

## MODELS FOR ORGANIZING ORGANIC FARMS TO MAKE THEM MORE EFFICIENT

George UNGUREANU<sup>1</sup>, Sergiu JITĂREANU<sup>2</sup>, Carmen-Luiza COSTULEANU<sup>1</sup>,  
Gabriela IGNAT<sup>1</sup>

e-mail: unurgeo@uaiasi.ro

### Abstract

As part of the research on sustainable development in the present paper, the methodology used was complex, including instruments and methods specific to social, economic and statistical studies. In the paper I described the methodological approach of the sustainable development assessment starting from the concept, purpose, stages and structure of the research to the statistical methods and indicators used. Within this paper, we aim to identify and design the necessary measures to improve the organization of organic farms so as to eliminate the technical and economic risks to which they are exposed. In our approach to identifying these measures, we have carried out comparative analyzes between the holdings taken as case studies, both in terms of organization and efficiency. Based on these analyzes, we designed measures to be implemented within the three identified organizational models so as to ensure greater efficiency in organic farming. In the work, we aim to compare the advantages and disadvantages of the organization of the four analyzed farms, starting from the analyzed subsystems of management. We have transposed these conclusions into a SWOT analysis that integrates the positive, negative, opportunities and risks to which organic holdings have been organically exposed.

**Key words:** organization, sustainable agriculture, efficiency, ecology

In this paper we aim to compare the efficiency obtained at the level of two organic farms with a zoo technical profile through the previously used efficiency indicators and to diagnose the similarities and differences in order to identify the economic and financial problems in the organic vegetal and animal sector. The conclusions drawn (Kneafsey M. 2001) have been compared to identify the positive and negative aspects to which the organic holdings have been exposed financially. (Boggia A. *et al*, 2014; Muscănescu A., 2013; Ungureanu G. *et al*, 2013).

The aim of the paper is to identify organizational models specific to Romanian organic farming that will ensure the efficiency of the activity of organic farms. In order to respond to this approach, the research objectives were structured as follows: understanding the importance of the organic farming system within agroecosystems; identifying the organizational, institutional and legislative framework in which organic farming has begun to develop worldwide, European and nationally; assessing the size of organic farming worldwide, European and national; identifying the way of organizing the organic farming activities on the Romanian vegetal

and zootechnical farms; identifying how to ensure efficiency in Romanian agricultural and livestock farms; the design of measures for the organization of ecological activities within the vegetable and livestock farms that ensure efficiency.

### MATERIAL AND METHOD

In the paper we have proposed the use of qualitative and quantitative research methods that capture as far as possible the models of organization and efficiency of organic farms in Romania. The qualitative research methods selected were the interview based survey and the SWOT analysis, and the quantitative research methods were those specific to the economic and financial analysis. The motivation for which we chose both types of methods is their complementarities, combining social, managerial and economic information. Economic and financial efficiency at the level of organic farms, as a standard ratio between effort and effect, can be measured by several series of indicators, each of which is reflected in a certain aspect of efficiency.

<sup>1</sup> "Ion Ionescu de la Brad" University of Agricultural Sciences and Veterinary Medicine, Iasi

<sup>2</sup> A.P.I.A. IASI

## RESULTS AND DISCUSSIONS

The integration of these two farms into LaDorna's milk collection structure, plus subsidies for the less favoured area and access to organic feed, leads us to say that the two farms manage to remain active on the market of the milk in the analyzed area.

In the case of organic livestock farms there are many similarities in terms of organization, which are integrated in the same way. The SWOT analysis then includes aspects of both holdings. (Ungureanu G. *et al*, 2013).

SWOT analysis. This analysis allows the assessment of a firm's internal and external environment against a predetermined objective. Its purpose is to identify the business behaviour model of the company according to its resources and capacity to interact with the environment in which it operates. The method allows internal assessment of potential (strengths) and imposed limits (weaknesses) as well as opportunities and risks in the external environment. Swot's analysis was of a dual nature, being designed to highlight the

similarities and differences between holdings with the same object of activity (plant production or animal production) in terms of the internal and external environment. This research tool permits the specific business model, highlighting the resources of each unit, their ability to interact with the environment, the internal potential of each holding, and the boundaries in business. (Boggia A. *et al*, 2014; Muscănescu A., 2013; Ungureanu G. *et al*, 2013). In this context, the strong points highlight the "positive" aspects of the production process, human resources, financial resources, distribution network, etc. weaknesses highlight the organizational deficiencies of the company's internal activities, opportunities highlight how to capitalize on the different resources provided by the external environment and the risks highlight the risk elements at the level of each holding. The SWOT analysis has thus provided us with an insight into the ability of organic farms to synchronize their resources and organizational capabilities with the environment in which they operate (Shortall S. *et al*, 2001; Ungureanu G. *et al*, 2013) (table 1).

