

THE CHALLENGES OF THE AGRICULTURAL SECTOR OF THE REPUBLIC OF MOLDOVA IN THE YEAR 2022

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Abstract

At the same time, a negative impact on consumers is the very high inflation in the Republic of Moldova, which negatively affects the social environment and is caused by the increase in food and energy prices. Similarly, agriculture being an important economic sector for our country, this year has shown a lower productivity than the rest of the economy. Also, national economic agents, facing logistics problems, have generated increases in transport costs for exports from the Republic of Moldova. The aim of the research is to analyze the changes in the agricultural sector in the year 2022 compared to previous years and their impact on the country's population and food security, highlighting vital needs and how to respond to new challenges in the social and economic sphere. The research was carried out based on data provided by the National Bureau of Statistics, the National Bank of Moldova, the World Bank, the National Energy Regulatory Agency and the Food and Agriculture Organization of the United Nations using analytical, synthetic, tabular and graphical methods. On the basis of the research carried out, it was found that the impact of the crisis caused by the multiple changes in the agricultural sector poses a threat to the national economy and to the standard of living of citizens, but these obstacles force the development of the agro-industrial sector and its increased adaptation to the situation created and provides first of all for the development of the infrastructure for production, post-harvesting and processing, which is at an early stage of development and has been influenced by the presence of cheaper raw materials from import.

Key words: agricultural sector, inflation, quality of life, price increase

INTRODUCTION

The agri-food sector in the Republic of Moldova is one of the basic branches of the national economy, with agri-food products accounting for about half of the country's exports. The main branches of regional products are: cereals and their derivatives, the wine industry, sugar, fruit and vegetable preserves, natural juices, ether oils, etc. This is due to favourable climatic conditions for the development of agriculture. Most of the agricultural production is of plant origin, constituting about 90% of the total production volume. The agricultural potential of the Republic of Moldova can fully cover the demand on the domestic market. However, the decline in the agricultural sphere in recent decades has caused a multitude of economic problems, such as the non-value of available resources (especially agricultural land), lack of jobs and qualified human resources, migration of the population from rural areas, low use of new technologies for growing and

processing agricultural production. All these impediments have a negative impact on the degree of satisfaction of domestic demand for agri-food products and on penetration of external markets [35].

For all countries, including Republic of Moldova, agriculture has been, is and will remain the support of human existence and is therefore the most powerful factor influencing economic and social stability. In our country agriculture is also the backbone of the national economy [3, 33].

The results of investment activity at the macroeconomic level are reflected in the growth of revenues of the national budget, the increase in employment of the population, the provision of stable incomes for citizens of the state. However, it should be mentioned that the development of investment activity is determined by the investment attractiveness of the economy of the state or its sectors[34].

The Republic of Moldova is undergoing continuous transformation, being directly

affected by regional and global events: rising energy and food prices, due to hostilities in the region, the reform of value chains and climate change affecting agricultural production [28].

Being dependent on energy and inputs in all agro-food sectors from import, the logistics of exporting production is not adequate to the high demands.

In consequence, production costs increased, agricultural production declined with a knock-on effect on export indicators and results, since more than 50% of Moldova's exports are of agri-food products.

Inflation increased from 18.52% in February to 33.55% in August 2022, according to data provided by the National Bank of Moldova.

This has automatically generated a wave of price hikes for goods and services that have been deeply reflected in the living standards of Moldovan citizens, but has also strongly affected the confidence of foreign investors to bring their money to the country. In addition, exports to eastern markets were also affected, due to the restraints of access to them caused by the hostilities in the region [2].

A recent report by the Food and Agriculture Organization of the United Nations states that the world is moving away from meeting the goals of eradicating hunger, food insecurity and malnutrition in all its forms. Increasing exposure to underlying factors (conflicts, extreme weather events and economic shocks), high nutritional costs and growing inequalities will continue to challenge food security and nutrition. This trend can only be reversed by transforming and strengthening the resilience of agri-food systems and making them a cheaper and healthier source of nutritious food that is affordable for all in a sustainable and inclusive way [8].

