

## RESEARCH ON THE EVOLUTION AND THE STRUCTURE OF FARMS IN ROMANIA

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### Abstract

*The paper presents the evolution and structure of farms in Romania in 2013 in relation to their situation in 2003, but the existing situation in the EU in 2009. The distribution of the agricultural area of farms by size types varies from country to country, and a distinct situation is found in Romania. Research methods used were comparative analysis, absolute and relative deviation from the previous period. The conclusions drawn from this analysis, shows a reduction in the total number of farms in 2013, especially small farms as a result of the comas has, and an increase in holdings with an area of over 10 hectares, thanks the same process. The present situation in Romania causes the creation of subsistence farms, the main form of farm being family type farm.*

*Key words:* agriculture, agricultural unit, evolution, size farm

### INTRODUCTION

At the EU level, more than half of the arable land is distributed in farms over 50 hectares (61.4%) and only a percent of 5.5% of the agricultural area was in farms between 0-5 ha. [7] [10]

In Romania, the situation on the size of farms and their small dimension is much discussed [9]. The many small family farms with small surface in use is determined by the characteristics of the Romanian agriculture, namely: strong fragmentation of land ownership more than 40 million parcels, and the existence of many farms viable economically, with aging population involved in this sector and with inadequate and obsolete agricultural equipment compared to EU agriculture strongly mechanized through mechanization, automation, chemical treatment, biotechnology, high skilled labour force [8].

All these problems lead to a physical separation of small and medium farms in terms of dimensioning (less than 5ha).

### MATERIALS AND METHODS

For presenting the farms situation in Romania, the comparative analysis of statistical data for

the period 2003 – 2012 was used, which are found in the latest publications of EUROSTAT.

Surveys made by Eurostat provide harmonized data on the structure of agricultural farms in the European Union, particularly regarding the land use, livestock and labour force. Every ten years a survey is made in the form of basic agricultural census and three intermediate surveys among the two basic ones, with an interval of two to three years between them. The data were processed and interpreted in terms of quality and quantity.

In Romania, the statistical survey is based on a representative sample, formed of about 313,000 farms without legal status, which was extracted from a total of 3,828 thousand agricultural farms without legal status, registered in the General Agricultural Census 2012 and included in the Statistical Register of farms and all farms with legal status (The National Institute of Statistics). These statistics have been made in order to properly design the implementation, monitoring and evaluation of the Community Agricultural Policy (CAP).

Comparative analysis used in the comparison of specific indicators own farms, in different

periods of time or in the same time period in Romania and the EU.

**Absolute deviation and relative deviation** indicator, was calculated as the difference between their value, from the beginning to the end of the period, recording positive values respectively negative ones.

## RESULTS AND DISCUSSIONS

Romania has an agricultural surface of 61.7% of total surface, being among the first places in the European Union.

In Romania the agricultural surface per capita/inhabitant is of 0.65 ha, from a total of 14,700,000 ha, ranging among the first 6 countries in Europe, and as arable surface it holds 5<sup>th</sup> place, with a surface of 0.45 ha per capita/inhabitant, being the second agricultural producer in the Central and Eastern Europe, after Poland. [1].

In Romania, over 4.2 million farmers own an average of 2.3 ha, and it is broken into parcels that cannot make a competitive agriculture and about 3.5 million farms have land less than one hectare.

The Romanian farms or agricultural units are private family type farms, where all activities are supported by the family members and the production is rarely used outside the farm, only for own consumption.

C. Mănescu *et al.* considers **family farm** the basic unit in agriculture, the family is the main source of labour force. In some countries, restrictions were imposed of limiting the formation of large corporations in agriculture to stimulate the maintenance and development of family farms. Most small and medium farms in Western Europe have a diversified character practicing besides farming and tourism, services or products processing [7].

In Romania in 2007, there was the largest number of farms or agricultural units reported to the European Union (3.93 million), representing one third of total at the Community level, with an average area of 3.4 hectares, being one of the lowest. In the period 2003-2012 and 2013, the number of farms in Romania decreased with 14% reaching 3.86 million, and in 2013 it reaches to 3.28 million, according to Eurostat data.