Table 1

**Comparative SWOT Analysis - organic livestock farms**

SC DANY LILY S.R.L. and S.C. BEST COWS S.R.L. - organic livestock farms (50-70 heads), integrated into the branch created by the LADORNA dairy factory (Suceava county)
<b>Strong points</b>
<ul style="list-style-type: none"> <li>• holdings take all measures to protect milk from contamination that affects their quality, but not risks separate from conventional production;</li> <li>• holdings have direct investments or projects in technical infrastructure;</li> <li>• productivity per head is average;</li> <li>• own land for fodder base and organic certified feed suppliers, including inputs purchased directly from the customer;</li> <li>• have the necessary infrastructure to ensure winter fodder;</li> <li>• production is harnessed in the 98-99% collection system;</li> <li>• animal manure is used as a fertilizer for its own land;</li> <li>• delivery is made at the farm gate by the customer, from the cooling tanks;</li> <li>• on the farm, work resources are represented by permanent employees, day-labourers and family members;</li> <li>• the costs are not higher than in the conventional system;</li> <li>• subsidies for the animal sector and deprived areas are high;</li> </ul>
<b>Weaknesses</b>
<ul style="list-style-type: none"> <li>• reformed animals are sent to the slaughterhouse, but the meat is sold at a conventional price, and there is no market for organic meat;</li> <li>• there are difficulties in obtaining inputs or shipping with invoices;</li> <li>• zoo technical holdings do not benefit from the assistance of the associations, the need to join an association only in the case of the need to submit projects;</li> </ul>
<b>Opportunities</b>
submission of projects through structural funds;
<b>Risks</b>
In the case of animal illness, the application of treatments prevents the delivery of milk

The comparative analysis of the efficiency of the large-scale organic farms surveyed reveals that the overall activity is profitable at the level of the integrated holding in the associative system, the company operating alone on the market succeeding in maintaining profitability only in agricultural years with climatic conditions favourable.

Regarding the efficiency of the zoo technical farms studied, the analysis shows that the overall activity is cost-effective. (Kneafsey M., 2001).

Numerous farms, relatively small in size, forced renunciation of chemistry are elements that create a favourable context for the adoption of alternative systems in Romania as well as for the penetration of Romanian agricultural products into

the European market. Success depends on the ability to prove the "ecological" quality of products and, implicitly, agricultural techniques used. But let's not forget about the reduced possibilities of farmers to bear the losses during the conversion

period, and also about the small purchasing power of the Romanian consumers. So in the near future a chance could be for Romania to export organic products. (Morgan S.L. *et al*, 2010; Muscănescu A., 2013; Ungureanu G. *et al*, 2013).

Table 2

**Comparative analysis of economic and financial situation of organic livestock farms**

Specification	S.C. DANY LILY S.R.L. (holding A)	S.C. BEST COWS S.R.L. (holding B)	Observation
Income			
Share of proceeds from sales of turnover in turnover	87.5%	98.7%	Companies make almost all their production to the LaDorna milk factory.
Share of grants in total revenues	14.1%	1.24%	The share of subsidies is higher in Holding A, with fewer flocks.
Costs			
Expenditure on raw materials and materials	75.4%	24.1%	The A plant purchases the majority of inputs, organic feeds from a supplier 100 km away. Holding B has a higher capacity to provide the forage base, holding more certified organic land.
Expenditure on external benefits	6.3%	21.9%	Holding B has a higher share of third-party spending, holding more land requiring technological work.
Expenditure on energy and water	1.02%	0	This type of expenditure has a reduced share in total.
Staff expenditure	10.1%	29.4%	Holding B has more permanent employees and annual employees (4 permanent employees, 1 veterinary surgeon, approximately 20 employees).
Profit (RON)			
Net profit	184,140	812	Operation A, with one employee and family members, with a higher productivity per animal, ensures high profitability, especially with subsidies.

In organic farming, the behaviour of the farmer is very important. Given that the holding has to find certified product suppliers and enter a

growing market, its ability to run a business and react to risk is becoming the most important issue. (table 3).

