



Repercussions of the Russian-Ukrainian War on Food

Security in Egypt

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Introduction

Food security is regarded as the right of food; one of the most basic rights that the state must provide to the people, as the right to food is an essential factor for a decent life and vital to the realization of many other rights such as the right to health and life. Food derives its importance not only from the fact that it aids one's survival, but also from its role in the full development of one's physical and mental capacities.

In our time, all the crises in the world have become intertwined. It is not possible for a single person, or a single country, or even a single sector within it, to be affected by a crisis. Trade reciprocity has become the lifeblood and lifestyle of all peoples of the world. The spread of the Corona pandemic in all countries of the world was accompanied by economic stagnation, accumulation of debts and budget deficits.

When the conditions of the world began to wake up from the repercussions of the health and economic crises resulting from the Corona pandemic, hopes were crushed on the morning of the 24th of February by the news of the Russian-Ukrainian war.

That war caused many global economic crises such as the rise of oil prices. Moreover, the countries that import products and foodstuffs from Russia and Ukraine were greatly affected due to the two countries' decision to stop the export of wheat and grains as they are the main exporters to the world. This coincides with the warnings issued by the "FAO" about threats to global food security for future generations, and the United Nations reports confirming the increase in the number of people who suffer from lack of food annually.

Consequently, Egypt finds itself in a crisis regarding its food security in light of the population explosion and the constant pressure on resources and attempts to safely exit from the repercussions of the Corona pandemic, which puts weight on



the government in providing this existing deficit in basic, supplementary and alternative foodstuffs, being the largest importer of wheat in the world.

Egypt in the Global Food Security Index (GFSI)

Food security has strategic importance in Egyptian national security issues. It is directly related to economic development and the promotion of sustainable development goals 2030, and is increasingly important in the constitutional text of Article (79): *“Every citizen has the right to adequate and healthy food, and clean water. The state is committed to securing food resources for all citizens. It also guarantees food sovereignty in a sustainable manner, and guarantees the preservation of agricultural biodiversity and local plant varieties to preserve the rights of generations.”*

The Egyptian State faces many challenges in the way of achieving the food security and secure the right to food for all the People. According to the Global Food Security Index (GFSI), of the Economist Impact Center, Egypt scored 60.8/100, ranked 62nd out of 113 countries, with affordability (66.5%), food availability rate (60%), quality and safety ratio (60.7%), and the rate of natural resources and resilience (52%).

From the index, Egypt is in the middle of the rank like the index of 2020 when it scored 61.1. The index for the year 2021 revealed four strengths in Egypt's ranking: change in average food costs, food safety net programs, micronutrient availability, and food safety. While the weaknesses included: tariffs on agricultural imports, food standards, and food diversity.

Thus, we find that Egypt does not suffer from chronic and transient food insecurity, which results in some problems such as the deterioration of children's health, pressure on agricultural lands, shortages and high prices of food commodities. However, what Egypt suffers from is the dwindling of self-



sufficiency or the food gap (the difference between production and consumption) of some agricultural products and crops, which forces the state to import from abroad to cover the deficit.

Therefore, the achievement of Egyptian food security is affected by dependence on the outside, which causes an exacerbation of food subsidy problems, which are related to the deficit in the balance of payments and the depletion of foreign exchange reserves. Therefore, the issue of food in Egypt cannot be viewed in isolation from the issue of food at the regional and global levels and economic crises. The challenges to Egyptian food security are divided into internal challenges and external challenges:

Inter

1- Internal Challenges

a) Overpopulation

Egypt suffers from an increase in the number of births over the number of deaths, at a rate of 1.9% annually in 2020, and sometimes it increases to 2.8%, as happened in (1987 according to the statistics of the Central Agency for Mobilization and Statistics). The Egyptian people live only on about one-fifth of Egypt's geographical area on the banks of the Nile, what some call the green strip.

