

## Financial Stability: From Preservation to Protection

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**Abstract:** Sustainable economic and social development is inextricably linked to a country's food security. This issue takes on particular significance in the context of global crises, geopolitical instability, and environmental challenges. Disruptions in logistics, volatile prices on global food markets, and the depletion of natural resources all require a comprehensive approach and strategic decisions at both the state and community levels. The aim of the study is to conduct an in-depth analysis of the current state of economic and food security based on analytical data, identifying key issues and developing proven strategic solutions to address them in the long term. The study focuses on the following areas: enhancing management efficiency; accelerating the transfer of innovative technologies for agricultural development; expanding and intensifying international cooperation to increase security; ensuring socio-economic growth. The use of modern strategic tools and benchmarking methods allows us to identify the basic threats and challenges in the global world. The United Nations Convention to Combat Desertification allows for the analysis of the Global Food Security Index in 2022, which is directly related to countries with different socio-economic statuses. Gross domestic product and key macroeconomic indicators, such as international trade, foreign direct investment, and political stability, are interrelated, as are defense expenditures. Regression analysis has proven this with an approximation equation. The paper pays special attention to the role of the state and its policy on the rapid real implementation of innovations in the agricultural sector. The results of the study can be used to develop strategies capable of ensuring the country's economic development and changing the level of food security of the state. The results of the study provide a basis for the implementation and practical application of a flexible strategy capable of ensuring stable economic development and food security against the backdrop of contemporary challenges and dynamic global changes.

**Keywords:** economy, food security, innovation, agricultural sector, agriculture, stability.

## Introduction

In today's economic climate, the economic and food security of countries and local communities is becoming increasingly important. Economic crises, wars, pandemics, and conflicts, as well as global climate change and geopolitical contexts, pose threats to the sustainable development of countries in the international community. The reliability of economic and food systems determines the conditions for maintaining and achieving stability for the well-being of the population and economic growth.

The cost-of-living crisis has now affected a large part of the world's population. Russia's full-scale invasion of Ukraine has significantly reduced grain exports, catalysing a decline in the purchasing power of the population and increasing malnutrition among vulnerable groups. Another global problem is the climate crisis. It has changed the vectors of movement of people from one group to another [1, 2].

Economic and food security are fundamental preventive factors for social and migration unrest, as well as political crises, according to global experience [3].

Historical events of the past suggest that shortages of basic goods and food can be catalysts for social conflicts, revolutions, and other negative events. It is precisely food security measures that can reduce poverty and support peace [4].

National economies can only develop and change with the help of economic security. Attracting investment in security helps create additional jobs and improve people's living standards. At the same time, the reliability of the food security system requires measures that have a targeted effect, stimulate innovation in agriculture, and support the agricultural sector [5].

Every day, more than 800 million people worldwide are undernourished, according to UN data [6]. For this reason, ensuring global food security is a key factor in achieving sustainable development goals, in particular through "Ending hunger" and "Ending poverty" [7].

Investing in sustainable food systems and providing targeted support to farms and processing enterprises with effective mechanisms to reduce the dependence of vulnerable countries on external humanitarian aid [8].

In a global sense, economic security determines the stability of world financial markets, promotes bilateral cooperation between countries, and improves trade relations between countries [9, 10].

The economy of any country can be destabilized by various factors, including constant crises (economic, currency, food), high levels of interdependence, etc. By strengthening food security and the country's economy, governments have a unique opportunity to improve sustainable management of the natural environment and slow down land degradation, as it is overexploitation that contributes to degradation and resource scarcity, posing an existential threat to future generations. Investing in strategic areas, environmentally friendly technologies, and biodiversity conservation processes forces agriculture to adapt to climate change, ensuring the long-term sustainability of the global food system [11].

Food security and economic development of countries depend on high-quality institutional management of property rights and other tangible and intangible resources. Decentralization is a key tool for the development of assets, rent relations, fiscalization mechanisms, market valuation, and capitalization of recorded data at both the national and regional levels [12].

However, large-scale challenges, such as natural disasters, pandemics, and other events, require clearly targeted action on the international stage [2].

