

EVALUATION OF ROMANIAN LIVESTOCK SECTOR FROM THE PERSPECTIVE OF AVAILABILITY OF FOOD PRODUCTS

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Abstract

The Food security of the population is a global problem of mankind due to increased demand for agricultural products, driven by population explosion, increasing household income and changing of consumption structure. The major changes that have occurred in the Romanian economy after 1990, there have been felt in animal husbandry, both in terms of size livestock farms and livestock and yields obtained. This scientific approach aims to analyze the Romanian livestock sector in terms of availability and consumption of food products of animal origin. The quantitative and qualitative analysis of the main indicators of production is based on statistical data provided by the National Institute of Statistics and Ministry of Agriculture and Rural Development. According to this analysis of the Romanian livestock sector we conclude that the current level of production is much lower than a decade ago, as a result of the sharp and steady reduction of livestock, reduction of purchasing power of population, poor performance and lack export competitiveness. On the other hand, consumption of food products in Romania is much lower than the EU average consumption, the share of food self-consumption is the highest in the EU-27, while the share of food expenditure in total household expenditure remain at extremely high levels.

Key words: availability, consumption, food security, livestock, productions

INTRODUCTION

Ensuring the food security for the population is a global problem. Some works estimates that until 2050, it is necessary to increase up to 50-70% the food production in order to feed a growing population of two billion people. [6]

Although worldwide in the last 30 years, in the same time with increasing human population has increased food availability, yet 925 million people are suffering from chronic hunger. [2]

This problem is not only the result of insufficient food production and an inadequate distribution thereof, but also a financial inability of the poor people to buy food of good quality and in sufficient quantities to meet their needs. [3]

Throughout the world, the demand for food of animal origin is increasing due to rapid population growth and its income.

Globally, livestock contributes directly to reducing poverty and enhancing food security, being the livelihood of nearly one billion people of the world population and sources of income and jobs. [1] The three main types of operating systems in animal husbandry: intensive, mixed (crop and livestock) and open (grazing) have a total amount of more than 17 billion animals. [4], [5]

Estimates based on data for the period 2001-2003 suggests that grazing systems contribute 9% of the amount of total meat globally and 12% in the milk; mixed systems contributes 46% to the amount of meat, 88% for milk and up to 50% of the total quantity of grain; [9], [10], while intensive systems provide 45% of the meat produced worldwide.

Livestock is for any national economy, the branch that ensure prosperity, balancing and improving consumption, for better use of feed resources and management of labor. [8]

The share of livestock in agricultural

production is considered an indicator of economic development of a country. [7]

Nationally, livestock production for self-consumption can contribute to food security by avoiding problems that may arise in the supply of food of animal origin imported. Also, for countries that are net exporters, exports of animals have the potential to make an important contribution to the balance of payments. [2]

In this context, the paper presents an analysis of the evolution of Romanian livestock sector in order to highlight the availability and consumption of food products of animal origin.

MATERIALS AND METHODS

To highlight the relationship between livestock production and food security of the population, this paper aims at analyzing the Romanian livestock sector in terms of availability and consumption of food products of animal origin.

The methodology of this study is based on qualitative and quantitative analysis of the main indicators of livestock production and household consumption of foods of animal origin.

To characterize the evolution of this sector were used the following indicators: total actual animal species, total production obtained, average weight at slaughter, the average annual consumption of food products. The data collected by the National Institute of Statistics and Ministry of Agriculture and Rural Development for the period 2003 - 2013 were statistically processed and interpreted.

RESULTS AND DISCUSSIONS

The major changes that have occurred in the Romanian economy, since 1990, there have been felt in animal husbandry, the restructuring process of livestock holdings is far from complete.