Food security is linked in an inverse relationship with population increase. As the rate of population inflation increases, the more food security is negatively affected as a result of the high demand for food, pressure on it and its insufficiency, which threatens food security, and the state is forced to bridge the food gap by importing from abroad.



b) Razing Agricultural Land

As a result of the population increase and the confinement of urban spaces in urban and rural areas, the Egyptian agricultural lands were encroached upon by construction and the establishment of unlicensed homes. This has resulted in the loss of Egypt's agricultural capabilities to about 90 million feddans since 2011.

In addition to the above, the climate changes and temperature differences play a role in reducing agricultural production. Olive production decreased in the 2021 season by 60% to 80%, Egypt lost its position as the largest exporter of olives in the world.

The country also lost approximately 25% of the mango crop during the same season. It is expected that the wheat crop would decrease by 18% if the temperature increased by two degrees. The maize crop would decrease by 19% if the temperature rose by 3.5 degrees. It was expected that rice production would decrease by 11%, by 2050 (according to the data of the Agricultural Research Center for the year 2021).

c) High Prices of Fertilizers and Pesticides

The high prices of fertilizers and pesticides in the world markets are associated with the high cost of food for the consumer and reduces the amount of food that was at hand. Egypt produces about 21 million tons annually, and the local market is satisfied with about 30%-55%, and the state exports the surplus. But with the increase in the demand for fertilizers and pesticides in the markets, cooperative stores, as well as international markets, the price of the cost per ton of fertilizer has tripled. For example, the price of a ton of nitrogen fertilizer in foreign markets last year rose to 14,000 Egyptian pounds, while in the local market 2,500 pounds; This encouraged factories and companies to export instead of selling locally, and to pay the fine approved by the Ministry of Commerce because they achieved a much larger surplus.



Since the beginning of the current year (2022), the prices of fertilizers have increased by 25%. This means that the prices of free fertilizers from factories to agents and distributors recorded 8800 pounds at the factory price for a ton of urea and 8,600 pounds for a ton of nitrate, and it is expected that it will reach the farmer at a price of 10 thousand pounds per ton, equivalent to 500 pounds for one sack.

On the other hand, these substances affect the biological balance, the environment surrounding the human being, and may pollute the water supply. The crops that depended on fertilizers and pesticides have been linked to human exposure to fatal injuries in recent years, most notably cancer.

Also, farmers who are exposed to high amounts of pesticides are more likely to contract types of cancer. Among those diseases, which threaten those farmers more than ordinary people, are lymphomas, skin cancer, brain and prostate cancer.

Many farmers in Egypt also reported that 60% of their crops were damaged in some areas due to the use of pesticides and fertilizers unsuitable for agriculture. This negatively affects the soil and farmers' lives on the one hand, and food security in Egypt on the other.

2- External Challenges

a) The Crisis of Ethiopian Renaissance Dam

The Renaissance Dam crisis represents the biggest existential obstacle in achieving human, water and food security in Egypt, due to the detraction of the Egyptian water share as well as the lack of rich mud resources that creep into the flow of the Nile waters. Given that agriculture consumes about 80% of Egypt's water resources, it will be the sector most affected by the reduced water supply, which is exacerbated by the filling of the dam in years of drought.



According to the National Water Research Center. If the levels of the Nile water flowing into Egypt decreased by only 1 billion cubic meters, it would lead to 290,000 people losing their jobs, degrading 130,000 hectares of land, increasing food imports by \$150 million, and costing the agricultural production sector a loss of \$430 million.

In a previous statement to the Egyptian Minister of Irrigation, Mohamed Abdel-Atty, he said, “Egypt’s failure to reach an agreement with Ethiopia on the Renaissance Dam will negatively affect Egyptian food security, and that the dam may reduce Egypt’s share of water by 2%, which threatens to destroy 200 thousand acres, and the occurrence of problems for nearly a million families.”

In addition to the above, the water consumption policy in Egypt needs to be modified and needs a review of modern alternatives to irrigation and agriculture.

b) Oil Prices

The higher the world oil prices, the more negatively affected food security, as the cost of imported food commodities from abroad, as well as the higher cost of transporting them within local borders. This causes inflation rates to reach significant levels, resulting in a high cost of the food industry and the transformation of local raw materials.

c) Global Crisis

Food security in Egypt is affected by global events and crises such as the spread of the COVID-19 pandemic, international and non-international wars and economic crises. In light of the outbreak of the Corona pandemic in all countries of the world, the FAO confirmed that the resulting health, social and health repercussions had a direct impact on the availability of food, its accessibility, its



use, its nutritional dimension, and the stability of its supplies, especially in developing countries.

