

# Ecological strategy of development in agricultural enterprises of Ukraine

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**Abstract:** The paper discusses the importance of green agricultural production in Ukraine and expected benefits of such strategy. Main directions of implementing ecological development strategy of agricultural enterprises in Ukraine are outlined. A system of economical incentives for implementation of ecological development strategy of agricultural enterprises is introduced and analysed. We also consider various deterrents with extra liabilities to be used for the companies which violate ecological principles and regulations. A system of investment filters based on ecological economy performance of the agricultural enterprises is developed. The significance of all these factors for the enterprises is determined through the use of factorial analysis and questionnaires and surveys. More than 100 companies took part in the research and ranked possible benefits for the enterprises after implementing ecological strategy and possible stimulation.

**Keywords:** ecological development strategy; economical incentive; environment liability; ecological management; investment filters.

**JEL Classification:** JEL Q56

## Introduction.

Ecologically destructive features of Ukrainian economy create extra incentives for the search of new mechanisms which would reduce the anthropogenic impact upon the environment. Among those are mechanisms for expansion of environmental responsibility of the businesses and implementation of environmental management, integrated into the general economic mechanism of functioning of the agricultural enterprises. Currently for the majority of the farm managers or even agricultural corporations executives strategic ecologic management remains one of the most complicated spheres which requires very careful approach and analysis. Formation of ecological responsibility and implementation of environmental development strategy for the Ukrainian agricultural enterprises also require specific attention.

## 1. Literature Review.

The fundamental works of Ukrainian scientists Balatzky O.F., Melnyk L.G., Mishenin E.V. are dedicated to theoretical aspects of general ecological management [2, 8, 9]. Arnon I., Borysova V.A., Bozhkova, V. V. carefully analyze the formation of social-ecological responsibility [1, 3, 4]. Koblianska I., Sievidova I. pay more attention to the development of ecological management at the enterprise level [7, 13] while Hopton, M. E and White D concentrate on the regional level analyses [6]. Strategic development of agricultural companies was analysed by Slavkova O. with some respect to environmental protection [14]. But further research can be made in the sphere of ecological strategies for the agricultural enterprises development.

The main task of this research is to frame directions for the development and implementation of the ecological strategies of agricultural enterprises, which may be helpful to boost the level of ecological security of the companies, and will facilitate the increase of their competitiveness, and provide aggregate economic growth.

## 2. Methodology

The survey is based on system approach and bunch of methods, which provide applications of this approach, among them are the following: analyses, synthesis, logical generalization. Multiple factor measuring methods were used for analyzing the state of agricultural enterprises. Questionnaires with 10-point scaling questions were used to

measure the significance.

### 3. The Main Results of the Research

Transition to innovation-investment development of agricultural enterprises should be provided on the basis of predefined priorities in order to create general strategy for agricultural companies, which may help them carry on their activities in globalized community. Low level of understanding of the necessity to consider ecological component in production activity by the agricultural producers still remains a complex problem. At present environmentally responsible behaviour is considered one of the key success factors for the business development and competitiveness [4, p.146]. Maintaining ecological standards may also be considered by international financial institutions in case of need for funding. A group of international banks follow the Equator Principles framework, which considers ecological aspects of supported projects. Responsible environmental behaviour should facilitate the extension of the range of potential partners and customers, improve the reputation and positively impact the company growth. That's why expenses for ecological improvements are not considered as unnecessary financial burden for agricultural enterprise in developed countries. Ukrainian companies should also prioritize developing their ecological strategies to strengthen their positions in globalized business environment.

General directions for the implementing ecological strategies in the agricultural enterprises should be the following [3, p.154 11, p.20]:

- formation of highly productive and environmentally stable cultivated lands;
- implementation of environmental compliance requirements for the use of natural resources in agriculture;
- enable expanded reproduction of soil fertility through the development and implementation of soil protective measures, and providing of ecologically balanced agricultural activities, including large agricultural enterprises through the use of specific legislation, mechanisms and financial decisions;
  - insure environmentally reasonable management for pesticides and agrochemicals;
  - create the effective system of economic incentives for producing ecologically clear goods based on biological farming technologies;
  - facilitate the development of the market of ecological products and services;
  - support of ecologically friendly environment, infrastructure and other conditions for labour, recreation and physical development of rural population;
  - suspend of less productive agricultural lands, mainly in the regions with high rate of tilled land;
  - extension of the tree belt areas for field protection;
  - reduction of the waste input from the animal agriculture through implementing of reuse and recycle; reduction of surface-water contamination by sewage runoff and agricultural runoff from the livestock territories;
  - liquidation of animal burial sites, that are not consistent with requirements of valid legislation and sequential use of modern methods to treat livestock biowaste;
  - ensuring compliance with the requirements of biological and genetic safety of agricultural plants and animals at enterprises, institutions and organizations of the agro-industrial complex, regardless of their subordination and ownership;
    - introduction of an outright ban on the use of GMOs and the cultivation of genetically modified plants;
    - introduction of environmentally safe irrigation methods to reduce the level of soil resalting;
    - promote the preservation of the main indicators of fertility and natural characteristics of soil on reclaimed agricultural land;
    - publication of the results of monitoring of agricultural enterprises regarding the condition of land resources and the implementation of environmental strategies in production;
    - promoting the formation of socio-ecological and economic thinking, which refers to the ability of a person to analyze and realize his own role in economic and environmental situations, the interconnection and interdependence of the economy and the environment, as well as freely use their new knowledge in daily work.

