

THE KNOWLEDGE OF ROMANIAN AGRICULTURE IN TERMS OF SUSTAINABILITY

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Abstract

Agriculture, a key component of the structure of economic branches, should be addressed directly related to the maintenance of natural resources and their exploitation in a controlled way or the enhancement of their own, without resorting to inconsistent stimulus elements that can in time generate dysfunctions in products and the environment. Looking at things from this perspective, there is a need for a sustainable agriculture approach, given its social, ecological and economic representativeness, with active and continuous character.

Key words: agriculture, environment, knowledge, Romania, sustainability

INTRODUCTION

Conventional agriculture, as a big consuming of synthetic products, has led to alarming situations globally. In this context, measures are needed to reduce or even eliminate these effects by managing activities in producing agricultural products and shifting towards cleaner technologies. In this regard, there is need for alternative technologies (ecological) which, besides compliance seasonal crops, take into account the quantity, quality, timing and technique of using inputs.

If we consider the development of conventional agriculture, without neglecting the environmental ones, but aiming to extend it, it should initiate measures so that the negative impact of successive allocations and additional factors on soil, products and generally natural environment. Regardless of the factor used is to consider the exercise a strict control over its administration, doses allocated to be correlated with plant needs and output.

Romanian agriculture has different use categories, mainly being the arable, providing important economic and vegetable products, especially cereal. Cereal is specific character areas Danube, the predominant soil type chernozem and reddish-brown ground is level

with groundwater at 1.5 m depth [1]. The territorial distribution of crops, achieved by zoning, providing favorable environmental conditions for the making of productions with some stability, is based geomorphology, climate and biological formations in relation to plant. The quality and geographical location of land offers a range of practice structure and other crops: legumes, and forage crops, vegetables (in surrounding towns and river valleys), viticulture, fruit growing. Beyond providing natural conditions, it takes knowledge about the application of technology to the climatic conditions and their changes. Differentiation agro works, choosing vegetable production systems, types of agricultural machinery, choice of varieties and hybrids are additional requirements necessary to obtain the effect of sustainability.

MATERIALS AND METHODS

Entrance in ecological and economic competition, alignment agricultural exploitations to these, require, as premise, the development of activities generating performant results. Involved, in this sense, variables from inside and outside the exploitations (market, financial levers, European requirements, environmental

conditions, management and production structure) which, by their nature and intensity, can induce different effects on the development of exploitations. Considering the size of the consequences, some negative, which can create problems, in time, in agriculture, in general state of environmental, is needed the knowledge of the variables which determine their identification, the restructuring actions where is the case, using the methodologies of economics analysis appropriate agricultural exploitations activities. Diversification, as form of the structure of production, is one of the factors which influencing economic and ecological performance of agricultural exploitations. Practiced at various levels, from very large diversification to limit of specialization or more, narrow specialization, depending, of course, by type and form of agricultural exploitations and intensity of production (activities), the diversification can determine the results more or less performance, creating significant delimitation between exploitations with similar activity [3]. Use on production activities only, to meet market demands, in order to achieve an immediately profit, without regard to environmental conditions, as support to obtain agricultural production, triggers, at agricultural exploitation and agriculture level, a big consumption of factors, which generating expenditure unjustified economically and the risks with long-term effect. Therefore, it is necessary to find that degree of production diversification which to ensure the economic and ecological optimum. This requires the orientation agricultural activities to reduce pollution and meet long-term demand for agricultural products, in this respect manifested Romanian agriculture sustainability.

Sustainable development has origins that go beyond economics. "Virtues" takes its multidimensional form, found in the current generations and those to come heaven existential need certainty provided as a long-term commitment. If we approach things, considered natural and explicit "evolution" of the terms of the need for sustainable development, natural resources have left the (limited) and necessities (unlimited)

individuals. Thus, long, natural resources were viewed as simple "but the universe", some without cost, which in time led to their widespread use. There are references to agriculture, which states that "the earth was made in relation to population density 'is recovering later on resource issues, with references to the fact that" the use, non-use or bad use are a direct result of their social and economic organization ". Therefore need reconsideration resources, given that once attracted various production processes generate not only costs but also the possible exhaustion while.

Response to the needs of sustainable development is found in caring for agriculture through practices that support them, time, ability to produce and is recognized role as a vital and indispensable for human existence. In this respect, was crystallized ecological agriculture whose interventions (actions) are close approach to sustainable development: crop rotation, limits on chemical synthetic pesticides and chemical fertilizers, antibiotics for animals, food additives and other substances used complementary processing of agricultural products, prohibit the use of genetically modified organisms, the use of manure, selection of plant and animal species resistant to pests and diseases, adapted to local conditions, breeding in freedom and open shelters and food systems based organic feed. All of these are directly related to the "space" in which have place the activity, ie organic farm, seen as a functional entity to obtain organic products and place for the exercise of management (responsibility center).