International organizations play a key role in ensuring global food and economic security, in particular: the United Nations (further – UN); the International Monetary Fund (further – IMF); the World Bank (further – WB); the World Trade Organization (further – WTO) and others. The coordinated and targeted efforts of these institutions enable them to respond quickly to problems and develop flexible strategies to overcome systemic threats [13].

The relevance of this study is determined by the need to change the country's public policy, taking into account new challenges and the need to find effective mechanisms to ensure economic and food security, as well as to develop sustainable development strategies.

## Literature review

A scientific approach to the analysis of theoretical and practical aspects forms the basis for the development of sound recommendations for improving economic stability and the ability of countries to withstand crises in the future.

The goal is to analyze current challenges and threats to the economy and food security, taking into account the context of global changes, and, based on the information obtained, develop recommendations for avoiding them and strengthening protection.

In the current environment, the issue of economic and food security is becoming particularly important. Most current studies focus on identifying various factors that not only modify the problem but also contribute to the development of strategies for implementing measures at both the national and regional levels [14, 15].

Solving the problem of hunger and all forms of malnutrition and food insecurity by 2030 remains an unattainable goal. Unfortunately, without the participation of the international community, it is impossible to resolve this strategically important issue [16].

After the pandemic, which affected all continents, the recovery process was characterized by a high level of inequality between countries and beyond their borders.

Based on available sources, we can say that food security can be defined as a socio-economic and environmental condition in which the entire population is guaranteed access to safe and high-quality food in the quantities necessary for life [17, 18]. Both external and internal factors can significantly reduce the level of food security. This poses a threat to the world's population. Despite significant progress on a global scale, the world is still far from creating a sustainable food system.

Adverse weather conditions significantly increase production risks, adding to the burden on agricultural producers and processors. Climate change poses a serious threat to food security for both rural and urban communities [19]. Destabilization due to the protracted war in Ukraine is changing food, energy, and other markets, creating additional challenges and crises for the global economy [18]. The impact of the global economic crisis on the level of food security in Ukraine today also has a special functional significance, given the structure of economic and national security [20].

When analyzing the key changes that have taken place in Ukraine during the war, it is important to note the need to provide food to the population in frontline and remote cities and regions [21]. Experts are still assessing the impact of the war on the agricultural sector and export potential to markets.

Ukraine's strategic role in ensuring global food security has been identified, given its status as one of the world's leading exporters of agricultural products [22, 23].

A review of the scientific literature revealed a gap between economic growth (further – EG) and food security (further – FS). Studies of 76.9% of the works examined confirm the link, while 19.2% believe the opposite. This is what complicates the results. Most studies are limited to the national level, which indicates the need to further study the variable of poverty, which correlates with hunger and poverty due to low food security [24].

In the scientific literature on the subject, there is a significant gap between the nature of the relationship between economic growth and food security. Most studies are limited to only one indicator of food security: accessibility. A comprehensive methodological approach was used to comprehensively study aspects of economic and food security.

## Results

The essence of the phenomena and scientific concepts were systematized in the analysis process, and, based on scientific analytical materials, the main threats and challenges that could shape the assessment of the dynamics of the average global food security index before the war among low-income countries were identified. Comparing them with high-income countries, we came to the understanding that global problems have their own specifics in the context of economic development.

Regression analysis was used to determine the relationship between the effective gross domestic product indicator and a number of factor indicators, such as foreign investment, inflation indices, political stability, defense spending, etc.

