CONSIDERATIONS REGARDING THE MEDIUM SIZE AND TECHNICAL EQUIPPING OF AN AGRICULTURAL UNDERTAKING IN ROUMANIA AS COMPARED WITH COUNTRIES FROM EU

CONSIDERAȚII PRIVIND DIMENSIUNEA MEDIE SI DOTAREA TEHNICĂ A UNEI EXPLOATAȚII AGRICOLE IN ROMÂNIA COMPARATIV CU ȚĂRI DIN UNIUNEA EUROPEANĂ

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Abstract: *The current state of the property required to diversify and establish the optimal size of land for agricultural purposes: i.e. soles, parcels, etc., depending on technical equipment, the crop system (irrigated, dry) and crop structure. In these conditions a minimum area to operate economic activities where tractors and machinery systems (30hp, 40hp, and 65hp) can be deployed requires putting together agricultural areas which would allow a proper technical equipping for owners and operating agricultural activities in favourable economic conditions. This paper presents the European experience on the physical size of farms as compared to Romania and the level of technical equipping of agriculture.*

Key words: *average size of agricultural undertakings / farms, technical endowment, agricultural*

INTRODUCTION

Regarding the physical size (ha, heads) farms (agricultural undertakings) in Romania one have had many discussions and debates, some of them based on political and economic doctrines, other on

mentalities (usually outdated), and others on the objective need to render Romanian agriculture structures compatible with the EU ones – the economic, political, legal and cultural area which Romania joined. Technical endowment of agricultural undertakings is highly important since it is a variable of great impact on the production levels, production costs, and finally on the management of transport.

MATERIAL AND METHOD

In the scientific literature there are presented various techniques, methods and models to optimize the farms size and structures, based on the economies of scale concept. Romanian Statistical Yearbook data shows that within our country's agriculture two types of farms / agricultural undertakings coexist, namely: small individual farms, managed mostly by individual farmers and larger agricultural undertakings managed by legal entities (farm holdings / companies, businesses, co-operative agricultural undertakings, etc.). Out of the farms mentioned above, many are individual agricultural holdings which, at the end of the year 2007, counted for 3.91 million units (99.49% of the total agricultural holdings), and occupying over 55% of the agricultural area used of the country [NIS, 2009].

However most of these farms are subsistence type agricultural undertakings (conceived for self-consumption) and not for commercial purposes, while the average size of such a farm is very small (1.73 ha).

RESULTS AND DISCUSSIONS

Passing over considerations and mindset related considerations, one present below the European experience related to the physical size of farms (as there is an economic size, but in most cases it is closely related to the physical sized) within EU as compared to Romania (see Table 1).

Table 1

Comparative situation of farms in EU and Romania in 2007

Class size (ha)	UE (27)			Romania		
	Number holdings (thou)	% of total	% of total agricultural area	Number holdings (thou)	% of total	% of total agricultural area
0-5	6110.1	61.9	6.2	4205.1	93.8	35.5
5-10	1293.7	13.1	5.9	218.9	4.9	10.3
10-20	974.4	9.9	8.8	37.4	0.8	3.4
20-50	823.1	8.3	16.6	9.5	0.3	2.0
≥50	669.3	6.8	62.5	14.1	0.3	48.8
Total	9870.6	100	100	4484.9	100	100
Medium size	**15.8**			**3.1**		

Source:*L'agriculture dans l'Union Européenne – Informations statistiques et économiques 2007*

For comparison grounds, one may find hereunder the average size of farms, expressed in hectares in the year 2007 in several EU countries (see Figure 1)

