DOI: 10.46299/979-8-90214-594-3.4

Chapter 4. International activity of agricultural enterprises in Ukraine

In recent years the international activity of Ukrainian agricultural enterprises is shaped by the ongoing war, shifts in global markets, and evolving trade relations. Despite severe challenges, Ukraine remains a significant player in global food supply.

The Russian invasion continues to disrupt agricultural production and logistics, especially in eastern and southern regions. Blocked or threatened Black Sea ports have forced Ukraine to rely on alternative routes via the EU and the Danube, increasing transport costs and complexity. At the same time, Ukraine has strengthened economic integration with the EU through preferential trade arrangements. The EU remains Ukraine's dominant trading partner, supported by tariff-free access. China, India, Turkey, Egypt, and other Middle Eastern and African states continue to be major buyers of Ukrainian grain and oilseeds. Ukraine is also seeking to expand into niche markets in North America, particularly for sunflower oil and organic products.

Ukraine continues to be a major global exporter of wheat, corn, barley, and sunflower oil, although production remains below pre-war levels. Agricultural enterprises are diversifying crop structures expanding soybeans, legumes, and higher-value crops to maintain competitiveness. Export flows remain directed primarily to the EU, Middle East, North Africa, and Asia, where demand for Ukrainian grain and oilseeds is strong.

Global concerns over food security reinforce Ukraine's importance as a supplier to food-insecure regions. Sustainability requirements, especially from EU markets, are driving Ukrainian enterprises to adopt more environmentally responsible practices and precision agriculture technologies. Compliance with higher standards in areas such as pesticide use, carbon footprint, and traceability is increasingly necessary for maintaining international market access.

International investment continues, though at a cautious pace due to security risks. Foreign capital and international financial institutions support infrastructure

rebuilding and modernization. Technological innovation - in automation, digital monitoring, and precision farming is becoming essential for compensating for labor shortages and improving efficiency.

Thus, the agricultural sector of Ukraine's economy faces a number of challenges related to the war, disruption of logistics channels, the need to diversify markets, labor shortages, and the need to harmonize with international sustainable development standards in order to maintain export positions. The high yield in 2021 allowed Ukrainian farmers to balance their financial resources at the beginning of the full-scale invasion thanks to significant carryover stocks.

However, this financial cushion has been exhausted, and most market operators now note that difficult times with many challenges have come for the agricultural sector, and only those enterprises that can adapt to the new conditions will be able to survive.

We will compare the state of the agricultural sector before and after the full-scale invasion, identify the challenges currently facing the development of agricultural enterprises, and make further predictions about the prospects for the international activities of Ukraine's agricultural sector.

Agriculture has long been one of the most significant sectors of Ukraine's economy next to industry and trade. For the example, in gross value added structure agriculture occupied 10,8% in 2021 (Figure 1).

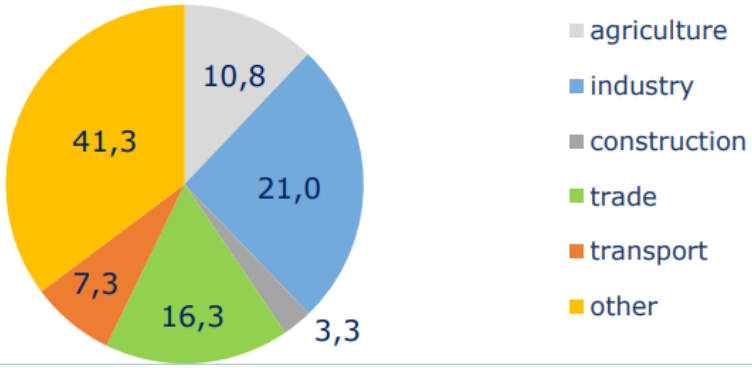

Figure 1. Gross value added structure in Ukraine, 2021, %

Source: stat.gov.ua

At the same time, like for other industries, war significantly changed the structure, if we consider recent data, the share of agriculture drastically dropped to 7,41% in 2023, that was the lowest indicator for the last 10 years (Figure 2).

Figure 2. Agricultural sector share in gross value added structure in Ukraine, 2014-2023, %

Source: stat.gov.ua

But still it's high even in comparison with other EU countries that usually associated with strong agriculture tradition (Figure 3).

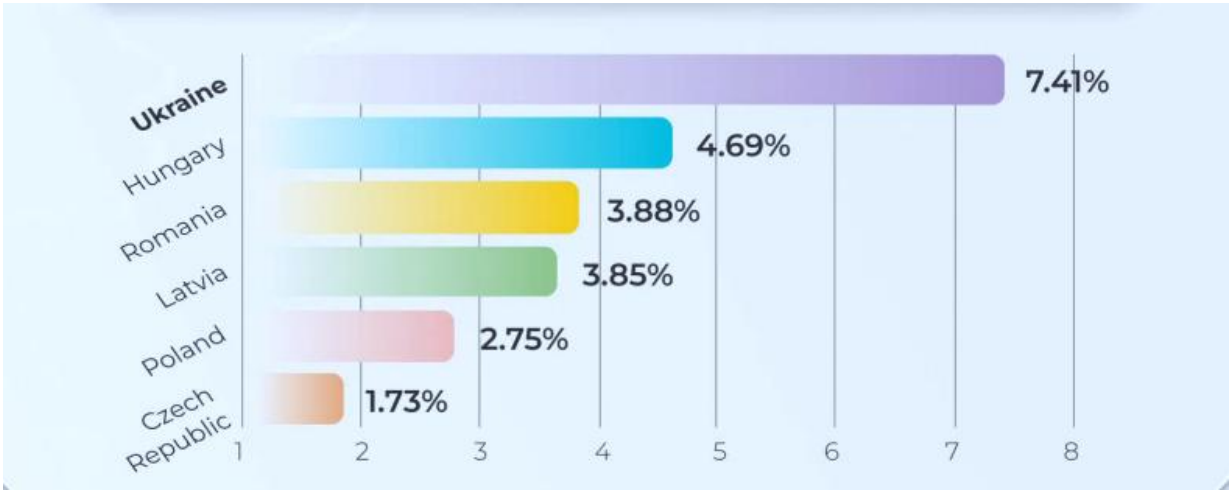

Figure 3. Agricultural sector share in gross value added structure in different countries, 2023, %

Source: Our World in Data

Despite the observed decline in the share of the agricultural sector in Ukraine's GDP over the analyzed period, agriculture continues to occupy a structurally significant position in the national economy. Its relative weight remains high not only within the domestic economic system, but also in comparison with countries traditionally characterized by strong and export-oriented agricultural sectors. This underscores the systemic importance of Ukrainian agriculture as a stabilizing factor and a key contributor to external trade revenues.

A notable downward shift in the sector's share becomes evident starting in 2022 — the year marked by russia's full-scale military invasion of Ukraine. This turning point requires a more nuanced examination of the underlying factors. Specifically, it is essential to investigate whether the contraction is primarily driven by a real decline in agricultural output (both in physical production and value terms), or whether it results from broader structural changes within GDP. Such structural shifts may include an expansion or contraction of other sectors, alterations in price dynamics, war-induced distortions in production chains, or changes in the composition of value added across the economy.

To clarify these dynamics, it is necessary to analyze the structure of gross value added (GVA) in Ukraine and trace how the relative positions of key economic sectors evolved under the influence of wartime conditions. A detailed breakdown of GVA by sector provides insights into whether agriculture's reduced share reflects a genuine sectoral weakening or is instead the consequence of disproportionate declines or growth in other segments of the economy. The following section presents the structure of gross value added in Ukraine, which is visually illustrated in Figure 4.

We can see according to the gross value added structure that war significantly changed shares of different sectors. Thus, if in 2021 share of agricultural sector was next to industry and trade, in 2022 almost 24% was occupied by public administration and defence, almost 14% by trade and repair of motor vehicles.