MATERIALS AND METHODS

In this paper, research was carried out based on data provided by the National Bureau of Statistics, the National Bank of Moldova, the World Bank, the National Energy Regulatory Agency and the Food and Agriculture Organization of the United Nations.

In order to analyze the current state of affairs in agri-food sector, methods such as comparison, graphs, logical and synthetic analysis were used.

In order to determine the net effect of rising production costs and increased input costs prices, an analysis of the average cost structure for several years before the year 2022 and for the current year was carried out.

RESULTS AND DISCUSSIONS

Following the hostilities in the region, at the end of February 2022, several consignments of food, plant protection products and mineral fertilizers destined for the Moldovan market were blocked on the territory of the neighbouring state or redirected to other states [29].

This unpredictable situation has led to a number of problems, including the impossibility of products destined for domestic consumers to enter the country on time, generating additional costs for national economic operators and causing the planned supply deadline to be missed [13].

Ukraine is Moldova's fourth largest trading partner in terms of volume of products, after Romania, Belarus and Russia, trade with this country has been halted since the outbreak of the conflict and the most important products, especially agri-foodstuffs, in demand there have been blocked [25].

As a result, average consumer prices on the Moldovan market have started to rise, some products are at risk of shortages, and the rush for supplies is becoming one of the hot topics among people. According to experts in the field, Moldova's gross domestic product could fall by 5% due to the hostilities in the neighbouring country [15].

The market of the Republic of Moldova, with close economic ties to both Ukraine and Russia and Belarus, started to be deeply affected. The transit of the exported of the Republic of Moldova to the markets of the Russian Federation and Belarus, is practically impossible at the moment [14].

In addition to falling export revenues, Moldova is also facing the fact that many goods previously imported from Ukraine,

including food, have stopped being delivered. This has diminished the capacity of the Moldavian market to cover consumers' needs and imposed to the authorities to set up a new strategy for the coming period.

According to statistics, about 20-22% of all food imports into Moldova come from Ukraine, which has been the country's main supplier of food products. Among the main import items that have suddenly become unaffordable or whose deliveries have stopped are: dairy products, certain vegetables, animal feed, confectionery, bakery products and salt. In 2021, the absolute poverty rate in the Republic of Moldova reached 24.5% of the country's population, with considerable differences between rural and urban areas, accounting for 32.8% in rural areas and 11.9% in urban areas [26].

Food security remains a real problem for about 10% of the population, who were in extreme poverty in 2014-2020 years, a situation that indicates a lack of resources to procure an adequate food basket. In rural areas the risk of extreme poverty is four times higher than in urban areas. At the same time, lonely elderly people and households with headed by people with lower levels of education and whose main source of income comes from agricultural activity. Widespread price increases in 2021 and inflationary risks are putting great pressure on household budgets and increasing food insecurity (Table 1). In 2022, expenditure on food and non-alcoholic beverages could reach 48.8% of the total in rural households and 41.9 in urban households [28].

Table 1. Consumption expenditures of population by purpose of expenditures and area, 2019-2021

Destination of the expenditure	Rural				Urban			
	2019	2020	2021	2022	2019	2020	2021	2022
Consumer expenditure, total, MDL	2,336	2,331	2,676	3,108	3,469	3,489	3,971	4,575
Food and non-alcoholic beverages, %	44.5	47.2	48.3	48.8	36.6	39.8	41.1	41.9

Source: National Bureau of Statistics [24].

Note: for the year 2022 are the forecasts of the authors of the National Development Strategy "Moldova 2030".

The level of self-sufficiency in the main types of agricultural products calculated on the basis of the balance of food resources and their use characterizes the country's food security and shows that the level of self-sufficiency in some types of agricultural products for 2021 covered the country's domestic consumption, in particular: in cereal crops (excluding pulses) including products derived from them - by 2.2 times and in fruit - by 2.6 times. At the same time, for potatoes, vegetables, meat and milk the level of self-supply was below 100%, i.e. for potatoes - 85.1%, vegetables - 79.5%, meat - 73.9%, milk - 66.0% [31].

