



INFORMATION SUPPORT FOR THE MANAGEMENT OF ENVIRONMENTAL ACTIVITIES OF AGRIBUSINESS ENTERPRISES IN UKRAINE

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Abstract. Due to the increasing pollution of the environment in Ukraine as a result of energy and water resource consumption, waste management and emissions, land use, and biodiversity by agricultural businesses, the issue of implementing a sustainable development strategy is becoming increasingly important. Research results show that the ESG direction is typical for a small number of agro holdings in Ukraine, which is associated with their attraction to foreign investments and loans. Most of Ukraine's large agricultural companies either do not report on sustainable development or are completely absent from the public space, indicating a low level of interest in implementing the best sustainable development practices. Our results show that one of the reasons that hinder the implementation of sustainable development principles in agricultural businesses in Ukraine is the lack of informational support in managing its environmental activities. The information provided to management for making decisions on the impact on the environment and climate with the aim of reducing and preventing environmental risks is based on an information base that is systematized and summarized in accounting. Taking this into account, the article explores the legislation of Ukraine and scientists' proposals on organizing the environmental aspects in accounting and the place of environmental accounting in the accounting system. In modern conditions of development, agribusiness has the following peculiarities: the presence of bioenergy resources that reproduce dynamic soil fertility as a result of the biological transformation, and the intensification of production that affects the state of the land, climate, safety, and public health. Therefore, the paper investigates the information support for environmental management of agribusiness enterprises, taking into account the peculiarities of assets that are the true wealth of humanity and multiply energy on Earth, as well as assets that have an intensive impact on the state of land and climate.

Key words: Ukraine, agribusiness, information support, ecology, sustainable development.

JEL code: M10, M11, Q13, Q20, Q25

Introduction

The technological features of agricultural businesses in Ukraine have a significant impact on resource depletion and environmental pollution. Therefore, in modern economic conditions, agricultural producers should focus on natural resource economics and be aware of their impact on society and the environment. The players in the agricultural sector are very diverse in terms of their work directions and sizes - from individual farms with a few hectares of land under cultivation to large agro holdings operating on hundreds of thousands of hectares. The impact of the latter cannot be underestimated, considering the scale of their activities, contribution to the national economy and local economic situation, as well their impact on the environment. In the context of modern development and production intensification, the agricultural sector appropriately changes the intensity and nature of its impact on the state of land and climate. In this context, there is a responsibility for businesses for their actions that affect the interests of many stakeholders and must be realized through reporting on the ecological aspects of their activities. Ukrainian agrarian companies are required to report on their activities that affect the environment and climate to the State Statistics Service of Ukraine, including the volumes of fertilizers and other agrochemicals used by the companies, pesticides used on crops, the areas in which they were applied, and the dynamics of these indicators for informational support of the analysis of anthropogenic load on soils (Standard quality report, 2020), as well as the expenses for environmental protection (Report on defense costs

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environment, 2022). However, such reporting does not allow for conclusions to be drawn regarding the compliance of the activities of agrarian enterprises with the provisions of the concept of sustainable development. At the request of stakeholders for disclosure of information on the activities of agrarian enterprises that affect the environment, such reporting can be carried out in non-financial reporting, which can be prepared and submitted in various formats: Progress Report on the Implementation of the Global Compact Principles; Sustainable Development Report prepared by the requirements of the GRI (Global Reporting Initiative) system; and a separate social report on indicators that are determined independently by the company.

Most scientists consider ESG practice as an element of the corporate strategy of companies from various economic sectors to determine criteria for financing by investors who take into account the ESG rating of the business when issuing loans (Gleißner, W., 2022; Kirsanova, V., 2018; Welch, K., 2022). There are also certain studies dedicated to the formation of non-financial reporting that reflects the company's image in the business sphere and society (Analysis of sources, 2022; Zamula, I., 2021).