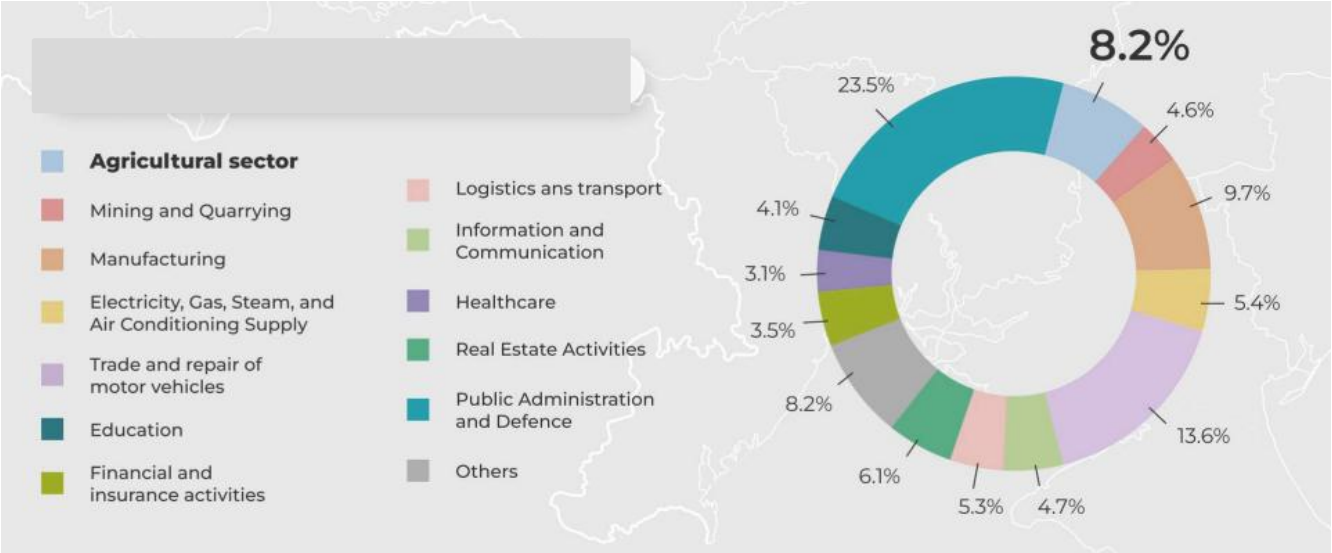

Figure 4. Gross value added structure in Ukraine, 2022, %

Source: stat.gov.ua

Let's consider the food and agricultural turnover in Ukraine during last 5 years to understand the reasons (Figure 5).

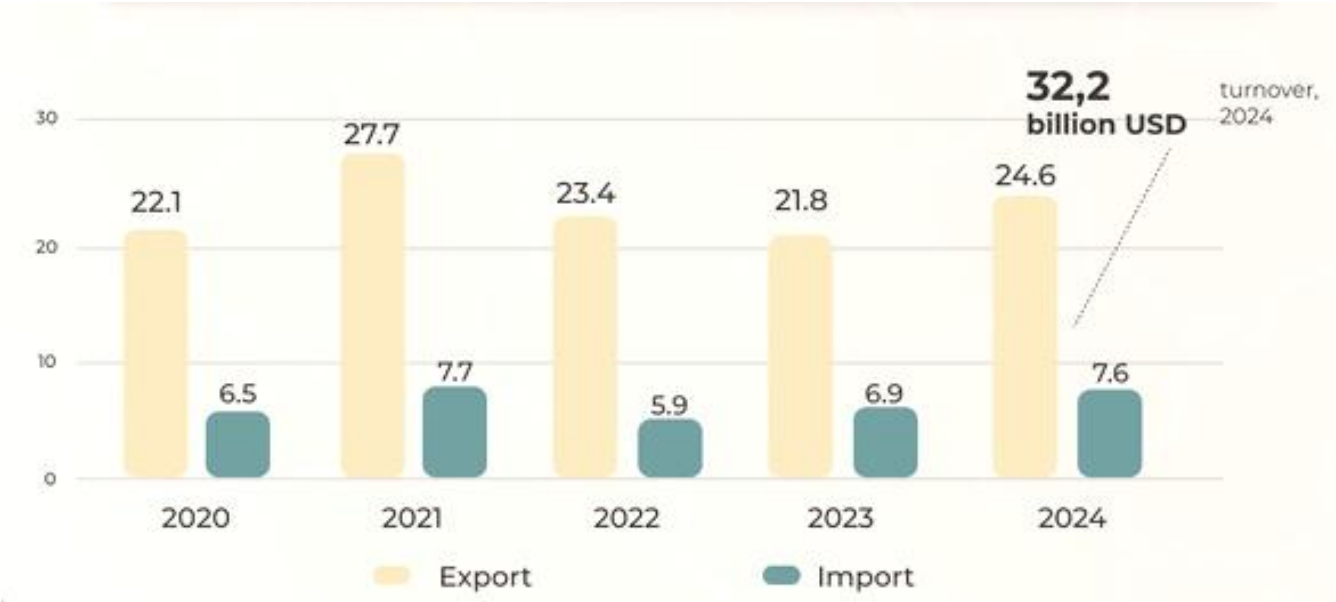

Figure 5. Food and agricultural turnover in Ukraine, 2020-2024, bln.USD

Source: stat.gov.ua

Based on export and import dynamics for 2020-2024, there has been no significant growth in exports of agri-food products, at least in terms of value. It

should be noted that the figures for 2022-2024 are indeed lower than those for 2021, but 2021 was a bumper year for all agricultural producers, so it is necessary to compare them with 2020. If we compare the dynamics of exports in 2020 and the period 2022-2024, we even see a tendency towards growth, which indicates that export positions in the agricultural sector have been preserved. At the same time, most market operators note that the preservation of export positions after a full-scale invasion is precisely due to transitional stocks in the bumper harvest year of 2021 for subsequent periods, and the real consequences of the full-scale invasion and their impact on export positions in Ukraine's agricultural sector will begin to be statistically reflected from 2025.

This is indirectly evidenced by the exceptionally high agricultural production figures in Ukraine for 2021 (Figure 6).

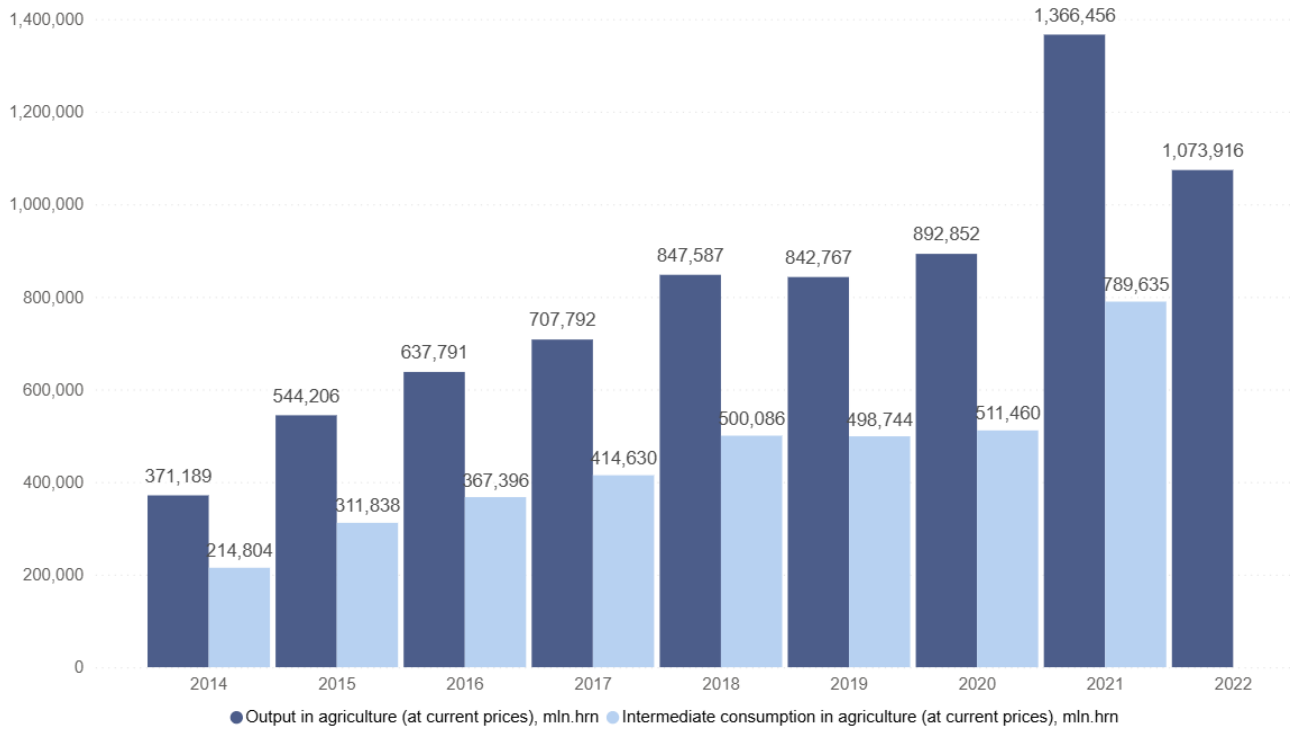

Figure 6. Production and intermediate consumption in agriculture in Ukraine, 2014-2022, in actual prices, mln UAH

Source: stat.gov.ua

Over recent decades, the international activities of Ukrainian agricultural enterprises have evolved significantly. These activities span various aspects, from export expansion to cross-border partnerships, foreign investments, and integration into global food supply chains. However, this progress has not been without challenges, particularly due to geopolitical tensions, regulatory barriers, and environmental concerns.

