

## **2. Ukraine's agricultural sector in times of war: turning challenges into opportunities**

The Russian Federation's invasion of Ukraine on 24 February 2022 caused heavy civilian casualties, damage to infrastructure and production assets, and resulted in severe human, social and economic losses.

In addition, since October 2022, Russia has caused significant damage to critical energy infrastructure using long-range weapons (missiles and drones).

In 2021, Ukraine was ranked 49th among 132 economies in the world, 76th in terms of innovation, and 37th in terms of innovation performance [1, p. 183].

The key war-related factors affecting the Ukrainian agricultural sector were the reduction in sown areas (by 25% compared to 2021), damage to production facilities, structures, and equipment, rising prices for fertiliser and diesel fuel, and the blockade of Black Sea ports. All these factors have significantly reduced the income of Ukrainian farmers and agricultural companies.

The agricultural sector has suffered significant losses as a result of Russia's full-scale aggression.

According to the Ministry of Agrarian Policy of Ukraine and the Kyiv School of Economics, the total amount of losses caused to the agricultural sector as a result of Russia's widespread invasion, as of September 15, 2022, reached USD 6.6 billion. This is 23% of the total value of assets in Ukrainian agriculture (including by category: agricultural machinery and equipment - USD 2885.4 mln. USD; warehouse warehouses - 1062.5 million USD; livestock - USD 362.5 million. USD; perennial crops - 348.7 million USD; production factors (fuel, fertilizers, plant protection products) 95.4 million US dollars. The total value of the agricultural sector was USD 95.4 mln, and the total value of products was USD 1872 mln. USD). Meanwhile, indirect losses in Ukrainian agriculture due to the decrease in production, the blockade of ports and increased production costs are estimated at USD 34.25 billion. (including in crop production due to reduced production 11.2 billion US dollars; in livestock - 348

billion US dollars. USD; in livestock - 348.7 million USD. The losses due to the decline in production of winter crops is estimated at 3 billion US dollars. US dollars; perennial crops at 322 million US dollars. The losses due to logistics disruptions amounted to 18.5 billion US dollars.)

The total number of business entities that suffered losses as a result of armed conflict aggression, is 2653 units. (arable area - 1.9 million hectares, perennial plantations - 9 thousand hectares). In addition, the territory of about 1 million hectares needs to be surveyed for availability explosive objects.

In the conditions of unprecedented challenges, the proper collection was ensured harvest of 2022. According to the Ministry of Agriculture, in 2022, Ukraine collected more than 67 million tons of grain and oil crops, which became one of the five best indicators in 30 years.

The livestock sector was significantly affected. According to the Ministry of Agrarian Policy, 15–20% of cattle, pigs and poultry were lost due to military actions. Chernihiv, Kharkiv, Sumy, Kyiv, Donetsk, Luhansk, Mykolaiv, Kherson, and Zaporizhia regions, where at the beginning of 2022 there were concentrated in all categories of farms: cattle population – 25.3%, cows – 25.8%, pigs – 31.5%, sheep and goats – 28.2%, poultry – 24.9%. Production of products livestock production in these regions was: meat – 20%, milk – 28.7%, eggs – 44.8%.

In general, the Ukrainian agricultural sector demonstrated high stability and adaptability to wartime risks. In conditions of war:

- the collection for all groups of agricultural crops is 1.5–3 times higher domestic consumption needs. On March 12, 2023, grain harvesting and of grain and leguminous crops was carried out on an area of 11.1 million hectares (97.6% of the sown areas of these crops), 53.9 million tons of grain were threshed, including 20.2 million tons of wheat (at the same time, the domestic the consumption of two types of wheat – fodder and food – is about 7.5–8 million tons per year). 5.8 million tons of barley were threshed (for the annual consumption in Ukraine at the level 2.5–3 million tons), buckwheat – 158.5 thousand tons (domestic consumption is 100–110 thousand tons);

- the needs of the domestic market of meat and meat products are fully met, as well as there are opportunities to export products. Total consumption of meat and of meat products in Ukraine per person is at the level of 52 kg per year, this indicator comparable to the pre-war year. However, more expensive types of meat (beef, pork) inferior to more affordable ones (birds). Half of the 2 million tons of the general consumption fund meat is poultry, pork is 37%, beef is 13%. Despite all the challenges, in 2022, Ukraine expanded its presence on international sales markets, in particular this one was facilitated by a number of measures to liberalize trade with EU countries and coordinate with foreign partners of international veterinary certificates for product export of animal origin. So, in 2022, meat and by-products were exported to 925 million dollars. USA, which is 9% more than in 2021. The absolute majority of income in this group fell on poultry meat - 853 million dollars. USA;

- the dairy industry satisfies the needs of consumers, despite the significant losses of the industry and taking into account the reduction in the domestic market of consumption of dairy products. The level of milk consumption in 2022 is estimated at 199 kg per person. According to the Association of Milk Producers, the production of this product in 2022 compared to 2021 decreased by 12.1% to 7.66 million tons. Industrial farms provided production 2.62 million tons of milk, which is 5.3% less than in 2021, and the homestead sector - 5.04 million tons (-5.3%). The indicators of the drop in milk production could have been much higher, but thanks to the efficient operation of dairy farms in safer regions and the relocation of livestock from the affected areas, it was possible to minimize the loss of industrial milk. In particular, the regions of the central and western regions of Ukraine increased milk production due to the relocation of business and the growth of demand for raw materials in these regions. Thus, milk production in Chernivtsi region increased by 23.4%, in Ternopil region - by 21.5%, and in Vinnytsia region - by 8.4%. High export prices and simplified procedures at the border support the sale of Ukrainian dairy products to foreign markets - in 2022, the export of milk and dairy products reached 344.6 million dollars. USA, which is 39% more than in 2021. The main export categories (in monetary terms) were dry milk (26% in the total structure), butter (24%) and casein (21%);

- there is no shortage of vegetable crops. As a result of the partial occupation of a number of regions more than 40% of commercial onion production and up to 30% of commercial carrot production were lost. As for other crops, such as potatoes, table beets and white cabbage, their production in the temporarily occupied territories is less significant. At the same time, in the west and in the center of Ukraine, the planting area of "borscht set" vegetables has been increased in order to cover their shortage due to the temporary occupation of the southern regions and hostilities in other territories. Also, in many regions, the population was provided with free vegetable seeds;

- citizens' demand for fruit and berry crops is fully satisfied, although as a result 25% of the berry orchards and 20% of the orchards were lost during the war. Ukraine continues to be a net importer of fruits and berries. Vinnytsia, Chernivtsi, Khmelnytskyi, Dnipropetrovsk, Lviv and Poltava regions, which are the largest producers of fruits and berries, are quite capable of meeting the needs of these products. According to the results of 2022, revenues from the export of fruits, berries and nuts amounted to 313 million dollars. USA, which is 15% less than the record level In 2021, industry enterprises received the main revenue from frozen berries and fruits, walnuts in shell and without, apples and pears.