Given that the main information base for the formation of non-financial reporting is provided by accounting, there are studies in foreign literature on environmental accounting and its impact on strategic management accounting (Ahmet Tanc, 2015), environmental accounting is a vital tool to help manage environmental and operational costs for natural resources (Iyyanki, V., 2017), and the development of a concept of accounting for sustainable enterprise development (Ordynskaya, M. E, 2021).

Ukrainian scientists have focused on the place of environmental information in the accounting system in their research (Zhuk, V. M., 2009; Shevchuk, V. O., 2009; Voronovska, O., 2011; Zhuk, V. M., 2012; Len, V. S., 2015; Gritsenko, O. I., 2016; Shtyk, Y., 2018; Liudvenko, D., 2020; Kundrya-Vysotska, O., 2021; Storozhuk, T., 2021; Malikov, V., 2022), as well as the reflection of the ecological component of the activity of enterprises in various economic sectors in accounting: coal mining (Bychkova, O. V., 2013), winemaking industry (Gutsalenko, L., 2020); livestock (Liudvenko, D., 2020).

One of the reasons hindering the implementation of sustainable development strategies in the agribusiness enterprises in Ukraine is the lack of sufficient regulatory framework and ineffective organization of information management related to environmental activities, which can be achieved through proper accounting in agricultural enterprises.

This research aims to justify the necessity of developing information management systems for environmental activities in agribusiness enterprises in Ukraine to achieve sustainable development strategies.

To achieve this goal, the following tasks were set:

- to study the achievements of sustainable development policies by agribusiness enterprises in Ukraine;
- to justify the necessity of developing information management systems for environmental activities in the agribusiness enterprises in Ukraine, taking into account its organizational, technological, and biological peculiarities.

The analysis of the achievements of agribusiness enterprises in Ukraine in implementing sustainable development policy was carried out by examining the corporate websites of companies and thematic industry resources of the largest agricultural sector companies in terms of land bank size in Ukraine, about compliance with the principles of sustainable development. The study identified several agricultural companies in Ukraine that report on their sustainable development activities using various formats with a focus on their impact on the environment and climate. An evaluation of the main directions of environmental reporting was also conducted.

In justifying the need for the development of information support for environmental activities, the legislation of Ukraine was examined, as well as proposals from scientists on the organization of environmental aspects in accounting, the place of environmental accounting in the accounting system, and the peculiarities of assets that are the true wealth of humanity and enhance the energy of the Earth and assets that have an intensive impact on the condition of land and climate.

Research results and discussion

1) In Ukraine, according to the ranking of agrarian enterprises based on the size of their land bank, the following leaders are officially identified: LLC "KERNEL-TRADE", PLC "UKRLANDFARMING", PRJSC MHP, AGROPROSPERIS GROUP, ASTARTA HOLDING PLC, CONTINENTAL FARMERS GROUP LLC, AGRICULTURAL ENTERPRISE "NIBULON" LLC, and others. Some representatives of the agricultural sector, who are among the top ten leaders, have already implemented various initiatives to achieve sustainable development goals. Therefore, to establish the state of implementation of sustainable development policies, it is appropriate to analyse the positioning of these companies regarding reporting on these goals. To conduct this research, information posted on the official websites of certain agricultural companies in Ukraine regarding their chosen sustainable development policies was used. As a result of the study, it was found that enterprises may be more or less involved in implementing sustainable development principles. This is influenced by the resources owned by the company, the scale of its activities (for companies whose shares are listed on stock exchanges of European Union countries, sustainable development is a more important issue), how the company positions itself, its impact on the environment. The research results are presented in Table 1.