Table 1. Existing structure of agricultural holdings in the EU and Romania on class size in years 2012 – 2013 compared to 2003

Size type (ha)	UE		Romania 2003		Romania 2012		Romania 2013	
	Number of farms (thousand)	Structure (% of total number)	Number of farms (thousand)	Structure (% of total number)	Number of farms (thousand)	Structure (% of total number)	Number of farms (thousand)	Structure (% of total number)
0 - 5	9,644.82	70.4	4,205.1	93.8	3,457.0	92.9	3,281.4	92.1
5.1 - 10	-	-	218.9	4.9	182.2	4.9	193.8	5.4
10.1 - 20	2,553.16	18.6	37.4	0.8	43.5	1.2	49.6	1.4
20.1 - 50	804.31	5.9	9.5	0.2	17.9	0.5	18.7	0.5
≥ 50.1	698.11	5.1	14.1	0.3	21.1	0.6	20.2	0.6
Total	13,700.4	100	4,484.9	100	3,721.8	100	3,563.7	100

Source: EUROSTAT 2012

In Romania, in 2013, the number of agricultural holdings was down from 3,563.7 the previous year, with 4.72% due mainly to the consolidation process. It was a decrease in the number of small farms with an area of 0-5 ha by 5.07% compared to 2012 and increase the number of farms with an area of 5.1-10 ha with 11,700 farms, those with surface between 10.1-20 ha with 6,100 holdings, as well as those with between 20.1 and 50 ha area with 1200 holdings.

Like structure in 2013 compared to 2012,

there was a decrease in the percentage owned by small farms (0-5 ha) by 0.8% and increase the share of holdings with larger, between 5.1 to 10 ha, up 0.5%.

In terms of absolute deviation in the number of farms in the years 2012 to 2013 compared to 2002, shows the following:

- And massive progressive reduction in the number of small farms with 0-5 ha area, representing 17.79% in 2012 and increase to 21.96% in 2013 compared to 2003;

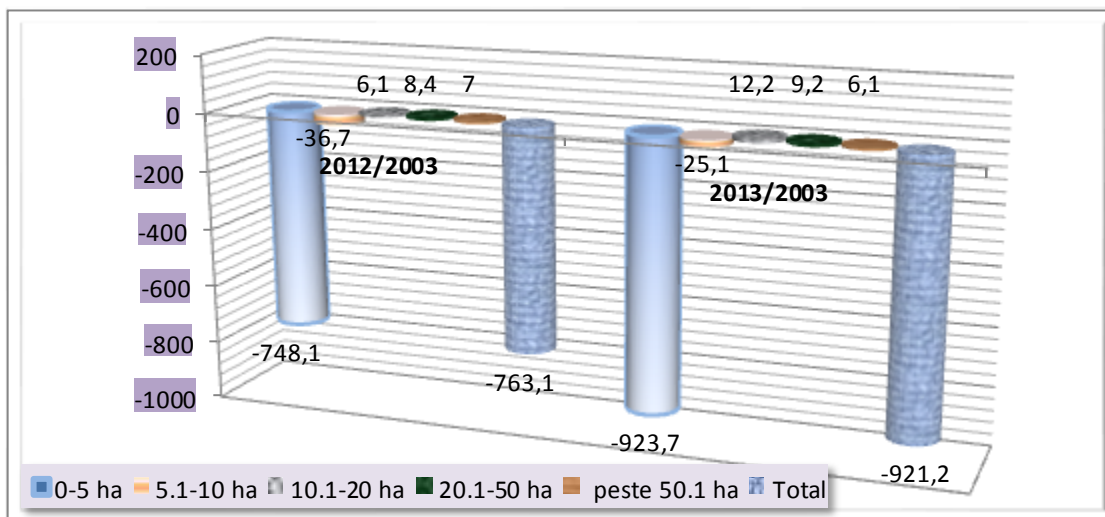


Fig. 1. Absolute deviation in the number of farms by size categories in Romania in 2012 and 2013 compared to 2003

