
Food Security Areas

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Abstract. *Food security is one of the most pressing issues of the present because of a number of local and global problems. The war in Ukraine, world hunger, climate change and the deterioration of food quality are all factors that negatively affect the current state of global and local food security. It is therefore important to develop effective ways of ensuring food security. The purpose of this research was to identify the main contemporary directions for ensuring food security. The research was conducted on the basis of modern scientific research, journalistic materials, legislative and regulatory acts dedicated to food security issues. The main research methods included analysis, synthesis and generalisation of the obtained information. Initially, the research analysed the characteristics of such directions of ensuring food security as national plans, strategies and projects. It was found out that Ukraine does not have a proper legal regulation of food security, there are no projects and programmes developed by the state; the food security strategy has been created, but it also needs to be improved. The peculiarities of the state policy of Japan and the United States in the field of food security are analysed. The characteristics of such a policy, such as the creation of an effective stock management system, which is defined as one of the components of the state food security index, are examined. On the basis of the analysis of theoretical sources the main directions of creation of the stock management system are determined. The current problems of the stock management system in Ukraine will be examined. To clarify the characteristics of modern international cooperation in the field of food security. The role of FAO in ensuring food security is defined. The peculiarities of international cooperation in the EU in this area are outlined and the features of international cooperation in the context of Ukraine are determined. It is established that programmes, strategies and projects define the priority directions of state policy, and their practical implementation is the most important stage. In this connection, it is emphasised that all states should direct their policies towards solving all existing problems related to food security, which in turn will contribute to ensuring food security at the national and global levels. The results obtained point to the need to refine existing approaches to ensuring food security.*

Keywords: *food security, ensuring food security, national strategies, stock management, international cooperation.*

JEL Classification: *Q18, F01*

1 Introduction

In recent years, a negative situation has been observed with regard to ensuring food security. At present, the problem of world hunger has become increasingly relevant, as emphasised by researchers, public and political figures. In addition, the global climate is changing, leading to droughts, floods and adverse climatic events that adversely affect food reserves. The war in Ukraine also has a negative impact on food security, both locally and globally. It has disrupted global food supply chains to various countries, including, in particular, African countries, where the problem of hunger is most acute; it has destroyed agricultural land and grain stocks, which are strategically important for food security. As a result, food security in Ukraine and globally is under threat, and the only way to achieve it is to take all necessary measures to ensure it.

On the whole, ensuring food security today is one of the key directions of modern policy of many countries of the world, including Ukraine. Moreover, ensuring food security is relevant in the context of international cooperation, which makes it possible to solve existing problems related to food security and thereby improve the quality of life in society. Against this background, the issue of identifying key directions for ensuring food security at both national and international levels is becoming increasingly important for researchers today.

Different Ukrainian researchers such as S. Kvasha (Kvasha, 2022), V. Franchuk, M. Kopytko, and S. Melnyk (Franchuk, Kopytko, & Melnyk, 2022), K. Pylypenko (Pylypenko, 2016), V. Antoshchenkova (Antoshchenkova, 2023), O. Zoria, O. Ovcharuk, D. Mauer (Zoria, Ovcharuk, & Mauer, 2021), and others have addressed the issue of directions for ensuring food security. All this indicates the particular relevance of this issue at the present stage.

Therefore, the purpose of this research is to determine the main modern directions for ensuring food security, which will be achieved through a comprehensive analysis of this issue based on contemporary scientific sources and regulatory documents.

The main objectives of the research are to conduct an analysis of existing national programmes, projects and strategies related to ensuring food security; to analyse the characteristics of implementing effective stock management systems; and to identify relevant directions for international cooperation in this field.

The research is based on the analysis of contemporary scientific sources, national and

international documents related to the issue of ensuring food security, as well as the analysis of other credible and relevant sources. This approach makes it possible to identify the main directions for ensuring food security at the current stage.

2 Presentation of the main material

1. National Food Security Programmes, Projects and Strategies

Today, the issue of ensuring food security is of particular importance at the national level, as the provision of an adequate quantity of quality food for every citizen is a fundamental priority of the state's domestic policy. Accordingly, in order to fulfil all the main tasks of state policy in this context, it is necessary to create national programmes, projects and strategies for ensuring food security.

