

## DIVERSIFICATION AND SUSTAINABILITY IN ROMANIAN AGRICULTURE

Costică MIHAI<sup>1</sup>

<sup>1</sup>„Alexandru Ioan Cuza” University, Iași

### Abstract

Natural resources are the most important agricultural activity inputs. Often, their use and exploit determine the performance of farms. Market acts as a mobilizing factor in determining the structure of production. Farmer's decision must take into account both market demand and capacity of natural resources to sustain quality production.

Pursuit of sustainable agriculture requires special attention on use of natural resources for long term. The extent to which they are currently used mark the value of future production. Through diversification, the farmer has a double advantage: it made the unfavourable evolution of the housing market prices and quantities for certain agricultural products and preserve the quality of land resources favouring maintaining a winning spree on subsequent periods.

In what position are Romanian farms and how they deal with this problem? We propose in this paper highlighting the main concerns and solutions to the farmers in Romania for sustainable development of their holdings. In this approach should be taken into account the main types of holdings and activities that have a major impact on the process of diversification.

**Key words:** agriculture, sustainability, diversification

Human activities have been continuously developed through the use of scientific discoveries into practice through changes in production technology. Thus, the industry has achieved outstanding performance in many areas, farming has improved the use of natural resources to achieve higher returns, have specialized services and highly diversified causing a change in their share in the total economy. We now have a highly specialized labour intensive, deployment activities and increasing involvement of higher science and technology and automation in their activities. The effects of these developments are beneficial to society, and resolve huge problems related to food security and living standards. „The agribusiness sector now provides year-round acces to the full range of food and fiber products. The quality and variety of highly processed foods continue to grow.”( Seitz, D. W., Gerald, C.N., Halcrow, G.H., 1994, p.357) However, negative externalities require a cautious approach to new methods.

The concept of sustainable development has emerged just as a reaction to these negative effects felt by the natural environment. In agriculture, the need to increase food production led to the widespread use of machinery, chemicals, technology intensive and use of more and more land. Current farms are performing, which often are very specialized and intensive. The small size of agricultural holdings and diversified nature of their work are often seen as weak points in

competition which can not ensure economic viability. The situation of Romanian agriculture after 1990 experienced a great diversity. There are large farms, crops and made thousands of hectares, with production exclusively market and small family farms, often called subsistence, with diversified production, small scale, generally designed to meet the needs of a small group of people particularly linked by kinship.

Analysis of the Romanian agriculture puts us in front of a fundamental question: is it able to respond to current requirements? The answer comes from an analysis of agriculture and agricultural policies of developed countries in these states: given the negative effects on the environment, biodiversity and the quality of natural factors, the agricultural policies of developed countries increasingly require more restrictions so that the environmental impact to reduce and to gain a sustainable activities.

Therefore, agriculture such as Romania, with a variety of sizes with a variety of forms of work organization and management, with a diversified activities structure in small holdings, no longer seems to be an outdated and inadequate conditions as present, but a way of farming more easily adapted to the requirements of environmental and human health. There are approaches that claim that small and medium-sized farms are able to more easily adapt different market conditions and general economic

environment. In line with the latest provisions of the Common Agricultural Policy and the need for responsible business practice forms, the hypothesis of diversity as a basis for sustainable farming is not only logical but also verifiable theory.

In what position are Romanian farms and how they deal with this problem? We propose in this paper highlighting the main concerns and solutions to the farmers in Romania for sustainable development of their holdings. In this approach should be taken into account the main types of holdings and activities that have a major impact on the process of diversification.

We will study the effect of diversification on small farms, especially targeted to self-consumption and less by the market, which often have a more diversified structure, higher quality products in biological terms. Large agricultural companies are more rigid in diversification, market influence is the main factor in this respect and intensive production methods used do not always respond to conduct sustainable agriculture principles. This condition is often dependent on the type of output produced and their consumer demands.

## MATERIAL AND METHOD

Hypothesis from which we started this research was that the large agricultural production units, with a homogeneous structure, generates high levels of entropy and thus to serious environmental degradation. Analyzing the literature in the field of sustainable development and organic farming, was inferred that the diversification of activities, structure, methods and forms of organization results in an improvement of activities in environmental and social point of view. Starting from a systemic approach to identifying problems and intensive agriculture has been analyzed qualitatively causal links between diversification and sustainability. The causal link becomes a form of conditioning, in the sense that cases are indispensable produce the effect but are not decisive effect. Proof of this argument is made on the situation of Romanian agriculture which were analyzed statistical data on structure, surface and number of holdings.