The high level of development of Ukraine's agricultural sector is dictated by the abundance of fertile soils and a climate conducive to growing a variety of crops. Since 2014, Russia’s war against Ukraine has dramatically disrupted the soil environment and caused large-scale and long-term environmental degradation. The full-scale invasion since 24 February 2022 has further aggravated the problem of soil degradation and had a significant impact on productivity. Moreover, the high intensity of fighting in certain areas has called into question the safety of using land directly affected by the military action.

Eruptions from aerial bombs and artillery shelling, mined territories, destroyed heavy military equipment, leakage of oil products, burned areas from fires, and landslides have become the main markers signalling a powerful impact on soil resistance to pollution, bringing with it severe socio-economic consequences, both locally and nationally.

This drastic change of landscape requires an immediate and comprehensive study, followed by the development of policies for the management of lands contaminated by war. Failure to act on the identified problem risks causing accelerated soil erosion, adversely affecting production, spreading toxic and contaminated agricultural or other products, and harming human health.

Recent crises-including climate extremes and ongoing war in Ukraine—have sharply exposed vulnerabilities in agriculture. We try to integrate current insights of 2024–2025 into the theoretical underpinnings of anti crisis management systems adapted to agricultural enterprises. It draws on systems theory, risk and resilience concepts, digital transformation, circular economy, institutional responses, and

supply chain resilience. The aim is to provide a rigorously updated framework for building resilient agri enterprises amid escalating challenges.

Ukraine's agricultural sector plays a crucial role in global food production. It is a top producer and exporter of grain, particularly wheat, corn, and barley. In addition to grain, Ukraine produces a significant amount of sunflower oil, sugar beets, and various fruits and vegetables. The country has a diverse agro-industrial complex that includes dairy, poultry, and livestock sectors, although grain and oilseeds are the most prominent.

Let's concider the Ukrainian export of goods by categories in 2024 (Figure 7)

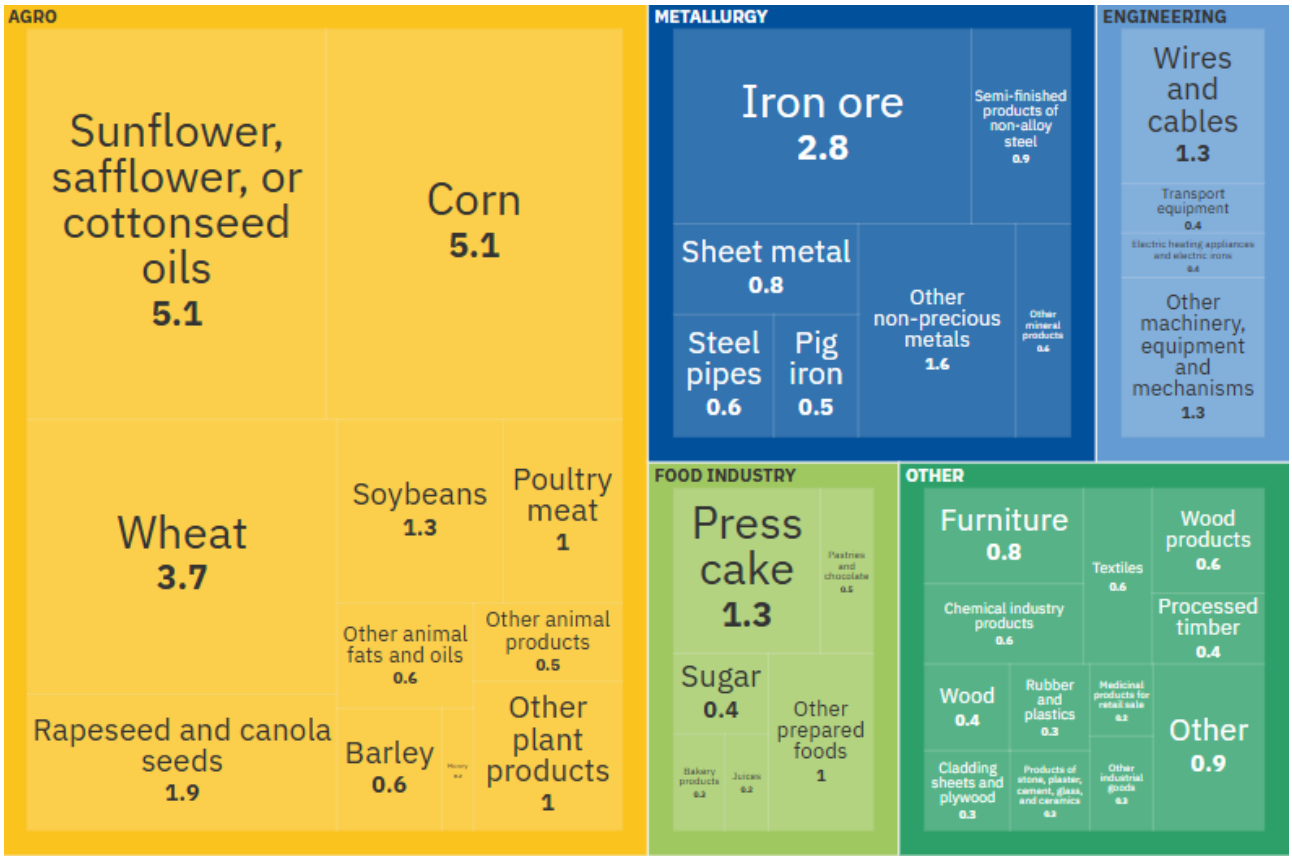

Figure 7. Ukrainian export of goods by categories in 2024, bln USD

Source: built by the authors on the basis of [24]

In 2024, Ukraine demonstrated a significant recovery of its export potential despite the persistent constraints imposed by the full-scale war. The total value of exported goods reached approximately 41 billion USD, marking a notable increase

compared to 2023. This positive dynamic was driven both by the restoration of maritime logistics and by the sustained competitiveness of key export-oriented sectors. In quantitative terms, exports amounted to more than 129 million tonnes, which reflects an almost one-third growth rate relative to the previous year. The reactivation of seaports played a decisive role in this expansion, as maritime shipments accounted for the overwhelming share of outbound trade flows and rose to levels approaching pre-war norms.

The dominant component of Ukraine's export structure in 2024 remained the agricultural sector. Agricultural and food-related commodities accounted for approximately half of total export revenues, reaffirming the pivotal function of agribusiness in the national economy. In value terms, agricultural exports were estimated at 20,9-24,5 billion USD, depending on methodological approaches and the inclusion of processed goods. Notably, this represented not only an expansion in absolute volumes, but also a strengthening of agriculture's relative contribution to Ukraine's trade balance, with some assessments indicating that agro-products constituted nearly 59% of export earnings.

The composition of agricultural exports in 2024 was traditionally concentrated around grain, oilseed, and fat-and-oil products, which collectively formed the core of Ukraine's agro-industrial specialization. Corn, with export revenues of roughly 5 billion USD, and wheat, valued at about 3,7 billion USD, remained the leading cereal commodities. The oil-and-fat industry maintained its global competitiveness as well: sunflower oil - a product in which Ukraine has long been a world leader—generated more than 5 billion USD, while export deliveries of related by-products such as oil-cake exceeded 1 billion USD. Oilseed crops, notably rapeseed and soybeans, contributed additional revenues of approximately 1,8 billion USD and 1,3 billion USD, respectively. Alongside primary commodities, processed agro-products also expanded their presence on international markets. Exports of sugar approached 418 million USD, while meat and poultry supplies amounted to close to 1 billion USD, demonstrating gradual diversification within the sector.

Ukraine remains one of the world's most important agricultural players in 2025, despite the ongoing challenges posed by geopolitical instability and environmental issues. As a major producer and exporter of agricultural commodities, Ukraine's agricultural sector plays a central role in global food security, influencing both international markets and supply chains. Place of Ukraine in agricultural production among other exporting contries in the world (Figure 8).

Figure 8. Place of Ukraine in the world among exporting countries in 2023-2024 MY, % of world exports, by tonnage

Source: [23]

Ukraine exports the majority of its agricultural and food products to markets in Europe and Asia, with a particularly strong presence in the Middle East, the countries of the so-called "Global South," and the People's Republic of China. This geographic concentration of export flows, while historically shaped by logistical routes, established trade partnerships, and long-standing demand patterns, simultaneously creates structural risks for the stability and predictability of Ukraine's export revenues. High dependence on a limited number of destination regions increases vulnerability to geopolitical turbulence, market volatility, changes in import regulations, and disruptions in transport corridors. Therefore, diversification of external markets becomes a strategic priority for strengthening the resilience and sustainability of Ukraine's agricultural exports.