Although food availability is not a significant challenge for the Republic of Moldova, as the food needs of the population are largely covered by domestic production and the gap between availability and needs is provided by imports, a significant concern for the Government is the volatility of agricultural production, as well as the instability of food supply, largely caused by the severe droughts

that affected the country in 2012 and 2020, with devastating effect on the entire agricultural sector, the COVID-19 pandemic, as well as the hostilities in the region [10].

The fact that the Republic of Moldova is in close proximity to the conflict zone, the trade links with the affected states and the implications on import and export logistics, has further amplified the negative impact of the international context on the country's agriculture and food security.

A serious problem for agricultural producers is the disparity of prices that occurs between agricultural products and goods and services purchased by agricultural units, and also between the producers' sale prices and those charged in the retail network [6].

In the context of complex efforts to increase profitability, measures are required to diagnose on the one hand the costs of production, and on the other - the commercial policy of the company with reference to the selling prices of agricultural products. The setting of sale prices must attract as wide a

segment of buyers as possible, after which, depending on the evolution of the supply - demand ratio, the entity can choose the most appropriate strategy [37].

In the Republic of Moldova, food prices have been rising since mid-2021, but the hostilities in the region have put even more upward pressure on food prices, especially for crops, for which Ukraine is the main exporter (wheat, oilseeds, maize).

According to data from the Food and Agriculture Organization of the United Nations, food prices have seen a significant increase compared to the period before the COVID-19 pandemic [1], which saw an increase of more than 50% in food prices, 126% - oils, 69% - cereals, 18% - meat, 25% - sugar, 34% - dairy products (Fig. 1).

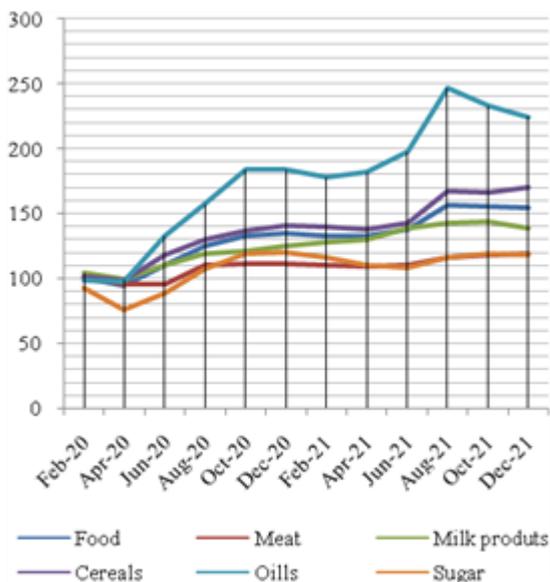


Fig. 1. Monthly food price index, % (2014-2016 = 100)

Data source: FAOSTAT [9].

For many countries of the world, agriculture is a basic component of the national economy, which plays an important role in providing income and reducing poverty. For the Republic of Moldova too, agriculture is the branch in which most of the rural population is engaged and which remains a significant source of income.

Specialization in high value added production represents an important indicator in terms of future development, but additional factors are needed to be taken into account for increasing

their sustainability, like age of farmers, level of education and specialized studies in the field, modernization of farming activities and rationalization or the working time [36].

However, the share of agriculture in Gross Domestic Product (GDP) has been declining for some years, but is still significant and constitutes about 10% (Fig. 2).

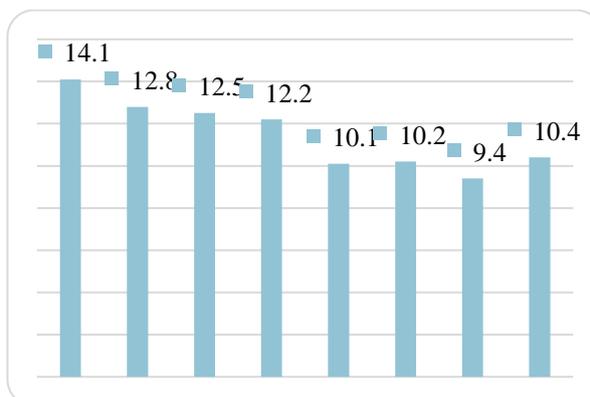


Fig. 2. Share of agriculture in GDP for the 2014-2021 years, %.