According to the General Agricultural Census, in 2010 Romania had the highest number of farms, 3,859,000 (32.88% from total holdings of the European Union) on an area of 13.3 million ha (an average size of 3,

45 ha/farm) and 99.2% of all existing holdings were farms without legal personality (individual farms, authorized individuals, family businesses). To this is added the poverty of a large share of people involved in agriculture and a very low level of education (European Commission data for 2010 show that the share of population at risk of poverty Romania was 22%).

Significant decreases in Romanian livestock registered after 1990 were due to both, the massive slaughter of animals following the dissolution of state agricultural units and the difficulties of adaptation to the European veterinary rules after Romania integration in the European Union. In total there was a decrease of livestock owned in small farms but the evolution was different depending on the species.

Table. 1 shows the evolution of the main indicators of animal production in different species in the period 2003-2013. In the period under review, total number of cattle decreased by about 24%, from 2.897 million head in 2003 to 2,197,000 in 2013.

For cattle (RGA 2002, 2010), the sharpest decline was recorded in small farms (number of farms owning an average of 1-2 cows decreased by 54% and those with 3-9 cows by 28%), farms where cattle are bred for family subsistence and the eventual surplus is sold in the form of dairy products in traditional markets. In the same time with the decreasing of total number of cattle, the share of breeding stock showed a similar downward trend (-22.1% in 2013 compared to 2003).

Following the total number of cattle decline, there were decreases in both total milk production obtained (23% in 2013 compared to 2003) as well as in the meat (-38.5%).

However, a positive aspect is given by the steady increase in average productions. The average milk production/ head / year grew by 3.7% and the average weight at slaughter / capita increased by 1.8%. However, the values recorded are well below those achieved in EU countries (eg average production per cow per year is about 8,000 liters in Denmark, Finland and Sweden, and less than 4,000 in Bulgaria and Romania).

Table 1. The evolution of Romanian livestock sector in 2010-2013

Specification	UM	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2013/2010 (%)
CATTLE													
The total number from which:	thousand head	2,897	2,801	2,862	2,934	2,819	2,684	2,512	1,985	2,130	2,164	2,197	75.8
Breeding stock		1,757	1755	1,812	1,810	1,732	1,639	1,569	1,282	1,312	1,352	1,369	77.9
Average milk production	l / head	3,263	3,493	3,510	3,688	3,564	3,653	3,807	2,595	3,529	3,417	3,385	103.7
Total milk production from which:	thousand hl	55,288	55,444	55,334	58,307	54,875	53,089	50,570	42,824	43,807	42,036	42,600	77.05
Sold production		25,937	27,629	28,000	28,834	26,868	28,197	25,310	17,433	22,321	21,462	21,894	84.4
Total production of beef alive	thousand tons	378	391	383	318	333	306	264	205	289.3	198.5	232.6	61.5
The average weight at slaughter	kg / head	321	328	333	275	280	285	287	264	333	332	327	101.8
SWINE													
Total number of pigs	thousand head	5,145	6,495	6,622	6,815	6,565	6,174	5,793	5,387	4,153	4,011	4,054	78.8
Total production of pig meat alive	thousand tons	710	626	605	618	642	605	585	553	595	555	582	82.0
The average weight at slaughter	kg / head	111	105	103	113	113	114	113	115	107	116	117	105.4
SHEEP AND GOAT													
Total number of Sheep and goats	thousand head	8,125	8,404	8,921	8,406	9,334	9,780	10,059	9,623	11,331	12,298	12,710	156.4
Total production of meat alive	thousand tons	135	166	114	101	110	104	104	100	150	107	171	126.7
The average weight at slaughter	kg / head	23	28	19	18	18	17	17	16	21	18	24	104.3
POULTRY													
Total number of birds	thousand head	76,616	79,360	79,018	84,991	82,036	84,373	83,843	78,867	70,390	71,767	67,989	88.7
Total production of poultry alive	thousand tons	436	372	401	361	416	410	489	446	468	470	485	111.2
The average weight at slaughter	kg / head	1.9	1.9	1.8	1.8	2.0	2.0	2.0	2	2,292	2,042	2,267	119.3
Total egg production	mil.buc	6,641	7,381	7,310	7,429	6,522	6,692	6,211	6,199	5,489	6,398	5,939	89.4

Source: MADR

If we analyze how was used the production obtained from cattle in 2013 (table. 2), we see that from the total production of milk, 39.31% is for family consumption while only 22% of production was taken and processed in units specialized in milk processing. From total meat production, processing by specialized units is still low (22.3%), while direct sales account for 51.9% of total meat production obtained.