Within this context, Africa has emerged as one of the most important and rapidly growing importers of agricultural products globally. The continent's demographic expansion, increasing urbanization, and gradual rise in food demand have made African markets progressively more attractive to international suppliers.

Recognizing these dynamics, Ukraine has markedly intensified its engagement with African states since 2022. This shift has been driven both by economic considerations and by the broader geopolitical environment shaped by russia's full-scale war against Ukraine.

Key instruments of this renewed engagement include the Grain from Ukraine humanitarian program, which aims to supply grain to countries facing acute food insecurity, and the expansion of Ukraine's diplomatic presence through the opening of new embassies in regions where representation had previously been limited or entirely absent. These steps signal a long-term commitment to developing deeper trade, political, and humanitarian ties with African partners.

Importantly, Ukraine's strategic outreach to Africa serves a dual purpose. Beyond opening new markets and strengthening export diversification, it also acts as a vital mechanism to counter russia's attempts to weaponize global food insecurity as a tool of hybrid aggression. By reinforcing its role as a reliable supplier and humanitarian partner, Ukraine contributes to the stabilization of global food systems and undermines narratives used by russia to manipulate public opinion and exert geopolitical pressure in vulnerable regions. Let's consider the agri-food exports from Ukraine to Africa (Figure 9).

By the end of 2023, Ukraine had supplied more than 170,000 tonnes of grain and grain-based products, with African states accounting for the majority of this volume. Beneficiary countries included Ethiopia, Somalia, Kenya, Sudan, Nigeria, and Djibouti (used as a logistical hub for onward distribution to the Horn of Africa), where the grain was delivered primarily through partnerships with the World Food Programme (WFP). These shipments provided essential support to food-insecure populations in regions experiencing some of the most severe humanitarian crises worldwide. In Ethiopia and Somalia, Ukrainian grain contributed to emergency food assistance during one of the most severe droughts in four decades. In Kenya, deliveries helped stabilize food aid allocations in arid and semi-arid regions, whereas in Sudan and Nigeria the program mitigated disruptions caused by armed conflict, economic instability, and widespread displacement. Subsequent official

communication reported that 110,000 tonnes of Ukrainian grain had been supplied to Ethiopia and Somalia under the initiative, reflecting the high-priority status of the Horn of Africa within global humanitarian food assistance schemes. Likewise, documented evidence confirms that Kenya received at least 25,000 tonnes of wheat through a 2023 shipment facilitated under the program.

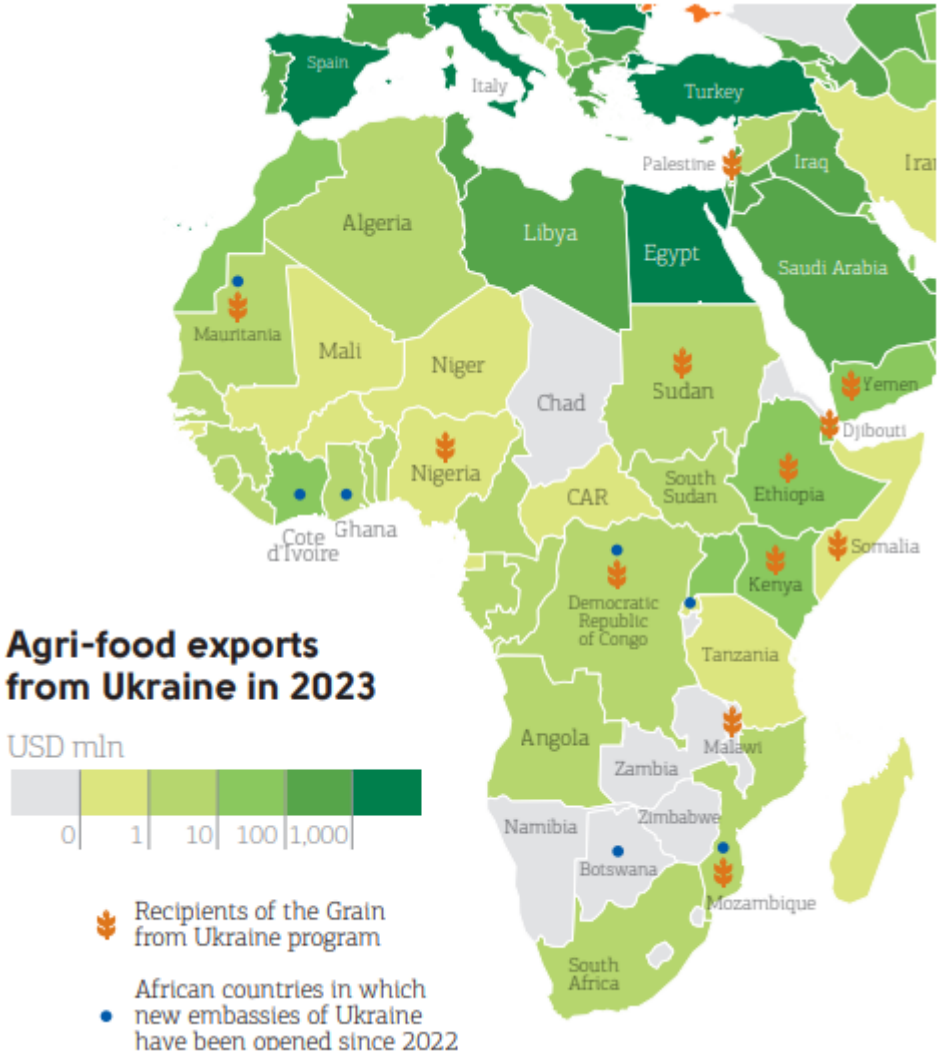

Figure 9. Agri-food exports from Uraine to Africa in 2023, mln USD

Source: [29]

Let's consider the main challenges in agri-food export to Ukraine under the example of main importers of it in East Africa, particularly: Ethiopia (recipient of the Grain from Ukraine program), Tanzaia and Kenya (recipient of the Grain from Ukraine program).

Ethiopia — in 2024 home to an estimated 132.1 million inhabitants - continues to exhibit substantial demographic growth and ongoing economic transformation. That population figure represents a marked increase compared with earlier decades, confirming sustained high growth rates.

Economically, the country has registered persistent expansion. As of 2024, its GDP was approximately US$ 118,972 million, with a GDP per capita of around US$ 964.3. The structure of value added shows that agriculture contributes a significant though reduced share of GDP: according to recent data, agriculture accounts for roughly 34.9–38.8% of Gross Value Added (GVA), while industry and services constitute increasingly larger shares.

Similarly, employment statistics indicate that in 2024 about 62.8% of the employed population works in agriculture, marking a gradual shift away from purely agrarian livelihoods.

However, despite these economic advances, Ethiopia continues to face acute challenges in food security and nutrition. According to a recent assessment by the World Food Programme (WFP), over 58% of the population is estimated to suffer moderate or severe food insecurity, and only about one in four households currently has access to a nutritious diet.

This underscores the persistent structural vulnerability of large segments of the population, especially in rural areas, where climatic shocks, economic disruption, and limited infrastructure exacerbate existing deficits.

Agricultural self-sufficiency remains uneven. While Ethiopia retains a relatively lower cereal import-dependency ratio compared to many of its East African neighbors — thanks to robust domestic cereal production — certain sub-segments of the agricultural import basket (e.g., vegetable oils, processed foods) have seen increases in import value.

Simultaneously, domestic production of staple crops such as wheat and maize has expanded; for instance, nationwide wheat output has reportedly increased several-fold over the past two decades.

On the export side, Ethiopia continues to rely heavily on a relatively narrow portfolio of agricultural commodities: coffee remains the dominant foreign-exchange earner, supplemented by oilseeds, pulses, hides and skins, and livestock products.

Exports to Ukraine are minimal; trade flows with Ukraine are limited and primarily consist of cereals such as wheat and maize. As a result, while the export of agri-food commodities remains vital for Ethiopia's foreign trade, the direct contribution of Ukraine–Ethiopia trade to these exports remains modest. In quantitative terms, Ukraine's exports to Ethiopia remain limited, confirming that bilateral trade plays only a marginal role in Ethiopia's overall import structure. According to international trade statistics, Ethiopia's imports from Ukraine in 2023 amounted to approximately US $83.48 million, the overwhelming majority of which—US $65.93 million—fell within the cereals category, predominantly wheat and maize. Other exported commodities, including animal and vegetable fats, edible vegetables and tubers, milling products, meat, and iron and steel, constituted only a minor fraction of the total import value and did not substantially affect the composition of Ethiopia's agricultural or industrial import basket. By contrast, preliminary data for 2024 indicate a substantial contraction in bilateral trade, with total Ukrainian exports to Ethiopia declining to an estimated US $1.63 million.