Table 3

**Comparative analysis - Evaluation of commercial results and performance**

	S.C. DANY LILY S.R.L. (holding A)	S.C. BEST COWS S.R.L. (holding B)	Observation
Activity efficiency (SIG)			
Commercial Margin	+	0	Commodity sales are an ancillary activity with little importance for insuring farm incomes.
Production of the exercise	+	+	Both livestock farms are able to add extra value to third-party consumption as well as high output production. Positive EBE highlights that farms have available operating resources, especially since delivery to the plant is daily and payment is made quickly.

The two identified organizational models present deficiencies at different levels of the organizational subsystems that are reflected in efficiency. However, these deficiencies can be rectified by measures of organizational and economic-financial nature. In this context, we

continue to propose measures necessary to be implemented both by the analysed holdings and by other farms presenting the same way of organizing, starting from the comparisons made between the organizational-efficiency relations.

Comparative analysis - Evaluation of commercial results and performance

	S.C. DANY LILY S.R.L. (holding A)	S.C. BEST COWS S.R.L. (holding B)	Observation
Evaluation of commercial results and performance			
Dynamic-turnover index ( $I_{CA}$ )			Holding A shows an increase in inventories, unlike Holding B, this manages to leverage production.
Indices of dynamics-commodity production ( $I_{Qf}$ )	$I_{CA} > I_{Qf}$	$I_{CA} < I_{Qf}$	
Indices of dynamics-commodity production ( $I_{Qf}$ )	$I_{Qe} < I_{Qf}$	$I_{Qe} > I_{Qf}$	Holding A shows a reduction in the share of third party consumption. Holding B shows blocked assets in the form of stocks, but also an increase in domestic consumption.
Dynamic index-output of the exercise ( $I_{Qe}$ )			
$I_{CA} / I_{Qf}$	>1	<1	In the B exploitation the supply is lower than the production rate and vice versa in the A holding.
$I_{Qf} / I_{Qe}$	>1	<1	In the B exploitation the production completion rate is lower than the total volume of activity and in the A holding is the reverse.
Profit rate	0.4% - 2009 13.6% - 2012	1.9% - 2008 4.0% - 2012	

As the head of the holding A has appreciated, commercial, economic and financial profitability is good. The holding also had the advantage of winning a project on Measure 112 which allowed it to make investments at no extra cost. (Shortall S. *et al*, 2001; Ungureanu G. *et al*, 2013).

However, holding B shows a decline in commercial activity, as well as lower economic and financial returns. This is also due to investments made in construction and animal construction over the past years, leading to an expansion policy.

DANY LILY (20 dairy cows and 20 bovine youngsters) was very profitable in the analyzed period, with a rising profit rate (13.6% in 2012). The company has made investments through structural funds, but generally in technical infrastructure, not excluding livestock. Increased investment and expansion in the absence of structural funding has affected the results of BEST COWS (57 dairy cows) with lower economic and financial profitability and a profit rate of up to 4%.

Organic sector in our country, although as shown, in a continuous development, faces a multitude of problems: the climatic conditions of our country, characterized by periods of drought in many parts of the country, high input prices, which the majority are imported; difficulties in identifying markets for products, reduced subsidies, standardized conditions difficult to meet, etc. These problems the sector faces are reflected in the organization of production activity and hence on economic performance of the production farm.

Under these conditions, we considered necessary to identify organizational aspects that can ensure efficient production activities, marketing and distribution in the organic farm. The purpose of this thesis was aimed at identifying

specific organizational patterns for Romanian farming and how the subsystems of these models affect efficiency of organic farms.

To answer the above purpose, this thesis sought: to highlight the role of organic farming systems in agroecosystems, to identify the global, European and national level that develop this sector to assess the size of the sector, to identify the organization of activities the Romanian organic farms (crop and livestock) to identify how to achieve efficiency in their need to identify measures to be implemented in the patterns of organization of organic activities which enable ensuring efficiency.

To meet the above objectives, we have conducted a wide range of research in the field. The interview-based research allowed the identification and refinement of the sub-components of the main features of the organization of Romanian farms and SWOT analysis method allowed comparison with all information collected by interview from similar farms in Scotland. The research of annual financial accounting information also allowed the identification of viable conclusions on the effectiveness/ineffectiveness of companies, and the results were compared by analysis to identify the causes of differences in efficiency achieved at farm level.

Such conducted research, aimed on the one hand, the characterization of organizational influence on the workings of the phenomenon and, on the other hand, diagnosing how the performance management of the production and marketing of organic farms ensure their profitability. Also, economic and financial evaluation of economic phenomena that characterize sought to identify the mechanism of organization primarily for the diagnosis of how the efficiency is influenced in

turn influences performance management in organic farm work.