Table 1

**State of implementation of sustainable development strategy
 in Ukrainian agribusiness enterprises as of 31 December 2022**

No	Agricultural company	Land Bank, thousand hectares	Company rating	Quotation of the company's shares on foreign stock exchanges	The positioning of the company regarding the implementation of the strategy of sustainable development
1.	LLC "KERNEL-TRADE"	530	1	Warsaw	GRI reporting
2.	PLC "UKRLANDFARMING"	500	2	-	website section
3.	PRJSC MHP	370	3	London	reports of the Global Compact
4.	AGROPROSPERIS GROUP	300	4	-	does not report
5.	ASTARTA HOLDING PLC	235	5	Warsaw	GRI reporting
6.	CONTINENTAL FARMERS GROUP LLC	195	6	-	CSR reporting
7.	AGRICULTURAL ENTERPRISE "NIBULON" LLC	82,5	17	-	CSR reporting

Source: created by the authors based on Agroprosperis group, 2022; Astartaholding. Sustainability, 2022; Continental farmers group, 2022; Kernel Sustainability, 2022; MHP. Sustainability, 2022; Nibulon. The social report, 2022; UkrLandFarming. Sustainability, 2022

In summary, regarding the Ukrainian practice of reporting by agricultural companies according to sustainable development standards, it can be concluded that agricultural companies, based on the size of their land bank, can be conditionally divided into 4 groups:

- agricultural companies that have prepared sustainable development reports in the last three years (have the largest land bank and their shares are listed on foreign exchanges);

- agricultural companies that do not have formulated policies, but implement measures that comply with the principles of sustainable development and prepare non-financial reports based on their activities;
- agricultural companies that do not have a developed sustainable development strategy or social responsibility program, but occasionally carry out various socially-oriented activities. Information about these events is usually published on their websites in the "News" section, and various media outlets publish news about them;
- agricultural companies do not even have information on their website or do not have a website at all.

It should be noted that some Ukrainian agricultural companies provide information on sustainable development on their websites. To improve the level of corporate social responsibility at these companies, it would be appropriate to formalize the information in a separate report (Baskov, O., 2020), which would help to implement best practices in the field of sustainable development.

Agricultural enterprises that disclose information according to sustainable development principles with a focus on the impact of their activities on the environment and climate report in the formats provided in Table 2.

Table 2

Reporting formats for sustainable development in Ukrainian agricultural companies

Reporting format	Characteristics	Form of presentation	Users
Report on progress in implementing the principles of the UN Global Compact	Annual reporting on the implementation of the 10 principles of the UN Global Compact	No uniform structure (certain key elements are outlined) Stakeholders	Stakeholders
Sustainability report prepared by the requirements of the GRI (Global Reporting Initiative)	system Reflects indicators characterizing economic growth, social justice, and environmental integrity	Any	Stakeholders
Social report based on indicators independently determined by the company	Prepared on an annual basis outlining the main directions of social responsibility development on a global scale	Any	Wide range of the public

Source: created by the authors based on Zamula I., 2021

As with any other management tool, reporting in various formats according to the concept of sustainable development in Ukrainian agrarian companies will bring benefits to the company: helping the company build a process of managing corporate social responsibility, building trust in the company among various stakeholder groups, increasing transparency of the company, increasing the company's readiness to work in other markets, strengthening business relationships, and promoting market expansion

The leading public agricultural companies in Ukraine (LLC "KERNEL-TRADE", PRJSC MHP, ASTARTA HOLDING PLC) were among the first to recognize the need to transition to international standards of sustainable development and modern management tools. The assessment of the environmental component of the ESG rating of these companies is carried out by studying their disclosure of indicators of interaction with the environment. Agricultural companies can disclose such information through a separate environmental report or as part of integrated reporting within non-financial indicators. These reports provide data on the size of harmful emissions, the transition of the company to "green" technologies, and participation in environmentally oriented programs. This data should indicate the contribution of the agricultural company to the sustainable development of the global economy.

Approaches to evaluating the main directions in environmental reports of the leading agricultural companies in Ukraine are presented in Table 3.

Based on the information provided in Table 3, it can be summarized that the most widely accepted and commonly used approach is to assess the following main areas in the environmental reports of agricultural companies: greenhouse gas emissions, water usage, waste management, land use (including the impact on biodiversity). However, this list is not standardized, as approaches to assessing environmental risks may vary depending on the industry and location of production.