In light of these dynamics, agriculture continues to represent a foundational pillar of the Ethiopian economy — both in terms of employment and rural livelihoods — even though its relative share in GDP is gradually declining. The sector's structural constraints remain formidable: only a small fraction of arable land benefits from irrigation, soil degradation and climate variability continue to undermine productivity, and investment in agricultural inputs remains insufficient.

Ethiopia's government has responded by advancing strategies intended to modernize agriculture, increase productivity, and improve food security. Nevertheless, given the latest data on food insecurity, poverty, and structural vulnerability, the challenge remains significant. Poverty — particularly multidimensional poverty, which encompasses nutrition, health, and living conditions

— continues to affect a large proportion of the population, impeding broad-based gains in welfare despite macroeconomic growth.

Tanzania, with a population of approximately 66 million in 2024, has experienced substantial demographic growth in recent decades. Nevertheless, its economic development has progressed more gradually than that of other East African countries, such as Kenya and Ethiopia. This comparatively modest growth can be attributed to delayed structural reforms, declining industrial productivity, and underdeveloped financial markets. Despite these constraints, Tanzania has demonstrated gradual improvements in food security. According to the 2024 Global Hunger Index (GHI), the proportion of undernourished individuals remains at roughly 23%, situating the country just below the regional average. However, unlike Ethiopia, the absolute number of undernourished individuals has continued to rise over the past twenty years due to persistent rural poverty, leaving a substantial segment of the population vulnerable to food shortages and malnutrition.

Tanzania has made notable strides in achieving food self-sufficiency. The cereal import dependency ratio has declined markedly, from over 10% two decades ago to approximately 2.5% in 2023-2024, reflecting an increased capacity to satisfy domestic demand through local agricultural production. Concurrently, the monetary value of food imports has increased, with cereals, vegetable oils, and sugar comprising the majority of imported commodities.

On the export side, Tanzania’s agri-food sector remains diversified relative to many neighboring countries. Principal export products include oilseeds, vegetables, roots and tubers, fruits and nuts, and fish, with major destinations encompassing China, India, Vietnam, and regional partners such as Uganda. Trade with Ukraine remains limited and is primarily concentrated in cereals and vegetable oils, products for which Ukraine is a leading global supplier.

Although Tanzania is less dependent on Ukraine than countries in North Africa or the Horn of Africa, Ukrainian agri-food exports exert an indirect yet significant influence on domestic food supply and market stability. Between 2018 and 2021, Tanzania’s annual imports from Ukraine averaged 50–90 thousand tonnes of wheat

and 8–12 thousand tonnes of sunflower oil, supplied through a combination of direct commercial shipments and humanitarian procurement via the World Food Programme (WFP). Disruptions to Ukraine's export capacity - caused by port blockades, reduced harvests, elevated logistics costs, or instability in Black Sea shipping routes - have the potential to affect Tanzanian markets. Moderate reductions in Ukrainian grain exports during 2022–2023 contributed to global wheat price increases of 20–30%, translating into higher import costs and local price pressures across East Africa, including Tanzania. Consequently, although Tanzania is not a primary African trading partner of Ukraine, the country remains indirectly exposed to fluctuations in Ukraine's agri-food export performance due to the interconnected nature of global grain markets.

Agriculture continues to be a cornerstone of Tanzania's economy. In 2023–2024, approximately 63–65% of the population remains engaged in agricultural activities, while the sector contributes 26–27% of GDP, reflecting relative stability over the past three decades. Crop production is dominated by maize and cassava, supplemented by substantial outputs of sweet potatoes, sugarcane, bananas, and rice. Livestock production is also significant, with cattle meat and milk as primary outputs, alongside goat milk and poultry products. Overall agricultural output has increased by approximately 230% over the past twenty years. Nevertheless, the sector continues to face structural challenges, including limited access to finance, inadequate infrastructure, and reliance on traditional farming methods. Smallholder farmers, who constitute the majority of the agricultural workforce, frequently lack access to modern technologies, high-quality seeds, and fertilizers, impeding sector modernization and competitiveness.

To address these challenges, the Tanzanian government continues to implement the Agricultural Sector Development Programme II, scheduled through 2028. The programme aims to enhance agricultural productivity, promote commercialization, and improve market access, with particular emphasis on smallholder farmers. Key initiatives under this Programme include the expansion of irrigation infrastructure, modernization of rural transportation networks, and

increased investment in value-added processing. Improving access to finance for farmers and agribusinesses constitutes a critical component of the programme, addressing one of the primary constraints to growth within the sector. Collectively, these measures seek to strengthen Tanzania's competitiveness in domestic and international markets while promoting long-term sustainability in its agricultural system.

Kenya, with an estimated population of 55 million in 2024, continues to demonstrate stronger and more sustained economic growth than many of its East African neighbours. This performance has been underpinned by substantial public infrastructure investments, expanding private-sector activity, and comparatively stable fiscal and monetary frameworks. Kenya also benefits from one of the most advanced and integrated financial markets in Sub-Saharan Africa, which has facilitated capital mobilisation, innovation in digital finance, and greater economic resilience during periods of external volatility.

Despite these macroeconomic achievements, food insecurity remains a persistent structural challenge. Although the share of undernourished individuals has remained relatively stable at around 23–24%, the absolute number of food-insecure people has continued to rise, reaching approximately 15,6 million in 2023. This trend reflects widening socioeconomic inequalities, high regional disparities in food access, recurrent droughts in arid and semi-arid lands, and rising dependence on imported cereals. Kenya's exposure to global price fluctuations has heightened vulnerability, particularly during the cereal price spikes of 2022-2023.

Kenya's agri-food imports have expanded steadily in recent years. Wheat, maize, rice, vegetable oils, and sugar constitute the primary import categories. On the export side, the country exhibits a high degree of product specialization. Tea, coffee, and cut flowers remain dominant export commodities. Kenya is the world's largest exporter of black tea and one of the leading suppliers of floriculture products to Europe. Major destination markets include Pakistan (for tea), as well as the Netherlands and the United Kingdom for horticultural goods, particularly cut flowers. Although export volumes and earnings have increased, Kenya remains structurally

dependent on imports to meet its domestic consumption of wheat and, increasingly, maize and rice.

Ukraine has historically been an important - though not primary - supplier of cereals to Kenya. Between 2018 and 2021, Ukrainian exports to Kenya averaged:

- 350,000 - 650,000 tonnes of wheat per year, accounting for 8–12% of Kenya's total wheat imports.
- 20,000 - 40,000 tonnes of maize annually, depending on domestic production cycles.
- Regular shipments of sunflower oil, though at significantly lower volumes than wheat.

As a result, the disruptions to Ukraine's export capacity had direct implications for Kenya's food import bill. The contraction of Ukrainian grain exports in 2022–2023 contributed to global wheat price increases of 20–30%, which were transmitted into higher domestic prices for wheat flour, maize flour, and bread products. Kenya was among the East African countries most exposed to these fluctuations due to its high dependence on imported cereals.

The World Food Programme (WFP) continues to play a central role in Kenya's food-security landscape. Programmes implemented between 2022 and 2024 have increasingly focused on climate-resilient agriculture, livelihood diversification, and anticipatory action frameworks, in addition to humanitarian assistance.

Agriculture remains a critical pillar of the Kenyan economy. In 2023, the sector contributed approximately 21% to GDP, while employing 32% of the national workforce, a comparatively lower share than in neighboring countries due to Kenya's more diversified economic structure. Key crops include maize, sugarcane, tea, coffee, potatoes, horticultural products, and an expanding segment of high-value fruits (avocado, mango). Livestock production is dominated by dairy, in which Kenya is the regional leader, alongside significant production of beef, goat meat, and poultry. Although agricultural output has increased by roughly 160% over the past two decades, production growth has not kept pace with population expansion or rising food-demand pressures.

The sector continues to face structural constraints, including climate variability, limited irrigation infrastructure - currently covering only about 3-4% of cultivated land-low productivity levels, and insufficient access to credit and modern inputs. In response, government strategies such as Kenya Vision 2030, the Agricultural Sector Transformation and Growth Strategy (2019–2029), and the Agricultural Policy 2021 prioritize modernization, irrigation expansion, digitalisation of agricultural services, and stronger integration into regional and global value chains. Recent policy measures emphasize value addition, especially in the tea and coffee subsectors, to enhance export competitiveness and improve farmer incomes.