Using the generalization method, it was possible to identify the impact of demographic change factors and assess social inequalities, which also have a significant impact on the food and economic stability of states. In this context, it is worth highlighting the main strategic directions of state policy and international cooperation that guarantee

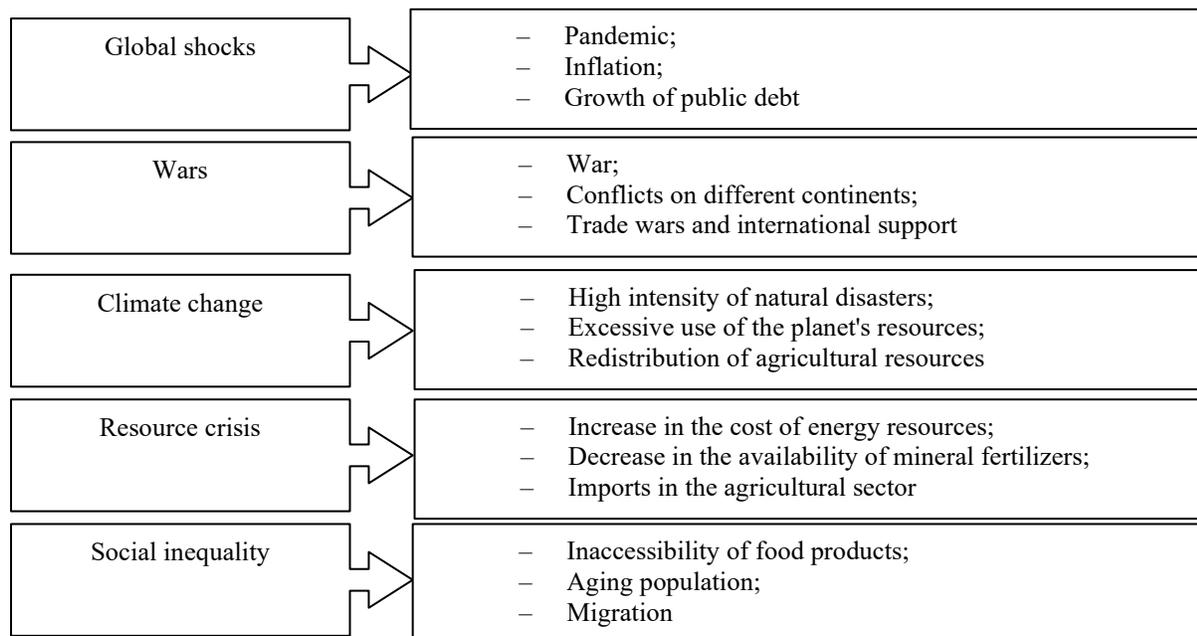
economic development and access not only to policies but also to international cooperation in improving food security, which is inextricably linked to social stability and environmental sustainability. Achieving this goal on a global scale contributes to the development of partnerships and coordinated actions by governments and international organizations to promote innovative approaches. This is the fastest way to achieve fair distribution and sustainability of production processes, contributing to the prosperity of a sustainable world [25].

The main factor that allows households to rapidly increase their spending on quality food and health improvement is the growth of real incomes. This process is particularly important for countries with low incomes that spend a large proportion of their income on food [26, 27].

Active economic development of society is impossible without investment in the agricultural sector, infrastructure, and nanotechnology, which can increase production efficiency and ensure the stability of food markets. Reducing global inequality and improving access to quality food products creates a sustainable supply system. A positive correlation between food security, education levels, and hunger levels contributes to the level of development of society.

Another important factor that affects food security in developing countries is remittances to households. Families that receive funds from migrant workers have more opportunities than those who do not have such resources. Subsidy and food programs remain an important tool for supporting vulnerable populations. This is especially true given the military aggression and lack of access to food in a significant part of Ukraine's population centers. Today, the state supports the socio-economic development of territories and citizens by promoting improvements in nutrition, education, and health care in various regions with low income levels [28].

The growing intensity of global challenges, including economic downturns, armed conflicts, climate change, and pandemics, objectively requires a comprehensive, multifaceted approach and guarantees of sustainable development to ensure the availability of vital resources (Figure 1).