Table 3

Approaches to assessing the main directions in environmental reports of leading agricultural companies in Ukraine

The direction of sustainable development	Agricultural company		
	LLC "KERNEL-TRADE"	PRJSC MHP	ASTARTA HOLDING PLC
Environmental	Energy Water and Effluents Waste Biodiversity	Energy Water Effluents Waste	Energy Water and Effluents Land use and Biodiversity Emissions and Responding to Climate Change Waste

Source: created by the authors based on Astartaholding. Sustainability, 2022; Kernel Sustainability, 2022; MHP. Sustainability, 2022

Agricultural companies such as LLC "KERNEL-TRADE", PRJSC MHP, and ASTARTA HOLDING PLC have developed a sustainable development strategy and claim that sustainable development is embedded in all business processes carried out by each company; therefore, it is an integral part of their operations (Astartaholding. Sustainability, 2022; Kernel Sustainability, 2022; MHP. Sustainability, 2022). As the main issues related to ecology are similar for these companies, it is appropriate to investigate the principles that each company focuses on and their strategies implemented for sustainable development in ecology (Table 4; Table 5; Table 6).

Table 4

The environmental direction of the sustainable development strategy of LLC "KERNEL-TRADE" in the business segments' breakdown

Industry	Energy	Water and effluents	Waste	Biodiversity
Strategy implementation regarding:				
Plant growing	consumption of natural gas and green electricity by silos	accurate application of fertilizers and pesticides to the soil and the use of modern pumps on distributed equipment to minimize technical water losses	the use of crop production waste as raw material for the production of livestock feed in our livestock business segment; as fuel during drying for steam generation; as bedding for animals	soil nutrition monitoring, seed quality control; integrated pest control system
Livestock	-	reducing water use by using a dry method of removing manure from cowsheds with scrapers	use of livestock waste as organic fertilizer in fields; disposal of livestock corpses in registered biothermal pits	provision of comprehensive and detailed monitoring of agricultural activity
Processing of agricultural products	optimization of the use of steam in technological processes	wastewater collection at factories to prevent soil and groundwater pollution, modernization of the condensate disposal system; full-cycle water treatment, to ensure biological, physical, and chemical purification	use of crop production waste as fuel, as biomass for electricity generation at thermal power stations; as raw materials for the production of fodder for cattle; as raw materials for the production of fertilizers; as soil fertilizers to return nutrients	provision of comprehensive and detailed monitoring of agricultural activity

Source: formed by the authors based on Kernel Sustainability, 2022

Table 5

The environmental direction of the sustainable development strategy of PRJSC MHP in the business segments breakdown

Industry	Energy	Water	Effluents	Waste
Strategy implementation regarding:				
Plant growing	reducing the use of energy from non-renewable sources at the expense of increasing the use of energy from renewable energy sources	reduction of water consumption through regular control of consumption, inspection, and maintenance of metering devices; updating the Register of wells, which includes information on the physical location of underground water sources, volume flow, physical condition, need for repair	the use of advanced technologies in wastewater treatment (the quality of treated wastewater must meet the requirements of the necessary regulatory standards, which the company strictly adheres to)	introduction of an effective waste management accounting system, including for the disposal of hazardous waste; regular verification of the availability of relevant certificates of contractors engaged in the disposal of hazardous waste; development of waste management processes, in particular, reuse
Livestock				
Processing of agricultural products				

Source: created by the authors based on MHP. Sustainability, 2022

Table 6

The environmental direction of the sustainable development strategy of ASTARTA HOLDING PLC in the business segments' breakdown

