu de Mori	9.8	9.7	10.8	8.0	22.4
Sarmizegetusa	5.3	4.9	4.9	11.3	7.7
Sălașu de Sus	12.5	12.6	11.8	5.3	4.3
Sântămăria-Orlea	7.1	6.5	4.8	10.8	12.0
Totești	4.3	3.9	4.2	5.9	4.9
Hațeg Country	100.0	100.0	100.0	100.0	100.0

Source: data processed according to the technical-operative reports on the situation in animal husbandry from DAJ Hunedoara and from the town halls of localities [4-17]

CONCLUSIONS

The data presented above allow us to conclude that we have to deal with massive decreases of almost all livestock in "Hațeg Country" area.

These have several causes, such as:

- competition from imported meat and meat products, which are quite heavily subsidized in developed European states;
- the closure and / or the reduction of the profile capacities which has forced the processors from the food industry to resort more and more to the raw material from import;
- the closure and / or reduction of the authorized processors from the food industry, so the breeders have not the possibility of slaughter and quickly selling for processing nearby;
- the inefficiency of the measures taken at national level to limit this import and to ensure to a greater amount the food independence of Romania;
- the increase of sheep and goat herds, was due to the increased export demand (especially to the Muslim countries), correlated with the efforts to increase the internally consumption of meat and meat products of these species.

As a result, the reducing of the share of livestock farming in agriculture, has implicitly reduced the Gross Domestic Product and contributed to the installation of a deficit in food products foreign trade, with disastrous effects on the added value that can be obtained from the food industry and especially on the quality of the population's food, this one buying cheaper imported products, with lower quality.

A solution to these problems, which cannot be solved from day to day, would be to bring as close as possible the animal production with the vegetable one. This would also allow the development of small businesses, respectively increasing the productivity of labor in rural areas, Romania not valuing his natural potential which would allow both the balance of trade and a better quality of food.

REFERENCES

- [1]. **GOȘA V, OTIMAN P.I., BĂNEȘ A., MATEOC-SÎRB N., SĂLĂȘAN C., FEHER ANDREA, RAICOV M.**, 2019, Raport de cercetare - Strategii de dezvoltare rurală durabilă în zona țara Hațegului, județul Hunedoara, partea a II-a, Starea actuală a economiei și dotarea tehnico-edilitară a comunelor din Țara Hațegului, Timișoara
- [2]. **OTIMAN, P.I., GRIGORESCU D., BOGDAN A.**, 2010, Conservarea geo- și biodiversității și dezvoltarea durabilă în Țara Hațegului – Retezat, Vol I, Editura Academiei Române
- [3]. **OTIMAN, P.I., FLORIAN V., IONESCU, C.**, 2010, Conservarea geo- și biodiversității și dezvoltarea durabilă în Țara Hațegului – Retezat, Vol II, Editura Academiei Române
- [4]. *** INS – Anuarul statistic al României 2007-2019
- [5]. *** INS - Portal Tempo online
- [6]. *** Strategia de dezvoltare locală a comunei Baru, județul Hunedoara 2014-2020
- [7]. *** Strategia de dezvoltare locală a comunei Bretea Română, județul Hunedoara 2014-2020
- [8]. *** Strategia de dezvoltare locală a comunei Densuș, județul Hunedoara 2014-2020
- [9]. *** Strategia de dezvoltare locală a comunei General Berthelot, județul Hunedoara 2014-2020
- [10]. *** Strategia de dezvoltare locală a comunei Pui, județul Hunedoara 2014-2020
- [11]. *** Strategia de dezvoltare locală a comunei Răchitova, județul Hunedoara 2014-2020
- [12]. *** Strategia de dezvoltare locală a comunei Râu de Mori, județul Hunedoara 2014-2020
- [13]. *** Strategia de dezvoltare locală a comunei Sarmizegetusa, județul Hunedoara 2014-2020
- [14]. *** Strategia de dezvoltare locală a comunei Sălașu de Sus, județul Hunedoara 2014-2020
- [15]. *** Strategia de dezvoltare locală a comunei Sântămăria Orlea, județul Hunedoara 2014-2020
- [16]. *** Strategia de dezvoltare locală a comunei Totești, județul Hunedoara 2014-2020
- [17]. *** Strategia de dezvoltare locală a Orașului Hațeg, județul Hunedoara 2014-2020
- [18]. *** <http://ec.europa.eu/atwork/synthesis/aar/> - Rapoarte statistice DG Agri