Source: National Bureau of Statistics [19, 20].

According to statistical data, the distribution of employed persons by economic activities shows that almost every fifth person works in the agricultural sector. A significant share of employment is in the agricultural sector, which in 2021 accounted for about 21% of the employed population (Fig. 3).

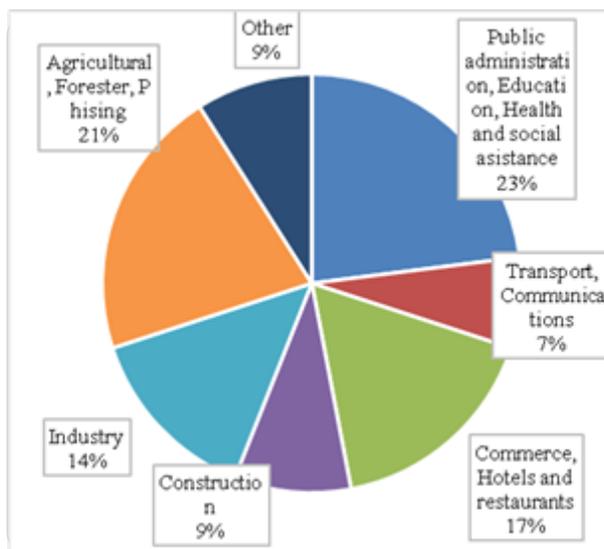


Fig. 3. Employment share by economic activity in 2021, %.

Source: National Bureau of Statistics [21].

In rural areas of the country, the employment rate is significant and accounts for 37%, but it may be higher, but it is not known due to the prevalence of informal employment.

A higher share of the sector in employment relative to GDP illustrates that productivity in the sector is lower than the rest of the economy and the role of the agricultural sector in the economy is slowly declining, but overall the role of the sector in the country is still large, especially in rural areas.

National competitiveness can be ensured by involving the export of high value added products which provide increased profits and respectively allow increasing wages. Also, emphasis should be placed not only on price but on quality parameters too, which would allow exported products to maintain retail market even under a strong national currency. Currency appreciation leads to higher prices of exports relative to imports. In these circumstances, the income received from exports can increase the volume of imports, including modern technologies, and thus having a positive effect on the trade balance, even with reduced exports [12].

The agri-food sector plays a key role for Moldovan exports. Over the years, the Republic of Moldova has signed a number of trade agreements facilitating cooperation opportunities with over 93 countries. The main trading partners for agri-food exports are Romania, Russia, Italy, Belarus, Switzerland, Poland, Turkey, Bulgaria and Germany.

In relation to European market most groups of products register advantages, a decreasing tendency is persistent after 2010. In 2016 disadvantages for beverages and animal or vegetable fats and oils are observed. On the C.I.S. market, for all groups of agrifood products decreasing values and disadvantages are observed. Recent years high trade advantages for the groups of prepared foodstuffs, beverages and tobacco, animal and vegetable fats and oils is observed [5].

In recent years, agri-food exports have shown an increasing trend, demonstrated by the share of agri-food exports in total exports which was 45% in 2021, and in the first 6 months of 2022, this share increased even more, reaching 51% (Fig. 4).

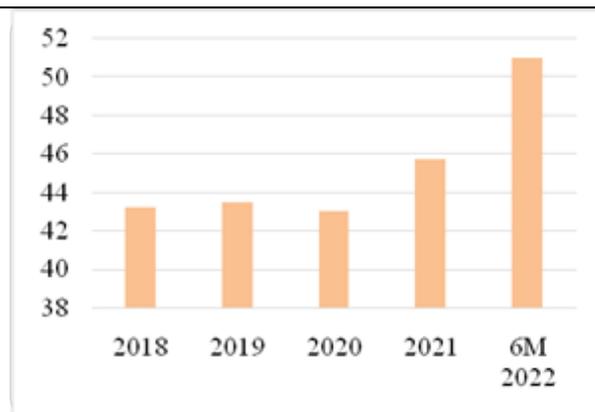


Fig. 4. Share of agri-food products in exports, %
Source: National Bureau of Statistics [22, 23].