In the period 2003-2013, total swine livestock showed substantial decreases due to a lack of financial support, after the accession to the European Union, and the restriction on

exports of pork due to swine fever treatment. Thus, the total number decreased (- 21.2%), from 5,145 million head in 2003 to 4,011,000 in 2013. Although the average weight at slaughter increased by 5.4%, total meat production obtained fell 18%, due to the decrease of total number of pigs ((table. 1). The average size of pig farms (RGA 2010) 3.14 heads / farm shows a large number of subsistence farms producing for family consumption.

From the analysis of data on the use of pork production, we observe that the share of consumption for family is 32.1% from the

production obtained, the remaining 67.9% of the meat being sold on the market (table. 2).

Traditionally, pork has a large share in the consumption pattern of Romania, competing with poultry. Consumption in absolute terms

was in 2010 and 2011, approximately 30 kg / capita / year, below the EU average (37 kg / capita) and countries such as Germany (40 kg / loc.), Austria (57 kg / person.), Hungary (44 kg / loc.).

Table 2. Recovery yields obtained in animal husbandry in 2013

Specification	Production		Technological consumption		Family consumption		Total sales for market		Sales to industrial units		Direct Sales	
Cow milk (thousand hectoliters)	42,600	100	3,960	9.3	16,746	39.31	21,894	51.39	9,412	22.09	12,482	29.3
Beef meat (thousand tons)	232.6	100	-		60,011	25.8	172.59	74.2	51.87	22.3	120.72	51.9
Pig meat (thousand tons)	582	100	-		186,822	32.1	395.18	67.9	319.52	55	75.66	13
Sheep and goats meat (thousand tons)	171	100	-		57.63	33.7	113.37	66.3	102.60	60	10.77	6.3
Poultry meat (thousand tons)	485.2	100	-		67.9	14	417.,3	86	375.,1	77.3	42.2	8.7
Eggs (million units)	5,939	100	320	5.4	2,660	44.8	2,957	49.8	1,110	18.7	1,847	31.1

Source: MARD, data processed by author

The only species that have recorded significantly risen are sheep and goats, Romania becoming one of the leading European producers in this sector.

From the total livestock of sheep, the increase was higher in farms with over 100 animals, due to the context of export opportunities in European markets and in the Middle East. In goats, herd growth occurred in small farms (1-9 heads) and in medium farms (over 200 heads goats) due to production characteristics of the species, low maintenance costs and consumer preference for the products.

During the period under review, total number of sheep and goats increased by over 33%, from 8.125 million head in 2003 to 12,710,000 in 2013. The same trend was manifested both in terms of total meat production (+ 26.7 %) and average weight at slaughter (+ 4.3%), (table. 1).

If we analyze how was used the meat production obtained in 2013 from sheep and goats, we find that 57 627 tonnes (33.7% of total production) is for family consumption and 113,373 tonnes (66.3%) is sold on the

market, mostly (60%) for processing units (table. 2).

The total number of birds decreased by 11.3% between 2003-2013, while total production of live poultry meat has increased by over 11.2%, due to higher average weight at slaughter by 19.3% (table. 1). According RGA 2010, 60% of the total number of birds is found in poultry farms under 100 heads, respectively, in rural households and their production, mostly used for own consumption.