In addition, the rates of economic development in Egypt slowed during the period 2020-2022, and the transfers of Egyptians abroad declined after a number of them lost their jobs and delayed payment of their salaries, in addition to the withdrawal of foreign investments and the lack of foreign currencies and cash reserves, and the Egyptian peasant and agricultural sector lost many workers, land owners and traders' unknown fate of the world.

In light of these influences; The International Food Policy Research Institute (IFPRI) model indicated that for every 1% decline in global economic growth, a 2% increase in the number of people living in poverty or food insecurity could be followed.

More recently, food security has been directly affected by the outbreak of the Russian-Ukrainian war, which will be addressed in the following pages.

Repercussions of the Russian-Ukrainian War on the Global Food Security

The war in Ukraine has significant implications for global food security. It is affecting global grain and energy markets, given the key roles of both countries in global food markets, and of Russia in global energy trade.

The conflict comes at a time of unprecedented humanitarian needs, with the repercussions of climate change, conflict and the COVID-19 pandemic pushing millions closer to famine. Moreover, rising inflation and record debt are constraining countries' ability to meet recurring challenges. 44 million people in 38 countries are on the brink of famine, with the conflict expected to increase the



global number of undernourished people by 8 to 13 million people next year, most of them in the Asia-Pacific region, followed by Africa.

International food and fuel prices have risen sharply since the beginning of the conflict, affecting domestic food prices and thus access to food. At the same time, increases in grain and oil prices increase the cost of WFP's operations, reducing the ability to serve those in need and exacerbating the global food crisis.

Russia and Ukraine are among the world's most important producers of agricultural commodities in the grain sector, exporting 28% of global shipments of wheat and meslin, and 20% of corn. Their contribution to global production was particularly significant for sunflower oil, as more than half of global production came from the two countries. The high export concentration that characterizes food commodity markets is also reflected in the fertilizer sector, where the Russian Federation plays the role of the main supplier of the three main groups of fertilizers - nitrogen, phosphorous and potassium.

The Russian Federation and Ukraine are major suppliers to many countries that rely heavily on imports of food and fertilizers. Many of these countries fall into the group of least developed countries, while many others belong to the group of Low-Income Food-Deficit Countries (LIFDCs). Some countries were completely dependent on the two countries, such as Eritrea, which got all its wheat imports in 2021 from both the Russian Federation (53%) and Ukraine (47%).

Agriculture is the backbone of the economies of many developing countries, most of which depend on the US dollar for their borrowing needs. As such, the persistent appreciation of the US dollar against other currencies could have significant negative economic consequences for these countries, including their agri-food sectors. The potential reduction in GDP growth in many parts of the world will affect the global demand for agri-food products with negative consequences for global food security. Lower GDP growth is also likely to reduce



the availability of funds for development, especially if global military expenditures increase.

Conflict-induced disruptions in food exports by the Russian Federation and Ukraine expose global food markets to increased risks of tight availability, unmet import demand and rising international food prices. Ukraine was expected to export nearly 6 million tons of wheat between March and June 2022, while the Russian Federation was expected to ship another 8 million tons during this period. The closure of ports in Ukraine and the imposition of economic sanctions on the Russian Federation raises questions about whether these exports will materialize, as an estimated 13.5 million tons of wheat and 16 million tons of corn have already been frozen in the two countries.

The supply gaps resulting from the conflict are also of particular interest to buyers, and given the importance of wheat as a staple food, it may lead some countries to increase imports now to secure supplies for fear that wheat markets will become tighter and prices will rise more, and this would put additional pressure on global markets. The resulting global supply gap is expected to raise international food and feed prices by 8 to 22 per cent above already high baseline levels.