Climate resilience and sustainability have become increasingly central to Kenya's agricultural policy agenda in 2023-2024. Strengthening market infrastructure, improving financial inclusion for smallholders, and expanding public and private investment remain essential priorities for enhancing productivity, improving food security, and safeguarding the long-term stability of Kenya's agricultural system.

On the basis of above research, we can conclude, that Kenya is one of the most prospective country for Ukrainian export and taking into account the fact, that Kenya is one of the recepirnts in the Grain from Ukraine Program, it's essential to use all measures and tools to expand Ukrainian share on this market.

So, the full-scale russian invasion of Ukraine has generated extensive disruptions across the national economy, with the agricultural sector - traditionally one of Ukraine's most productive and export-oriented industries - experiencing particularly severe losses. As a key global supplier of cereals, oilseeds, and vegetable oils, Ukraine's reduced production and export capacity have implications not only for domestic economic stability but also for international food security. Let's concider the damages and losses of agricultural industry of Ukraine because of the war.

War-related damages include the destruction and contamination of agricultural land, loss of machinery and storage facilities, and damage to transport and port infrastructure essential for export logistics. Large areas of farmland in frontline and occupied regions have become inaccessible, leading to notable declines in sown areas

and harvest volumes. At the same time, indirect losses have intensified due to export blockades, rising logistics costs, disrupted supply chains, and increased prices for critical inputs such as fuel and fertilizers.

The cumulative impact of these factors has significantly undermined farm profitability, constrained investment, and weakened the long-term resilience of the sector. Assessing and addressing these losses is therefore critical not only for Ukraine's economic recovery but also for stabilizing global agricultural markets affected by reduced Ukrainian export flows.

On Figure 10 shown the losses of Ukrainian agricultural sector during the war in 2022-2023, estimated by Latifundist.

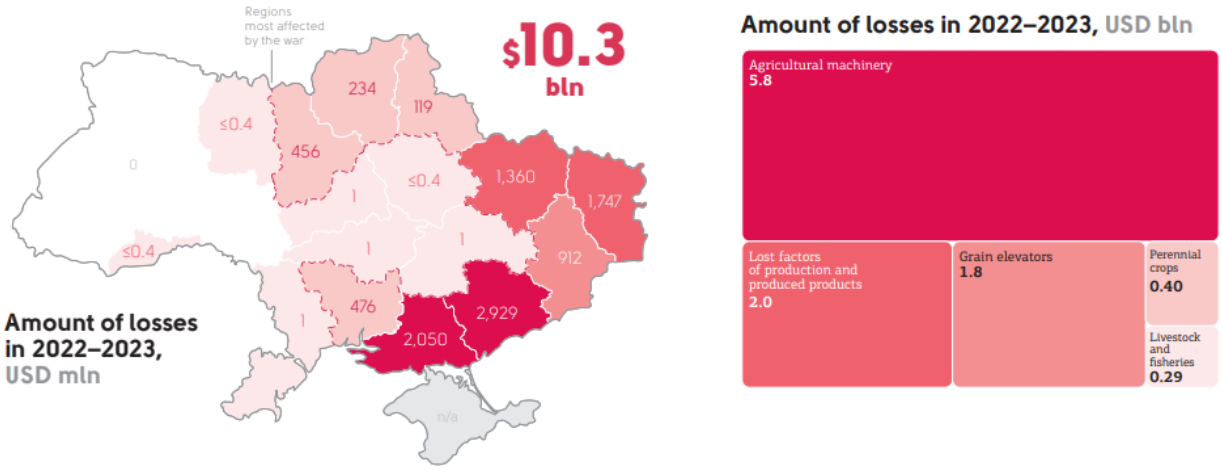

Figure 10. Losses of Ukrainian agricultural sector during the war, 2022-2023, bln USD

Sourse: https://latifundist.com/

Damages represent the monetary valuation of material assets that were destroyed, stolen, or partially impaired - yet still technically capable of repair or restoration - as a direct consequence of hostilities and territorial occupation. The greatest losses were recorded in the segment of agricultural machinery, particularly tractors, with more than 18,000 units rendered inoperable. Substantial destruction also affected grain elevator infrastructure, resulting in a reduction of total storage

capacity by approximately 19,5%, not including facilities that remain inaccessible in occupied areas.

Furthermore, agricultural production on occupied territories was entirely lost, accompanied by the destruction of essential input stocks such as fertilizers, fuel, and crop protection materials. The livestock sector experienced severe setbacks due to animal deaths and widespread forced culling: losses amounted to an estimated 238,000 head of cattle, 544,000 pigs, 131,000 sheep and goats, and nearly 13 million poultry. Aquaculture and fisheries likewise incurred significant damage, particularly following the destruction of the Kakhovka Dam, which led to extensive ecological and production-related losses.

On Figure 11 shown the indirect losses of Ukrainian agricultural sector during the war in 2022-2023, estimated by Latifundist.

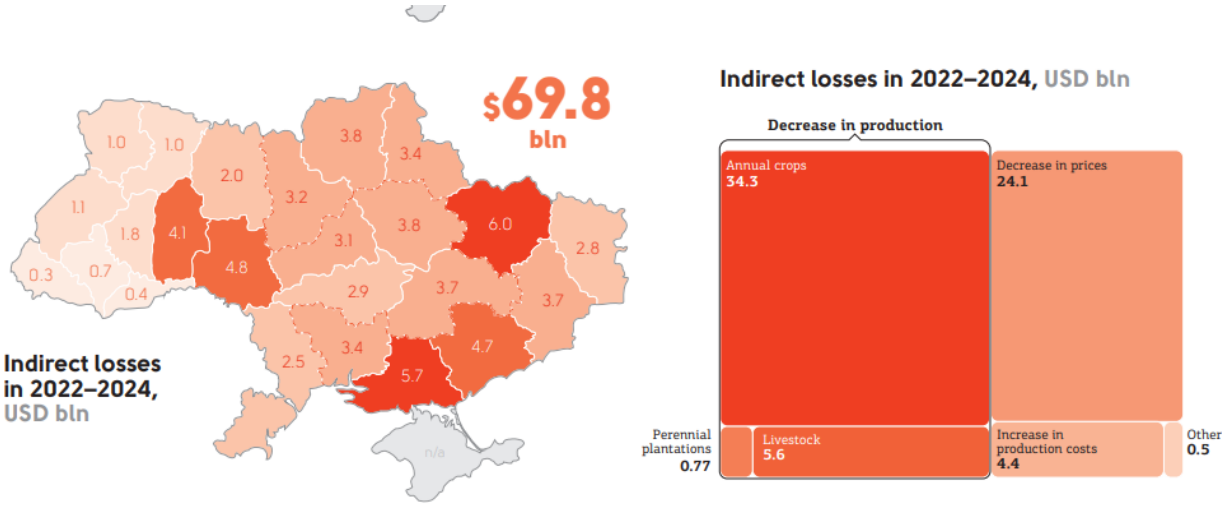

Figure 11. Indirect losses of Ukrainian agricultural sector during the war, 2022-2024, bln USD

Sourse: https://latifundist.com/

Indirect losses represent the gap between the actual revenues received by agricultural producers and the income they would have generated in the absence of russia's invasion of Ukraine. These losses affect farmers throughout the entire country, extending far beyond the territories directly exposed to active hostilities.

Current assessments encompass data for 2022 and 2023, as well as projections for 2024.

A central source of indirect losses is the decline in the production of annual crops, which constitute the foundation of Ukraine’s agricultural output. For 2022-2023, the cumulative shortfall is estimated at 48,6 million tonnes of grain crops and 8,7 million tonnes of sunflower. The livestock sector has also experienced substantial indirect impacts, driven by both declining herd sizes and reduced productivity. Dairy farming has been the most severely affected subsector, with estimated indirect losses of 2,9 billion USD over three years, accounting for more than half of the sector’s total indirect losses of 5,6 billion USD.

Export disruptions resulting from the russian naval blockade have further intensified indirect losses by creating logistical bottlenecks, decreasing external demand, and driving up transportation costs. Despite the partial restoration of maritime export routes, the differential between domestic and global prices for key agricultural commodities remains wider than prior to the invasion, reflecting lingering market distortions and elevated risk premiums.

So, we can conclude the main findings, challenges and opportunities for the export activity and further development of agri-businesses in Ukraine.

