

ASSESSING THE CURRENT STATE OF DEVELOPMENT OF ORGANIC AGRICULTURE IN THE NORTH-EAST REGION OF ROMANIA

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Abstract

The paper analyses the development of organic agriculture in the North-East Development Region of Romania, particularly during the current economic crisis. The organic agriculture sector represents a relatively new area of interest for farmers in Romania, as the first signs of organisation and utilisation of land and livestock according to organic farming rules and principles date back to 1997, when the first organic producers' association, known as "Asociația Bioterra", was established.

In recent years, organic farming has grown exponentially in Romania, the North-East Development Region being the main region in the country in terms of the number of registered operators, areas of organic pasture and total agricultural areas. About 20% of all organic farming activity was conducted, in 2013, in the counties in the North-East Development Region.

Ecological farmers in Suceava county are among the promoters of this crop system in Romania, their number (2,000) being very high in relation to the number of farmers in the region and even the country overall, standing at about 13% in 2013.

For the purposes of analysing the evolution of the organic farming sector in the North-East Development Region of Romania, official statistical sources were consulted and the reports of the Agriculture directorates of the counties of Bacău, Botoșani, Iași, Neamț, Suceava and Vaslui.

The findings demonstrate that organic agriculture in North-East Development Region of Romania is in a stage of consolidation, with the vast majority of agricultural land and of livestock farmed according to the rules and principles of organic agriculture are certified.

Key words: organic agriculture, evolution, North-East Development Region of Romania.

JEL Classification: Q01, Q15, Q24

I. INTRODUCTION

Although it has been practiced since time immemorial, organic agriculture has been regulated by law only since 2000, as the national legal framework in the field was harmonised with the specific European legislation.

Romania is one of the emerging countries in the European Union where organic agriculture has recorded a significant increase in recent years, both in terms of agricultural area and the livestock farmed according to the rules and principles of the organic system and in terms of the number of operators registered in this field.

According to data of the Ministry of Agriculture and Rural Development, the organic agricultural area in Romania, certified and in-conversion, has doubled in the past four years, from 182,705 ha to 301,148 ha (www.madr.ro), while the share of organic land in the total agricultural land areas increased by one percentage point from 1.3% to 2.3% of the total utilised agricultural area (<http://ec.europa.eu/eurostat/data/database>). Financial support provided to operators in the field, under Article 68 of Regulation (EC) no. 73/2009 contributed to an increase by 480% in the number of persons registered in the organic production system in Romania in 2010-2013, from 3,155 to 15,194 (www.madr.ro).

At the territorial level, organic farming is developed in different degrees in the eight regions, with the largest share going to the North-East, Centre and North-West regions.

The North-East Development Region of Romania is the area where organic agriculture has made an obvious impact, as 84% of organic operators registered in Romania by 2010 were based in counties in the region. As regards the areas managed according to organic rules, given the region's agricultural profile, the land occupied by pastures and hayfields is prevalent, at the expense of arable land areas.

II. MATERIAL AND METHOD

The paper examines the evolution of the main indicators specific to organic farming in the North-East of Romania, with reference to: organic agricultural areas, certified and in-conversion, livestock, and operators registered in the ecological system.

In using the currently available national and regional information on organic agriculture the methods employed were mainly the indirect research technique, documentation, which consists of consulting various research papers, reports provided by various central and county-level agencies and data collection with the help of the Internet.

In the process of preparing the present paper, we used a methodology based on the detailed analysis of the statistical data provided by the Agriculture directorates in the six counties in the region.

The method used was the comparative analysis of indicators specific to the organic farming sector in the region for the period 2010 - 2013, emphasising both current state of development of organic farming in North-East region counties and the evolution over time of the phenomenon being examined.

III. FINDINGS AND DISCUSSIONS

The practice of agriculture in general and of organic agriculture in particular is directly influenced by a number of factors, among these the most important being: the landscape, the soil, the climate and the land structure of a particular area.

In terms of the landscape, three major units can be identified in the North East of Romania, i.e.: the Eastern Carpathians, the Moldavian Subcarpathia and Moldavia Plateau. Analysing the landscape from the point of view of its complexity, we may notice that it includes all landforms, in a balanced proportion, 30% mountains, 30% Subcarpathian areas, 40% plateaux, hills and plains (Munteanu, Bireescu et al., 2010, p. 9).

