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FOOD SECURITY MANAGEMENT IN A DYNAMIC BUSINESS ENVIRONMENT

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Annotation

Introduction. *The article presents a study of the current food security management system at the macro and micro levels in a dynamic business environment. Monographic, economic-statistical and abstract-logical scientific methods of economic research are used.*

The purpose of this article is a comprehensive study of the food security management system at the macro and micro levels in a dynamic business environment.

Results. *The main actual tasks of the economic security system of the enterprise are determined. The basic principles that increase the efficiency of the food security system (system, timeliness, continuity, planning) are presented. The modern technique of the food security system is determined. Among the main trends in the development of the food security system are fluctuations in the share of agriculture in GDP, a decrease in the share of those employed in agriculture from the total number of people employed in the country's economy and an increase in the index of agricultural production. These main factors may indicate a significant increase in labor productivity in agriculture and the instability of the grain market in the world. The scientific novelty in this article is the systematization of a set of modern administrative, insurance, legal, economic, security, regime, judicial and other measures to protect against unlawful encroachment, minimize or avoid possible losses.*

Conclusions. *The offered basic personnel have practical value in the presented scientific research;*

information-analytical; economic; legal; technical and technological; resource activities carried out in the process of food security management at the macro and micro levels in a dynamic business environment. Prospects for further research in this area should be directed to the integrated system of food safety diagnostics as a set of interrelated organizational and legal measures carried out by special bodies, services, units aimed at protecting the important interests of individuals, organizations, regions and the state from illegal actions by real and / or potential individuals and / or legal entities that may lead to losses from food security breaches at the macro and micro levels in a dynamic business environment.

Key words: *management, food security, development, strategy, diagnostic system, business environment.*

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**УПРАВЛІННЯ ПРОДОВОЛЬЧОЮ БЕЗПЕКОЮ В УМОВАХ ДИНАМІЧНОГО БІЗНЕС-
СЕРЕДОВИЩА**

Анотація

Вступ. В статті представлено дослідження актуальної системи управління продовольчою безпекою на макро- та мікрорівнях в умовах динамічного бізнес-середовища. Використано монографічний, економіко-статистичний та абстрактно-логічний наукові методи економічних досліджень.

Метою даної статті є комплексне дослідження системи управління продовольчою безпекою на макро- та мікрорівнях в динамічному бізнес-середовищі.

Результати. Визначено основні актуальні завдання системи економічної безпеки підприємства. Представлені основні принципи, що підвищують ефективність системи продовольчої безпеки (системність, своєчасність, безперервність, плановість). Визначено сучасну методику системи забезпечення продовольчої безпеки. Серед основних тенденцій розвитку системи продовольчої безпеки зазначено коливання питомої ваги сільського господарства у ВВП, зниження питомої ваги зайнятих у сільському господарстві від загальної кількості зайнятих у економіці країни та ріст індексу сільськогосподарського виробництва. Дані основні фактори можуть свідчити щодо суттєвого збільшення продуктивності праці в сільському господарстві та нестабільності функціонування ринку зернових культур в світі. Наукову новизну в даній статті представляє систематизація комплексу сучасних управлінських, страхових, правових, економічних, охоронних, режимних, судово-правових та інших заходів із захисту від незаконних посягань, мінімізації або уникнення можливих втрат.

Висновки. Практичну значущість в представленому науковому дослідженні мають пропонувані основні кадрові; інформаційно-аналітичні; економічні; правові; техніко-технологічні; ресурсні заходи, що здійснюються в процесі управління продовольчою безпекою на макро- та мікрорівнях в умовах динамічного бізнес-середовища. Перспективи подальших досліджень в даному напрямку слід спрямувати на інтегральну систему діагностики продовольчої безпеки як комплексу взаємозв'язаних заходів організаційно-правового характеру, які здійснюються спеціальними органами, службами, підрозділами, спрямованих на захист важливих інтересів особи, організацій, регіонів і держави від протиправних дій з боку реальних та/або потенційних фізичних та/або юридичних осіб, які можуть призвести до втрат від порушення продовольчої безпеки на макро- та мікрорівнях в умовах динамічного бізнес-середовища.