The geographic distribution of Ukraine’s agricultural exports in 2024 reflected a combination of long-standing trade relations and shifting regional demand. The European Union remained the principal destination, accounting for more than 13 billion USD in agro-product imports. Asian markets absorbed approximately 7,5 billion USD, while African countries purchased around 2,6 billion USD worth of agricultural goods. This structure underscores the strategic role of Ukrainian food exports in global food security and confirms the country's embeddedness in supply chains connecting Europe, the Middle East, and Africa.

Despite the overall upward trajectory, several structural vulnerabilities persisted throughout 2024. The high concentration of exports in a narrow range of primary commodities continued to expose Ukraine to fluctuations in global prices and demand. Monthly export data indicated periodic declines, particularly toward the end

of the year, reflecting limited domestic supply, seasonal factors, and strategic decisions by producers to delay sales in anticipation of more favourable price conditions. Moreover, although maritime export corridors experienced substantial revitalisation, their functioning remained sensitive to security risks and external geopolitical pressures.

Nevertheless, the recovery of export capacity in 2024 demonstrated the resilience of Ukraine's economy and the adaptive capabilities of its agro-industrial complex. The sector not only preserved, but strengthened its role as the primary generator of foreign currency earnings. In the medium term, however, increasing the share of processed agricultural products, broadening export markets, and enhancing value-added production will be critical for mitigating volatility and ensuring sustainable export-led growth.

While the agricultural sector in Ukraine has made substantial strides in international markets, several challenges have hindered the full potential of Ukrainian agricultural enterprises.

Ukraine possesses one of the world's most valuable concentrations of highly fertile chernozem soils, which constitute roughly one-quarter of the global stock of this soil type. As of 2025, the country retains approximately 42 million hectares of agricultural land, with about 70% of this area allocated to crop production. This unique soil endowment has historically enabled Ukraine to rank among the leading agricultural producers and exporters worldwide.

However, the full-scale war has inflicted substantial losses and irreversible damage on Ukraine's soil resources. Large areas of arable land - particularly in frontline and formerly occupied regions - have been subjected to intense military activity, resulting in contamination by heavy metals, unexploded ordnance, fuel residues, and explosive materials. Shelling, missile strikes, and the movement of heavy military equipment have caused soil compaction, erosion, and physical destruction of topsoil layers, reducing fertility and hindering natural regeneration processes.

In addition, the mining of agricultural fields has rendered vast territories unsafe and unsuitable for cultivation, with demining expected to take decades. The war has also disrupted crop rotations, reduced organic matter input, and limited access to fertilizers and soil amendments, further contributing to the degradation of soil quality. These combined factors pose long-term risks to agricultural productivity and challenge Ukraine’s ability to fully restore its pre-war agricultural capacity.

Ukraine remains one of the top 5 wheat exporters in the world, producing high-quality wheat varieties, particularly soft wheat for the baking industry. Wheat exports in 2025 are projected to reach approximately 20 million tons, maintaining the country's position as a major supplier to markets in the Middle East, Asia, and Africa.

Corn (maize) as the third-largest corn exporter globally, Ukraine is expected to export around 30 million tons in 2025, a critical food source for livestock feed and a key ingredient in biofuels. Ukraine’s export of corn plays an essential role in stabilizing world food prices, especially for countries in Asia and North Africa.

Sunflower Oil Ukraine continues to dominate the global sunflower oil market, producing around 5 million tons annually, which accounts for over 25% of global sunflower oil exports. In 2025, Ukraine's oilseed production remains crucial for the food and biodiesel sectors worldwide.

The ongoing conflict in Ukraine has significantly disrupted agricultural production and exports. Ukrainian agricultural enterprises face logistical challenges due to damaged infrastructure, blocked access to key export routes, and a shrinking labor force as people are displaced or conscripted into military service. Export routes through the Black Sea, traditionally a major trade corridor for Ukrainian grain, have been blocked due to military conflict, forcing enterprises to seek alternative land and river transport routes.

The russian invasion of Ukraine in 2022 had a significant impact on Ukraine's agricultural sector, particularly in terms of logistics and access to Black Sea ports. As of 2025, while the conflict is ongoing, Ukraine’s agricultural industry has found innovative ways to continue exports through alternative land routes and rail transport via neighboring countries. The Black Sea Grain Initiative, which allowed limited

access to Ukrainian ports, has been a temporary solution but remains fragile, and Ukraine's logistics infrastructure continues to face disruptions.

Key instruments of Ukraine's renewed engagement with African states include the Grain from Ukraine humanitarian initiative and the establishment of new embassies in previously underrepresented regions. These steps reflect a long-term strategy to deepen trade, political cooperation, and humanitarian partnerships across the continent.

Ukraine's outreach serves a dual function: it expands and diversifies export opportunities while countering Russia's efforts to weaponize global food insecurity as a tool of hybrid aggression. By acting as a reliable food supplier and humanitarian partner, Ukraine contributes to stabilizing global grain markets and challenges narratives used by Russia to exert influence in vulnerable regions.

By the end of 2023, Ukraine had delivered over 170,000 tonnes of grain and grain-based products under the Grain from Ukraine program, with African countries receiving the majority of this aid. Beneficiaries included Ethiopia, Somalia, Kenya, Sudan, Nigeria, and Djibouti—primarily through cooperation with the World Food Programme (WFP).

In Ethiopia and Somalia, Ukrainian wheat supported emergency responses to the most severe drought in four decades. In Kenya, shipments helped stabilize food assistance in arid regions, while in Sudan and Nigeria they mitigated disruptions caused by conflict and economic instability. Official reports confirm that 110,000 tonnes of grain were supplied to Ethiopia and Somalia, and Kenya received at least 25,000 tonnes of wheat in 2023.

After analyse of the main challenges in agri-food export to Ukraine under the example of main importers of it in East Africa, particularly: Ethiopia (recipient of the Grain from Ukraine program), Tanzaia and Kenya (recipient of the Grain from Ukraine program), we decided that Kenya could be one of the priority direction for further expansion of agri-food export from Ukraine.

Despite these challenges, Ukraine's resilience and adaptability have ensured that the country maintains its export volumes. Ukraine's agricultural export

infrastructure is evolving, with increasing use of overland trade routes through Poland, Romania, and Moldova, and improvements to rail and road networks that help bypass the Black Sea bottlenecks.

The shift in global trade patterns following the conflict has prompted Ukraine to diversify its export markets and build new partnerships. In 2022-2025, Ukraine has successfully increased agricultural exports to regions, such as:

1) China. Expanding exports of corn and sunflower oil to China as part of a broader trade agreement.

2) India and Southeast Asia. Ukraine’s competitive pricing and large-scale production capacity have allowed the country to become a major exporter to India, particularly in the wheat and pulses markets.

3) Africa and the Middle East. Ukraine's export of grains, especially wheat and barley, to food-import dependent countries in Africa continues to be crucial to maintaining food security.

4) The European Union remains one of Ukraine’s most important trading partners, although political tensions occasionally impact trade relations. In 2025, Ukraine's agricultural exports to the EU have increased due to the EU’s interest in diversifying its food supply chains away from russia.

Ukraine’s agricultural sector also faces challenges related to regulatory constraints and trade barriers. While Ukraine has made significant progress in aligning its agricultural policies with EU standards, there are still bureaucratic hurdles and regulatory complexities that international buyers and investors must navigate.

Climate change is another challenge that agricultural enterprises in Ukraine must address. The sector is highly dependent on weather patterns, and any changes - whether extreme droughts, flooding, or temperature fluctuations - can have a direct impact on crop yields. Sustainable agricultural practices and adaptation to climate variability are becoming increasingly important for ensuring long-term viability.

Despite the challenges, Ukrainian agricultural enterprises have numerous opportunities to increase their international footprint.

One of the key strategies for Ukrainian agricultural enterprises is diversifying their export markets. The signing of trade agreements with the European Union (EU) and other nations has helped Ukrainian enterprises tap into new markets and reduce dependence on a few trading partners. Ukraine's Free Trade Agreement with the EU, for instance, allows easier access to European markets for agricultural products, with reduced tariffs and regulatory barriers.

Ukrainian agricultural enterprises are increasingly adopting modern agricultural technologies, such as precision farming, drones, and data analytics, to improve crop yields, optimize resource usage, and increase profitability. This shift towards digital agriculture is helping companies to reduce costs and improve the quality of their products, making them more competitive in the global market.

Additionally, sustainability is becoming a key theme in international agricultural trade. More and more international buyers are looking for products that meet stringent environmental and sustainability standards. By adopting more sustainable farming practices, Ukrainian enterprises have the opportunity to tap into the growing demand for eco-friendly agricultural products.

The Ukrainian government is working with international organizations and agribusinesses to promote greener practices and invest in sustainable agriculture technologies, including renewable energy sources for farms and organic farming initiatives.