The most export-oriented products are cereals and their derivatives, wine and spirits, oilseeds and oleaginous fruits, vegetable fats and oils, and fruits and vegetables, both fresh and processed - accounting for about 47% of the sector's total export volume (Figure 5). The European Union market remains the main destination for Moldovan exports, followed by the Commonwealth of Independent States - which together account for 82% of the country's foreign trade.

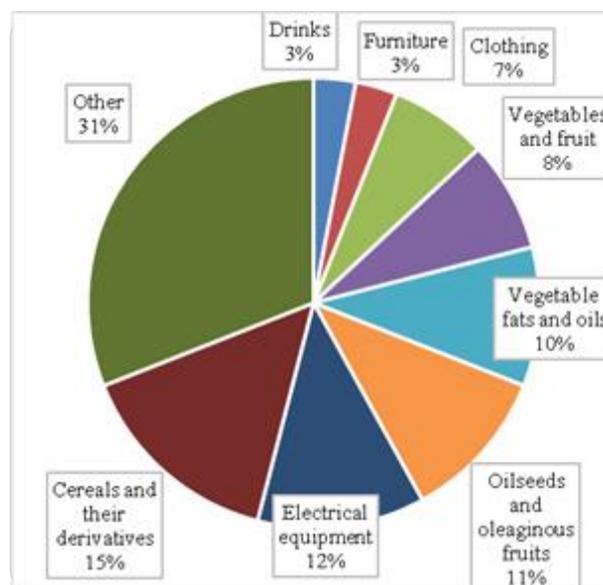


Fig. 5. Structure of exports by product categories from the Republic of Moldova, %.
Source: National Bureau of Statistics [22].

From those stated, we shall mention that trade has a strategic importance also for balanced and viable development of economic and social systems of any country. In the condition of market economy, in order to

regulate the export - import relation, the necessity to achieve certain activities by the state is indisputable [7].

According to the international experts, international grain and vegetable oil prices have started to rise since mid-2021, but since the beginning of 2022, prices have risen even more, as both Ukraine and Russia are major exporters of grain (about 18% of world exports) and oilseeds/vegetable oils (e.g. sunflower oil, more than 50% of world exports) [16].

At the same time, at the beginning of the harvest season for cereals and oilseeds, prices have decreased insignificantly, but are still higher than before the beginning of 2022, especially for oilseeds and vegetable oils.

The increase in food prices is negatively affecting consumers in the Republic of Moldova, especially inflation, which has risen sharply, reaching 34.3% on 22 August (Fig. 6), one of the highest in the region and largely driven by food and energy prices [17, 18].

According to a recent World Bank study, Moldova is the country with the tenth highest food price inflation in the world.

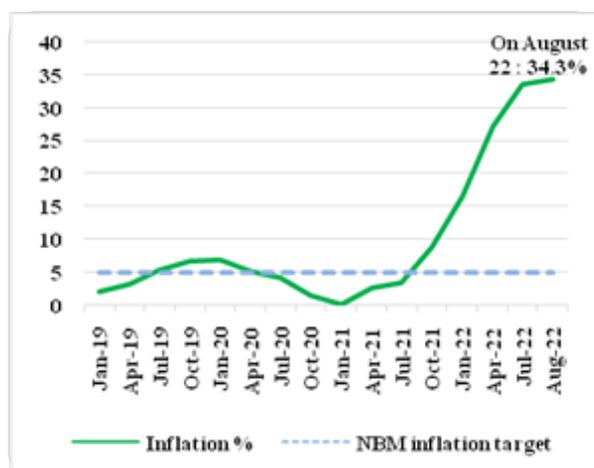


Fig. 6. Comparable inflation, January 2019-May 2022, %

Source: National Bank of Moldova [17, 18].

The situation in Moldova's agri-food sector would be positive if, as an exporter of cereals and oilseeds, it could benefit from higher prices for these commodities, but a visible impediment is the increase in prices of inputs, which have also risen, especially fertilizers (Fig. 7) and diesel (Fig. 8).