In addition, despite military actions on the territory of the country, Ukraine remains one from the guarantors of food security in the world. Signed on 07/22/2022 by Ukraine, Turkey and the United Nations, the "Initiative for the Safe Transportation of Grain and Food Products from Ukrainian Ports" ("Grain Agreement") ensured the resumption of the export of grain and related food products through three sea trade ports - "Odesa", "Chornomorsk" and "Southern". The Russian Federation also signed a mirror agreement with Turkey and the UN. The term of the agreement was 120 days, but on November 17, 2022, it was extended for the same period, and in March 2023 - for another 120 days.

Threats to the stable functioning of the agricultural sector in the conditions full-scale war are as follows.

Exit of part of economic subjects from agrarian business or changes in specialization due to significant economic losses, including loss of sales. Changing the

structure production in favor of highly profitable agricultural crops instead of labor-intensive crops (primarily borscht set, early seasonal products).

Simplification of agricultural production processes, reduction of inputs fertilizers and plant protection products, which reduces agricultural productivity crops and deteriorates the quality of the land - due to a lack of financial resources, impossibility of long-term planning of activities due to probable hostilities.

Loss or depreciation of the harvested crop, in particular due to a lack of storage capacities and sales problems.

Deterioration of the quality of the population's diet in the event of a significant increase in food prices products, a possible reduction in their assortment, as well as losses by consumers with stable incomes, which will lead to a shift in the balance of consumption in favor of bakery products and semi-finished products due to a decrease in the consumption of livestock products, fish and seasonal products.

The interruption of logistics chains was also a significant factor. Before the war, 90% of Ukraine's agricultural exports went through the Black Sea ports. In March 2022, grain exports totalled just 0.3 million tonnes, down from 5.4 million tonnes two months earlier. The establishment of alternative routes helped to increase grain exports to 1.2 million tonnes in April and 2.7 million tonnes in June 2022. This situation has put pressure on domestic wheat and corn prices, which fell by 45% between January and June 2022, while global prices rose by about 15%.

The Black Sea Grain Initiative has significantly increased exports since July 2022 (up to 6-7 million tonnes per month), but logistics costs have remained very high.

Mine contamination of land also contributed to the reduction in sown areas, even in the de-occupied territories. The total area of agricultural land contaminated by unexploded ordnance, mines, and fragments exceeds 400,000 hectares.

Animal husbandry companies face challenges related to the production and sale of their products. The main difficulties include access to markets and buyers, access to necessary supplies (e.g. feed, vaccines, medicines, equipment) and labour, as well as high fuel and electricity prices or even lack of access to electricity.

The war is also changing the usual operational decisions of Ukrainian agricultural companies. Such changes include, first and foremost, limiting the use of agricultural inputs (e.g., fertilisers, pesticides, and seeds), diversifying business (e.g., exploring or starting new businesses) and changing markets (e.g., looking for new buyers).

It is also worth mentioning the indirect impact of the war on the agri-food added value chain. In particular, the number of suppliers of inputs has dropped significantly compared to the pre-war period, with the exception of feed and medical service suppliers, which have been relatively less affected. This reduction is down not only to problems with the delivery of the necessary inputs, but also to the pricing policy of suppliers, especially in the case of fertilisers and feed.

The overall sales structure has remained largely unchanged, but has undergone some adjustments. For example, before the war, most Ukrainian farmers sold their produce to wholesalers (i.e., operators who usually sell large quantities to other businesses), traders, and processors. After the full-scale invasion, it became more profitable to sell farm products to processors. The key problem in this area was the disruption of buyers of the products, their inability to purchase pre-war volumes or offer acceptable prices to the producer. According to the World Bank, on average, 18% of all SMEs in Ukraine stopped supplying their products due to low purchase prices.

Before the full-scale war, Ukraine's agriculture accounted for 10% of GDP, employed 14% of the workforce, and accounted for 41% of total exports. The war began just before the start of the spring 2022 sowing campaign, which hit the agricultural sector hard.

As of 24 February 2023, losses and damages to Ukraine's agricultural sector were estimated at USD 40.2 billion. At the same time, the amount of losses was USD 8.72 billion, while the total damages amounted to USD 31.50 billion.

Losses include partial or complete destruction of machinery and equipment, storage facilities, livestock, fisheries and aquaculture, perennial crops, as well as stolen inputs and products. Damage to machinery and equipment was the largest source of total losses, followed by stolen production means and damaged storage facilities.

The war-related losses mainly include lost income for Ukrainian farmers and agricultural companies due to lower production (e.g., unharvested crops), lower purchase prices (due to disrupted export logistics), and higher additional production costs (e.g., fertiliser and fuel, the cost of reclaiming contaminated land after surveying, demining, and releasing it).

The total estimated reconstruction and recovery needs of Ukraine exceed USD 411 billion. The financing needs for agriculture account for at least 7% of this amount. At the same time, it should be understood that the war is ongoing and Russia will not stop destroying and looting Ukraine's production infrastructure. Nor will the hostilities and related restrictions stop, which will cause even more damage. It is clear that damages and losses will continue to accumulate before long-term reconstruction, rather than emergency repairs can begin.

Based on current estimates of damage and loss and the post-disaster needs assessment methodology, the KSE Agricultural Centre predicts that Ukrainian agriculture will need at least USD 23.5 billion for reconstruction and recovery. This estimate includes USD 7 billion for reconstruction and USD 16.5 billion for recovery.

The recovery and reconstruction needs of the Ukrainian agricultural sector can be divided into the following basic categories:

- reconstruction of agricultural production, which includes the replacement and repair of destroyed and damaged assets (e.g., replacement and repair of storage facilities, replanting of perennial crops, replenishment of livestock herds, etc);
- restoration of agricultural production, which also includes providing Ukrainian agricultural producers with resources, public services and preferences that will allow them to resume production;
- modernization of agricultural production, which should not only aim at returning it to its pre-war state, but also at improving production processes, introducing new technologies and new standards to increase production efficiency and product compatibility with global markets;
- rebuilding the export infrastructure, taking into account the lessons of the war. This recovery should include not only rebuilding damaged infrastructure, but

also creating a diversified logistics system that is resilient to external influences. For example, it is necessary to understand the role to be played by land routes for agricultural exports from Ukraine. Given the prospect of Ukraine's membership in the EU, investments in improving road and rail connections to the west, developing Danube river ports and technologies to overcome incompatible rail gauges are reasonable and necessary;

- demining and reclamation of agricultural land contaminated as a result of the military conflict, including the removal of unexploded ordnance, remnants of destroyed military equipment, craters, trenches and other fortifications;
- facilitating access to finance. Private sector investment is needed not only for reconstruction but also for long-term development. This is especially necessary for small and medium-sized farms that lack a credit history, sufficient collateral, and transparent financial reporting. One of the necessary steps on this path is the possibility of pledging agricultural land or rights to use it (in Ukraine, most agricultural producers operate on leased land). It should be understood that during the recovery period, Ukrainian agriculture will compete for funding with other important sectors, such as electricity and other utilities, housing and communal services, healthcare, transport and the military. Under these circumstances, it is likely that the Ukrainian agricultural sector will have less money available than expected, and political will is needed to rectify this situation;
- a balanced approach to supporting basic agricultural production and processing. For example, a current topic of discussion in the agricultural community is the call for increased value addition in Ukrainian agricultural production and exports. It is believed that instead of exporting raw materials (grains and oilseeds), it would be better to develop, for example, livestock production on this basis and export high value-added dairy and meat products. However, when Ukraine becomes a member of the EU, it will be subject to EU regulations on animal welfare, transport of live animals, slaughterhouse standards, food safety