To implement an environmental strategy for the development of agricultural enterprises, their managers should be aware of the benefits and advantages that they will receive when implementing such a strategy. Benefits from the implementation of the environmental strategy will be factors of competitive advantage, therefore, they can be considered as incentives for the development and implementation of an environmental strategy for enterprise development.

Among such incentive benefits are the following:

- 1) Formation of the ecological image of the enterprise, which carries out rational agricultural management.
- 2) Optimization of business processes of an agricultural enterprise, formed under the influence of balance of land use and land conservation.
- 3) Strengthening the potential of introducing innovative measures to balance agricultural production.

- 4) Increasing resistance to environmental crises.
- 5) Preventing soil degradation.
- 6) Expansion of market segments through the production of environmental goods and the provision of environmental services.
- 7) Access to new agricultural products markets.
- 9) Positioning in the ecological rankings.
- 10) Possibility of environmental labelling, ecological certification and sale of environmental products at higher prices, etc..

The listed incentive benefits are internal factors of the enterprise, which motivate it to implement the environmental strategy. But, along with internal ones, external factors should be formed at the state level, which will also stimulate agrarian enterprises to use environmental strategies. These external incentives become even more important in modern conditions of agribusiness. They contribute to the formation of environmental responsibility in carrying out of agricultural activities.

Among the external pressure incentives are the following:

- 1) ensuring compliance with legislation in the field of agri-business, land protection and other environmental acts;
- 2) environmental control and ecological expertise;
- 3) environmental certification;
- 4) environmental asset recognition;
- 5) state agroecological assessment of land and the development on its basis of fines for deterioration of fertility and compensations for its improvement;
- 6) take of natural resources from the operation activity;
- 7) the environmental passport of the enterprise;
- 8) deficiency report;
- 9) licensing;
- 10) prohibition or restriction of activities in case of violations of environmental legislation;
- 11) dissolution of commercial treaties;
- 12) criminal liability.

Economic incentives and leverages are predominantly motivating: preferential taxation, concessional lending, premium prices for ecologically pure production can be 50-70% higher, target public financing for environmental activities, purchase of technical equipment at heavily subsidized prices, environmental insurance. If polluted products are supplied to the market, physical-chemical and biotic soil tests get worse, waters become contaminated by animal farms sewage waters, storage regulations for toxic chemicals are violated the deterrents are used with extra liabilities. They include price reduction for ecologically contaminated food, fees, penalties, increased land taxes and water rates combined with other methods of detrimental effect.

We should mention that the influence of a set of economic instruments depends on the ecological and economic specificity of the agricultural enterprise. In Ukraine the system of pressure incentives or deterrents, such as fines or suspension of operations, will be more capable today, which is due to the low level of environmental consciousness of the heads of enterprises.

But together with above mentioned pressure incentives we should develop prime drivers to raise the producers' motivation to implement ecological development strategy which may allow the companies to get extra financial gains.

Among the direct financial incentives are the following: financing of specific projects for agricultural enterprises that implement an ecologically-oriented investment strategy, rise in confidence from the state and other stakeholders. They can be carried out through the subsidies, grant-in-aid, subsidized loans, credits, financing with ecological funds, access to ecological grants, special licenses, direct financial support to ecological projects, land conservation initiatives. Indirect financial incentives, providing extra competitive advantages may include increased sustainability of the agricultural enterprise against financial crisis and improvement of financial stability as a result of implementing green business strategy.