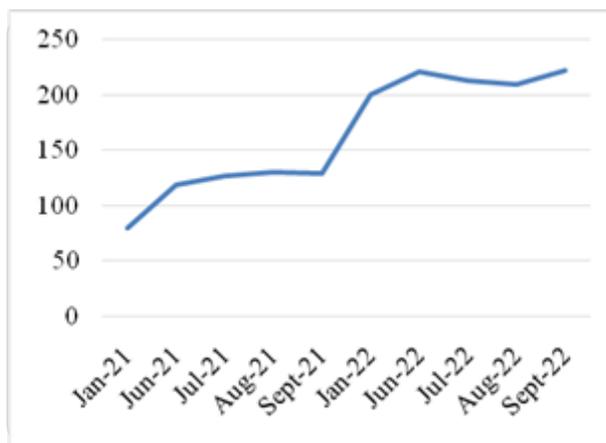


Fig. 7. International fertilizer prices, January 2021-September 2022, USD/t

Source: World Bank [38].

The maximum retail prices of the main standard petroleum products are set by National Energy Regulatory Agency on the basis of the Methodology for the calculation and application of petroleum product prices.

These inputs have a major impact on the cost structure of key agri-food production, where the share of fertilizer in total costs can be up to 50% for some crops, in addition, the strong increase in transport costs for exports from the Republic of Moldova, due to the congestion of logistics infrastructure due to Ukraine's inability to export through the Black Sea ports, thus using the road, rail and the Danube ports infrastructure of the country [30].

The agricultural policy in Moldova is aimed at enhancing the sustainable development of the agricultural sector and rural areas. Despite the fact that the government always supported the agricultural sector, most of these interventions were based on allocating financial support for certain programs aimed to support farmers, insurance risks, development of wine sector etc, often with the absence of a long term strategy. According to the agricultural support policy the allocated funds were directed towards three main priorities: increasing competitiveness of the agri-food sector through restructuration and modernization; insuring sustainable administration of natural resources; and increasing investments in infrastructure and services from rural areas [4].

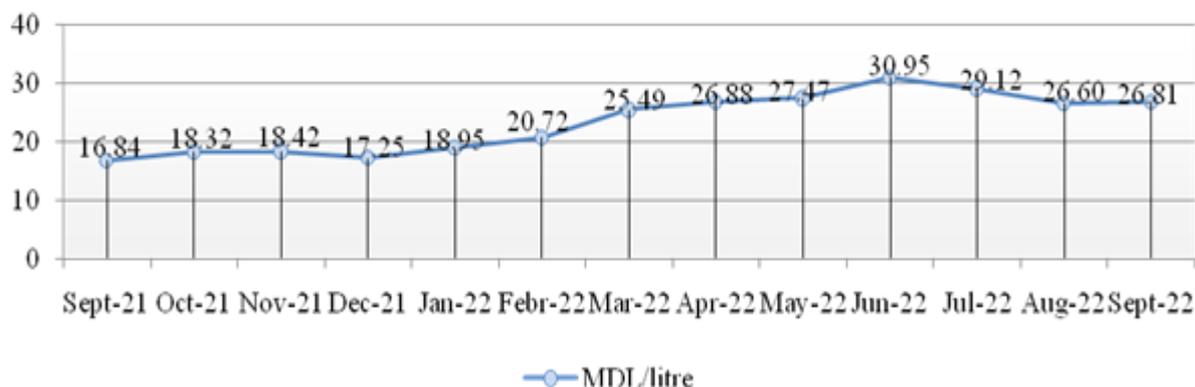


Fig. 8. Evolution of average diesel price, September 2021-September 2022, MDL/liter
 Source: National Energy Regulatory Agency [27].

According to the programme of activity of the ruling party, in order to secure the income of the population and to increase public investment that ensures development of the economy, the Government has set itself the goal of restoring the confidence of development partners and unblocking external financing. Responsible policies are promoted by to ensure macro-economic stability and accelerate reforms First and foremost, the emphasis is on the state ensuring conditions of fair competition and universal respect for the law and the rules of the game, which is only possible after a genuine, structural reform of the judiciary and the supervisory bodies [32]. Secondly, efforts are being made to guide the country's economic system towards an efficient, investment-based economy.