- rules, etc. This will increase the production costs of Ukrainian agro-processors and may reduce or negate some of Ukraine's obvious comparative advantages;
- taking into account reforms related to EU integration and the prospect of Ukraine's accession to the EU. It is likely that the EU will be the main source of donor funding for Ukraine's reconstruction and recovery, with which other global donors such as the World Bank and the EBRD will coordinate their assistance. It should be taken into account that in the EU, agriculture is subject to extensive EU-wide regulation of markets and standards in the areas of agricultural activities, food safety, environmental protection and animal welfare. It can therefore be assumed that a significant part of donor funding will be directed towards rebuilding the Ukrainian agricultural sector in line with these European standards;
  - development of regional administrative capacity in Ukraine to implement the Integrated Management and Control System. Such a system is necessary for the implementation and control of various forms of farm support (e.g., control over the observance of sufficient crop diversification, which is a condition for receiving per hectare support payments).

Overall, the prospect of EU accession is expected to facilitate reconstruction and recovery, creating more attractive conditions for foreign investment in Ukraine. However, it should be borne in mind that the reforms and commitments associated with this prospect will potentially limit the options for Ukraine's traditional agricultural policy in terms of its compatibility with EU accession.

Challenges faced by agribusiness in Ukraine are unparalleled since the World War II. The aggression of the Russian Federation, the infrastructure destruction, the blockade of major export routes, and the unprecedented mining of agricultural land are just some of the struggles that Ukrainian farmers have been grappling with since 24 February 2022. Nevertheless, the resilience and unmatched international support has allowed agribusinesses in Ukraine not only to survive, but also to launch an active recovery in agricultural production and processing. The reconstruction and production processes in Ukraine's agricultural sector are actively financed through international

donor assistance and national government programmes. In this regard, the Ukrainian agricultural industry finds itself in a unique situation that has the potential to create huge opportunities for foreign and Ukrainian businesses [27].

In order to make use of these opportunities, it is necessary to:

- soberly assess war-related risks rather than being merely spooked by them;
- understand the opportunities arising from such risks;
- be aware of the tools available to pursue these opportunities;
- understand the available options for mitigating risks.

As you know, a crisis is the best time to invest. The capitalisation of Ukraine's agricultural sector has a clear potential for growth in the short term. The war-induced crisis has strengthened and modernised Ukrainian agribusiness and created new possibilities for commercial and investment activities against the backdrop of wartime challenges. soberly assess war-related risks rather than being merely spooked by them; understand the opportunities arising from such risks; be aware of the tools available to pursue these opportunities; understand the available options for mitigating risks.

The severity of the wartime challenges and threats is clear and cannot be underestimated.

Among the key war-related factors affecting the Ukrainian agricultural sector are:

- restricted access to crop areas due to their occupation by russian troops, mine contamination, combat operations and danger to workers;
- damage to production buildings, facilities, equipment, and infrastructure;
- limited access to fertilisers, plant protection products, and fuel due to logistical problems and increased prices;
- blockade of the Black Sea ports, through which 90% of Ukraine's agricultural products used to be exported before the war;
- forced urgent rerouting of logistics chains;
- reduction in the number of agricultural input suppliers;
- contamination of crop areas with unexploded ordnance, mines, and shrapnel, remnants of military equipment, human remains, and remnants of fortifications;

- environmental consequences of man-made disasters brought about by the war (flooding due to destruction of dams, contamination of water bodies and water intakes with biological remains and technical substances, and release of hazardous substances);
- difficulties in accessing markets, supplies, funding, and labour;
- restrictions on cross-border payments.

However, a balanced assessment of the risks of these factors' impact on agribusiness should also include the following:

- only 20% of Ukraine's territory (and Ukraine is the largest country entirely within Europe by territory) is occupied. The rest of its territory is fully operational with all state institutions, courts, state registries, and business activity continuing as usual;
- only the frontline and some areas bordering Russia suffer from constant shelling. Throughout most of Ukraine, energy and infrastructure facilities mainly come under fire;
- the 2023 sowing campaign took place in all territories that are not occupied nor in the area of active hostilities;
- for over a year and a half of war, a large number of agro-processing businesses have been relocated from the occupied and dangerous areas and have successfully continued their operations in other regions;
- large infrastructure projects are being successfully implemented (development of grain storage and transshipment facilities on the Danube, silos facilities in Izmail, industrial parks for agro-processors and logistics hubs in Zakarpattia, Zhytomyr, and Cherkasy regions);
- the hryvnia exchange rate, after a shock jump at the beginning of the war, is maintained by the National Bank of Ukraine within acceptable fluctuation ranges. At the same time, the NBU's foreign exchange reserves currently exceed the levels prior to February 2022;
- Ukrainian small and medium-sized agricultural enterprises have access to funding through state support programmes and spend it on rebuilding,

repairing, and creating new production facilities, as well as purchasing the necessary inputs and services. Such funding is backed by unprecedented support (in particular, the EU intends to provide €18 billion in macro-financial assistance to Ukraine in 2023 alone. In addition, the World Bank, EBRD, USAID programmes, etc. are constantly creating opportunities for Ukrainian farmers to receive grants and loans.);

- Ukraine has introduced a number of privileges, tax breaks, and financing programmes for small and medium-sized agribusinesses at the national level;
- previously undervalued and inaccessible areas of agribusiness are being actively pursued and rapidly developed (cultivation and processing of technical hemp, arnica, blueberries, berries and fruits, greenhouse systems, horticulture, and production of eco-products);
- international donor funding and financial support have secured long-term and sustainable prospects.

Considering all of these factors combined, the impact of the war on the prospects for agribusiness in Ukraine should not be overestimated and the unique conditions for business and investors in the Ukrainian agricultural sector are clear to see.

For agribusiness in Ukraine, the current situation is unique due to a combination of factors:

- **High demand for goods and services necessary for the functioning and reconstruction of Ukraine's agricultural sector in the context of the war.** Even according to conservative estimates, Ukraine's agricultural industry requires at least USD 7 billion to replace and repair destroyed and damaged assets, including storage facilities, perennial plantations and livestock herds. Furthermore, approximately USD 16.5 billion is needed to provide Ukrainian agricultural producers with the inputs, public services and benefits to resume production.
- **Large-scale opportunities for investment in the rebuilding of the damaged major infrastructure facilities and the construction of new ones.** The blockade of maritime export routes and the damage caused by shelling

necessitate the restoration of the damaged infrastructure and the creation of new, more resilient and adaptable infrastructure. Projects for the construction and rebuilding of port infrastructure, grain elevators, transshipment terminals, transport and logistics hubs create new opportunities for significant investments, large deliveries, and major contracts.