Industry	Energy	Water and effluents	Waste	Emissions and responding to climate change	Land use and biodiversity
Strategy implementation regarding:					
Plant growing	reduction of diesel fuel consumption per 1 ha by introducing new technologies	reasonable use of water when working with plant protection products	use of plant waste in cattle breeding as litter for livestock, as well as use in fields to preserve soil quality	obligation to measure greenhouse gases in the crop production segment and report on greenhouse gas emissions	implementation of modern methods of regenerative agriculture and reduced or zero tillage
Livestock	reducing the consumption of energy resources in livestock by using modern equipment	reasonable use of water when washing milking equipment	use of livestock waste in the fields as fertilizer	obligation to measure greenhouse gases in the activity of the livestock segment and report on greenhouse gas emissions	not locating the company's production facilities in natural territories with a special status, protected territories, territories with a high level of biodiversity
Processing of agricultural products	reducing the consumption of energy resources during the processing of plant products through the use of modern equipment	rotary water return	burning by-products of crop production processing into a granulated product	obligation to measure greenhouse gases in the activities of the industrial business segment and report on greenhouse gas emissions	the use of raw materials of own production or local farming, due to the non-location of the company's production facilities in natural territories with a special status, protected territories, territories with a high level of biodiversity

Source: formed by the authors based on Astartaholding. Sustainability, 2022

Small and medium-sized agribusinesses do not report according to the concept of sustainable development. This can be explained by the fact that such enterprises sell their products on the domestic markets, so there is no need for such reporting. However, in practice, large agro-industrial holdings build an agro-industrial ecosystem that unites people for quality changes and sustainable development of the national agrarian business in Ukraine. Moreover, large agricultural companies involve small and

medium-sized businesses in cooperation, creating business environments and ecosystems to strengthen the competitiveness of interested parties. For example, ASTARTA HOLDING PLC creates an agro-industrial ecosystem in the regions where its enterprises are located. The company provides access for small businesses (farms) to new technologies, resources, and markets. Then this company buys products grown by farmers. In addition to small agricultural enterprises, rural residents also benefit from this model, as it is based on the principles of sustainable business development (conservation of natural resources).

2) The traditional accounting system that exists in Ukraine does not provide for the organization of collection, accounting, and processing of information necessary for the company's management to make informed decisions regarding its environmental activities and their impact on the environment. This work is challenging at all levels of the company - from strategic planning to the work of each department.

A review of the literature on organizing environmental aspects in accounting indicates a lack of consensus among authors. Thus, in Ukraine, several scholars focus on the separation of an autonomous subsystem of the management information base within the framework of the traditional accounting system - environmental accounting (Gritsenko, O. I., 2016; Shtyk, Y., 2018). At the same time, scholars note that the term "environmental accounting" has different meanings to different authors (accounting for environmental protection, accounting for nature conservation activities, accounting for environmental activities) (Storozhuk, T., 2021), which is due to the lack of its normative and legal regulation at the legislative level. Some scholars consider the impact of such components as accounting information, political-legal, institutional, and socio-economic on environmental accounting (Liudvenko, D., 2020). Therefore, summarizing the above, it can be argued that there is no single approach among scholars in Ukraine regarding the place of accounting for a company's environmental activities and their impact on the environment in the accounting system.

There are various approaches to developing an environmental accounting system at the enterprise level. In the United States and Western Europe, a single conceptual framework developed by the US Environmental Protection Agency (EPA) serves as the basis for environmental accounting systems (Malikov, V., 2022). However, Ukrainian scholars argue that this framework does not consider the nature of accounting units and propose a modified environmental reporting model that takes into account the specifics of the agro-industrial complex, which includes the type of report, the reporting object, the recipient, and the reporting unit (Zhuk, V. M., 2012).

GAAP, IASC (International Accounting Standards Committee), FASB (Financial Accounting Standards Board), and others recommend that the nature conservation accounting scheme be based on principles such as significance, objectivity, timeliness, accuracy, and verifiability. The International Accounting Standards Board's (IASB) working group on international accounting and reporting standards includes financial accounting, environmental accounting, environmental reporting, and environmental auditing as part of the concept of environmental accounting (Voronovska, O., 2011).