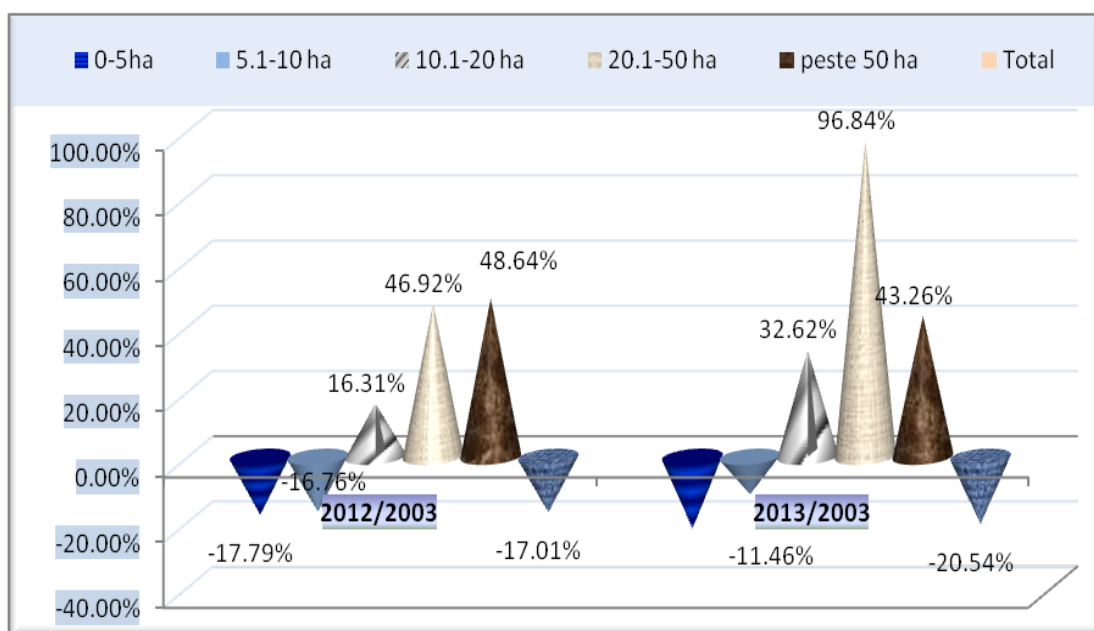


Fig. 2. Relative deviation in the number of farms by size categories in Romania in 2012 and 2013 compared to 2003

- Reducing the number of farms with an area between 5.1-10 ha in 2012 in relative sizes, represent 16.76% in 2012 and 25.7% in 2013 compared to 2003;

- Increasing the number of farms with areas between 10.1-20 ha, ha 20.1-50 and over 50 ha, shows that the merger process was carried out at a steady pace during the survey period;

- Overall, the deviation absolute and relative number of farms in the years 2013 and 2012 compared with 2003 were negative, which indicates a decrease in their numerically with 17.01% in 2012 and 20.54% in 2013. (Figure 2).

Analyzing the situation reported by European statistics and Eurostat, we find that in

Romania the number of farms with the area between 0-5 ha, occupies the highest percentage (92.9%), compared to the situation at European level that is smaller (70.4%). A percentage of 4.9% of farms have in use land with surfaces between 5.1 to 10 ha size that is not in the European level. In the European Union - 27, the farms with surfaces between 10.1 and 20 ha, have a percentage of 18.6% and in Romania are only in a percent of 1.2% of total farms (Table 1).

Romania has a very low number of farms with large use surface ( $\geq 50$  ha), only a percent of 0.6%, which is reflected by the lack of agricultural machinery and equipment and an agricultural consultancy system, needed to

make performing agriculture.

The used agricultural surface, which has the average on agricultural farm is 1.73 ha in 2003 and 1.95 ha in 2012, although in 2009 it was 2.29 ha: (Agricultural Census 2010).

According to the General Agricultural Census 2012 dominant arms in Romania (92.9%) have surface between 0 and 5 hectares, and the surfaces are distributed in much smaller size types (Table 2).

From the analysis of the below mentioned data, it can be seen that in Romania, there are farms that use surfaces smaller than 0.1 - 0.5 ha, farms that occupy a percent of 4.6%, then a percent of 11.2% have in use surfaces contained between 0.5 – 1 ha, being followed by a percent of 26.3 % of farms with land in use with surfaces contained between 1-2 ha. The rest of 57.9 % have in use surfaces larger than 2 ha.

Table 2. Agricultural surface of farms with size between 0.1 – 5 ha, used on categories of use (thousand ha), 2013 compared to 2010

Size type (ha)	Utilized agricultural area (UAA) on usage categories (thousand ha)										% of total surface	
	Arable land		Family gardens		Pastures and hayfields		Permanent crops		Total			
	2010	2013	2010	2013	2010	2013	2010	2013	2010	2013	2010	2013
Less than 0.1	2.73	2.81	12.63	14.16	1.98	1.50	2.12	2.12	19.47	20.59	0.5	0,55
0.1 – 0.3	48.12	46.81	35.95	34.53	19.25	15.68	17.05	18.84	120.39	115.86	3.1	3,1
0.3 – 0.5	76.66	74.33	1.74	14.40	28.96	25.27	12.93	13.53	120.29	127.53	1.0	3.42
0.5 - 1	268.62	252.31	27.02	21.52	109.23	94.64	26.57	25.98	431.45	394.45	11.2	10.58
1 - 2	643.36	601.31	33.92	27.04	287.18	250.70	46.05	46.90	1,010.52	925.95	26.3	24.85
2 – 5	1,397.93	1,342.6	39.57	32.12	717.66	689.94	73.86	77.0	2,229.03	2,141.09	57.9	57.5
Total	2,437.42	2,319.6	150.83	143.7	1,164.26	1,077.7	178.58	184.3	3,849.52	3,725.47	100	100