- **New opportunities for small and medium-sized investors and contractors.** The focus of international and national funding programmes on supporting small and medium-sized agribusinesses creates ample opportunities for small and medium-sized investors, suppliers, and contractors.
- **International financial assistance and investment to rebuild Ukraine's agricultural sector.** The IFC alone has provided nearly USD 400 million in support, including to agriculture in Ukraine, since the start of Russia's full-scale invasion. The World Bank is considering investing almost USD 1.5 billion in Ukraine's agricultural sector, among other sectors of the economy. Since February 2022, 764 agricultural micro, small, and medium-sized enterprises have received USD 49.8 million in bank loans through financial platforms developed under the USAID-led Agricultural Resilience Initiative (AGRI-Ukraine). A total of USD 350 million has been channelled to Ukraine through this initiative. It is planned to engage the private sector, other donors and foundations to raise another USD 250 million.

The needs of Ukraine's agribusinesses in the face of the existing challenges make it possible to identify and assess new commercial and investment opportunities for Ukrainian and foreign businesses. At the same time, such opportunities are not limited to the agricultural sector.

Within the framework of the restoration and reconstruction of the Ukrainian agricultural industry, various promising areas for commercial and investment opportunities are being actively developed, such as:

- ✓ Construction and reconstruction of agricultural storage facilities:
  - repair and construction of grain storage facilities (elevators, granaries);
  - production and supply of grain storage sleeves;

- supply, manufacture, and repair of equipment for grain storage and conditioning (grain dryers, conveyors, bucket elevators, etc.);
- supply, repair, and installation of power supply infrastructure for grain and vegetable storage facilities;
- repair and construction of storage facilities for vegetables, fruits, and berries;
- supply, manufacture, and repair of equipment for vegetable storage (ventilation systems, sorting equipment, cooling systems, etc.).
  - ✓ Construction and reconstruction of livestock farms:
    - repair and construction of dairy farms;
    - supply and installation of equipment for keeping, feeding, and watering livestock (boxes, fences, floors, bunkers, feeders), farm ventilation (installation of ventilation curtains, light and ventilation ridges), etc;
    - supply and installation of milking equipment (machine milking units, milk pipelines, milking machines, collectors), temporary storage (refrigerators) and milk transportation (milk trucks);
    - supply of genetic material.
  - ✓ Reconstruction, construction, and upgrading of greenhouses:
    - construction and reconstruction of glass and film tunnel greenhouses;
    - production, supply, and installation of equipment for greenhouses (mounting structures, films, glass coverings, heating, drip irrigation and lighting systems, automated process control systems, etc);
    - modernisation and implementation of new energy-saving technologies to reduce dependence on natural gas;
    - introduction of new technologies for growing agricultural products in greenhouses.
  - ✓ Reconstruction and construction of small and medium-sized processing complexes:
    - for processing vegetable products (production of juices, pastes, concentrates, etc.) for processing industrial hemp;
    - for fast freezing of vegetables, fruits, berries;

- for processing meat and dairy products (manufacturing of end products, freezing, canning).
  - ✓ Growing eco-products:
- implementing technologies for growing eco-products;
- supply of eco-products seed material.
  - ✓ Supply of agricultural machinery and spare parts, including on leasing terms.
  - ✓ Growing and processing of niche crops:
- blueberries, raspberries, blackberries;
- arnica, medicinal plants.
  - ✓ Restoration and setting up of perennial plantations:
- introducing new cultivation technologies;
- supply of seedlings.
  - ✓ Consulting services:
- consulting and training in the field of agricultural technologies;
- consulting and training in management technologies, business, and marketing;
- legal consulting;
- engineering;
- bringing technologies and products in line with the requirements of EU markets.
  - ✓ Construction of logistics hubs and transport infrastructure:
- Provision of services: refrigerated trucks, transport of liquid and bulk food products.
  - ✓ Restoration of land improvement systems:
- clearing amelioration canals;
- constructing pumping stations and installing water pumping equipment;
- supplying and installing equipment for field irrigation and water delivery.
  - ✓ Cleaning water bodies and water intakes, construction of water treatment facilities and water purification systems in areas that have been contaminated.

- ✓ Services and works aimed at overcoming the direct consequences of hostilities are a special focus area:
- field demining;
- dismantling of fortifications;
- dismantling of destroyed buildings, removal and disposal of construction waste and residues.

Demining is presently the top priority among these services.

According to the best estimates, the area of mined farmland is 4.8 million hectares, with the cost of demining averaging USD 3-4 per square metre.

The World Bank estimates the full range of humanitarian demining works in Ukraine at USD 37.4 billion. The needs for 2023 alone amount to more than USD 397 million.

Demining in Ukraine is carried out by certified mine action operators. As a rule, mine action services include:

- information work (e.g. telling children about mine risk at school or commissioning social advertising, as well as training sappers);
- non-technical survey (basically, a visual inspection of the area, including by drone, interviewing people, collecting data from open sources on whether the area is suspected of being mined, which allows narrowing the search for explosive ordnance);
- technical survey (a more thorough inspection with the help of metal detectors, frames, etc.);
- demining by hand (where mines or other projectiles can be safely moved out of the area of potential damage without using equipment) or with the help of equipment;
- clearing the area of hostilities;
- disposal (destruction) of mines/explosive remnants of war (this is effectively done by state structures only, although in theory Ukrainian legislation does not prohibit private operators from obtaining permission for such activities).

Global practice shows that these services are usually funded by donors, which makes them accessible not only to large agricultural companies, but also to small and medium-sized agricultural producers. In turn, this allows small and medium-sized mine action operators to enter the market.

For foreign investors exploring opportunities in Ukraine's agricultural sector, it is important to understand how to mitigate potential political risks that may affect their investments.

Traditionally, political risk refers to government actions that limit an investor's right to use or benefit from its assets or reduce the value of the company. Such risks may arise as a result of war, expropriation, restrictions on capital movement within the country, etc. In the context of the Russian aggression in Ukraine, such risks are primarily related to the circumstances caused by the aggressor:

- occupation;
- hostilities;
- shelling of infrastructure;
- blockade of ports.

Unavoidable actions by the Ukrainian government related to the country's defense:

- mobilization;
- restrictions on bank settlements;
- foreign exchange restrictions, etc.

also pose a risk to businesses, but are legally predictable.

International organizations (e.g. the Multilateral Investment Guarantee Agency), export credit agencies and state insurance agencies are currently playing a crucial role in reducing political risks and increasing investor confidence.

At present, insurance products offered cover a certain standard set of political risks, including:

- currency inconvertibility and restrictions on funds transfers;
- confiscation, expropriation, nationalization;
- political violence/war;

- failure to fulfil obligations, in particular under contracts.

Most insurance service providers halted their operations in Ukraine immediately after Russia's full-scale invasion on 24 February 2022. This is mainly due to the lack of insurance products and instruments that would be adequate for a full-blown war.

Nevertheless, some reputable organisations continue to offer investors options for insuring political risks in Ukraine, such as:

#### MIGA (WORLD BANK GROUP)

The Multilateral Investment Guarantee Agency (MIGA) provides guarantees to investors and lenders, including political risk insurance and credit enhancement.