Thirdly, the state needs to ensure legal and fiscal predictability that provides local entrepreneurs and foreign investors with economic and political stability.

These three preconditions are crucial for a functioning market economy and generate added value and innovation, i.e. economic progress and better living standards.

The vision of the current government is to lay the foundations for an economy that exists not only thanks to remittances, taxes and money coming from external partners, but one based on domestic production and increased labour productivity. An economy that generates sustainable and inclusive growth, that provides good jobs and for both those at home and those who have left but want to return [11].

CONCLUSIONS

Agriculture in the Republic of Moldova is a sector of the economy that is as much in demand as it is sensitive. Intensive work is being done at institutional and business level to reduce the effects affecting the expansion of this sector. Bearing in mind that approximately one third of the population works in the agricultural sector, we conclude that agriculture is important for the socio-economic development of the country.

The first quarter of 2022 has been strongly shaken both economically and socially by the beginning of the hostilities in the region, which will affect the Republic of Moldova in the long term. Considering that Moldova is in close proximity to the conflict zone, the trade links with the affected states and the implications it has on import and export logistics has further amplified the negative impact of the international context on the country's agriculture and food security.

As a neighbouring country dependent on access routes with other states, namely through the territory of Ukraine, the hostilities in the region have a negative impact on external trade. The increase in the price of agri-food products has also taken place against the backdrop of high fuel and fertilizer prices, the drought of previous years, and transport logistics, which have been hampered by transit and transshipment capacity through the territory of the neighbouring state.

The response to the challenges would be to increase resilience which is becoming a

priority for state policies, namely the continued and consolidated development of agriculture and the food industry, with the realizing of the opportunities that have arisen being absolutely necessary.

The development of the agro-industrial sector and its increased adaptability to the situation created, provides first of all for the development of the infrastructure for production, post-harvesting and processing, which is in the early stages of development and has been influenced by the presence of cheaper raw materials from abroad, especially from Ukraine. The Republic of Moldova's ability to act on risks and the implementation of a well thought-out plan for the future can radically change the importance of the domestic agro-industrial sector not only in the domestic context but also internationally.

The current situation could provide impetus for improvements in the social security system, for example information technology solutions to better target and monitor support measures.

In order to redress the situation created, as recommended social policy measures, in the short term, to limit the negative impact on the population and to maintain as much as possible a better quality of life, it is proposed:

- to devise temporary support for producers to establish positive incentives, e.g. ex ante subsidies or tax exemptions to improve producers' planning possibilities;

- improving logistics infrastructure (road, rail and Danube ports), which could reduce some of the pressure on transport corridors (e.g. rail improvements, purchase of additional wagons), facilitating private investment in logistics infrastructure where possible;

- the cost of financing for farmers can be reduced with instruments such as credit guarantees or interest subsidies; for example, existing instruments could be temporarily extended.

However, it is important not to create dependency on support instruments, as they are only an incentive to avoid business stagnation.

In terms of long-term prospects for both government and business, it is recommended:

- improving and expanding irrigation infrastructure, which could reduce vulnerability to unpredictable natural phenomena;

- improving and developing post-harvest infrastructure (storage, processing), which can give domestic farmers more flexibility to react to changes in international prices and increase profit margins;

- focus on the development of higher value-added products, in order to move from raw material exports to processed exports;

- providing support for the transition to climate-resilient farming systems (including research, education and extension services).

Research has shown that the impact of the crisis caused by the hostilities in the region is a threat to the national economy and to the living standards of citizens, but that it strengthens both management, business and social forces through a decent assessment of the situation and proper planning, by drawing up good socio-economic policies and implementing them properly, it is possible to avoid increasing the level of poverty and, if not improving the quality of life, at least maintaining a decent standard of living. Let us not forget the words of the philosopher Francis Bacon, who told us that "It is not what we eat, but what we digest that makes us strong; it is not what we earn but what we save that makes us rich; it is not what we read but what we remember that makes us wise; it is not what we profess but what we practice that makes us upright".

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