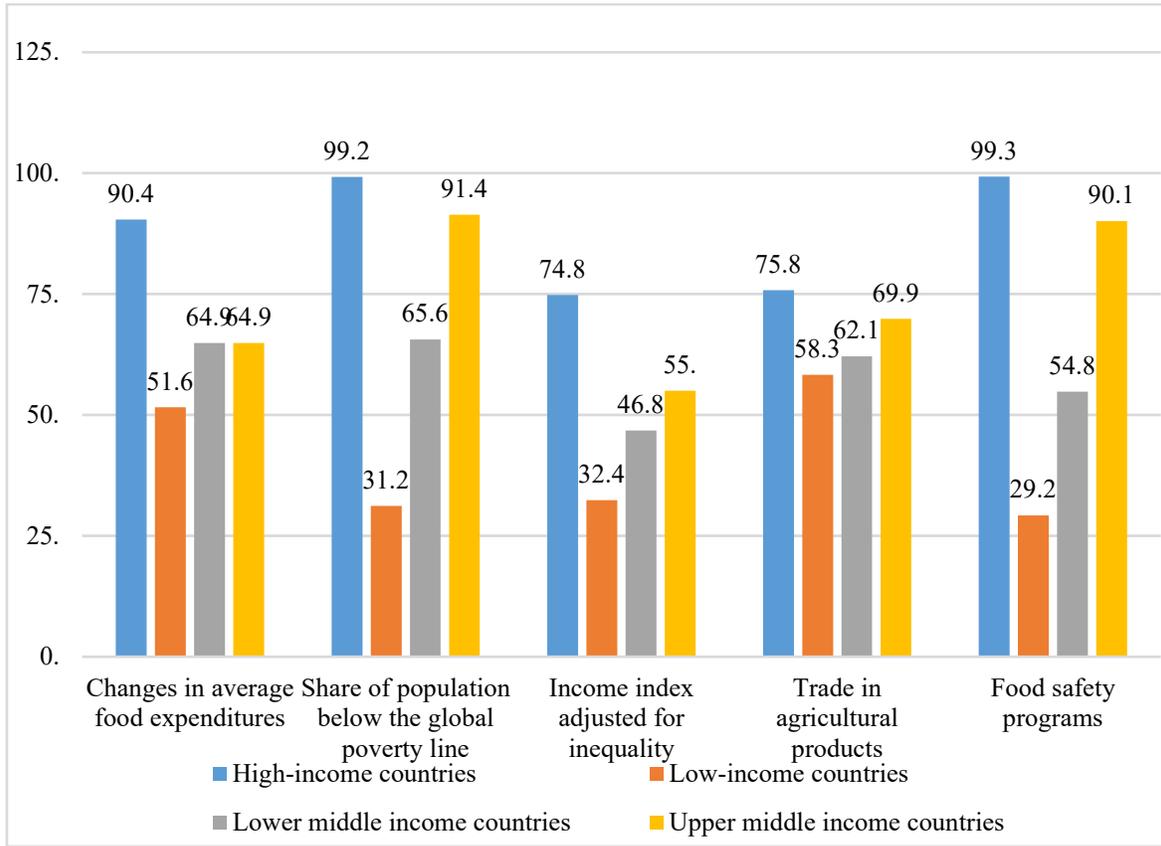


**Figure 1.** Primary threats and challenges to global economic and food security

Source: compiled by the authors

The pandemic has had a very negative impact on the global economy, significantly slowing economic growth in many countries. This was due to both disruptions in global supply chains and crises in labor markets, which in turn exacerbated food security issues in the country. As it turned out, recovery from pandemics requires comprehensive approaches aimed at supporting vulnerable social groups, stimulating productive activity, and economic accessibility.