MIGA has already allocated USD 30 million for a pilot investment insurance project in Ukraine.

Furthermore, MIGA has established the Support for Ukraine's Recovery and Economy (SURE) Trust Fund. The aim of the fund is to address humanitarian needs, support economic activity and assist in the post-war recovery of Ukraine. The fund is expected to reach USD 300 million, enabling MIGA to provide trade finance guarantees and bank reserves during the war.

MIGA insurance coverage typically includes:

- war and civil disturbances, including protection against loss of tangible assets or business interruption caused by politically motivated hostilities or civil disturbances, such as revolutions, insurrections, coups d'état, sabotage, and terrorism;
- breach of contractual obligations, including coverage of losses arising from the authorities' violation of or refusal to fulfil a contract with an investor;
- currency inconvertibility and restrictions on funds transfers, including protection against losses caused by the inability to legally convert local currency into hard currency;
- expropriation, including protection against losses resulting from certain actions of the authorities that may restrict ownership of the insured investment.

#### DFC (USA)

The US International Development Finance Corporation (DFC) is a US federal government agency that invests in development projects in low- and middle-income countries.

DFC's political risk insurance covers up to USD 1 billion in losses due to:

- currency inconvertibility (protects against actions of the authorities that prevent the conversion and transfer of income);
- government intervention (protects against nationalisation, expropriation, and confiscation);
- unlawful demand for guarantees in contracts;
- breach of contracts in the capital markets;
- political violence, including terrorism (covers loss of assets and income as a result of war, terrorism, and civil unrest).

#### INVESTMENT GUARANTEES OF THE FEDERAL REPUBLIC OF GERMANY

These investment guarantees, managed by PricewaterhouseCoopers GmbH, protect German companies' direct investments in new markets and developing countries against political risks, such as:

- expropriation;
- wars;
- currency inconvertibility and restrictions on money transfers;
- breach of contracts.

#### EIFO (DENMARK)

The Export Investment Fund of Denmark (EIFO) has a loan and guarantee programme for Ukraine, which includes private and public financing options for Ukrainian companies and Danish investments.

#### UKEF (UK)

The UK Export Finance (UKEF) supports British exports through insurance and guarantees.

Overseas investment insurance protects British investors from potential losses from overseas investments due to political events in countries that are not members of

the Organisation for Economic Co-operation and Development (Ukraine is not a member of this organisation, although it participates in certain processes).

#### KUKE (POLAND)

The Export Credit Insurance Corporation (KUKE) is an official export credit agency of Poland, providing credit insurance, guarantees, and investment insurance.

The investment insurance covers losses due to political risks and force majeure related to investing abroad, including:

- government intervention;
- moratoriums on payments;
- trade restrictions;
- expropriation.

The insurance can be obtained by any Polish company making long-term investments abroad or by credit institutions providing bank loans to foreign subsidiaries.

#### SACE (ITALY)

The Italian State Export Credit Agency (SACE – Servizi Assicurativi del Commercio Estero) supports Italian businesses with financial instruments and solutions, including investment protection.

SACE investment protection covers the risks of:

- expropriation;
- nationalisation;
- war;
- currency restrictions;
- breach of contract;
- loss of profits due to war or civil unrest.

#### BPIFRANCE (FRANCE)

BPIFRANCE Assurance Export manages state export guarantees on behalf of the French government.

Investment insurance protects investors from losses due to political events related to investments or investment loans abroad and covers the risks of:

- nationalisation;
- expropriation;
- termination of contracts;
- war;
- natural disasters;
- currency barriers;
- economic changes.

#### EKN (SWEDEN)

The Swedish Export Credit Agency (EKN – Exportkreditnämnden) promotes Swedish exports by insuring the risks of export operations.

The guarantees for investments abroad cover losses due to political events and cover political risks and force majeure, such as:

- nationalisation;
- expropriation;
- war;
- natural disasters;
- currency barriers.

Along with the traditional tools for implementing commercial opportunities (supplies, contracts, joint ventures), it is worth paying attention to other options that will allow you to utilise the preferences available to agribusinesses.

Traditionally, acquisition of agricultural companies and production assets has been the most effective way for foreign investors to invest in agricultural assets in Ukraine.

In the case of growing agricultural products, the most cost-effective way is to acquire the core agricultural asset, i.e., an agricultural company that already operates a collection of land parcels. It is also necessary to take into account the general restrictions on the acquisition of agribusinesses in Ukraine. Currently (pending a referendum), foreign companies are prohibited from acquiring Ukrainian agricultural companies that own agricultural land in Ukraine, but can acquire agricultural

companies that lease land. Notably, the vast majority of land used in agricultural production in Ukraine is leased by agricultural companies.

In the case of investing in the processing business or in agricultural storage and logistics, it is more feasible to purchase production assets. Ukrainian legislation, among other things, allows foreign companies to acquire such assets in the privatisation process. Since 2022, the rules for the sale of property of state-owned and municipal enterprises in Ukraine have been significantly simplified thus creating new opportunities for the acquisition of bakeries, processing plants, grain storage, and production facilities.

Foreign companies are eligible to bid at auctions subject to certain conditions.

Such companies must not be registered in offshore zones, have the Russian Federation or its residents as participants, or be subject to sanctions, and they must be ready to assume the obligations set out in the terms of sale.

Starting an agricultural business from scratch can be justified when it comes to the construction of elevators, livestock, poultry, greenhouse vegetable growing, and horticulture.

The main factor driving investment in the acquisition of agricultural assets in Ukraine is favourable price. Due to the military aggression, increased cost of fuel, seeds, mineral fertilisers, export restrictions, physical destruction of agricultural machinery and other property, most assets have fallen in price.

However, agricultural companies have not lost their performance; on the contrary, as they adapt, their management is significantly improved and their production becomes more technologically advanced.

This applies to any agricultural assets: shares in agricultural holdings, investment funds, stakes in agricultural companies, privatised assets and other production assets – their price is attractively low at this stage. At the same time, given the demonstrated resilience of agribusiness, its modernisation and reconstruction, the growth potential is very high.

In certain areas of agribusiness, it is possible to take advantage of the benefits offered by the status of an investor with significant investments.

Such areas include, in particular:

- processing;
- storage;
- logistics;
- scientific research and development;
- development of technological (IT) solutions for agribusiness;
- production of bioethanol, etc.

Having obtained this status, the investor is entitled to the following incentives:

- 5-year exemption from income tax, as well as from VAT and customs duties on the import of new equipment;
- the preemptive right to use a state- or municipally owned land plot for the implementation of an investment project. Furthermore, such an investor may be granted a preemptive right to acquire ownership of a land plot upon expiry of a special investment agreement;
- construction, reconstruction, restoration, overhaul of related infrastructure facilities (roads, communication lines, heat, gas, water, electricity, engineering networks, etc.) necessary to implement the investment project at the expense of the state, local budgets and other legal sources;
- compensation for the cost of constructed adjacent infrastructure facilities, costs of connection to engineering and transport networks and exemption from compensation for losses of forestry production.