Ключові слова: управління, продовольча безпека, розвиток, стратегія, система діагностики, бізнес-середовище.

JEL classification: Q18

Introduction

The food security system is implemented through the provision of pre-planned strategic goals based on the use of internal environmental factors and reserves with the use of effective interaction with environmental stakeholders. Adverse environmental factors include: illegal activities of various structures, unreliable business partners, as well as dishonest actions of administrative bodies endowed with power. Implicit dangers and factors are caused by acts of passivity (including intentional and unintentional), discrediting reputation, problems with logistics, conflicts with competitors, and so on. The analysis of the above threats shows that reliable food security can be only with a comprehensive and systematic approach to its organization, which actualizes the research topic.

Food security management in a dynamic business environment has been studied by a wide range of scientists, among whom the greatest contribution was made by I. Artimonova, T. Gurgula, M. Zos-Kior, E. Kirilyuk, S. Kornovenko, O. Svatyuk, G. Shary, etc. At the same time, given the rather extensive scientific field of this issue, the consideration of food safety management under market conditions requires a continuous review. The food security system is defined as a set of special structures, tools and measures that ensure the security of business from explicit and implicit factors. In this case, in addition to sufficiency, accessibility and independence, the system can be characterized by a set of management, insurance, legal, economic, security, judicial and other actions against unlawful encroachment, minimization or avoidance of damage [5; 9].

Taking into account the full range of possible threats, all resources involved in economic activities are subject to protection. Areas of protection [5; 8; 11]: physical protection of food infrastructure facilities; protection of intangible assets and intellectual property, protection of information networks, software; legal security; safety, security of personnel, security of business relations.

The main tasks of the enterprise economic security are the protection of the rights and interests of the state; collection, analysis, evaluation of security data; analysis of partners and competitors; finding, preventing and terminating possible illegal activities or inaction of interested actors; preservation of material values; attracting the necessary information for the development of optimal management decisions on the development of strategy and tactics, etc.

Basic principles that increase the efficiency of the food security system are as follows [5; 7; 11]: systematic – the development of such a food security system that can provide protection from dangers and threats, unforeseen circumstances; the food security program should be the basis for the integrated use of forces and means; timeliness – detection of various destructive elements, taking measures to prevent harmful effects; continuity – the food security system

must be built on an ongoing basis; planning – systematization in the functioning of the food security system.

Among others, the following safety criteria are distinguished:

- food independence – the criterion of adequacy of food consumption (energy value of the daily per capita diet should be not less than 2.5 thousand kcal). Indicators of the country's food independence are the share of food imports in total food consumption. A similar importance belongs to the share of domestic products in providing the agricultural industries with basic production resources;

- the criterion of adequacy of food consumption is the ratio of the actual level of per capita consumption of basic food products to scientifically sound (medically recommended) norms of healthy nutrition;

- the criterion of affordability of food consumption (expenditures for food needs should not exceed 60% of the family budget). Indicators of the criterion of affordability of food consumption are the ratio of the cost of the annual shower set of food products, which corresponds to scientifically sound (medically recommended) norms of healthy eating, to the annual shower income [7].

The physical availability of food products is also important, which is characterized by the satisfaction in the necessary assortment on the territory of the state and its respective conditions; followed by economic availability of food products, which is determined by the ability of the population, regardless of their residence and social status, to consume food; safety of consumer goods for consumers, which meets the effective functioning mechanism of production and sale prevention of low-quality satisfactory goods.

Some scientists consider it necessary when calculating the level of food security to calculate the stocks of food in relation to the possible volume of consumption in the market; dynamics of grain production in the main countries-impotepax of grain (India, China, etc.); the share of final stocks of grain crops in the total volume of their production; the dynamics of grain production in countries with a shortage of food products, which arose as a result of low incomes; the volume of deliveries of the five main world exporters of wheat and corn to the needs of importers; dynamics of export prices for basic types of grain, etc. [6].

Actions to ensure food security have uniform provisions, which are set out in a comprehensive program and strategic plans in areas and subtypes of security.

The purpose and objectives of the article

The purpose of the article is to study the food security management system in a dynamic business environment.

