

PROFITABILITY IN THE CONTEXT OF THE NEEDS AND REQUIREMENTS OF SUSTAINABLE FARMS DEVELOPMENT

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Abstract

Market economy requires from any farm particular efforts for the profitability of products and organizational structures as well as for the increase in a higher pace of the profitability of each product in order to achieve the level of competitiveness imposed by the competitive market and the modernization needs of agriculture from the given stage. Under the new conditions created by globalization and environmental requirements, modernization is closely related to promotion of sustainable development for agriculture and the entire countryside. Holdings must strive in their work towards sustainable, competitive profitability, which can not be admitted as maximum at all costs, taking into account the environment and human health. Thus, should any financial analysis include not only physic but also the value of natural resources and the environment? Therefore, it is necessary to introduce the concept of sustainable agriculture, adapted to the conditions of each country, as an organizational capacity to grow in the future, effectively and rationally exploiting its natural, economic and social resources, in harmony with the surrounding environment, in the benefit of the producers and ensuring food security for current and future generations.

Key words: farm, production, profitability, sustainable agriculture development

INTRODUCTION

Farms should make continuous efforts to keep pace with the requirements of the market economy in order to increase the profitability of products and organizational structures as well their competitiveness in a changing business environment.

Under the new conditions created by globalization and environmental requirements, modernization is closely related to promotion of sustainable development for agriculture and the entire countryside. Holdings must strive in their work towards sustainable, competitive profitability, which can not be admitted as maximum at all costs, taking into account the environment and human health. Thus, should any financial analysis include not only physic but also the value of natural resources and the environment?

Therefore it is necessary to introduce the concept of sustainable agriculture, adapted to the conditions of each country, as an organizational capacity to grow in the future, effectively and rationally exploiting its

natural, economic and social resources, in harmony with the surrounding environment, in the benefit of the producers and ensuring food security for current and future generations. Defining the concept of sustainable development is extremely complex. Sustainable development means "that set of measures which ensures unlimited stability of an economic and social structure based on environment protection and can lead to a significant increase in population welfare". [2]

Sustainable agriculture development represents "its organizational capacity to grow in the future, effectively and rationally exploiting natural, economic and social resources it possesses, in total harmony with the environment, for the benefit of current and coming producers, ensuring food security for current and future generations." [17]

Sustainable agriculture on the long term improves the quality of the environment and of the natural resources on which agriculture depends; it provides food and fibre needs for the population; it is economically viable and improves the quality of life for farmers and

for society as a whole [18]

MATERIALS AND METHODS

The agricultural household takes decisions regarding agricultural production. The production process is an interaction with the ecosystem and this interaction affects the surrounding and socio-cultural environment and the economic aspects of welfare. The results of the surrounding environment also change the ecosystem and have indirect long-term effects on and the changes in the production process as a decision cycle repeat themselves.

Sustainable development of agriculture cannot be solely economic, based on the principle of immediate maximum profit; but must become a sustainable development able to optimize the resource-needs report, taking into account four factors: population (as consumer products), natural resources and natural environment (health of earth, water, air), industrial production (upstream and downstream of agriculture) and pollution.

Sustainable development of agriculture cannot escape the efficiency criteria, efficiency that must be analyzed in three dimensions: economic, ecologic and social [17]

Studies undertaken in order to analyze the world we live in under these respects, reveal two conflicting views:

- according to economic indicators that assess the health of the world economy, "the world is in a reasonable, good condition and ...long-term economic forecasts are promising " [5]

- according to suitable indicators measuring the health of the environment, "every major indicator shows a deterioration of the natural systems on every continent" [5]

Currently, in most cases, economic efficiency increases precisely on the account of the other two. Economic efficiency is achieved at the expense of social efficiency both at the level of every country as well as on a global scale, manifesting large discrepancies in terms of satisfying social needs generated by similar disparities of income; but also at the expense of ecological efficiency by not taking responsibility for environmental costs generated by their economic activities and

their transfer the whole mankind. In this sense, practices of economic profitability on short term must be criticized, which lead to impairment of future values (positive and negative) and overvalue of the present, in other words to "inflate" the rise (flow) to the detriment of assets (stocks) [12]