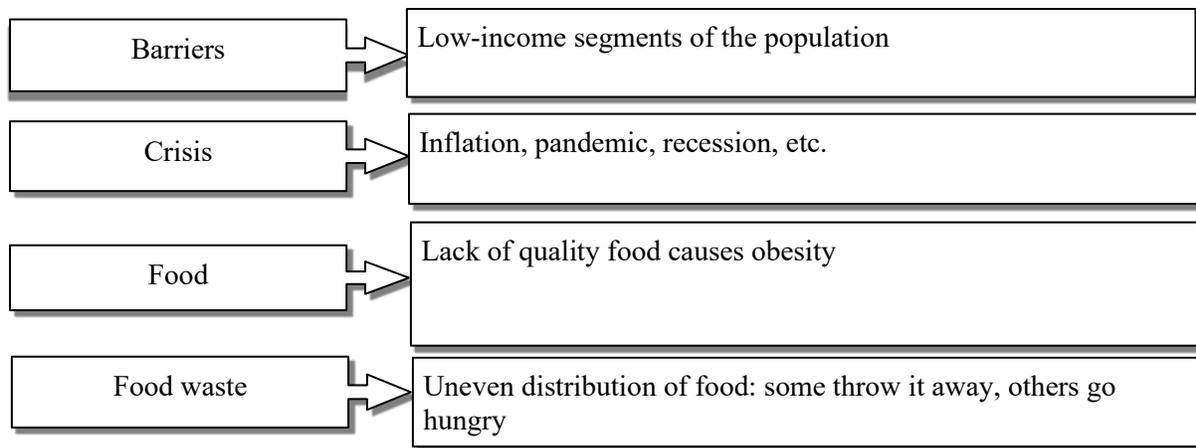
Economic development remains an integral element of countries' security and sustainable development. While ensuring the security of its borders, each country must also take care to protect businesses, private property, and citizens [29] (Figure 2).



**Figure 2.** Average GFSI score for countries with different income levels, 2022  
 Source: UNCCD [30], GFSI [31]

The correlation between food security and a country's income level indicates that this indicator determines the fiscal capacity of the government and the purchasing power of the population to ensure access to food. The higher the income level of people living in a country, the greater the opportunity to implement sustainable support for food production, improving the distribution and logistics network that guarantees access to quality food. Countries with low income levels often have difficulty achieving high levels of food security, given their limited resources and underdeveloped infrastructure (Figure 3).

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**Figure 3.** Primary causes of food insecurity among developed countries

Source: Pollard and Booth [32], Dana et al. [33]

The Global Food Security Index (further – GFSI) plays a key role in the comprehensive analysis of countries [34]. It provides an integrated assessment of food availability and accessibility, revealing various inequalities between countries. This analysis has been used to develop a list of recommendations that help overcome problems and promote sustainable access to nutritious and high-quality resources for the entire population [35, 36]. Promoting financial capacity helps governments implement necessary programs and maintain sustainable access to adequate food.

In richer countries, public resources allow for investment in policies, infrastructure, and programs that promote sustainable production, efficient distribution, and access to quality food. Low-income countries face serious challenges due to financial constraints and underdeveloped food supply systems. Thus, a country's economic level is a determining factor in shaping its food security [37]. In order to gain a deeper understanding of the main factors affecting a country's food security from the perspective of different economic environments, a comparison of GFSI category indicators was conducted. In this analysis, countries are classified based on their income level (Table 1).

**Table 1.** GFSI benchmarking by income level (data for 2023)

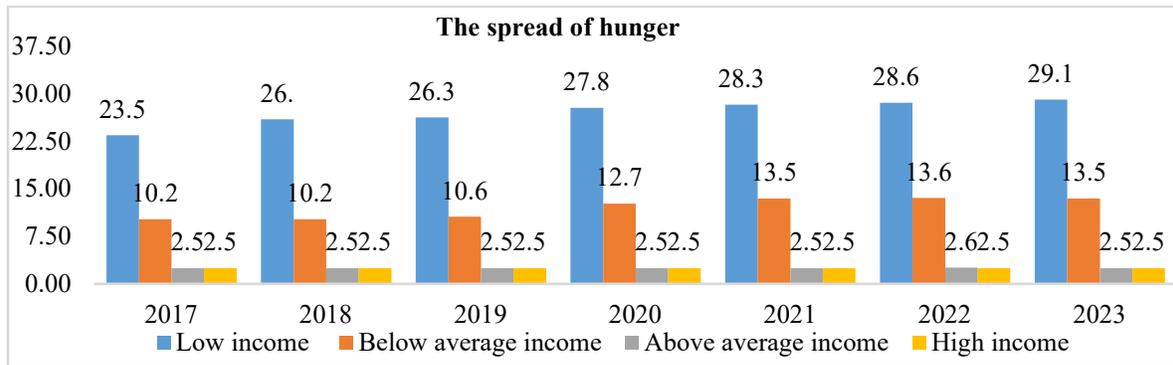
Category	Per capita gross domestic product distribution (thousand dollars)	Average GFSI indicator (out of 100)	Issues
High income level	> 12.5	75–85	Rising prices for imported food products, climate change, and domestic production.
Medium income level	4.0–12.5	55	Supply chain consistency
Low income level	< \$4.0	30	Lack of basic products, economic instability, communication problems.