First of all, it is necessary to outline the legal framework for food security. Currently, Ukraine does not have a developed law regulating food security at the state level. At the same time, after the start of the full-scale invasion of Ukraine, the Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine on Creating Conditions for Ensuring Food Security under Martial Law" was introduced, which regulates the issue of food security during war and defines the main priorities of state policy in this context. Primarily, this law concerns agriculture and provides for the immediate use of available agricultural land for food production, which means that in some cases the interests of the landowner and/or land user may not be taken into account. However, there is no law regulating food security in Ukraine in times of peace, which is particularly negative given the relevance of this issue at the national and global level (The Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine on Creating Conditions for Ensuring Food Security under Martial Law", 2022).

In parallel, Ukraine has developed a strategy for food security until 2030 (Food Security Strategy for the period up to 2030, 2021). It should be noted that this strategy defines the goals, objectives and main directions of the state socio-economic policy to ensure the country's food security as a component of the state's national security. According to this, all citizens should have equal access to quality and safe food in sufficient quantities, and it is also planned to create conditions for the state's food independence, and it is also planned to create conditions for the state's food independence. The main priorities of state policy in this case include the following:

– Ensuring that all citizens have access to safe food in sufficient quantities throughout the year.

- Ensuring sustainable development of agriculture.
- Achievement of food independence.
- Reduced morbidity and mortality that may be related to nutrition and body weight.

However, Ukraine currently lacks government programmes and projects aimed at ensuring food security. There is also insufficient government support for citizens in times of war, including for agricultural entrepreneurs. Instead, there are only programmes developed by non-governmental organisations. All this creates the need to develop effective programmes to ensure food security and to solve existing problems in this context.

At the same time, developed countries have established national programmes, strategies and projects aimed at ensuring food security. In particular, Japan introduced the Food Security Reinforcement Policy Framework in 2022, which aims to reduce the country's dependence on imports and stimulate domestic food production (Foreign Agricultural Service, 2022). An example of a food security strategy is the United States, which has developed a food security strategy for 2022–2026 that includes adaptation to the effects of climate change, solving problems related to COVID-19, integrating conflict mitigation measures, and so on. This strategy also focuses on promoting global food security (USAID, 2021).

In general, the creation of programmes, strategies and projects to ensure food security is one of the most effective ways to achieve food security. However, they only define the priorities and directions of the state policy in this context, so their practical implementation is the most important, so all states should direct their policies to solve all existing problems related to food security, which will contribute to its provision at the national and global levels.

2. Implementation of Effective Stock Management Systems as a Way to Ensure Food Security

One of the most important ways to ensure food security is to introduce effective stock management systems. V. Antoshchenkova emphasises the importance of creating an effective stock management system, stressing that effective stock management makes it possible to reduce the negative impact on the state's food security due to certain negative external factors, both natural and anthropogenic (Antoshchenkova, 2023).

It should be emphasised that one of the indicators of the state's food security is the availability of sufficient grain reserves. The adequacy of grain reserves is one of the components of the state

food security index. Therefore, it is strategically important for states to create an effective system of grain reserves management, which will enable them to increase their volume and ensure a consistently high level of reserves, which will be sufficient for the citizens of the state. All this will ensure the country's food security (Hrynshyn, 2021).

In this case, one of the areas of stock management can be the creation of reserve stocks, which will make it possible to stabilise the food supply of the state. The importance of this approach is emphasised by O. Zoria, O. Ovcharuk and D. Mauer. According to them, the creation of strategic reserves is a part of the model of ensuring the food security of the country within the framework of economic security. According to the researchers, another important way to achieve an effective stock management system is to stimulate investment and innovation development in agricultural production and reduce the negative impact of its systemic indicators. For this purpose, stock management should be carried out by both the state and private entrepreneurs, who should constantly improve their activities, introduce innovations and initiate investments, including international ones (Zoria, Ovcharuk & Mauer, 2021).

Furthermore, when considering the specifics of inventory management systems in agricultural enterprises, it's important to emphasize that the primary systems include the fixed order quantity system, the fixed order interval system, the maximum-minimum inventory control system, and the constrained supply chain replenishment system. These systems are currently used in most companies. However, in addition to their many advantages, they have certain disadvantages that reduce their effectiveness. One way to improve the existing stocks management system in agricultural enterprises, as suggested by researchers, is to apply mathematical methods to the planning of stock volumes. Accordingly, these methods can be used to improve stocks management systems at the state level, which will ensure the state's food security (Potapova & Holovko, 2017).