Investment projects with significant investments must create at least 10 new jobs. The amount of the contribution to the relevant investment objects must exceed the equivalent of EUR 12 million, and the project must provide for the construction, modernisation, technical and/or technological re-equipment of the investment objects, purchase of the necessary equipment and components.

It is also possible to contribute up to 30% of the investment 18 months prior to the conclusion of a special investment agreement. The term of implementation of an investment project with significant investments may not exceed 5 years.

Financial injections from partner countries and the shift in Ukrainian budget spending have rendered public procurement the most financially secure and stable market for goods and services in Ukraine.

There are 3 main ways to conduct public procurement in Ukraine:

- without the use of the ProZorro electronic procurement system – by concluding so-called direct contracts between a customer (manager, recipient of budget funds) and a supplier;
- by concluding framework agreements;
- through open bidding or using an electronic catalogue.

The most common way to conduct public procurement is through open bidding using the ProZorro electronic procurement system.

Foreign companies may participate in bidding as well. In order to successfully participate in public procurement in Ukraine, foreign companies need to consider several key aspects:

- determining whether the company and its products meet the procurement requirements;
- submission of tender proposals;
- resolving disputes.

Industrial parks in Ukraine are particularly suitable for agro-processing and logistics hubs. Out of more than 60 Ukrainian industrial parks, 14 have been created over the past year and a half. Most of these parks are focused on agricultural processing and logistics.

The incentives available to participants of industrial parks include:

- the right to a 10-year income tax exemption;
- exemption from VAT on imports of new equipment to Ukraine imported by industrial park participants exclusively for their own use;
- exemption from customs duties on the import of equipment, machinery and its components, and materials;

- compensation of the interest rate on loans. Such compensation may be granted for loans obtained for the purpose of setting up or running a business within an industrial park;
- financing without obligations to repay the funds received. Such financing is provided on the condition that the funds received will be used for the development of industrial parks and the construction of infrastructure (e.g., roads, communication lines, heat, gas, water and electricity supply, engineering communications);
- compensation for the costs of connecting to engineering and transport networks.

Mechanisms for promoting large investments have been actively implemented in Ukraine since 2021. The Law “On State Support for Investment Projects with Significant Investments in Ukraine” (hereinafter referred to as the “Law”) and the procedures, methodologies and instructions developed for its implementation have been in force since then [28].

However, the Russian aggression and full-scale war have created new realities. Taking this into account, amendments were made to the Law, which entered into force on 17 September 2023. Investors were offered new forms of state support for investment projects with significant investments, certain requirements were relaxed, and new investment opportunities were created.

In order to receive state support for an investment project with significant investments, it must meet a set of criteria established by the Law. The amendments to the Law have expanded investment opportunities and eased project requirements.

Taking into account these amendments, today an investment project with significant investments must meet the following criteria:

- the project must be implemented in Ukraine in the areas of processing industry (except for activities related to the production and circulation of tobacco products, ethyl alcohol (except for the production of bioethanol intended for use as a fuel component), cognac and fruit spirit, alcoholic beverages), biogas and biomethane production (including liquefied or compressed), extraction for the

purpose of further processing and/or enrichment of minerals (except for coal and lignite, crude oil and natural gas), waste management, transport, warehousing, postal and courier activities, logistics, education, scientific and technical activities, healthcare, art, culture, sports, tourism, resort and recreation. Now, following the amendments to the Law, it is also possible to invest in the electronic communications industry;

- the project must involve construction, modernisation, technical and/or technological re-equipment of investment objects, purchase of necessary equipment and components, and, in line with the amendments, may also involve construction of engineering and transport infrastructure necessary for the implementation of the investment project at the expense of the investor or applicant;

- the project must generate at least 10 new jobs with an average salary of at least 50% higher than the actual average salary for the relevant type of activity in the region where the project is implemented for the previous calendar year. Other options are also established: if the salary of employees is at least 30% higher than the actual average salary for the relevant type of activity in the region, at least 30 new jobs must be created, if it is 15% higher, a minimum of 50 jobs must be created. This system is more flexible compared to the requirements that were in force before the amendments to the Law (previously, at least 80 new jobs with a 15% higher salary were required);

- the amount of investment in the investment objects during the implementation period of the investment project must exceed the equivalent of EUR 12 million (previously, this threshold was set at EUR 20 million). Also, investments can now be made prior to submitting an application for an investment project. However, it should be noted that such a prior investment must be made no earlier than 18 months before the date of application, whereby the amount of the investment may not exceed 30% of the total investment;

- the investment project implementation period may not exceed 5 years.

Ukraine provides investors with state support for investment projects in the amount of up to 30% of the planned investment amount.

As per the amendments to the Law, the forms of state support have been expanded. Now, state support for projects with significant investments is provided in the form of:

- 5-year exemption from income tax, value added tax and customs duties on the import of new equipment. Tax preferences for large investors remain unchanged;
- ensuring the preemptive right to use state-owned or municipally owned land plots for the implementation of an investment project. In this case, investors may be granted a pre-emptive right to acquire such land plots after the special investment agreement expires. In addition, the amendments to the Law allow for the change of designated purpose of especially valuable land and forest land plots for their use in implementing an investment project. This is an important novelty, as it expands the possibilities for locating investment project facilities (for example, at the expense of valuable land adjacent to roads or communications);
- ensuring the construction, reconstruction, restoration, overhaul of engineering and transport infrastructure facilities (roads, communication lines, heat, gas, water and electricity supply facilities, engineering communications, etc.) necessary for the implementation of an investment project, at the expense of the state, local budgets, and other legal sources. Pursuant to the amendments to the Law, it is now possible to include the total cost of all engineering and transport infrastructure facilities built for the implementation of an investment project in the calculation of the state support amount;
- exemption from reimbursement of forestry production losses due to the change of designated purpose of especially valuable lands and forest land plots for the implementation of an investment project. Under the amendments, the amount of funds not received by the relevant budget as such compensation will be included in the calculation of the amount of state support;

- compensation for the costs of connection to engineering and transport networks necessary for the implementation of an investment project.

It is important that the amendments are aligned with the Ukrainian legislation on land and industrial parks.

It should be borne in mind that the total amount of state support will not change if, during the implementation of a special investment agreement, the actual amount of significant investment exceeds the amount stipulated in such an agreement.

The total amount of state support will be changed if, during the implementation of the special investment agreement, the actual amount of investment is lower than that provided for in such an agreement.

Note! If the actual amount of investment is less than EUR 12 million, the investor will have to return the entire amount of state support received.

In order for an investment project with significant investments to receive state support, it must be positively assessed by the authorised body, which in this case is the Ministry of Economy of Ukraine (hereinafter referred to as the Mineconomy). The Mineconomy evaluates the project and provides a conclusion on the feasibility or inexpediency of its implementation and the signing of a special investment agreement. It is important to understand how and by what criteria the evaluation is carried out, as this affects the content and composition of the documents submitted by the investor to the Mineconomy.

In order to receive state support, an investor or an applicant must enter into a special investment agreement with the Ukrainian government or a local community (if state support is provided by a local governing body).