## RESULTS AND DISCUSSIONS

To assess the degree of diversification in agriculture have assumed that you must specify the criteria for analysis. Speaking of diversity, the task of identifying these criteria is quite complex, and to highlight them, we resorted to the following:

- Diversification of activities;
- Diversification of the organization of the holdings;

- Diversification of production structure;
- Diversity in application of technologies.

### Diversification of activities

When analyzing the diversification of activities we refer to the concept of multifunctionality in agriculture. This is seen as the ability of rural area to develop diverse agricultural activities and complementary activities. In documents of the „Rio Summit” Agenda 21: refer to „... multifunctional aspect of agriculture, particularly in terms of food security and sustainable development”.

„They speak more often of the multifunctional role of agriculture in order to underline how the agro-food production is linked to many other activities taking place in the farm”.(Gavrilescu, C., Turtoi, C., Toma, C., 2007, p. 335)

Therefore, agriculture should be seen not only as an industry producing vegetable and animal, but must be approached in a complex way, either as a branch that has the ability to generate related activities connected either upstream or downstream segments of agricultural production, either industrial or service that works in parallel with agricultural activities but which could affect the overall results of a rural area.

The main effects of the development of complex and diverse activities at village level, in parallel or as a consequence of agricultural activity are the following:

1. Developing autonomy of rural communities. Given that rural society is heavily dependent on the results of industry and urban services, it is strongly affected by influences from these sectors. Developing own supply sectors, services, processing units, marketing firms and support quality of life institutions and enterprises can provide to villages development tools necessary to reduce the gap between village and town.

2. Strengthening the competitiveness of farms and farm products. Although traditionalism is recognized for food product markets, openness to other domestic and international markets enables farms to obtain competitive advantages of diversification of products or activities. On the other hand, a different structure reduces the risks facing the enterprise: natural risks, market risks etc.

3. Recovery of all rural resources. Develop more activities at farm level involves inherent in multiple types of resources that will be used. Recovery of all resources tends towards a sustainable village because they will contribute to

the welfare of local communities throughout the potential, but without the need for intensive exploitation of it.

4. Retaining and attracting entrepreneurship and employment in rural areas. One of the components of sustainable development is a social one. Labour productivity growth in agriculture and land-intensive processes are generating the reduced labor required, the surplus may be drawn to other activities can take place at the village level by diversifying. Equally, the development of other activities, causes a new business, so the new entrepreneurs. The effects of these processes are finally felt in raising rural living and a more attractive business and labor market in these areas.

5. Revitalization and preservation of traditional practices. The rural and the main occupation - agriculture, are keepers of a rich treasure of authenticity of the localities and areas. Diversification may also cause a focus on the traditions, folklore and ethnography by developing activities and habits of the area: the production of handicraft items, traditional food production, organic farming, travel, entertainment, leisure and others.

Consequences of a lasting nature of sustainable diversification are the following:

- The continuation and development of settlements given the multiplication of resources used and activities undertaken in rural areas;
- Strengthening the sense of self-realization of the rural population: rural community finds its

balance, migration is reduced, there is a sense of belonging to a community with clearly defined its values and principles;

- Recovery of all the extensive rural resources, including renewable ones. Rural working population is no longer solely concerned with achieving agricultural activities, because there are opportunities in other areas such as services, recovery and utilization of resources and renewable energies;
- Improving the environment, natural resources conservation and development of monitoring and recovery of natural elements. All these activities supported by regional and central level, find their place in the rural areas, providing, on the one hand, a better management of environmental factors, and on the other hand, generating activities and employment for the rural population.