This systemic and interrelated approach, by socio-economic methods allowed visualization and awareness of the measures that need to be pursued in organizational development and improving organic farms, both in the crop and livestock sector.

## CONCLUSIONS

Organic farming systems produce numerous benefits for ecosystems, such as: crop rotation improves soil quality, positively affects the weed and insect life cycle, reduces carbon and nitrogen emissions; manure and its use also improves soil quality, reduces carbon emissions, enables the recycling of nutrients; harvesting mode reduces erosion, improves soil nutrients; avoiding synthetic fertilizers reduces contamination of surface and groundwater, improves soil quality, reduces salinization; avoiding synthetic pesticides increases biodiversity, improves water and soil quality, reduces costs; planting of habitat corridors increases biodiversity, supports the biological management of pests; and so on

It is believed that organic farming cannot answer this by the fact that the agricultural systems that they incorporate emphasize the optimum combination of agronomic and biological methods in order to obtain high quality products using processes that do not harm the environment, human health, plants and animals. Thus, it is considered that organic farming systems produce many benefits for ecosystems, such as improved soil quality, reduced carbon and nitrogen; recycling nutrients, support biological pest management, etc.

Worldwide, however, they were grown in 2015 near 37 million eco certificates and 32.5 million ha non-agricultural ecological areas (aquaculture, forests and pastures). Within the cultivated area, certified ecologically, 32.7% is found in Oceania, 28.6% in Europe and 18.4% in South America. Although the area in Africa has the highest dynamics, it has a share of only 2.88%. The largest producing countries were Australia (12 million ha), Argentina (3.8 million ha), USA (3.8 million ha), China (1.9 million ha) and Spain (1.6 million ha). Romania is in the middle of the world ranking.

With such a sector size, Romania has 2.2% of in the European space in organic farming and 3.2% of the number of operators, standing 13th among countries with certified organic area in the EU.

For this we carried out research on four Romanian farms (S.C. DANY LILY S.R.L - Suceava County, S.C. BEST COWS S.R.L.) and made a study visit to Scotland to identify the similarities and differences between the Romanian and Scottish ecological agriculture systems. I also mention that in the research we used statistical-economic processing indicators; interview method; the SWOT analysis; methods of analyzing the economic and financial efficiency (indicators for estimating the profitability of the company, indicators for estimating the size of the activity of agricultural holdings, indicators for the analysis of the use of resources, indicators for assessing the economic and financial performances (rates of commercial, and financial).

- S.C. DANY LILY S.R.L. is an agricultural holding with 20 dairy cows and 27 young bovine animals - it has its own land that provides a part of the feed; productivity is similar to conventional; the need for human resources is small, having only one employee and day-labourers; the price of organic feed is higher than conventional, the main problem being the distance to the supplier; investments have been made in the technical infrastructure; production is not assured; production is 98%, the rest is used for family consumption, etc.

- S.C. BEST COWS S.R.L. is a 57-headed agricultural holding, to which an import of 17 cattle and 75 goats has been added in August 2014 - it has its own land supplying part of the feed; productivity is lower than conventional; human resources are represented by 4 employees, a veterinarian, day-labourers and family members; the price of organic feed is higher than conventional, the main issue being to find them; investments have been made in the technical infrastructure; production is not assured; production is 99% sold, the rest is used for family consumption, etc.

S.C. DANY LILY S.R.L. specializing in animal production (milk), has a turnover of 1.5 mill. lei, increasing compared to 2008 by 37.9%. It earns its income in the amount of 84.9% from the sale of the production, the rest being subsidies. The main expenditures are those with raw materials and materials (75.4%), personnel (10.1%) and third party expenses (6.3%). The exploitation was profitable overall, except in 2011, ensuring the capitalization of all material resources, the efficiency of using fixed assets, inventories, receivables, human resources and all expenses, and commercial, economic and financial profitability increased greatly.

S.C. BEST COWS S.R.L. specializing in animal production (milk), has a turnover of RON

0.44 million, decreasing throughout the period by near 40-50%. It earns its income at 95.2% of production. The main expenditures are personnel (29.4%), raw materials and materials (24.1%) and those with third parties (21.9%). The exploitation was easy to recover overall, ensuring the capitalization of material resources by 2011, but failed to ensure the efficiency of using fixed assets, inventories, receivables, human resources, and raw material and material expenses. Under these circumstances, overall commercial, economic and financial profitability was low.

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