The supply gap is also due to the inability of farmers in Ukraine to tend their fields, harvest and market their crops. Between 20% and 30% of the areas planted with winter crops in Ukraine will remain unharvested during the current harvest, and the yields of these crops will certainly be negatively affected by the conflict. In the Russian Federation, the loss in export markets caused by international sanctions may lower farmers' incomes, negatively affecting future farming decisions. To add to that, economic sanctions against the Russian Federation disrupt its imports of agricultural inputs, particularly pesticides and seeds, which the state heavily depend on- leading to less farming, lower yields, and lower



quality, exposing the Russian agricultural sector and the global food supply, in general, to numerous risks.

The Russian Federation is a major player in the global energy market. Russia is the world's third-largest producer of crude oil and its second-largest exporter, as well as the largest exporter of natural gas in the world. European countries are highly dependent on Russia's imports of natural gas, with 32% of their total consumption supplied by Russia. Because of the ongoing conflict, crude oil prices rose to a 14-year high, European gas prices skyrocketed, and Russian oil supplies to global markets were disrupted even before Western countries-imposed sanctions on Russian oil exports. The increased shipping costs and uncertainty about potential buyers reduced traders' desire to order oil from Russian ports.

Rising global energy prices could increase food insecurity around the world by increasing domestic inflation. The high costs of imported energy reduce purchasing power and poor households' access to food, and the sharp rise in global fuel prices increases global grain prices that are already under pressure, exacerbating the repercussions on food security, as Agriculture is energy-intensive, especially in developed regions. Agriculture absorbs large amounts of energy directly through the use of fuel, gas and electricity and indirectly through the use of agricultural chemicals such as fertilizers, pesticides and lubricants. Higher energy prices make agricultural feedstocks (particularly corn, sugar and oilseeds/vegetable oils) competitive for bioenergy production, and given the large size of the energy market relative to the food market, this may raise food prices to their energy equivalents.

With prices of fertilizers and other energy-intensive products rising as a result of the conflict, overall input prices are expected to see a significant boost. Higher prices for these inputs will translate first into higher production costs, and eventually into higher food prices. In turn, higher input costs will affect the next season's harvest, leading to higher food prices in the long run.



Repercussions of the Russian-Ukrainian War on Egyptian Food Security

Egypt is considered as one of the most affected countries by the Russian-Ukrainian war as a result of the direct connection to its food security, depending on the import of food grains mainly from the two parties to the conflict. Wheat imports represent about 62% of the total Egyptian wheat consumption. In other words, Egypt imports more than its domestic production average of wheat, which is a major food component, as it represents about 35% to 39% of the calories consumed by the citizen. Egypt receives from abroad about 13 million tons of wheat annually, to be the largest importer of wheat in the world. The following table shows the amount of wheat that Egypt purchased from Russia and Ukraine during the period 2014-2020:

Year	Wheat Quantity from Russia (Million tons)	Wheat Quantity from Ukraine (Million tons)	Other Resources (Million tons)	Total from Russia and Ukraine
2014	4.06	2.84	4.24	%61.9
2015	4.53	1.8	4.32	%59.9
2016	5.82	2.41	2.91	%73.9
2017	7.84	2.66	2.04	%83.7
2018	9.85	1.4	1.6	%88.9
2019	6.13	3.54	3.3	%74.6
2020	8.25	3.08	1.91	%85.6

Figure No. (1). Source: International Food Policy Research Institute.

We conclude from the previous table that Egypt has recently depended on foreign wheat imports from Russia and Ukraine about 85%, and that this rate is increasing. Consequently, when war broke out besides Russia and Ukraine taking decisions to prevent the export of wheat, grain and foodstuffs abroad, closing



ports and imposing international sanctions on Russia, the food situation in Egypt will be negatively affected.

In anticipation of the reserves, Egypt has limited opportunities to obtain wheat from other countries such as Argentina or the United States, which have a limited surplus to export from. Because Egypt may face failure thanks to the high cost of shipping and international competition, especially China that- according to several reports- since the beginning of this year, it has controlled half of the world's wheat crop.