Source: compiled by the authors based on data from MFU [38], UNCCD [30], MFU [39], MFU [40], MFU [41], FAOSTAT [42]

Unfortunately, today the level of food security remains at a very critical level. For the vast majority of countries, this is due to extremely low income levels. This is especially true for the African continent. According to expert estimates, approximately 61.6 million people experience constant food shortages in East Africa alone. At least 50 million people are expected to face the same situation in West and Central Africa. Ongoing armed conflicts only exacerbate this problem, worsening climate change indicators.

Individuals who are accustomed to high levels of food security experience greater psychological discomfort and reduced well-being when they lose this level. At the same time, uncertainty about security exacerbates social and economic inequality both between and within countries, making it more difficult to overcome the effects of the food crisis [43].

The prevalence of undernourishment varies significantly between countries with different income levels (Figure 4).



**Figure 4.** Undernourishment in countries with different income levels, 2017–2023 (%)  
Source: compiled by the authors

As can be seen from the graph, there is significant differentiation in food security indicators depending on the economic level of countries. In particular, a significant proportion of the population faces chronic food shortages, estimated at 25–29%. Among countries with below-average income levels, the overall percentage of undernourishment ranges from 10% to 13.5%. In countries with above-average income levels, it is around 2.5%.

Empirical studies show that during wartime, gross domestic product (further – GDP) declines by approximately 9–9.6% annually [44]. In some countries, the situation is even more complicated. In particular, Afghanistan in 2001–2021 – by 40% [45]; Syria (2011–2020) – by 60% compared to the period before the war [46–48]; Ukraine (2022) – by 29.1% due to the full-scale invasion [49]. In addition, war always leads to a massive outflow of investment. At least 70–90%, and it takes at least 5–10 years to re-establish ties with partners. A regression analysis [50] of the impact of military conflict on GDP in Ukraine in 2012–2024 confirms a direct dependence on factors such as direct investment (x1); trade volumes (x2); inflation index (x3); defense spending (x4); political stability index (x5). The R-squared value is 0.9306. Today, there is a strong positive correlation between independent variables (x1–x5) and dependent variables. R-squared = 0.8661 or 86.61% (Table 2).

**Table 2.** Regression analysis (statistics)

Regression statistics	
R multiple	0.93063
R-squared	0.86607
R-squared normalized	0.77041
Standard error	16893.1
Observations	13

Source: calculated by the authors

This model promotes a high level of responsibility formation, and the adjusted  $R^2 = 0.7704$  (77.04%) is lower than  $R^2$ , which means that the possibility of adjusting variables may have a negligible impact on the situation as a whole [36]. The F-statistic (9.05) allows us to conclude that at least one variable, and  $F = 0.0058 < 0.05$ , determines the statistical significance of the model as a whole. Thus, the regression is determined by the following formula:

$$Y = 50051,452 - 3,940x_1 + 1,176x_2 - 373,557x_3 + 0,838x_4 - 799,869x_5.$$

The results of the regression analysis allow us to draw the following conclusions:

1. Economic growth, expressed in terms of gross domestic product, is determined by the level of foreign trade, political stability, and the volume of investments attracted.
2. Active development of international trade contributes to an increase in foreign exchange earnings, expansion of sales markets, and economic integration into production chains.
3. Political stability plays a decisive role in shaping a stable investment climate [51].
4. High inflation has a negative impact on key economic indicators, reduces real purchasing power, and hinders the competitiveness of domestic production.
5. Economic growth is facilitated by the state's guarantee of economic stability through support for long-term growth.
6. Price instability threatens the investment climate and purchasing power, worsening key economic indicators.