A particularly important aspect of the functioning of an agricultural enterprise in a market environment is to increase its investment attractiveness. An integral part of it is the introduction of an ecological strategy for the development of an agricultural enterprise. Best practice for the banks and other financial institutions is to invest in companies which implement greener technologies. The financial performance of ecologically oriented banks and other financial institutions is almost the same as those institutions that do not pay attention to the selection of investment objects for their environmental activities. However, the economic stability and competitiveness of environmentally-oriented banks and other financial institutions is much higher. Significant expansion of environmentally responsible investment and investment filter systems shows that the mechanism of self-preservation and the introduction of an ecological strategy for the development of agricultural enterprises have been activated by investors.

Therefore, in our opinion, it is expedient to develop a system of investment filters and a future investment strategy, taking into account the environmental strategy of agricultural development for investors (see Fig. 1), which invest in Ukrainian agricultural enterprises.

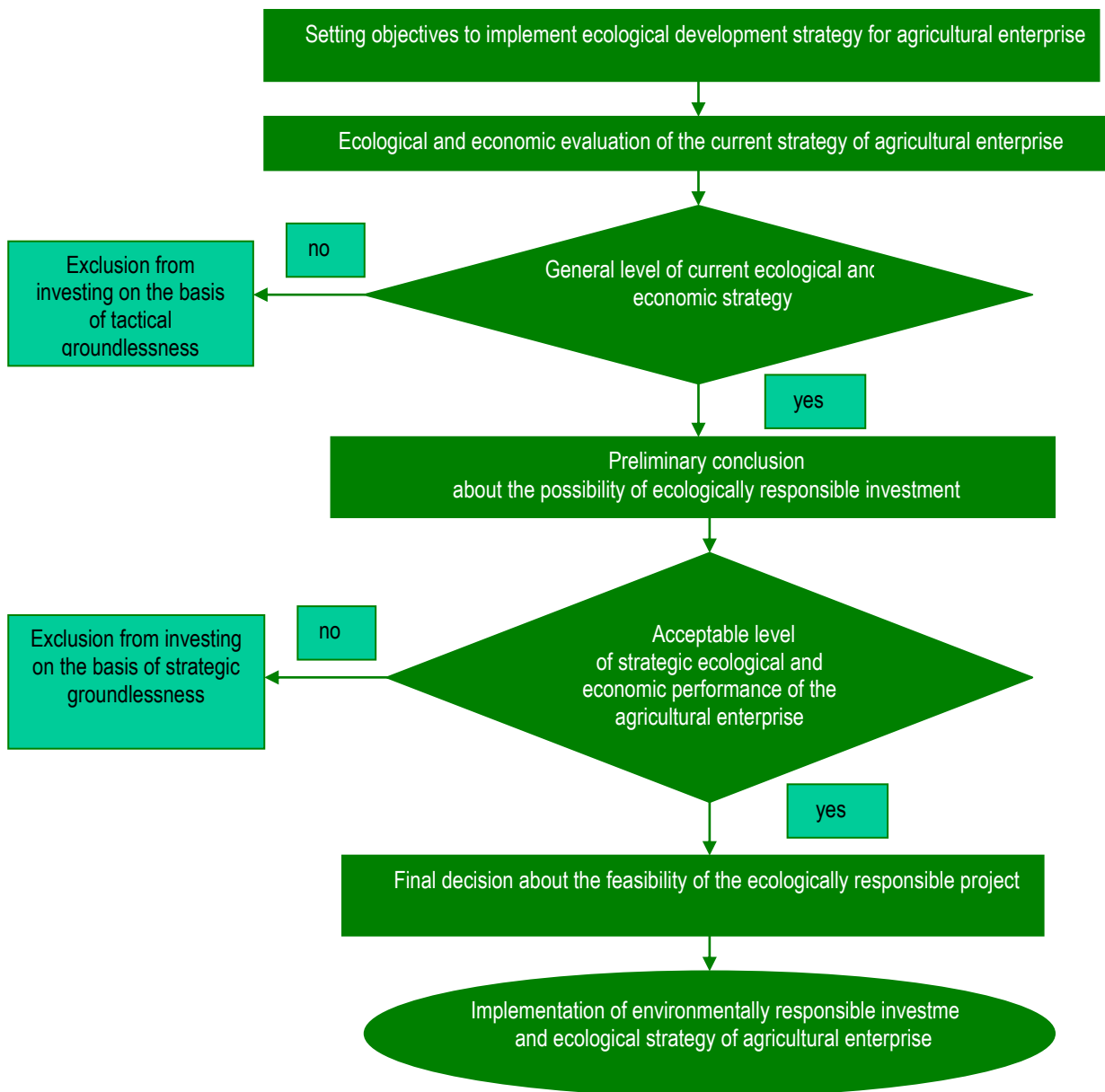


Figure 1 - Logic diagram for investment filter action based on implementation of the environmental strategy of agricultural enterprises.