Already some countries have imposed export restrictions in response to higher prices, Moldova, Serbia, and Hungary have imposed export bans on certain grains, and Indonesia has tightened controls on the shipment of grain. These trends, along with disruptions to exports from Russia and Ukraine, are likely to add further pressures that will lead to higher prices in the future. Even under the most optimistic assumptions, global wheat prices will remain elevated throughout 2022 and that trend is likely to continue into 2023, given the constraints on expanding production.

Since the outbreak of the war, global inflation waves in the energy and food markets began to rise terribly. The highest price of a ton of wheat was recorded on March 7 to 422.5 euros (equivalent to \$533), an increase of 40%, and then began to balance a little. The following figure shows the prices of a ton of wheat (in euros) since the beginning of military operations on February 22 until the end of March:

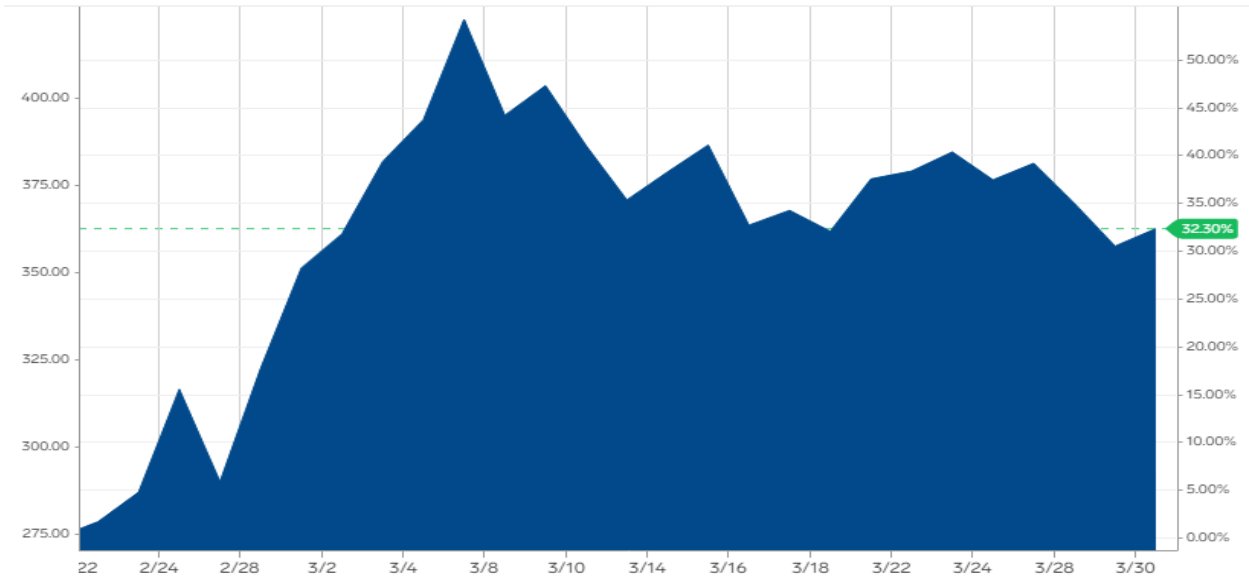


Figure No. (2): Wheat prices in the world market. Source: Market Insider

The Egyptian government spends about \$3 billion annually on wheat imports, and the recent price increase has nearly doubled that amount to reach \$5.7 billion, threatening the municipal bread subsidy system in Egypt, which provides 150 loaves of subsidized local bread per month to millions of beneficiaries. The government bears about 90% of production cost at an annual cost of \$3.24 billion. This stuff needs about 9 million tons of wheat annually—nearly half of Egypt's total wheat consumption and three quarters of Egypt's wheat imports.

The Minister of Supply and Internal Trade, Ali Moslehi, commented on this, saying: "We heard unprecedented numbers of wheat prices, and the moves of sales and purchase became limited after the inflationary wave." He continued, "If the Russian-Ukrainian wars ended today, the impact that occurred because of them would need at least a year and a half to absorb."