Such an agreement shall be concluded for a term not exceeding 15 years. The term of an agreement does not affect the implementation period of an investment project, which may not exceed 5 years from the date of the agreement.

A special investment agreement defines a number of key terms, including:

- terms and conditions of project implementation;
- investment objects;
- types and amount of investment;

- total amount, forms, and terms of state support;
- conditions and consequences of state support termination;
- list of land plots required for the implementation of an investment project with significant investments;
- terms of use of such land plots and the procedure for their return (if allocated);
- the procedure for approving changes in control over an investor during the term of the special investment agreement, etc.

If a decision is made to conclude a special investment agreement, the applicant must establish a legal entity under the laws of Ukraine, which will be the investor. If the applicant is already a legal entity registered in Ukraine specially established for the implementation of an investment project with significant investments that meets all the requirements and restrictions established by the Law, then a new legal entity does not need to be established.

In any case, the applicant must hold 100% of the shares in the authorised capital of such a legal entity.

The amendments to the Law provide for the possibility of negotiating the terms of a special investment agreement. If the Mineconomy decides that the draft special investment agreement needs to be revised, the applicant will be sent remarks on the draft with a proposal to negotiate its terms.

These negotiations are held within 2 months from the date of receipt of such a proposal. If no agreement is reached on the mechanism for taking into account the remarks within this period, the negotiations may be extended for another 2 months.

However, it should be borne in mind that the essential terms of the special investment agreement cannot be changed through such negotiations.

Investors who have already submitted applications but have not yet concluded a special investment agreement should note that the Mineconomy must return their applications within 10 working days from the date of the Law's entry into force.

Such applications must be brought in line with the new rules and resubmitted under a simplified procedure. Hereby, the calculation of the volume of significant

investments may include funds invested prior to the submission of the returned application, but not earlier than 18 months before such date.

When resubmitting applications, it is necessary to take into account the amendments to the Law, in particular:

- the assessment shall be carried out by the Mineconomy within no more than 60 calendar days from the date of receipt of the documents;
- economic indicators should not be assessed (in practice, this means cancelling the calculation of the project economic indicators, including the benefit-cost ratio), and therefore, no related documents should be submitted;
- during the application process, the information and documents submitted as part of the application may be identified as containing confidential information and trade secrets. This does not apply to the information to be entered into the register of investment projects with significant investments after the signing of a special investment agreement;
- if the Mineconomy recognises the need to revise the draft special investment agreement, its terms might be negotiated with the Mineconomy.

In addition, it is very important to note that the regulation of specific mechanisms of state support for investment projects with significant investments will also be amended. They may affect the procedures and algorithms for preparing an investment project, its evaluation, the procedure for state support provision, etc.

It is expected that such changes will be made to:

- requirements for the feasibility study of an investment project with significant investments;
- methodology for calculating the amount of state support;
- methodology for evaluating an investment project;
- the procedure for maintaining a register of investment projects;
- the procedure for importing new equipment (machinery) and its components imported by the investor into the customs territory of Ukraine and for their intended use;

- requirements to the applicant regarding their financial capacity to implement the investment project;
- an exemplary form of a special investment agreement;
- the procedure for providing funds on a non-refundable basis to ensure the construction of related infrastructure facilities necessary for the creation and operation of industrial parks.

In any case, the planned changes may be subject to adjustment. Therefore, it is important to monitor the current legislation on state support for investment projects with significant investments at the time when it is applied by the investor.

In March 2023, the Second Rapid Damage and Needs Assessment (RDNA2) identified \$411 billion worth of investments required for Ukraine's reconstruction. The World Bank Group's new report "Private Sector Opportunities for a Green and Resilient Reconstruction in Ukraine", developed in cooperation with Ukraine's government, assesses the potential for private financing to meet these needs under both a status quo scenario and a scenario with reforms and other sectoral interventions.

Under the non-reform scenario, which envisions a continuation of pre-invasion economic dynamics, private investments are estimated to generate over \$73 billion, or 18 percent of the investment needs identified in RDNA2. Under a scenario where the Ukrainian government accelerates economic reforms, addresses sectoral needs, and deepens EU integration, Ukraine could see nearly \$130 billion in private sector investments flow into the country. This would cover about one third of needs identified in the RDNA2 and open an additional \$282 billion in further private sector opportunities to boost Ukraine's development. This report, which is a synthesis version of the broader assessment, includes an overview of the assumptions used for the projections under both scenarios and lists a table of critical reforms that could help unlock private sector financing.

The report identifies the following reforms as having the greatest potential to achieve a sustainable and resilient recovery:

Agriculture: Completing land and irrigation reforms and strengthening institutions, increasing access to affordable finance, and creating an enabling

environment for the adoption of climate-optimized agricultural technologies could attract \$30 billion in private investment. Reforms in the food and beverage sector could generate another \$16 billion in investment.

Transportation and logistics: Public investment and policy reforms could enable the private sector to cover about \$7 billion in recovery needs, while opening up additional investment opportunities for the private sector worth another \$41 billion.

Energy and mining: Policy reforms in these sectors could create the conditions for \$36 billion in private sector investment to meet RDNA2 needs, while generating additional investment opportunities worth \$132 billion.

Housing: Through the implementation of policy reforms, financial assistance, and increased cooperation with regional developers and financial institutions, household investment could exceed \$30 billion and generate \$60 billion in investment opportunities beyond recovery needs.

The report emphasizes that these reforms, combined with effective macroeconomic management, trade- and investment-friendly government policies, and the use of risk mitigation instruments, are essential to stimulate private capital inflows.

Investment development of the agricultural complex in Ukraine is a key factor for ensuring sustainable economic growth, increasing competitiveness and improving the quality of life of the population.

An important stage of modern investment policy is the creation of a favorable investment climate, which involves ensuring legal protection of investors, introducing fair competition and reducing bureaucratic barriers. Thus, improving the investment climate is a fundamental step for attracting investors to agriculture. It is important to give them confidence that their investment will be protected and contribute to the development of the sector.

Ensuring investors' access to reliable and objective information regarding of the agricultural sector is an extremely important task for the effective functioning of the market of agricultural products and attracting investments. To do this, you can take a number of measures:

- development of web platforms where investors can find reliable information about the agricultural sector. These platforms may provide reports, analyses, forecasts and other materials related to the agro-industrial complex;
- establishment of the same reporting standards for agricultural enterprises and organizations providing services in this area. This will facilitate comparison and evaluation of various objects for investment;
- conducting audits and checking the reliability of the information provided agricultural enterprises;
- events for investors, where experts from the agro-industrial sector provide detailed information about the potential and risks of this industry;
- conducting analyzes of the agrarian sector by independent experts and publications, and also compilation of ratings of the most reliable and profitable industries;
- cooperation with international organizations that specialize in agricultural production and provide reliable statistical and analytical information;
- government agencies may set mandatory standards for provision information by agricultural entities and supervise its quality and objectivity.
- development and implementation of laws and regulations aimed at protecting the rights of investors and creating a comfortable environment for doing business.