Austrian scientists have proposed three components of accounting systems: financial and management accounting, social accounting, and environmental accounting. Social accounting includes social reporting, social balance, human resource accounting, corporate social audit, social indicators system, report on net value, and income distribution report. Environmental accounting includes ecological accounting, accounting of environmental costs, accounting of natural capital, eco-balances, eco-audits, life cycle analysis of products, and environmental reporting (Jobstl, H. A., 1997).

After analysing the approaches to integrating environmental accounting into the traditional accounting system in foreign and Ukrainian literature, scientists have identified the following options: as a prerogative

of management accounting, as a subsystem of financial and management accounting, as a separate subsystem of accounting, and as a separate system of environmental accounting (considered outside of traditional accounting) (Len, V. S., 2015).

The main problem in integrating environmental accounting into the traditional accounting system is the difficulties associated with assessing environmental impacts, such as air pollution, land depletion due to human activities etc., and the inability to express them in monetary terms (Voronovska, O., 2011).

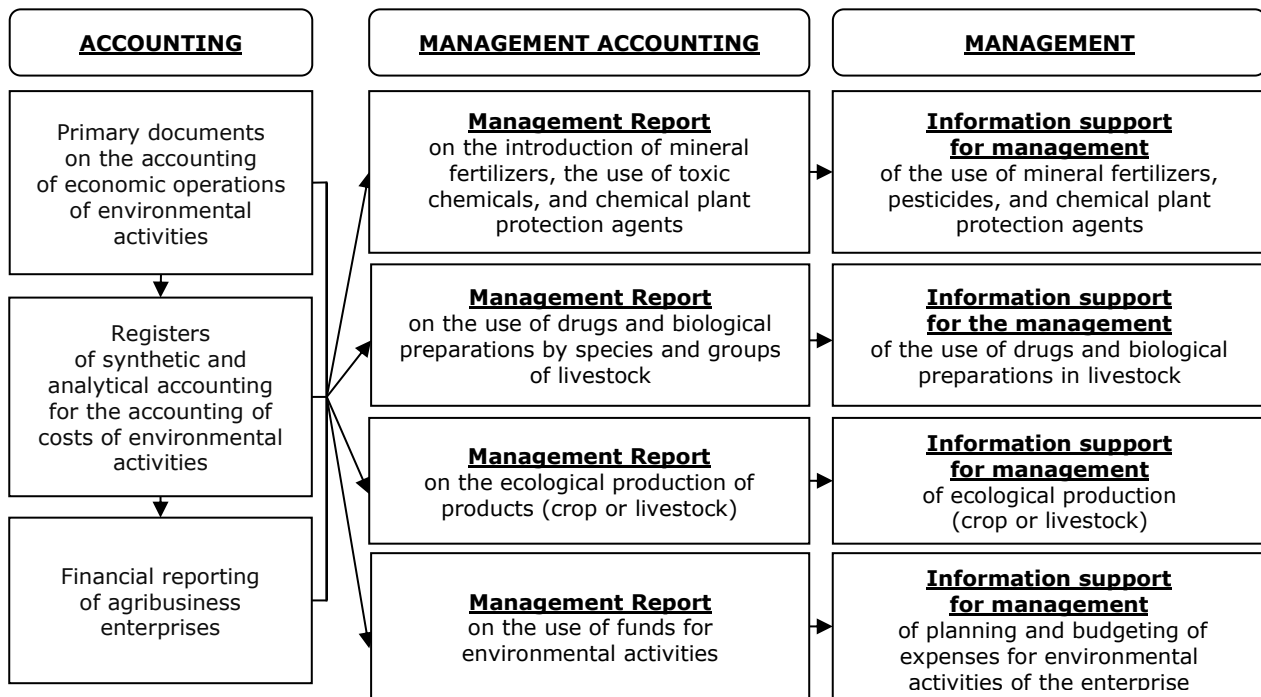
It is also noted that the defining direction for forming the information support for the analysis of sustainable development processes is the modification of the accounting balance based on the principles of physical and political economy requirements (Shevchuk, V. O., 2009).