### Diverse forms of exploitation

Forms of exploitation of agricultural resources in the constitution derives from both the property and the type of requirements and activities. Farm management mode and size of their holdings fundamentally influence the evolution of the enterprises. After 1990, the Romanian farms take several forms depending on the type of ownership: state owned units, private enterprises, producer's associations, mixed enterprises. (fig. 1)

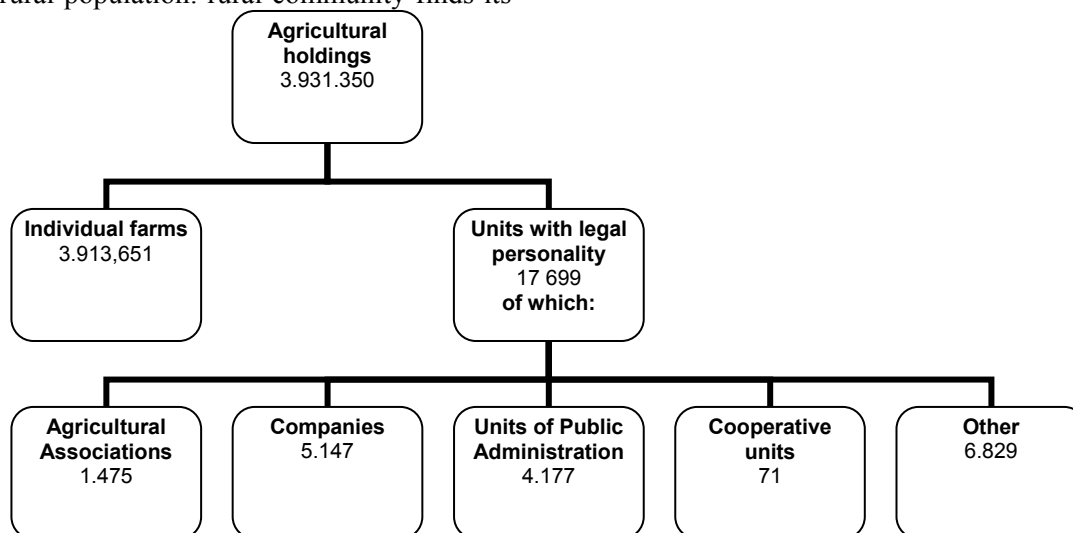


Figure 1 The structure of agricultural holdings by type in 2007

Much of the agricultural holdings are small sized, less than 3 hectares, the production processes taking place is family labour, products produced are designed especially family self-consumption. The evolution of agricultural

holdings in the period 2002-2007 is presented below (tab.1).

The fact that holdings are highly diversified in Romania can be considered an advantage in terms of sustainability for the following reasons:

1. Strengthening individual unincorporated farms. Each farm has little opportunity to develop into a shape and structure that will allow them to better exploit the conditions in which they operate.

This initial state will allow each farm to consolidate and organize resources and capital so as to not conflict with environmental constraints and still meet market requirements.

Table 1

**The evolution of agricultural holdings in relation to their legal status in the period 2002-2007**

Legal status	Total holdings (number)		Farms using agricultural area (number)		Utilised agricultural area (ha)		Average agricultural area used (ha)			
							On a farm		On a farm that use agricultural land	
	2002	2007	2002	2007	2002	2007	2002	2007	2002	2007
Total	4.484.893	3.931.350	4.299.361	3.851.790	13.930.710	13.753.046	3,11	3,5	3,24	3,57
Individual farms	4.462.211	3.913.651	4.277.315	3.834.407	7.708.757	8.966.308	1,73	2,29	1,8	2,34
Units with legal personality	22.672	17.699	22.046	17.383	6.221.952	4.786.738	274	270	282	275

Source: Statistical Yearbook of Romania 2008

2. Small holdings development flexibility. Feature small and medium-sized farms, flexibility is an important advantage in the market conditions there are a number of disturbing factors such as government regulations, natural or regulatory restrictions, changes in market demand.

3. Full realization of resources by developing a wide variety of holdings. The governance of the holding (directly by owners, the lease or license, or in combination) may respond to certain forms of land use by those who have the expertise, capital and resources to various activities. Thus, an owner who has no knowledge of the development of ecological agriculture land can rent a specialist in the field or it may enter into an association in which there are partners with such knowledge.

#### **Diversification of production structure**

Units performing agricultural production generally have very simplified structure, often limiting themselves to one culture or one category of animals. Economic justification for this type of activity is all too narrow in the improvement of the entire capital of the enterprise and conduct business with a high level of mechanization and automation.