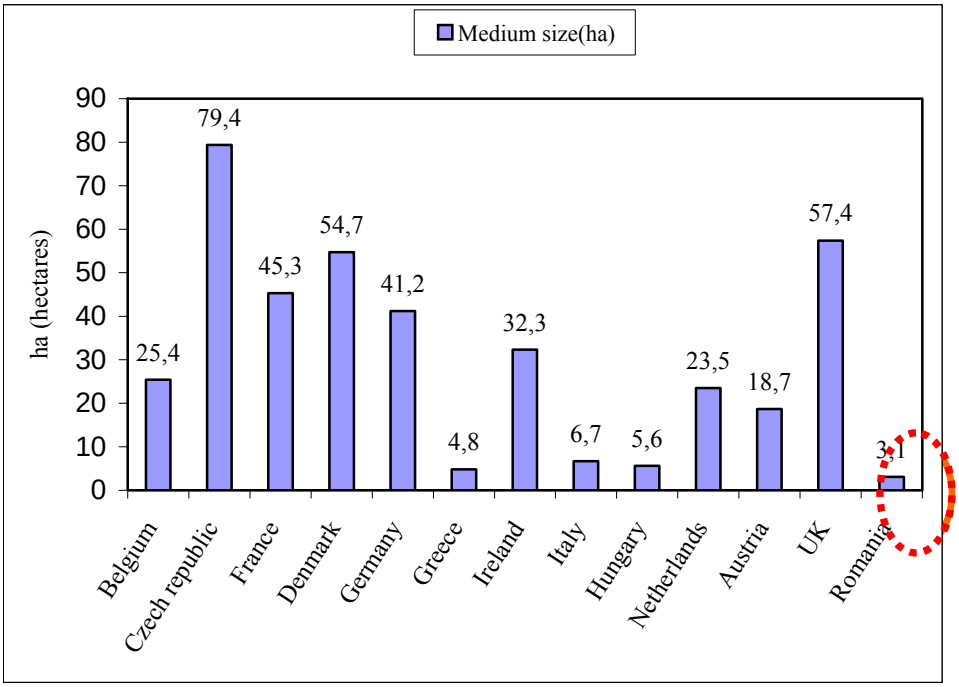


Figure 1. Medium size of agricultural undertakings in UE countries-2007

Source: data processing from http://epp.eurostat.ec.europa.eu

As for the dynamics of land use one may found however that over the last half century a stabilization of this structure has been taking place, the society intervention being primarily focused on industrial and urban development. The statistics after 1990 show that both the total surface and the agricultural area started to grow and in 2009 the comparative situation of the agricultural real estate at country, regional and county (Cluj) levels is shown in Table 2.

In terms of North-West region rustication degree one may observe at both regional and county level that agricultural land occupies the largest share (64.01% of the total), followed by forests and other types of land covered by forest vegetation. A small area is occupied by orchards and vineyards, yet in the past years has been reduced.

Table 2

Total land fund, by use, in 2009

Region	Total area of the land fund	Agricultural area	Agricultural area by utilisation				
			Arable	Pastures	Hayfields	Vineyards and vine nurseries	Orchards and tree nurseries
Romania	23839071	14702301	9415123	3333035	1532400	214502	207300
North-West Region	3416046	2087522	1020055	636125	386725	8951	35666
Cluj County	667440	427273	182736	154059	85729	194	455

Source: NIS, Romanian Statistical Yearbook 2010

The rural economy is undiversified, being focused more on subsistence agriculture, the structure of agricultural land within this area showing a high degree of fragmentation. Statistics show that the main crops area (thousands ha) within Cluj in the year 2009 as compared to year 2000, is declining in most types of crops less in vegetables and potatoes where the values between 2000 and 2009 remains almost the same.

Technical endowment of agricultural undertakings is highly important since it is a variable of great impact on the production levels, production costs, and finally on the management of transport.

The table below shows the level of equipment of Romania's agriculture in Romania as against some of EU countries, which can be considered as a standard model for Romanian agriculture. In order to facilitate this comparison we have calculated an indicator showing the area should be cultivated by a physical unit consisting of three types of agricultural machinery, namely tractors, cultivators and harvesters.

Table 3

Number of tractors and machines for agricultural purposes (2007)

	Austria	*Belgium*	*France*	*Netherland*	*Romania*
Arable surface (1000 ha)	1405,2	843	18199,7	1099,3	9414,3
Tractors (<40 km)	148950	16540	275110	30720	48520
Tractors (40-60 kw)	119120	33490	401480	59440	122290
Tractors (60-100 kw)	46880	33040	422230	48260	5170
Tractors (>100 kw)	4640	8450	68610	6180	2590
Cultivating machines	97670	3810	72720	18420	291270
Harvesting machines	12070	4200	72060	4440	25980

Source: http://epp.eurostat.ec.europa.eu

CONCLUSIONS

The situation is most worrying in case of high power tractors (100 kW) as Romania had 2590 tractors in 2007 resulting a surface of 3634.86 ha to be cultivated by one tractor while in Belgium this area is of only 99.76 hectares / tractor. At a first glance, a better situation is found in the case of medium power (40-60 kW) tractors, this indicator presenting a value of 76.98 ha / tractor which quite close to the level reported for France (45.33 hectares / tractor). However if one consider that in Romania one include in this class of tractors the U650 model which are very old and which functionality is reduced one may draw the conclusion that the technical endowment of agricultural undertakings in our country is very poor.

In the case of the remaining two categories of tractors the situation is worrying. For example, for tractors which power vary from 60 to 100 kW, in the Netherlands a tractor of this class has to operate on only 22.78 hectares, while in Romania it has to cultivate over 1820 hectares.

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