Ukrainian researchers consider an accounting system for environmental activities that should include four main components: accounting for environmental costs, accounting for environmental obligations, reporting on environmental protection activities, and auditing relevant information, each of which has economic significance (Zhuk, V. M., 2012; Malikov, V., 2022).

According to the normative and legal regulation of the definitions of accounting and managerial accounting in Ukraine, for reporting based on the principles of sustainable development regarding the reflection of each enterprise's environmental impact, it is advisable to form information in managerial accounting based on the information that has been accumulated, summarized, and systematized in accounting.

Ukrainian scientists who researched the accounting software for the environmental activity of agribusiness companies note that the theory of physical economics "...poses the need for expanding the accounting objects of natural-resource potential, identifying and balancing the production and consumption of renewable energy assets for accounting purposes. In agriculture, this includes grain, feed, manure, and other agricultural products, which are the true wealth of humanity and multiply energy on Earth. According to Podolinsky, the problem of evaluating such assets with new methodological approaches is essential for the new physiocratic paradigm of accounting. These approaches prioritize energy and social factors over monetary exchange schemes" (Zhuk, V. M., 2009). This statement is also supported by the research results presented in Tables 4; 5, and 6 on the ecological direction of sustainable development strategy in LLC "KERNEL-TRADE", PRJSC MHP, and ASTARTA HOLDING PLC in the business segments breakdown.

When making management decisions, investors need to have information on environmental measures and expenses related to environmental activities. The development of agriculture today is impossible without the use of mineral fertilizers, pesticides, and chemical plant protection products in crop production, as well as drugs and biopreparations in animal husbandry. Failure to comply with scientifically substantiated measures during their use and the imperfection of methods of their use can lead to a negative impact on individual components of the biosphere, the state of the natural environment, and humans.



Source: created by the authors based on their research

Fig. 1. **Model information support for the management of environmental activities of agribusiness enterprises in Ukraine**

- Taking this into account, it is expedient to organize accounting support for the indicated objects of accounting for environmental activity management (Figure 1):
- in crop production - accounting support for the management of the use of mineral fertilizers, pesticides, and plant protection products by fields (monthly and cumulative from the beginning of the year);
- in livestock - accounting support for the management of the use of drugs and biopreparations by types and groups of animals (monthly and cumulative).

Organizing accounting support for environmental production management in agricultural enterprises will contribute to gaining advantages in competitive struggle, provided that the quality of the produced products is environmentally safe.

Organizing accounting support for planning and budgeting of environmental activity costs will contribute to the possibility of identifying and allocating nature conservation costs in such a way that the product has a substantiated assessment, and investment decisions are based on real costs and benefits. For this purpose, in accounting, it is expedient to organize accounting for capital and current costs in such areas: collection and purification of wastewater, waste management; protection and restoration of soils, groundwater, and surface water; preservation of biodiversity.

To collect primary information for organizing the accounting of the environmental activity of agricultural enterprises, it is advisable to use specialized forms of primary documents for accounting for production reserves in agricultural enterprises (acts on the use of mineral, organic, and bacterial fertilizers, and plant protection chemicals); income and expenditure books (journals for accounting for treated seeds and journals for accounting for the use of pesticides (in crops, orchards, greenhouses, etc.)); work completion certificates; quality certificates for fertilizers, pesticides, and agrochemicals; and other primary documents that record the facts of carrying out economic operations in ecological production of products and expenses for environmental activities of the agricultural enterprise. The information regarding the organization of accounting for environmental activity of agricultural enterprises is summarized in registers of synthetic and analytical accounting for costs of production, work performance, and services rendered; for general

production expenses, administrative expenses, and other expenses of operational activities; and material reserves.

Each agricultural enterprise, taking into account its organizational and legal form of management and organizational and technological peculiarities of activity, can build a model of accounting support of environmental activity management, which will allow its management to obtain information for making managerial decisions aimed at preventing environmental risks or reducing their manifestation.