### Discussion

An analysis of the impact of demographic changes and social inequality on food and economic security in selected countries around the world has shown a differentiated impact. This impact depends significantly on the economic level of the country, its public policy, and regional characteristics (Table 3).

**Table 3.** Demographic changes and their impact on social inequality and security in countries around the world

Lowest income level	Average income level	High income level
Population growth and decline in food production	Urbanization reduces arable land	Decrease in life expectancy
Farmers' access to land and other resources	Economic inequality	Import dependency
Access to modern technologies	Pressure of population density on resource demand	Uneven distribution of food among demographic groups
Restricted access to quality food	Impact of labor migration on agricultural production	

Source: summarized by the authors based on data [30, 39, 52–55]

A successful policy for ensuring both food and economic security must be comprehensive and must take into account demographic trends and socio-economic factors that are unique to each country's development trajectory, based on the country's population structure, income distribution, macroeconomic conditions, market dynamics assessments, identified market research methods, and patterns in critical areas.

In order to make quality management decisions, the country's top management must learn to use analytical data. This is the only way to understand needs and anticipate challenges in the long term.

Developing effective food and economic security policies requires a comprehensive, multi-pronged approach that takes into account demographic trends, socio-economic development, and the specifics of each country's agricultural sector. Such strategies must be adaptable to changes in population structure, uneven income distribution, labor market characteristics, and the unique challenges and opportunities in agriculture.

It is crucial to take into account macroeconomic factors, technological progress, and external influences (such as climate change and international trade dynamics). Combining these elements allows for the formation of policies that not only ensure food security in the short term but also contribute to economic stability and sustainable development of the agricultural sector in the future.

Effective policies must be differentiated according to the economic level of the country.

1. For low-income countries, the main priorities are: attracting investment in agricultural development; introducing modern irrigation technologies and agricultural innovations; improving initiatives and various areas of technical support [56].
2. Countries with low income levels need to focus on developing modern transportation infrastructure to promote various areas of cooperation between producers, cooperatives, and clusters [57].
3. High-income countries are creating strategies to reduce their dependence on food imports by expanding domestic production capacity and developing ways to improve resource management.

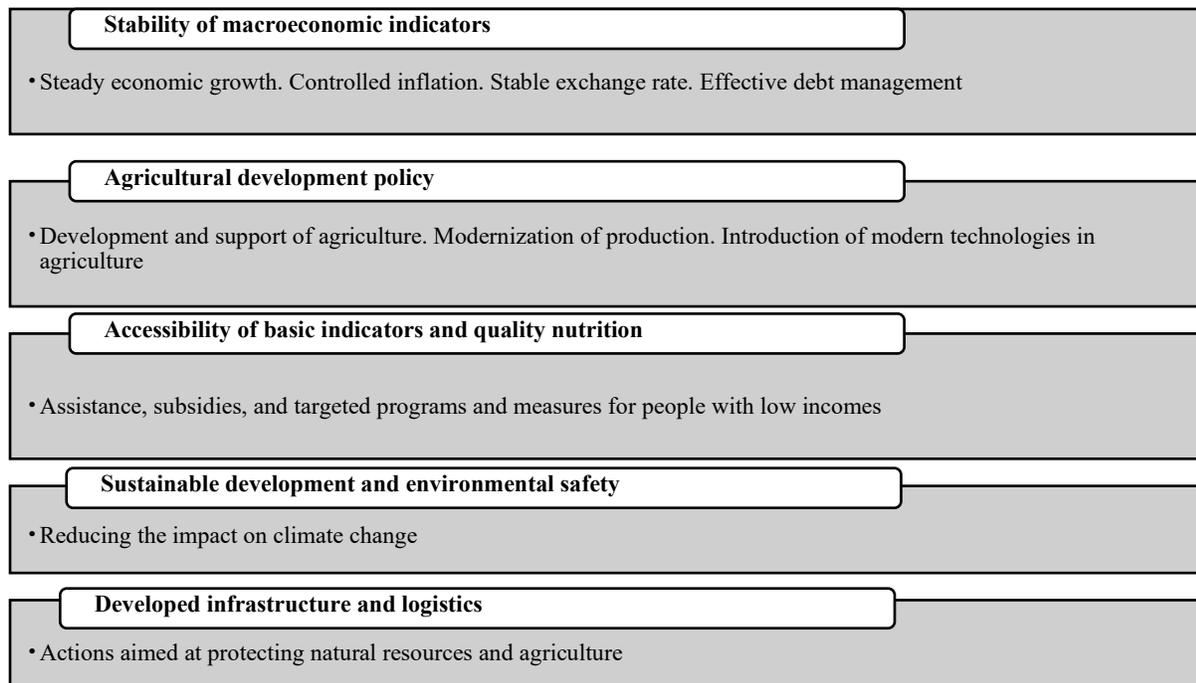
In the current economic climate, many countries are focusing on promoting organic farming and introducing modern technologies that optimize the use of land and other resources to improve efficiency [58, 59].