Presenting main material

The methodology of the food security system has the following stages [1; 3; 7; 11]: the specifics of business, niche analysis; study of food security threats and data on crisis situations, causes and ways to overcome them; audit of existing food security tools and their compliance with the identified threats; creation of a new food security system and a plan to eliminate the shortcomings obtained during the audit; development of proposals to improve the food security system, calculation of all types of necessary resources; development of a monthly expenses budget for the operation of the food security system; management approval of the new system model and its financing; creation of a new food security system; determining the effectiveness of the existing system, and its further improvement.

To provide an example, we present data on the largest exporters of grain crops in the world (table 1) by the share of agriculture in GDP, the share of those employed in agriculture from the total number of people employed in the country's economy and the index of agricultural production. Ukraine leads in the growth rate of the agricultural production index in 2020/2010. Among the main trends are fluctuations in the share of agriculture in GDP, a decrease in the share of people employed in agriculture from the total number of people

employed in the country's economy and an increase in the index of agricultural production. These factors may indicate a significant increase in labor productivity in agriculture and the instability of the grain market in the world.

Table 1. The Largest Exporters of Cereals in the World

Countries	The share of agriculture in GDP, %			The share of people employed in agriculture from the total number of people employed in the economy, %			Index of agricultural production (2004-2006 = 100%), %			The growth rate of the index of agricultural production in 2020/2010, %
	2010 y.	2015 y.	2020 y.	2010 y.	2015 y.	2020 y.	2010 y.	2015 y.	2020 y.	
EU	1,6	1,5	1,5	2,4	2,1	1,8	102	106	103	1
Australia	2,4	2,6	2,8	3,2	2,6	2,5	95	108	104	9
Canada	1,6	2,0	2,0	1,8	1,6	1,4	103	110	113	10
RSA	2,6	2,3	2,4	4,9	5,6	5,0	117	122	117	0
USA	1,0	1,0	0,8	1,4	1,4	1,3	106	112	117	11
Argentina	8,5	6,1	7,2	1,3	0,3	0,1	112	131	131	19
Brazil	4,8	5,0	5,1	12,6	10,2	9,1	122	139	136	14
Kazakhstan	4,7	5,0	4,7	28,3	18,0	15,4	106	131	139	33
Russia	3,8	4,3	3,5	7,7	6,7	5,6	99	131	139	40
Ukraine	8,4	14,2	12,0	20,3	15,3	14,1	107	135	153	46

Source: compiled by the author on the basis of materials [4]

The food security system should be preventive in nature, and the criteria for assessing the reliability and effectiveness are [2; 6; 9]:

ensuring stable operation of the industry, preservation and increase of finances and material values;

prevention of crises, various emergencies that are related to the actions of external or internal adversaries.

Food security difficulties also arise for any organization not only during a crisis, but also when working in a stable economic environment. Thus, the complex of the solved target tasks has essential difference.

The problems of many organizations lie in the lack of demand for products in markets, customs and currency barriers; in the inability to compete; unavailability of investment resources, etc. In this situation, it is necessary to develop a food security strategy, which should include [9]:

characteristics of threats (external and internal);

formulation and monitoring of factors that strengthen or destroy the stability of its socio-economic situation in the short and medium term;

development of economic policy, covering the accounting system, which affects the direction of action to implement the strategy.

The implementation of the food security strategy takes place in [6; 8; 10]:

organization of the coordination center;

formation and approval of strategy methodological support;

resource revenue and targeted use of resources.

The food security system is an architecture of interacting and synergistically related measures of managerial, administrative nature, carried out by relevant structures, organizations, business elements aimed at protecting the most important interests of an individual, organization, region or other market participants from unfair actions of other market stakeholders causing destructive consequences in the future.

The main activities carried out in the process of food security management are as follows [5; 7; 11]:

personnel – to eliminate risks;

information-analytical – are carried out to make effective management decisions related to strategy and tactics, to take preventive measures or to prevent threats to food security;

economic – ensuring a high level of competitiveness on the basis of effective management and marketing;

legal – monitoring of new legal acts on food security, active application of laws, by-laws in the struggle for the interests of business entities;

technical and technological – achieving the level of development of production capacity in the agri-food sector, innovation policy, timely renewal of fixed assets;

resource – providing resources: economic, material, labor.