From table. 2, we see that in 2013, for the production of poultry meat, the family consumption related to the total output obtained is lower (14%) than in the case of egg production (44.8%). Significant differences are in the sale for market from the production of meat and eggs. For meat production, the share for the sold quantity is 86% of total production obtained, while for the eggs, it is only 49.8%.

In Romania, food consumption shows negative aspects both economically and socially. The share of food expenditure in

total household expenditure levels remain extremely high, about 40-45%, values twice as high compared to the EU average. From the total food expenditure, expenditure on imported foods have a high percentage, 34.1% respectively. The share of food self-consumption is the highest in the EU-27, and food consumption per capita in Romania is at the minimum level of subsistence, approximately 2.2-2.5 times lower than the EU average consumption.

According to INS data, in 2013, an average Romanian consumed about 54.4 kilograms of meat and meat products, milk and dairy products 244.5 kg and 247 eggs. From the

total meat consumption, 29.1 kg is the consumption of pork, poultry 17.5 kg, 5.1 kg beef and 2.4 kg meat of sheep and goats (table. 3).

If we analyze the evolution of consumption of agricultural products, we find that overall meat and meat products, the average consumption fell by 4.1% in 2013 compared to 2003 due to the deterioration of the purchasing power of the population. On different meats, the only growth of average consumption was recorded in pork (+ 18.3%). Light increases in average consumption were also recorded for milk and milk products (+ 5.4%) and eggs (+ 2.5%).

Table 3. Evolution of consumption of agricultural products

<i>The main agricultural products</i>	<i>U.M.</i>	<i>2003</i>	<i>2004</i>	<i>2006</i>	<i>2008</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2013/2003 (%)</i>
Meat and meat products (total)	<i>Kg</i>	56.7	61.6	65.9	66	59.9	56	55.3	54.4	95.9
Beef meat	<i>Kg</i>	8.7	9.3	9.8	8	5.7	5.5	5	5.1	58.6
Pig meat	<i>Kg</i>	24.6	28.7	32.1	34.6	33.3	30.5	29.6	29.1	118.3
Sheep and goats meat	<i>Kg</i>	2.9	3.3	2.2	2.5	2.3	2.3	2.4	2.4	82.7
Poultry meat	<i>Kg</i>	20.2	20.1	21.8	20.1	18.2	17.5	18.2	17.5	86.6
Milk and milk products (excluding butter)	<i>Kg</i>	232	247.5	258.9	274.6	244.2	248.5	240.7	244.5	105.4
Eggs	<i>Buc.</i>	241	292	282	280	253	264	245	247	102.5

Source: INS, TEMPO-Online

CONCLUSIONS

From the analysis of data for Romanian livestock sector we conclude that in some species important for ensuring meat needs of the population, respectively, cattle, pigs and poultry, livestock decreased steadily. Thus, in the period under review, total herds of cattle decreased by about 24%, the swine by 21.2% and the birds by 11.3%.

Among the causes which contributed to the reduction of livestock we can include: poor organization of the livestock sector, the quality of products obtained, difficulties of adapting to European animal health conditions and not at least the economic crisis that diminish domestic demand for meat and meat products.

Sheep and goats are the only species whose

total rose by over 33% is due to both increasing domestic demand for these products and export opportunities.

In the same time with the decreasing of the livestock were recorded also reductions in the levels of total productions.

A positive aspect is given by the steady increase in average yields. However, the values recorded are well below those achieved in EU countries (eg average production per cow per year is about 8,000 liters in Denmark, Finland and Sweden, and less than 4,000 in Bulgaria and Romania).

Consumption of food products in Romania show negative aspects both economically and socially. The share of food expenditure in total household expenditures are approximately 40-45% and per capita food consumption is at the minimum level of

subsistence, approximately 2.2-2.5 times lower than the EU average consumption.

To assure a production that meets inner consumption needs and also availability for export, animal breeding, aimed equally the existence of appropriate numeric livestock, a race structure with a high genetic value and use of modern technologies.

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