A balance is needed in approaches to security policies and a focus on long-term sustainability that guarantees access to food [60].

State policy shapes the countrys sustainable development and plays a decisive role in ensuring comprehensive approaches to solving problems [61]. Main directions: introduction of sustainable regulatory frameworks aimed at the growth of the agricultural sector [62].

Special attention should be paid to assisting vulnerable sectors of the economy; stimulating domestic production; modernizing infrastructure; and encouraging innovation in the agricultural sector [62, 63].

In addition, national policy is aimed at protecting national interests by adapting to global changes, strengthening international cooperation, and creating strategic food reserves to prevent crisis situations (Figure 5).



**Figure 5.** State policy on food security  
Source: compiled by the authors

Effective public policy in any country should aim to align national standards and economic interests with global trends and develop new economic rules that take into account contemporary challenges [64–66].

Today, no country can guarantee food security without taking into account a systematic approach, monitoring, and the risks of regulating financial interests [67, 68].

The formation of an ecosystem of agricultural market participants allows for the integration of an environment for new digital solutions that enable data exchange and integration into one’s own infrastructure [69].

It is important to understand the need to include not only policy and consideration of external factors, but also effective conditions for development that can support innovation and promote economic progress [70].

Transnationalization and globalization are signs of economic, political, and social processes. They can have both a social impact on specific territories and on international relations. These are concepts (factors) that shape international relations and contribute to the resolution of common problems (Figure 6).



**Figure 6.** Main areas of international cooperation for the economy and security  
Source: compiled by the authors

Technological innovation and the exchange of data and scientific achievements, as well as the consideration of global best practices in agriculture, play a crucial role in increasing agricultural productivity and strengthening sustainability.

The exchange of technological innovations, scientific achievements, and best agricultural practices plays a critical role in the context of climate change, improving global food security, etc. In turn, economic security is directly linked to international trade and investment strategies that guarantee security and ensure access to key resources and technologies [71]. The construction and reconstruction of infrastructure and logistics contributes to the establishment of economic ties between countries that are ready to fundamentally ensure stability and economic growth [72]. Cooperation between partner countries creates the basis for ensuring stable development and the sustainability of national economies in order to achieve a higher standard of living for the global community [14; 73]. That is why state policy, inextricably linked to international cooperation, is capable of ensuring the economic and food security of any country, addressing any current challenges.

### Conclusions

Based on the study, the following conclusions can be drawn. The economic security of countries is a key area of strategic development, which, thanks to macroeconomic indicators, provides the necessary resources for agricultural development, contributes to increased labor productivity, and enhances stability by guaranteeing access to quality food, water, and other resources. Global challenges can not only significantly reduce the availability of resources, but also change supply chains, cause disruptions in raw materials, and accelerate the growth of hunger in the world. Security requires effective public policy, institutional strengthening, and accountability for resource management. A critical indicator in this area is reducing dependence on imports. Overcoming social inequality and ensuring equal access to quality food requires a change in approaches to social, economic, and environmental standards.

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