So bear in mind the economic or commercial libertinism, which imposes the profit laws above the laws of ecology, the laws of nature and measures taken in this regard. In this sense there may be taken measures by introducing fiscal penalties on the polluter pays principle and a system of incentives in the pricing and taxation field for clean food production. Such a measure would be to increase the profit tax rate (for profit resulting from activities with obvious interference in ecosystems balances) with an additional quota determined by the impact of such economic activities over the overall environmental balance in the geographical area in question, based on the following model:

$$P_n = P_i - I_p$$

$$I_p = P_i (C + K_e)$$

where:

P_n - net profit

P_i - taxable profit

C_i - profit tax rate established under the laws in force

K_e - additional share of profit tax for activities generating natural imbalances [9]

In this issue, Europe has realized that environmental protection is creating development and profit [4]

It should be noted that between sustainable development and sustainable agriculture one cannot put the equal sign (there are countries in which, although agriculture presents sustainability in the national economy, it does not follow the concept of sustainable development).

In order to be sustainable, agriculture must meet nine main attributes: productivity, profitability, energetic efficiency, wildlife balance, quality of life and social acceptance, quality of soil, water, and air [10]

SAS components (Sustainable Agriculture System) are: [15]

1. Crop and rational rotation of crops - has the effect of maintaining and improving the

productive potential of the soil, reducing energy, chemical fertilizers, pesticides costs, without requiring additional investments.

2. Structure of cultures - enables work scaling, reduces peak work, a more efficient use of inputs, reduces production risks in the event of disasters.

3. Application of organic manure from storage and incorporation of plant residues, manure, compost, green manure, intermediate crop, sludge and domestic waste - helps restore soil humus (determinant factor of fertility, with implications for the physical, chemical and biological plants processes).

4. Chemical fertilizers - can only be used in addition to organic fertilizers and only in moderate doses. In order to minimize their negative effects (accumulation of toxic compounds with nitrogen in plants, groundwater pollution, soil acidification) their periods and ways of managing must be controlled.

5. Soil tillage – they produce physical and mechanical changes in soil mass and influence further on the conduct of other processes: chemical, biological, decisively determining soil quality and its productivity potential.

6. Integrated management of plant and animal protection - is a strategy that leads to reducing the use of pesticides (using methods with minimum impact on the environment – changing pesticides and herbicides in time, minimum but effective doses without remaining in the soil etc.) giving priority to agro-technical and biological measures of bio-pesticides, finding genetically resistant species and hybrids etc.

7. Conservation of resources (soil, water, biodiversity from soil and soil) - in this sense, every technological measure applied must be analyzed according to its short and long term effect on each resource and on the system as a whole.

8. The use of internal resources – determines increase in efficiency, adjusts the power circuit within the system and protects the surrounding environment.

9. Integration of the vegetable sector with the animal sector - resulting in a complex and stable system in which internal resources are

being used more efficiently, and the circuit of substances is complete (plant products are being used as food for the animal sector and manure is used as organic fertilizer) thus reducing production costs and the threat of pollution under full utilization of labor.

10. Sustainable rural development - aims a rational and balanced use of all natural, economic and human resources of the area, providing conditions for increasing productivity, conservation and renewing resources, harmonization of natural factors with economic ones, system stability.

11. Research - aims improving the national system for priority identification; determining ways of funding and subsidies; effective training of qualified personnel; organizing research units on demonstration plots; promoting technological transfer activities and technical advice on: new plants, animal breeds, new technologies, bio-engineering operations, machinery and equipment systems, greenhouses projects; supplies of biological material from upper links; performing expertise and biological assistance to producers in the form of projects and programs on greenhouses and gardens; direct support from the budget; low-interest government loans; direct contracts with producers; programs funded by international organizations; resources form the production of research stations. [16]

It can quantify the effect of a single element of progress or interaction with other elements, allowing reliable conclusions in determining the breakeven point.

The research aims to highlight those variants in which the technical maximum is nearest to the economic optimum [21] information and documentation are becoming realistically speaking the "engines" of regional sustainable development [8]

RESULTS AND DISCUSSIONS

Production of raw materials, combined with operation of biogas plants make biogas technologies economically attractive and help increase farmers' income.[11] In addition to the additional income they obtain new and important social functions, such as energy

providers and waste treatment operators. [10]

In this context we cannot ignore, aspects related to the development of genetically influenced agricultural products, through laboratory studies - which, while providing increased production and higher profits for producers, negatively affect human health.