As regards the pedogeographic cover, it is notable that it is particularly diverse, owing to the geomorphologic and climatic conditions and the geological substrate. Soil types are varied, depending on the geographic area. Accordingly, in the Carpathian area, andosols, acidic brown soils and spodosols are predominant; in Subcarpathia there are argillic soils, gray soils and chernozem; finally, the Moldavian plateau features brown soils, protozions, mollisols, gray soils, rendzina soils, pseudo-rendzina soils, alluvial soils, marshy soils, halomorphic soils and anthrosols (Rusu, Florian et al., 2011, p. 18-19).

The different types of terrain favour the emergence of specific climate zones, with major differences between mountainous, hilly, plateau and plains areas. In the mountain area of the region, i.e. the western areas of Suceava, Bacău and Neamț counties, the climate is moderate continental, characterised by more humid winters and cool summers. Continental climate, characterised by hot and often dry summers and cold winters with low snow levels, can be found in the hilly Subcarpathia and the plains of the North-East Region, mainly in Botoșani, Iași and Vaslui counties and in the eastern areas of Suceava, Bacău and Neamț counties.

The landscape, soil and climate of the mountainous area of the North-East Region of Romania, which consists of the Suceava, Neamț and Bacău counties, are favourable for livestock farming, especially cattle and sheep, and pastures and meadows, while the plains and hills in Iași, Vaslui and Botoșani counties are favourable for grain cultivation. Furthermore, favourable areas for fruit tree farming are located in Iași, Suceava and Vaslui counties, and for viticulture and vegetable crops in Iași, Bacău and Vaslui counties.

As for the land structure, the North-East Development Region of Romania covers a total area of 23,839,071 hectares, for a share of approximately 15.46% of the area of the country. The agricultural area of the region in 2013 accounted for 14.52% of the agricultural area of Romania. As for the situation of areas covered with trees or other woody vegetation an increase has been noticed at national and regional level; in the North-East Region forests accounted for approximately 18.27% of forest land in Romania in 2010 and 18.32% in 2013. In the counties of the North-East Region of Romania the areas covered by rivers and lakes are relatively small, accounting for only 8.79% in 2010 and 8.70% in 2013 of all areas covered by rivers and lakes in Romania. Built-up land areas, both at national and regional level have increased in value but decreased as a share over the examined period, and these areas of the North-East Region accounted for 13.75% of total built-up land area in Romania in 2010 and 13.50% in 2013. The areas covered by communications networks and railways decreased slightly over the 2010 – 2013 period, occupying 14.41% in 2010 and 14.28% in 2013 of the total area occupied by communications networks and railways in Romania. As regards the state of degraded and unproductive land, a decrease can be observed both at the national and regional level (www.insse.ro).

The arable area in the North-East Region of Romania increased slightly during the period under consideration, accounting for 14.69% of arable land in Romania in 2010 and 14.70% in 2013. As regards the change in areas covered by pasture, one can notice that these areas have declined in absolute terms both at the regional and national level. Land covered by hayfields expanded slightly in North-East Development Region in absolute terms, but decreased as a share of the total national area, accounting for 13.03% in 2010 and 12.99%

in 2013. The land area covered by vineyards and orchards remained constant in the 2010-2013 period, both at national and regional level, with the North-East Region accounting for ca. 14.5% of the vineyard areas of Romania and ca. 9.5% of the area planted with orchards.

Under the pedoclimatic conditions in the North-East Region of Romania, organic agriculture has developed at a fast pace in 2010-2013. Compared to the evolution of the sector in Romania in the years under examination, one can observe that in the baseline year 2010 ca. 20 % of the total land managed according to the rules and principles of organic farming was located in the region, while this share dropped to 14% in 2013 (Tab. 1). This percentage decrease is due to the increase in absolute value of organic land areas in the other regions. It is worth emphasising that organic agricultural areas in the North-East Regions expanded significantly. With regard to the organic arable area in the region, it may be noted that it grew by about 15%, while the area covered by pastures and hayfields expanded by 22%. Despite the high growth rate of areas covered by pastures and hayfields in the region, it cannot compare to the national rate of increase of about 230%. Given that organic agriculture, and especially organic livestock farming, developed initially in the North-East Region, the latter had a significant head start. By 2010 half the areas covered by organic pastures and hayfields were located in this part of the country.