Conclusions, proposals, recommendations

The results of research on the information support of environmental management of agribusiness enterprises in Ukraine provide a basis for asserting that the goal of the study to substantiate the need for the development of information support for environmental management has been achieved through the tasks set, which made it possible to draw the following conclusions and provide suggestions for their implementation in agribusiness enterprises in Ukraine to implement sustainable development strategies.

- 1) The resources owned by a company, the scale of its activities, and its level of impact on the environment are factors that influence the involvement of agricultural enterprises in Ukraine in implementing the principles of sustainable development. In Ukraine, the implementation of sustainable development principles is typical for large agricultural companies, which is justified by the attraction of foreign investments and credits. Over the past few years, only LLC "KERNEL-TRADE", PRJSC MHP, and ASTARTA HOLDING PLC have positioned themselves as pursuing sustainable development by creating Sustainable Development Reports. A large number of agricultural companies in Ukraine either implement measures that promote sustainable development through the creation of CSR reports, carry out sustainable development measures in a non-systematic way with the results being published on the company's website or in the media, or do not carry out or report on sustainable development measures at all. To implement best practices in sustainable development in the future, it is advisable to compile the information published on the company's website into a separate report.
- 2) To provide more detailed recommendations for implementing a sustainable development strategy for agribusiness enterprises, the implementation of sustainable development strategies by the top agricultural companies in Ukraine that report according to the concept of sustainable development in various formats with a focus on the impact of their activities on the environment and climate were investigated. The list and completeness of directions that are significant for the environment vary somewhat but correspond to the industry-specific thematic content of the environmental direction of the reports, namely: energy consumption, waste, water resources, response to climate change, greenhouse gas emissions, land use, and biodiversity. However, this list is not standardized, as approaches to assessing environmental risks are influenced by the type of industry and the location of production.
- 3) Research on the Sustainability Reports of LLC "KERNEL-TRADE", PRJSC MHP, and ASTARTA HOLDING PLC has shown that sustainable development is integrated into all business processes of each company and is an integral component of their operations. The key issues of significance are very similar; therefore, a study was conducted on the implementation of their strategies. In addition, in practice, large agricultural companies build agro-industrial ecosystems that involve small and medium-sized businesses by providing access to new technologies, resources, and markets, as well as rural residents to educate them on the principles of sustainable use of natural resources.
- 4) One of the key factors in the successful management of agricultural businesses is information. Operating in a rapidly changing, unpredictable external environment, agricultural companies in Ukraine

require proper information support. An important aspect of information support for the ecological interests of agricultural companies is consumer awareness of the ecological aspects of agricultural production. The successful implementation of environmental policies largely depends on information support, which can be considered as a set of information flows of different nature that accumulates, generalizes, and systematizes in accounting and is intended for making managerial decisions in the field of ecological activities.

5) The traditional accounting system in Ukraine does not include the organization of collection, accounting, and processing of information necessary for the company's management to make informed managerial decisions regarding the environmental activity of the enterprise and its impact on the environment. According to the regulatory framework for defining accounting and managerial accounting in Ukraine, it is appropriate to use the information accumulated, summarized, and systematized in accounting for management purposes, to report on the principles of sustainable development regarding the reflection of the environmental impact of each enterprise on the environment and climate.

6) In addition to renewable energy assets that are characteristic of the agricultural business sector (humus, grains, livestock, manure, feed), which are considered bioenergy capital that reproduces dynamic soil fertility through biological transformation, it is advisable for agricultural companies to generate information flows in crop production - on the application of mineral fertilizers, the use of pesticides and chemical plant protection products; in animal husbandry - on the use of medicines and biopreparations; on environmentally friendly production of agricultural products; on the costs of environmental activities of the enterprise to generate relevant management reports on the impact on the environment to reduce and prevent environmental risks.

The proposed recommendations on information support for the environmental management of agricultural enterprises can be an instrument for further research on the problem of managing the effectiveness of environmental processes in Ukrainian agricultural companies.

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