When assessing the level of food security, the generally accepted line of approaches is used, i.e. the protective approach; sustainable approach; evolutionary approach; process approach; competitive approach; harmonization approach.

Due to the fact that food security is a complex multifactorial category, all approaches should be considered in combination. Accordingly, food security should be understood as a comprehensive description of the results for the state, obtained through the efficient use of its resources, aimed at achieving goals and protection from threats to the external and internal environment.

The formation of a food security system, like any system, is based on principles. At the same time, there is no consensus among scientists on their formation and application, which determines the relevance of systematization of food security principles.

Modern scientists consider the "security system" and the "food security system" from the viewpoint of different hierarchical levels, from different positions. Functional components of food security are economic, intellectual and personnel, technical-technological, political-legal, informational, ecological, power.

Principles of the food security system are priority of preventive measures, legality, integrated use of forces and means, coordination and interaction, competence, economic feasibility, planned basis of activity, system.

The concept of safe operation should include the formation of the management system foundations, which is aimed to create the conditions for sustainable operation and regular satisfaction of security needs. This concept operates with its own concepts, such as "threat", "risk", "crisis", "food security strategy".

According to system theory, in each system there are thresholds of sensitivity, vulnerability and decay.

To ensure safe operation, the system must be constantly waiting for signals from the external and / or internal environment, which "trigger" the mechanism of negative or positive changes and adequate response to them. Accordingly, there are basics of diagnosing the environment (external and internal), namely:

1) The assessment of environmental factors should be carried out in order to inform about opportunities and threats. The results of the analysis are used to develop measures to achieve and maintain a sufficient level of food security.

2) To obtain information about the state and trends of internal and external factors in the course of substantiation of strategic directions, a method of comprehensive analysis is required, which is characterized by the following sections:

threat assessment;

assessment of the main factors of threats from the internal environment;

regular analysis of the state and development of the external environment;

analysis and assessment of world development trends;

formulation of the functioning zone in the country;

predicting the impact of changes in environmental factors on the country.

The main element of food security is diagnostics, which in this context pursues the following goals [8]:

identification of factors of food security violation;

formulation of the area of operation;

forecast of the area of operation in the future with further determination of measures to neutralize negative trends and calculation of costs for the application of these measures; analysis of the state of competing countries and partner countries.

Achieving and maintaining a stable level of food security is impossible without the application in the development and implementation of any projects (plans, strategies) on the probability of failure to achieve certain indicators, i.e. the level of risk. Almost no modern methods of risk and environmental research are comprehensive and they are not aimed at systematic reporting of adverse or favorable trends in the internal and external environments.

The method of scanning the internal and external environments is essentially a more comprehensive method of food security risk analysis. It allows assessing the features of the internal and external environment, namely, changes are analyzed by constructing "chains of phenomena".

Thus, the creation of an organizational and economic mechanism for maintaining the appropriate level of food security requires regular systematic diagnosis of the quality of existing food potential in order to eliminate the possibility of security breaches and crises, as well as to enable the country and its regions to withstand external environmental factors.

The important condition for maintaining food security is the presence of an organizational structure for managing this system, which is able to adapt to an unstable external environment, as well as a mechanism for applying favorable global and regional trends that are emerging. Effectively, the functions of achieving and maintaining food security are implemented through the separation in the organizational management structure of the organizational unit, namely the food security service.

Conclusions and prospects for further explorations

Thus, the architectonics of food security should be understood as a synergistic set of elements, systems, measures that create security from implicit and explicit threats in a turbulent environment. Such architecture should be formed on the basis of interrelated administrative, organizational, regulatory, financial, managerial, regime measures of a regulatory nature to protect against dishonest actions aimed at eliminating or at least minimizing losses in the course of operating activities. Methods of food safety diagnostics are a pre-developed procedure of interconnected methods of organizational, economic and regulatory nature, which are planned by authorized bodies, functional units, aimed at ensuring and guaranteeing the important interests of business entities, organizations, regions and the state from unfair influence by individual market stakeholders, which may result in financial or reputational losses.

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