In this matter, the European Community has adopted regulations on controlled use of GMO-s (genetically modified organisms) through Directives no. 90-219 and 90-220/ April 1990. In Romania, this issue is regulated by OG 34/2000 on green food products, approved by Law no. 38/2001, harmonized with EU regulations. However, penetration and spreading on a larger scale in Romanian agriculture of genetically modified organisms represents a real danger to human health and to the quality of the environment, because: "it turns the population and its territory into a field and an object of experimentation for obtaining results regarding new biological technology without elementary means of prevention and precaution regarding their potential negative consequences." [12]

A form of sustainable agricultural system is represented by the organic growth of cereals, industrial, horticultural and viticulture crops, in practice we identify three new streams [6] in farm: organic, biological and bio-dynamic farming, resulting in obtaining high yields, healthy, while preserving the health of the earth, plants, animals and humans.

The future belongs to science, technology and modern technologies, genetic creations that can revolutionize agriculture, association and cooperation systems based on private and public properties [7]

Science brings great advantages over competition and is always behind efficiency. "Who does not appeal to science can be considered dead in capitalism. [3]

Unlike conventional agriculture, which believes that a farm is like a production unit that practices intensive technologies, sustainable agriculture considers the farm a complex system composed of subsystems, each of which has limits physical, biological and social limits.

Activity in a farm with sustainable agriculture must be based on the use of natural processes,

on the biological and renewable farm resources. A feature of this work is the preservation of internal resources (soil with its characteristics, water, biodiversity etc.). It combines traditional techniques with new technologies, it uses modern equipment while using conservation methods.

For a product to be recognized as traditional it must meet the following conditions:

- be made of traditional raw materials;
- to present a traditional composition or a production mode and/or traditional processing;
- being traditionally itself, or express traditionalism;
- comply with specifications;
- traditionalism is not due: its geographical origin or provenance or application of a technological innovation. [20]

An agricultural system would be sustainable if the production, yield, nutrients contained in cereal crops and manure that are lost through erosion would be matched by the absorbed ones, in the form of artificial fertilizers and fertilizer newly created by the decomposition of rocks in the base layer. All additional inputs such as energy, water, chemicals and artificial fertilizers should also be durable inputs. The energy consumed at harvest, such as that used for tractors and irrigation pumps, should come from renewable sources such as: collecting solar energy or hydroelectric generation. Any use of solid fuels and water, both renewable resources, will be excluded [22]

Such stringent definitions may be difficult for those who accept them. Sustainable agriculture is still struggling to achieve environmental objectives such as: promoting biodiversity, recycling of nutrients, creating fertilizers and efficient water use, having large implications in terms of economic and social point of view. [14]

CONCLUSIONS

An issue that requires deepening in the future is "the state of the supplier for de-pollution of agriculture" [13] condition insufficiently studied, which will be the subject of an investigation, both for the alternative natural

environment, agriculture, as well as for other human-agricultural activities.

Changes in its activity can be divided into three categories:

- Understanding the biophysical connections between ecosystem and production;
- Finding operational indicators of various aspects of sustainability;
- Determining the relative size of each of the welfare aspects.

Surveys were conducted in all three areas, but the most progress has been achieved in the first and second category. Agronomists and engineers have developed biophysical models of agricultural production that can simulate plant growth as well feeding flowers, soil and water. Regarding the indicators for sustainability issues, these are not difficult to be defined for objective measures of economic performance, the only obstacle being represented by gathering relevant information and noticed with great difficulty at the farm level. These may be indirectly measured by income and expenditure categories.

Quantitative measurements of social and cultural aspects are difficult to be performed and probably will never be complete, but measurement results such as the number of employees in rural environment or agricultural workers could be possible.

Romania has huge potential of bio-ecological resources within mountain areas, alpine and sub-alpine corridor it occupies a surface of over 4.5 million ha of which more than 1 million ha is exploited sustainably, other 95,000 ha were declared parks and nature reservations.[1]

Under current Romanian agriculture conditions, in the context of transition to a modern, efficient agriculture, which fall within the concept of sustainable and organic agriculture, there still are "pollution boiling points", serious accumulations in the environmental degradation, inadequate developed legislative framework, a poorly informed population with less interest in environmental issues, therefore measures are needed to be taken to educate and inform farmers, acknowledging the importance of respect for the environment, the only

alternative of an agricultural progress, which is suitable for integration into the European Union, even if it "is difficult and only achievable on the long term, involving serious costs, certainly will affect productivity gains."

[19]

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