An ecologically responsible investment is the adoption of an investment decision that takes into account the environmental aspects of the functioning of the investment object within the scope of traditional financial analysis. It is based on the study and choice of suitable investment objects that meet certain criteria of environmental responsibility.

Such a mechanism for stimulating the introduction of an ecologically-oriented enterprise development strategy in world practice sometimes occurs under the name "environmental sifting" and is used in the development of stock indexes, ratings, triple systems of enterprise performance.

Passing now above investment filter can be regarded as extra competitive advantages over other companies.

We conducted research on the motivation of managers to implement the environmental development strategy at 115 agricultural enterprises in Ukraine. It was proposed to assess the degree of significance of the components of the environmental development strategy and the identify the motives of management of agricultural enterprises in the 10-point scale.

From this study it can be concluded that the main important components of an environmental development strategy for farm managers are introducing of resource and energy saving agricultural solutions for land-tenure, use of

agroecological monitoring systems and indicators, economical incentives for landowners and landusers for carrying on ecologically balanced agricultural activities, providing of regular publication of the ecological monitoring results for the enterprise. Among the advantages of implementing environmental strategy at an agricultural enterprise, managers point out the importance of the following benefits from such activity: ecosystem rehabilitation; preservation and renewal of biodiversity in cultivated lands; the organization of a comprehensive system of production of environmentally friendly products and the creation of a system for quality management (table 1, 2).

Table 1 - Summarized results of the questionnaire for the identification of the significance of the components of the environmental development strategy at agricultural enterprises in Ukraine

Components of the environmental development strategy at agricultural enterprise	Measure of significance (points)
The introduction of scientific and reasonable structure transformation of agricultural land in order to create a balanced relationship between different components of agricultural landscapes and provide ecobalance of the territory	8,8
Extension of the tree belt areas for field protection, specially in the regions with high soil retirement and water erosion.	4,6
Providing of the organic farming development	7,7
Economical incentives for landowners and landusers for carrying on ecologically balanced agricultural activities	9,4
Use of agroecological monitoring systems and indicators	9,5
Providing of the development of the ecological system for agriculture	7,7
Introducing of resource and energy saving agricultural solutions for land-tenure	9,5
Reduction of the waste input from the animal agriculture through implementing of reuse and recycle	7,4
Liquidation of animal burial sites, that are not consistent with requirements of valid legislation and sequential use of modern methods to treat livestock biowaste	4,2
Ensuring compliance with the requirements of biological and genetic safety of agricultural plants and animals at enterprises, institutions and organizations of the agro-industrial complex, regardless of their subordination and ownership	7,3
Publication of the results of monitoring of agricultural enterprises regarding the condition of land resources and the implementation of environmental strategies in production	8,7

Source: survey, provided by the authors at 115 agricultural enterprises in Ukraine

Table 2 - Summarized results of the questionnaire for the identification of the significance of the advantages of implementing environmental strategy at an agricultural enterprise

Advantages of implementing environmental strategy	Measure of significance (points)
Maintaining environmental balance in the process of production	6,8
Preservation and renewal of biodiversity in cultivated lands	9,8
Preventing from natural water contamination through the omission of the use of pesticides and herbicides	6,2
Reduction of man-caused impact on the soil	5,8
Ecosystem rehabilitation	9,9
Ecologically oriented economic activity	8,2
Creation of ecological outlook	7,1
Management of ecological processes of agricultural enterprises	6,9
Application of preventive measures for averting of environmental conflicts	8,3
Organization of a comprehensive system of production of environmentally friendly products and the creation of a system for quality management	9,8
Creation of a market for environmentally friendly agricultural raw products and food	7,9

Source: survey, provided by the authors at 115 agricultural enterprises in Ukraine

## Conclusion.

Modern market and global economy, which Ukrainian enterprises are currently facing, require principal new approaches to stimulate the development and implementation of ecological corporate strategy by the businesses. The

whole idea or such strategy is that along with traditional, compulsory systems that oblige to comply with environmental legislation, mechanisms should be developed that will create incentives to implement environmental strategies for the development of agricultural enterprises on a voluntary, mutually beneficial basis.

Thus, the environmental strategy of agricultural enterprises is a key element of environmental management systems. It aims to identify the environmental potential of an agricultural enterprise, which includes benefits in the field of environmental protection, resource conservation, environmental security and is the basis for the formation of competitive advantages against other enterprises and the achievement of long-term goals of ecologically-driven development of agricultural enterprises.

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