Ensuring food security in the current period requires both quantitative measures, to ensure sufficient quantities for a population of a region or country, but begins to increasingly more the qualitative facets related to: low level chemisation as productions by pesticides fertilizers or amendments, animal or human food use of genetically modified organisms, conservation and primary processing of agricultural products without the use of additives.

Consumer awareness in this regard through various means of communication is that currently many consumers to focus on quality products, and

no genetically modified or chemical substances. Under these conditions, many of intensive practices are abandoned in favour of the traditional can practiced successfully in smallholding. These small holdings, while the rational use of production technologies based on crop rotation, natural fertilizers and pest and disease elimination by natural means, they can grow and adapt production to market. On the other hand, use of chemicals, fertilizers and amendments, and use of large agricultural machinery can cause long term, or even irreversible, damage to agricultural land. The new Common Agricultural Policy imposes significant restrictions in this regard.

Small farms are able to survive in these conditions in which the demand for labour grows at the expense of high productivity technologies. A diversified production structure generates a potential lower production, but has the ability to preserve the environment and the productive capacity of the soil.

There are multi-specialized farms both within the same sub-branches and in different sub-branches.

We speak of a concept of “organic integration” of agriculture by structural diversification of holdings. Smallholdings using traditional production technologies can use a production structure within which all resources are involved in a circuit of production without waste and without adverse environmental impact.

Collection of biological products and the application of this technology involve measures that are consistent with the concept of diversification:

- areas occupied and herds will be smaller and more diverse;
- it creates a dependency between the various structural elements working with total productivity growth;

- surfaces should be made “green”;
  - the productive capacity of land is maintained.
- Lasting consequences of the diversification of production structure can be found in the following aspects:
- to obtain products healthy, organics, without chemicals or genetic modification;
  - there is a higher value in the primary sector share holdings due to increased in determining the final value of products
  - is a reorientation of their labour to agriculture, given the additional requirements of the work in a diversified production structure and growth wages derived from biological farming;
  - there is opportunity to develop other related activities such as agri-tourism that promotes environmentally clean production, traditional practices, rural values and healthy products;
  - improves the overall quality of environment, maintain biodiversity and there is an improvement in the countryside.

#### **Diversity in application of technologies**

The transition from intensive form of business to extensive exploitation of land and herds of animals involves a diversity of modes of carrying out activities based on natural features, local traditions of agricultural practices and the extent to which techniques are adopted extensive.

In this way agricultural products are generated by different quality that meet different consumer preferences. With small holdings, subsistence, development of biological agriculture in many of the works are carried out with traditional and regional influences.

This does not mean that subsistence farms should continue their own consumption-oriented activities, but to adopt such crops and animal species that are required by the market. Only thus can increase the living standard of rural population and to diminish the gap between village and town.

#### **CONCLUSIONS**

In most cases, diversification creates conditions for sustainable activities. Diversification of the productive structure, forms of leadership and management and the conduct of agricultural activities are the ways of ecological and social efficiency of farming.

Characteristics of Romanian agriculture, with a large number of small individual holdings, provides an opportunity for rapid adjustment to a diversification in all respects, diversification has the ability to accomplish requirements of sustainable agriculture.

In this regard, the following conclusions are noteworthy: diversified activities have the potential to reduce the anthropogenic pressure on the environment, generate new jobs for farmers and provide a wider range of products and services to local community; different form of organization provides both land owners and businesses to exploit the opportunities of every enterprise; a more diverse production structure better exploit natural resources, is less aggressive on the environment, contributes to widening the range of agricultural products provided by the farm; extensive application of working methods, despite reducing farm productivity and performance, provides security products to obtain capital and gives hope for a long period of land use.

It should be noted that although large farms through diversification can record decreases in productivity, develop new business opportunities are sustainable, with higher economic and social effects: the practice of agritourism, ecotourism and cycling, achieving organic production, biodiversity and rural landscape rehabilitation, quality of life of residents of the villages.

There is an opportunity that a weakness of the Romanian economy - agriculture and performance status - to arrive at a revitalization and economic development of rural social life. They are also preserved general and natural conditions and resources at optimum levels to ensure future sustainable development.

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