Foreign direct investment (FDI) in Ukraine's agricultural sector has been steadily increasing, driven by the sector's potential for growth. Ukraine’s vast land resources, fertile soil, and large agricultural workforce make it an attractive destination for international investors. The government has also made efforts to create a more favorable investment climate by offering incentives for agricultural development, such as subsidies for machinery purchases and tax breaks for foreign investors.

With greater foreign investment, Ukrainian agricultural enterprises can expand their operations, improve their production capabilities, and integrate more effectively into global food supply chains.

Ukrainian agribusinesses have increasingly embraced export-oriented strategies, focusing on scaling up production, improving quality, and expanding their market reach. Many enterprises are now producing value-added products, such as packaged sunflower oil, processed grains, and dairy products, which can fetch higher prices in international markets.

Furthermore, agribusinesses are becoming more involved in international partnerships and joint ventures, allowing them to share resources, knowledge, and market access. These collaborations can help Ukrainian enterprises expand their operations and reduce risks associated with entering new markets.

The international activity of Ukrainian agricultural enterprises is central to the country's economy and its place in the global agricultural market. Despite ongoing geopolitical and environmental challenges, Ukraine's agricultural sector remains highly competitive, with significant opportunities for growth in international trade. By diversifying export markets, adopting new technologies, and attracting foreign investment, Ukrainian agricultural enterprises can continue to build on their successes and secure a more prominent role in the global food supply chain.

As the world becomes more interconnected and the demand for food continues to rise, Ukraine's agricultural enterprises will undoubtedly remain an essential contributor to global food security. With the right policies, strategies, and innovation, the future of Ukraine's agricultural sector looks promising on the international stage.

Ukraine’s role in global food security cannot be overstated. The country’s agricultural exports, particularly grains and oilseeds, are critical for food stability in many developing countries. In 2025, Ukraine remains one of the world’s largest suppliers of food staples to regions facing food insecurity, including parts of Africa, the Middle East, and Asia.

Given the rising global demand for food, particularly with the growing population and the challenges of climate change affecting crop yields in other regions, Ukraine’s agricultural production is vital to maintaining global food supply chains.

Despite the ongoing war, Ukraine’s agricultural sector holds significant potential for growth. The country has the capacity to expand production further through investments in infrastructure, modernization of its farming practices, and adaptation to market demands.

REFERENCES

1. Food and Agriculture Organization (FAO). (2021). Ukraine's Agriculture and its Global Role. FAO. Retrieved from http//www.fao.org/ (date of access 24.11.2025).

2. State Statistics Service of Ukraine. (2022). Agricultural Production and Exports in Ukraine. State Statistics Service of Ukraine. Retrieved from http//www.ukrstat.gov.ua/(date of access 24.11.2025)

3. European Commission. (2020). EU-Ukraine Trade Agreement Opportunities for Ukrainian Agriculture. European Commission. Retrieved from https//ec.europa.eu/(date of access 24.11.2025)

4. World Bank. (2021). Ukraine Agriculture and Rural Development. World Bank. Retrieved from https//www.worldbank.org/(date of access 24.11.2025)

5. The World Trade Organization (WTO). (2021). Trade Policy Review of Ukraine. WTO. Retrieved from https//www.wto.org/(date of access 24.11.2025)

6. International Finance Corporation (IFC). (2022). Agribusiness in Ukraine Opportunities and Challenges. IFC. Retrieved from https//www.ifc.org/(date of access 24.11.2025)

7. UkrAgroConsult. (2023). Ukraine's Grain Export Performance and Global Markets. UkrAgroConsult. Retrieved from https//www.ukragroconsult.com/(date of access 24.11.2025)

8. United Nations Conference on Trade and Development (UNCTAD). (2020). Global Trade in Agricultural Products Implications for Ukraine. UNCTAD. Retrieved from https//unctad.org/(date of access 24.11.2025)

9. Kherson State Agrarian University. (2021). Impact of Climate Change on Ukrainian Agriculture. Kherson State Agrarian University Journal, 34(2), 145-157.

10. International Food Policy Research Institute (IFPRI). (2022). Ukraine's Agricultural Exports Navigating Challenges Post-Conflict. IFPRI. Retrieved from https//www.ifpri.org/(date of access 24.11.2025)

11. Ukrainian Agribusiness Club (UCAB). (2022). Foreign Direct Investment in Ukraine's Agricultural Sector Trends and Opportunities. UCAB. Retrieved from https//ucab.ua/(date of access 24.11.2025)

12. KPMG. (2022). Ukraine's Agriculture Post-War The Road to Recovery. KPMG. Retrieved from https//home.kpmg/(date of access 24.11.2025)

13. FAO and World Bank Report. (2023). The Impact of War on Agricultural Exporters in Ukraine. Food and Agriculture Organization & World Bank. Retrieved from http//www.fao.org/(date of access 24.11.2025)

14. Ukrainian Ministry of Agrarian Policy and Food. (2021). Strategic Plan for Agricultural Development and International Cooperation. Ministry of Agrarian Policy of Ukraine. Retrieved from http//minagro.gov.ua/(date of access 24.11.2025)

15. Food and Agriculture Organization (FAO). (2025). Ukraine's Agricultural Outlook Market Trends and Key Statistics. Retrieved from https//www.fao.org (date of access 24.11.2025)

16. World Bank. (2025). Ukraine Agricultural Productivity and Export Performance in 2025. Retrieved from https//www.worldbank.org/en/country/ukraine (date of access 24.11.2025)

17. U.S. Department of Agriculture (USDA). (2025). Ukraine Agricultural Trade Report. Retrieved from https//www.fas.usda.gov (date of access 24.11.2025)

18. International Food Policy Research Institute (IFPRI). (2025). Ukraine and Global Food Security. Retrieved from https//www.ifpri.org (date of access 24.11.2025)

19. European Commission. (2025). Trade Relations between Ukraine and the EU. Retrieved from https//ec.europa.eu (date of access 24.11.2025)

20. Ukraine in figures 2020 (2021) https://ukrstat.gov.ua/druk/publicat/kat_u/2021/zb/07/zb_Ukraine%20in%20figures_20e.pdf (date of access 21.11.2025)

21. Economic accounts of agriculture (2023) https://stat.gov.ua/en/publications/economic-accounts-agriculture (date of access 21.11.2025)

22. Agriculture in Ukraine: pre-war, status quo and a look ahead (2023). KSE Agrocenter URL: https://kse.ua/wp-content/uploads/2024/03/Market-analysis-and-Outlook-of-Ukraine-2023.pdf

23. INVESTMENT OPPORTUNITY OF AGROPROCESSING SECTOR (2025). Ukraine Invest. URL: https://ukraineinvest.gov.ua/wp-content/uploads/2025/09/agroprocessing-sector-of-ukraine-ukraineinvest.pdf

24. Ukraine Exports By Category (2024) https://tradingeconomics.com/ukraine/exports-by-category (date of access 21.11.2025)

25. Norik, Larisa & Skliar, Tetiana. (2024). Analysis of the structure of export-import activity of Ukraine. University Economic Bulletin. 19. 22-35. 10.69587/ueb/2.2024.22.URL:https://www.researchgate.net/publication/391383726_Analysis_of_the_structure_of_export-import_activity_of_Ukraine

26. National Accounts (GDP) of Ukraine (2025) Retrived from https://www.ukrstat.gov.ua/imf/arhiv/nr/nr_post_e.htm (date of access 21.11.2025)

27. Ukrainian economy in figures (2024) Retrived from https://ces.org.ua/en/ukrainian_economy_in_2024/ (date of access 21.11.2025)

28. The impact of Russia's war against Ukraine on the state of the country's soil. Analysis results. (2023) Retrived from https://greendealukraina.org/assets/images/literature/29-impact-on-soil-russian-war.pdf (date of access 21.11.2025)

29. Agrobusiness of Ukraine (2025) Retrived from https://www.agroberichtenbuitenland.nl/documenten/2025/02/17/agribusiness-of-ukraine-2023-2024 (date of access 21.11.2025)

30. COOPERATION BETWEEN UKRAINE AND AFRICAN COUNTRIES IN AGRICULTURE: EAST AFRICA (2024) Retrived from https://kse.ua/wp-content/uploads/2024/09/Cooperation-between-Ukraine-and-African-countries-in-agriculture-East-Africa.pdf (date of access 21.11.2025)

31. Sozanskyy, L. Y. (2025). Statistical Assessment of Ukraine's Agricultural Exports in the Conditions of the Russian-Ukrainian War. *Statistics of Ukraine, 108*(1), 37–49. https://doi.org/10.31767/su.1(108)2025.01.04