This paper is supported by information recognized in the literature and own assessments based on studies conducted derived from the social environment.

RESULTS AND DISCUSSIONS

Correlation between sustainable development and socio-economic environment.

Orientation of agriculture to sustainable development model follows the interdependence of social, economic and environmental issues which can not be seen

independently, their assessments will be analyzed in terms of the effects it produces. Measuring sustainability Romanian rural area is showcased by indicators used by the World Bank and the European Union. One of the most complete list of indicators belongs U.N.Commission on Sustainable Development. This includes a number of 100 indicators covering all aspects of the environment. Some indicators are listed: Human Development Index, which includes: life expectancy, level of education, purchasing power, Wealth of Nations, ecological Footprint. These indicators need to be adapted Romania's economic geography and retrieve the indicators as: income/capita, the use of local resources, the amount of organic products is per capita, the value of tourism activities, the level of education of the rural population, birth and life expectancy, purchasing power. Achievement of the sustainability should be "triggered" in the agriculture. In this way, what is sought is to achieve sustainable agricultural practices on farms.

Are known the types of agricultural exploitations: family farms, farms associative-family associations and agricultural societies, commercial societies for production, commercial societies for agricultural service, societies in the fields of agricultural inputs and marketing..

Production structure practiced in agricultural exploitations is different, broader in the sense of diversification crops or livestock species and categories in case of small units and specialized or specialized narrow (which implies a few branches), in the big farms However, structural, production is distributed according to its determinants, referring mainly to the ecological and economic.

Relation agriculture – environmental (natural).

Agriculture takes resources from the environment necessary for products and it is assumed that this takes place under conditions of knowledge. According to agricultural management science, attracting in the agricultural activity of the natural resources is based on two criteria: economic and ecological. They are designed to respond to

issues of agriculture-environment equilibrium [2].

In interrelation with environment, agriculture: supporting to the environmental protection when it occurs rationally, without "pressure" on it with a high intensity level generated by excessive concentration of production factors per unit area, linking criterion economic (high efficiency and maximum profit) on the ecological functioning prudence in their management (factors). Or can cause adverse effects such as polluting the environment (soil, water, air, products etc.), the principle of rationality not show [4].

Transition to an harmony between agriculture and environment is given by ecological agriculture, which will follow the principles of protecting natural factors (table 1).

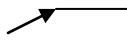
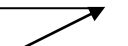

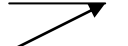


Table 1: Production factors in agriculture

Type of agriculture	Chemicals	Organic fertilizers	Pesticides
Conventional	x	-	x
Ecological	-	x	-

Source : own interpretation

It is easy to see that without allocation of factors with polluting acting (on plants, soil or environment), ecological agriculture is desirable. But there are also elements coming to counteract the effect from economic point of view (table 2).

Table 2: Production costs

Indicators	Conventional agriculture	Ecological agriculture
Material costs		
Production cost		
Total costs		

Source : own interpretation

[^]Line shows cost size

There are differences in the total costs in ecological agriculture, which are much higher than in conventional agriculture. By branch of activity, this level is: cost of seeds, fertilizers, fodder etc. .. Production cost is, thus, much higher in ecological version, even if the

expenses relate to large production compared to that obtained under conventional (table 3).

Table 3: Economic performance in agriculture

Indicators	Conventional technology			Ecological Technology		
	Kg/ha	lei/kg	lei/ha	kg/ha	lei/kg	lei/ha
Average production		↗		↘		
Sale price		↘			↗	
Total incomes	-	-	↘			↗
Profit	-	-	↘			↗
Profit rate (%)	-	-	↘			↗

Source : own interpretation

What emerges as a result of environmental practices, has more economic value than conventional agriculture, it encountered in selling price. The issue is the extent to which it can extend this type of agriculture, given the demand for these products, population, purchasing power.

CONCLUSIONS

- 1)Romanian land resource is remarkable in terms of suitability for different categories of use and degree of favorability for different cultures;
- 2)There are a variety of exploitations, which may lead to the maintenance of biodiversity, under controlled conditions;
- 3)Obtaining conventional products involve large allocations inputs;
- 4)Ecological agriculture seeks to protect the principles of natural factors and products;
- 5)It requires knowledge regarding the allocation of production factors;
- 6)Build environmental and economic performance depend on production, price, competition, consumption patterns.

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