Moreover, oil and natural gas prices were linked to what happened in the war, especially since Russia is an influential player in the export of oil and natural gas and a member of the “OPEC +” alliance. That places a burden on the Egypt’s budget in providing food products from abroad in the short term. The Prime minister, Mostafa Madbouly, indicated that: “The price of a barrel of oil was 60 dollars, and Egypt imports 100 million barrels a year, when its price was 60 dollars, it becomes 60 billion dollars a year, 500 million dollars a month. Now, we are asked for \$12 billion a year, or \$1 billion a month. This is a very great pressure on the currency and the state. But if the citizen starts rationalizing consumption and not moving and unnecessary movement, it will help us as a state in rationalizing quantities.”

Limits of the Egyptian Moves

The Egyptian government has taken several decisions to address the consequences of the Russian-Ukrainian war on its food security. It starts with banning the export of some food grains during the next three months, including (gravel and crushed beans, lentils, wheat, and flour of all kinds, as well as pasta of all kinds). Although this may expose the monetary reserve to risks as a result of export prevention and an increase in the headline inflation rate, which was on the rise during last February (which reached its highest rate of 8.8%). This may be in the interest of the citizen to secure the minimum level of food security.

In order to combat inflation, the Central Bank of Egypt raised the interest rate by 100 basis points, or 1%. The Monetary Policy Committee of the Central Bank of Egypt interpreted the decision as a result of higher international commodity prices resulting from further disruptions in the supply chain in addition to an increased sense of risk aversion that increased domestic inflationary pressures as well as external imbalances. It explained that in order to maintain the macroeconomic stability that has been achieved, the Central Bank stressed the



importance of the exchange rate flexibility to serve as a shock absorber to maintain Egypt's competitiveness. Thus, raising the interest rate will be reflected in the government's automatically raising the interest rate on treasury bills, which leads to stopping the flow of hot money abroad, estimated at about \$26 billion in Egyptian banks, and this helps to stabilize the value of the Egyptian pound.

There are policies that have been followed for years to protect Egyptian food security, especially providing a reserve of strategic commodities. Recently, the reserve ratios of wheat, rice, oil, sugar and legumes increased from 3 to 12 months. The strategic wheat reserve in Egypt and the domestic supply this season (10 million tons) may enable stability for the next 6 months, but the government must move quickly and find alternatives to import other than Russia and Ukraine. Egypt canceled a tender after it withdrew a single bid for French grain.

Egypt needs to diversify its food import sources in the short term, and the total domestic production of wheat for the 2021-2022 marketing year is expected to reach 9 million metric tons, means only 1.12% higher than the previous year when total domestic production reached 8.9 million metric tons. These measures can relieve some of the pressures placed on the Egyptian economy, but they will likely affect Egyptian trade relations in the long run, as well as Egypt needs to explore options to reduce the gap between domestic supply and demand.

The government is considering replacing the in-kind food subsidy with cash support for foodstuffs, but this may expose many poor classes to the risk of starvation in light of the high prices of food commodities. Although the income and expenditure research conducted by the Central Agency for Public Mobilization and Statistics revealed a decrease in poverty rates in Egypt to 29.7% in (2019-2020), compared to 32.5% in (2017-2018). The rate of extreme poverty (those who cannot secure their food needs) decreased at the level of the Republic to 4.5% in (2019-2020) compared to (2017-2018), and these people are exposed to significant food risks when any rise in food prices occurs globally and locally.



Perhaps the Egyptian government will have an opportunity to use an alternative to wheat in the production of bread with corn to compensate for the deficit in wheat.

Conclusion

The Russian-Ukrainian war poses a major challenge to global and Egyptian food security as a result of direct dependence on Russian and Ukrainian wheat imports. The Egyptian government has taken several proactive steps to address the risks that may expose the people to starvation and global and local inflation. Although these precautions and actions may be a solution to the crisis in the short term, the Egyptian government needs to find many alternatives and solutions to ensure a safe level of food security continuity. Egypt's position increased by two places in the food security index for the year 2021 compared to the previous year, but the cost of the war may affect the food security indicators (food availability, access, and utilization) for the current year 2022.