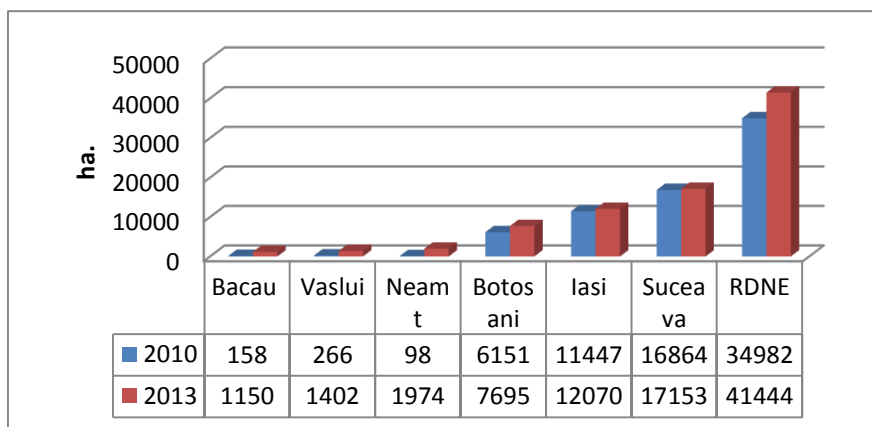
Table 1. Structure of organic agricultural land in the North-East Region, 2010 and 2013

No.	Type of organic land areas	2010			2013		
		Total	NE Region		Total	NE Region	
		ha	ha	% of total	ha	ha	% of total
1.	Arable	151,126	18,710	12.38	197,446	21,535	10.91
2.	Pastures and hayfields	31,579	16,272	51.53	103,701	19,908	19.20
3.	Total	182,705	34,982	19.15	301,148	41,444	13.76

Source: Own processing based on data from www.madr.ro and Annex 8: “Centralizatorul operatorilor din agricultura ecologică” (Summary statistics on operators in organic agriculture) for 2010 and 2013, published by the Agriculture directorates of the counties of Bacău, Botoșani, Iași, Neamț, Suceava and Vaslui

One particularly important aspect is the certification status of areas declared as organic. It is known that in national statistics land areas registered as being organic are the sum of certified organic agricultural land and of surfaces under various stages of conversion to organic farming. In the North-East Development Region, by 2013 49% of areas were certified organic, while first-year in-conversion areas accounted for 18%, with 16% for second-year and 17% third-year ones.

As regards distribution of organic agricultural land the in North-East Region of Romania, major differences between counties in the region can be noticed, on account of their different pedoclimatic conditions (Fig. 1).

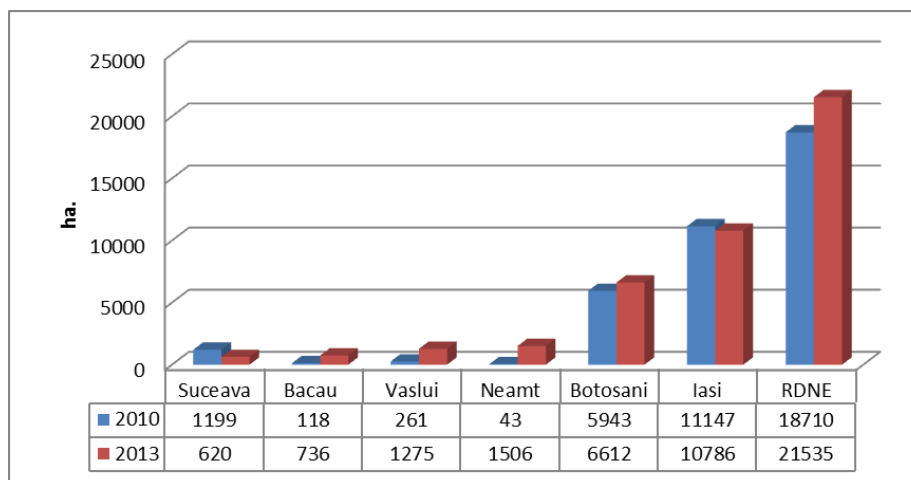


Source: Own processing based on Annex 8. “Centralizatorul operatorilor din agricultura ecologică” (Summary statistics on operators in organic agriculture), published by the Agriculture directorates of the counties of Bacău, Botoșani, Iași, Neamț, Suceava and Vaslui