Source: General Agricultural Census, 2012; The farm structure survey in 2013

In terms of utilized agricultural area in Romania farms between 0-5 hectares in size, it is found that the largest areas were used by holdings of 2-5 ha in size by up to 58% in the analyzed period, followed the size of 1-2 ha holdings, 26.3% in 2010 and 24.85% in 2013. Farms with SAU between 0-0.5 ha have reduced weights, so under 0.1 ha were only 0.5%, with an area between 0.1-0.3 ha farms are owned by 3.1%, and between 0.3-0.5 ha a rate of 1% in 2010, increasing to 3.42% in 2013.

Absolute deviation of SAU in agricultural holdings owning arable land was negative (-4.83% relative deviation) in 2013 compared to 2010, which shows a decrease of 17.8 thousand hectares owned surfaces.

Family gardens also had a decrease of SAU in 2013 compared to 2010 by 7.1 thousand hectares, which represents 4.68% negative deviation relative.

Pastures and hayfields have also recorded a negative deviation in 2013 compared to 2010

with 86,530 ha which represents a decrease of 7.43%. A deviation relative positive value of 3.24%, recorded permanent crops, up 5,870 ha in 2013 compared to 2010 (Figure 3).

The number of these subsistence farms, reduces the performance of agriculture and maintain the general agricultural efficiency at a low level.

Currently the approximately 3.5 million farms with less than one hectare of land in use, prevents them from accessing EU funds. Thus, the problems that appear and develop are due to the fragmentation of the farms as regards funding (Figure 4).

The structure and size of farms in Romania are not yet compatible with those of the member countries of the European Union and therefore urgent measures for structural adjustment are required [3].

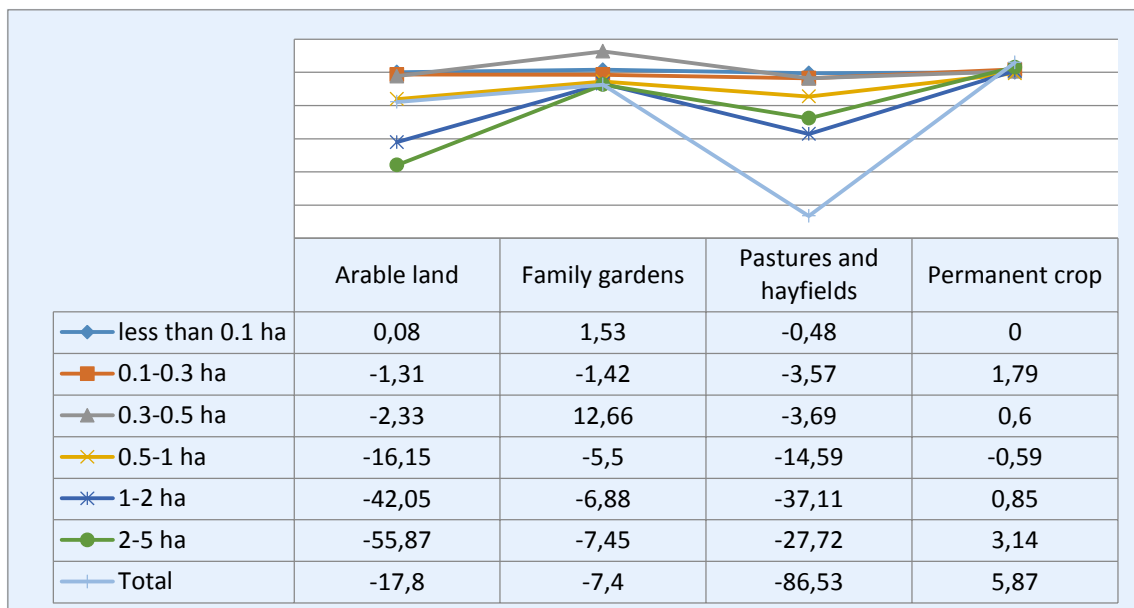


Fig. 3. Deviation absolute of small agricultural areas, by use in Romania in 2013 compared to 2010