At the same time, stock management is also taking place at the state level. To this end, stock management strategies are being developed and effective management methods are being implemented. For example, China and India, the world's two most populous countries, are implementing stock management to address the challenge of food security in these countries. The combination of stock management and trade is used for effective stock management, which has a positive impact on a country's food security (Dev, 2015).

Overall, it should be emphasised that the establishment of an effective stock management system has not been fully implemented in Ukraine, which has a negative impact on the food security situation. This is particularly evident during times of war, when a significant amount of stocks are stored in special grain storage facilities in the country's sea and river ports. As a result, rocket and drone attacks destroy a significant portion of the stocks, making it impossible to transport them to other countries. This also has a negative impact on the food security of exporting countries. In view of this, there is a current need in Ukraine to create a new stock management system, which includes improving existing approaches to storage and logistics. All this will ensure better access to food and protect it from destruction (Katana, 2023).

With this in mind, the stock management system is currently one of the components of ensuring food security, so it is crucial to improve existing approaches to stock management.

3. International Cooperation in the Field of Food Security

International Cooperation is One of the Ways to Achieve Food Security at the Present Stage.

One of the ways of achieving food security at the present stage is international cooperation. First of all, international cooperation in this case is carried out through the establishment of the international organisation FAO, which deals with issues of regulatory and legal regulation of food security, develops guidelines for the protection of the right to food and the right to adequate food (Volchenko, 2022), develops methods for determining the food security index of the state, provides consultations on food safety issues, provides legal, informational and diplomatic support. In addition, an important direction of international cooperation within the FAO is the development of effective ways to ensure food security on a global scale. Thus, one of the important elements in this case, according to the FAO report, is to "consolidate the efforts of the international community to strengthen food security, including the smooth functioning of global agricultural production and the resilience of food supply chains" (FAO, 2021). In general, the FAO can be seen as one of the main international organisations whose activities are aimed at ensuring both global and local food security.

Another aspect of international cooperation to ensure food security is the creation of food security initiatives within other international organisations. An example of this is the EU. Within this international organisation, food security is realised through supranational regulation of the

issue. Firstly, the EU uses various mechanisms to protect domestic markets and domestic production through supranational price regulation. The EU also provides financial support to Member States that need to improve their food security. A common food market is also being created to provide affordable access to quality food in all Member States. At the same time, an important aspect of ensuring food security in the EU is an effective system of support for food production. Therefore, in the context of the EU, the achievement of food security is ensured by an effective supranational policy within the framework of this organisation (Mostova, 2019).

Food security at the international level is also achieved through cooperation between countries. This includes, for example, cooperation between countries within ASEAN, cooperation between countries within CELAC and similar regional partnerships. In addition, one of the ways to ensure global food security is through the participation of Ukraine, which serves as a guarantor of food security for many countries in the world through grain exports, including ASEAN member countries (Embassy of Ukraine in the Republic of Turkey, 2023). In the context of Ukraine, it is worth noting the development of the Grain Initiative, which envisages the creation of a grain corridor for grain exports from Ukraine via its Black Sea ports. Currently, the Black Sea trade corridor is the main route for grain exports from Ukraine, which ensures food security at the global level, but it is under threat during the war with Russia, so international cooperation in this case is aimed at creating a safe trade route. All this makes it possible to safely export grain from Ukraine, which is particularly important in the context of achieving food security (Ukrinform, 2023).

3 Conclusions

Thus, the following conclusions can be drawn from the study. Currently, ensuring food security is one of the most important policy areas for each country. The main areas of food security are national programmes, projects and strategies, the creation of effective stock management systems, and international cooperation. Food security remains insufficient in many parts of the world. In Ukraine, this is due to inadequate legislative regulation and lack of government support. Globally, developing countries face significant challenges. Therefore, it is crucial to focus on improving existing measures to ensure food security. The directions outlined in the study should be prioritised by all countries and the international community. This will enable effective and sustainable food security.

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