Figure 1- Evolution of land areas farmed according to the rules and principles of organic agriculture in the North-East region

If one examines the total area farmed according to the rules and principles of organic agriculture, one can observe that the largest surfaces are located in the county of Suceava, accounting for ca. 50% of the total. Farmers in Iași and Botoșani are also interested in the sector, as approximately 32% and 17% of the organic land area is located in the two counties. As regards the extent of certification, in Suceava county 55% of the area is

certified, 45% in Iași and 56% in Botoșani. In the other counties of the region organic agricultural areas are very limited, ranging between 1,150 acres in Bacău and 1,974 acres in Neamț, yet a close analysis of the available data indicates a very high growth compared to 2010, which prompts us to argue that the sector will develop in these counties also.

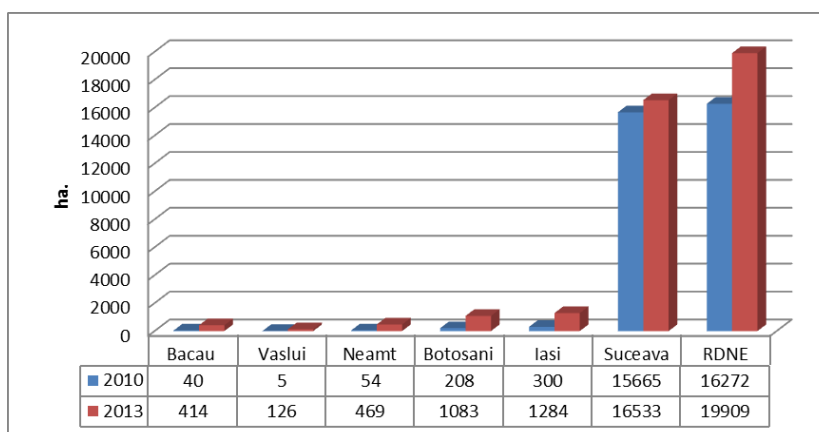


Source: Own processing based on Annex 8. “Centralizatorul operatorilor din agricultura ecologică” (Summary statistics on operators in organic agriculture), published by the Agriculture directorates of the counties of Bacău, Botoșani, Iași, Neamț, Suceava and Vaslui

Figure 2 - Evolution of arable areas farmed according to the rules and principles of organic agriculture in the North-East region

Overall, in the North-East Region of Romania organically farmed arable land accounted for about 1.5% of total arable land area in 2013, up from 0.25% in 2010. During the period under examination, the organic arable land area in the region increased by approximately 14%, yet there were also counties where these areas declined, as in the case of the counties of Suceava and Iași. As regards the territorial distribution of organic arable land, approximately 80% of this is concentrated in Iași and Botoșani (Fig. 2), with 4.22% of the arable land in Iași county being farmed ecologically. Certified organic arable land in 2013 accounted for 49% of the arable area declared as organic in the region, and 48% of this is located in Iași.

Pastures and hayfields cover about 700,000 ha in the North-East Region of Romania, of which 2.88% were operated under the organic system in 2013. Areas included in this crop system increased in the 2010 - 2013 period in all counties in the region (Fig. 3). Approximately 49% of the total area is certified organic. If one looks at the available data for each county, it emerges that 90% of the area covered by organic pastures and meadows is situated in Suceava. Pastures and hayfields operated according to organic rules and principles account for 10.06% of areas covered by pastures and hayfields in Suceava.



Source: Own processing based on Annex 8. “Centralizatorul operatorilor din agricultura ecologică” (Summary statistics on operators in organic agriculture), published by the Agriculture directorates of the counties of Bacău, Botoșani, Iași, Neamț, Suceava and Vaslui

Figure 3 - Evolution of land areas covered by pasture and hayfields according to the rules and principles of organic agriculture in the North-East region

Due to the features of the land in the North-East Region, with its sizeable areas of organic pastures and hayfields, the livestock farming sector, based rearing animals according to the principles of organic agriculture, is well represented. In 2013, the region recorded significant cattle livestock, sheep livestock and bee families, both certified and in-conversion (Tab. 2).