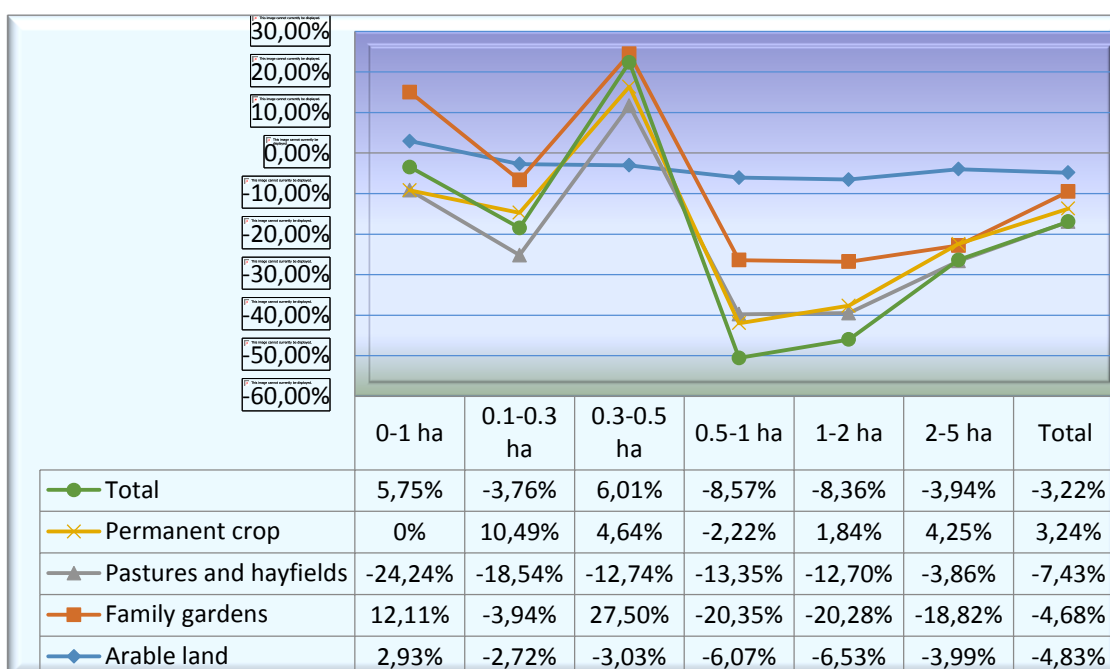


Fig. 4. Deviation relative of small agricultural areas, by use in Romania in 2013 compared to 2010

The viable solution for the Romanian agriculture recovery can be represented by the promotion of the agricultural cooperatives, which can contribute to the socio-economic development of the country by supporting the semi-subsistence farms, the potential of small agricultural units and the possibility of modernizing the technical and material base [2] [12].

Losing more than half of the Romanian agriculture, represented by small and

medium-sized farms and the rural depopulation are consistent elements for the justification of such an initiative.

## CONCLUSIONS

In the analyzed period 2003 - 2012, there were not major changes in the evolution of the size and structure of the agricultural farms in Romania, and almost half (48%) of small farms in the EU are subsistence farms and

were identified in Romania.

In Romania prevail farms/small farms with less than 5 ha, but there is a trend of consolidation of the agricultural areas used and the number of small farms, occupying a share of 92% of farms. Sized farms, the development of which the stakes are small but growing share in 2013 compared to 2010. In Romania, in 2013, the number of farms was 3,563.7, down from the previous year, with 4.72% as a result of the merger.

The average area of farms in the EU is four times higher (12.6 ha) than in Romania, 2013 (3.66 ha).

Deviation absolute and relative number of farms in the years 2012 to 2013 compared to 2002 was generally negative, except in size between 20.1 to 50 ha farms where there have been increases. In terms of utilized agricultural area farms between 0-5 hectares in size, it is found that the largest areas were used by holdings size 2-5 ha, followed by holdings of 1-2 hectares in size while OR farms with between 0-0.5 ha have very low weights.

OR absolute deviation in agricultural holdings owning arable land was negative in 2013 compared to 2010. gardens and pastures and hayfields, also had a decrease in OR 2013 compared to 2010 and a negative deviation relative.

After 1989, Romania has become one of the countries with the smallest physical size of farms, in 2012 the physical size of farms is 3.5 ha, our country being on the lowest place in EU.

One of the main objectives of the rural development policy for a country with agricultural potential that wants to influence the EU market, is to reduce the large number of subsistence farms.

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