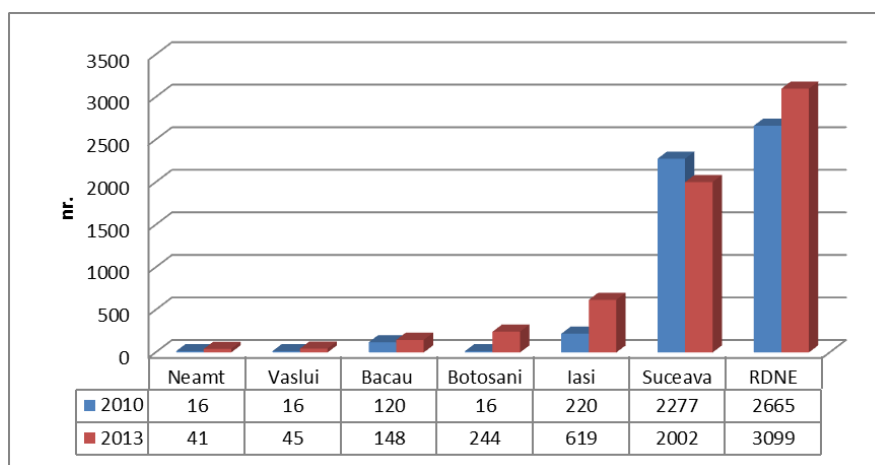
Table 2. Livestock farming in the North-East Region, 2013

No.	County	Cattle livestock	Sheep livestock	Bee families
1.	Bacău	245	234	5,776
2.	Botoșani	772	4,139	2,263
3.	Iași	353	1,046	693
4.	Neamț	400	290	1,548
5.	Suceava	13,090	2,301	6,139
6.	Vaslui	101	963	0
7.	Total for the region	14,961	8,973	16,419

Source: Own processing based on Annex 8. “Centralizatorul operatorilor din agricultura ecologică” (Summary statistics on operators in organic agriculture), published by the Agriculture directorates of the counties of Bacău, Botoșani, Iași, Neamț, Suceava and Vaslui

The increased interest of dairy processors in organic produce has contributed to a high level of cattle livestock, particularly in Suceava county.

Given that the domestic market in organic products in Romania is very limited and that organic production is exported at more than 90% and in primary form, most operators registered in the organic farming system in the North-East regions are producers, while the number of processors and retailers is very low. By combining the information presented in Figure 3 with the information in Figure 4 and Table 2, one can realise that the vast majority of organic producers are cattle breeders and owners of pastures and hayfields in Suceava county. The financial support provided to organic farmers has contributed to an increase in their number, both in the region and nationwide. In all counties of the region the number of operators increased, except for Suceava County, where it declined by about 10%.



Source: Own processing based on Annex 8. “Centralizatorul operatorilor din agricultura ecologică” (Summary statistics on operators in organic agriculture), published by the Agriculture directorates of the counties of Bacău, Botoșani, Iași, Neamț, Suceava and Vaslui

Figure 4 - Dynamics of operators registered in the organic agriculture system in the North-East Region

IV. CONCLUSIONS

Farmers in the North East are viewed as being among the promoters of the organic system in Romania, particularly in respect to pastures and hayfields and rearing dairy cows. In the region there are major differences between counties; thus, Suceava county ranks among the first positions in terms of the number of operators, farmed areas, cattle livestock and the number of bee families, whereas the counties of Vaslui and Neamț are practically insignificant within the system.

As the organic farming system in the region has made its presence felt for many years, during the 2010 - 2013 period percentage increases were below the national average for all examined indicators, however the high number of certified organic areas, i.e. 49% of total land, causes us to believe that organic agriculture is in a period of consolidation.

The increase in organic arable land will prompt the diversification of organic food products originating in the region, while the recent emergence of certain businesses interested in processing primary production will only boost the competitiveness of the sector.

Land use and livestock farming in compliance with the rules and principles of organic agriculture contributes to improving the social and financial condition of family holdings in the North-East Development Region. Organic agriculture, in addition to its benefits for the environment, could serve as a way to elevate the living standards of the rural population of the North-East Development Region.

The financial support provided to organic operators will contribute to the development of the sector over the following years both at the national and regional level.

V. ACKNOWLEDGEMENTS

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