It is also important to give investors the opportunity to independently conduct additional research and analysis, as well as consult with specialists in this field. This will help create favorable conditions for the development of the agricultural sector and attraction investments.

It is necessary to encourage representatives of the agrarian complex to develop and implementation of international joint projects and initiatives that will promote engagement additional capital and innovation.

It is also necessary not to forget about the social component of investing in agro-industrial complex. This is primarily related to the development of rural communities and improving the skills of workers in the agricultural sector, which is important an element of successful investment development.

These strategies and measures will help to improve the investment development of agriculture complex in Ukraine, which in turn will lead to increased efficiency and profitability of the agricultural sector and will contribute to the development of rural areas.

The war has destroyed the established links of agri-food chains, which once again proved the vulnerability not only of the current domestic model of agri-food specialization, but also of the current global model of the agri-food system as a whole. All crises create conditions for the transformation of existing economic models, and Ukraine's agricultural sector is at the forefront of changes due to the need for immediate, priority transformation of the export specialization model, and the current situation with food exports to Europe suggests that the change will take place under the pressure of global factors and what impact factors at the national level remains unclear.

In 2019, the State Statistics Service of Ukraine developed Methodological Regulations on the preparation of balances of major crop and livestock products, which reflect the movement of products from the moment of production to the moment of their final use, and allow to present the overall picture of the food and agricultural situation in the country and will include calculations of the population's consumption of basic foodstuffs, the average daily consumption of basic micro and macro elements in foodstuffs per person. Methodological provisions primarily take into account the requirements and recommendations of the Food and Agriculture Organization of the United Nations (FAO) for the development of food balances. It is the data of food balances that should become the basis for economic calculations of the formation of a modern and complete food security system. Ukraine in the postwar economy and participation in the global food security system. security system.

The process of transformation of the agricultural sector in the context of Ukraine's wartime economy and movement towards the European Union is inevitable and should take into account the opportunities and risks of ensuring food security in the context of climate change and loss of biodiversity, reducing its ecological and climatic footprint, strengthening the sustainability of the EU food system, as declared by the European Green Deal of 2019, as it will require a change in the philosophy and

approaches to the cultivation and processing of rural products. Also, in the context of national food security, it is important to ensure that people have physical and economic access to sufficient, safe and nutritious food at all times, regardless of whether it is locally produced or imported; food is locally produced or imported; produced using traditional or innovative technologies; or technologies or innovative ones; or whether its production complies with the principles of sustainability (socio-economic, environmental), etc.

The formation of national food security should take into account Food sovereignty, which implies reliance on local food production with due regard to cultural traditions on local food production, taking into account cultural traditions local population, as well as the ideas of humanitarian justice, multiculturalism, and gender equality. Food sovereignty declares achieving the goal of providing the population with locally produced food, while using certain methods, primarily agroecological ones.

The basis of the post-war reconstruction strategy should be to change the structure of the economy in accordance with national interests, improve the quality of life of Ukrainians, including security guarantees, and make Ukraine a leading player in the global market, which should provide mechanisms for the institutional capacity of the state to win on the economic front. We cannot win a war and lose an economic war, and such facts have already been in the history of mankind. To do so, it is also necessary to change the systemic approaches to the assessment of economic phenomena and results, since the system used in the used in the industrial economy, mainly through GDP, does not take into account the quality of life of the population, socio-political problems, environmental impact, production efficiency, consumer price index reflects the change in the value of the "consumer basket", and given the individualization of consumption individualization of consumption, it can be completely different for different groups of consumers, which raises many questions about the average inflation rate.

Ensuring national food security, based on the reproduction and conservation of natural resources of agricultural production, should become the basis for a gradual transition from a highly specialized mono-product structure of agri-food production

and exports to a structure that takes into account national economic interests and security factors in a broad sense.

The efficiency of market activity of enterprises in the agricultural sector is determined primarily by their of the agricultural sector is determined primarily by their existing competitive advantages, which are formed on an innovative basis.

Paying attention to the global sustainable development goals by 2030 proclaimed by the resolution, taking into account the peculiarities of the country's development during the war, it is advisable to comply with the clause 9 of the Decree of the President of Ukraine "On the Sustainable Development Goals of Ukraine for the period up to 2030" on creating sustainable infrastructure, promoting inclusive and sustainable industrialization, innovation and the main guidelines of the Strategy for the Development of the Innovation Sector for the period up to 2030 [3]. Therefore, approaches to intensifying the innovation activities of agricultural enterprises on the basis of marketing; search for levers of managerial influence on the innovation activities of these enterprises are of great importance and priority. Systematization of management methods that influence on the intensification of innovation in the agricultural sector is and remains very very important for achieving a high level of food security and independence of Ukraine as a whole.

The study of the state of innovation management at agricultural enterprises allows us to assert the absence of a perfect system of marketing research, inconsistency in the integration of the functions of planning, organization, motivation and control of innovation processes. The insufficient realization of these functions is one of the main reasons for low validity of innovation projects.

This proves the need to form an adequate organizational and economic mechanism for planning the innovation activities of agricultural enterprises as an integral management function. This is confirmed by the following statements:

- the innovation projects developed in the last few years by Ukrainian agricultural enterprises were mostly formal in nature and lacked sufficient marketing, financial and investment justification and employee motivation;

- the absence or inadequacy of existing marketing and planning departments in the management structure of agricultural enterprises, which do not prioritize innovative changes in development;

- employees of a significant number of agricultural enterprises are completely disinterested in the implementation of innovation and investment projects and are not are unable to achieve the set goals due to the poor management structure and lack of motivation.

At the same time, a significant number of domestic agricultural enterprises have already have already had negative experience in implementing innovative projects due to erroneous financial decisions of managers.

Conducting marketing research on consumer needs and factors of of the marketing environment, the introduction of a mechanism for functional support of the management of innovation activities of agricultural enterprises will, in our opinion, provide an adequate response to unpredictable challenges of the business environment in the context of market turbulence.

Based on the results of works [4; 5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 17], it is established that a systematic approach to the functional support of innovation management contributes to achieving its maximum efficiency. The main condition for the creation and implementation of a mechanism for managing the innovation activities of agricultural enterprises is the development of methodological principles of its formation, the implementation of which will create the basis for the introduction of of reasonable practical recommendations, new forms and methods of innovation activity at these enterprises. In other words, the creation of an organizational and economic mechanism for functional support of innovation activities will form the prerequisites for: adherence to the principles of innovation in the agricultural sector; formalization of its market goals and objectives; development of algorithms for finding and taking into account new ideas and implementing innovations; determining the effectiveness of innovations in terms of their impact on the profitability and value of agricultural enterprises as market units.

From the point of view of strategic management of enterprises, part of which planning of innovation activities, and taking into account the marketing orientation, it is advisable to change and adapt the composition and methods of management activities at agricultural enterprises, their internal organization in order to achieve high economic results, in particular establishing effective marketing planning and implementing successful innovation and investment projects. In this regard, we can state that in order to implement the organizational and economic mechanism for ensuring innovation, agricultural enterprises should develop scenarios for responding to external factors of influence that would correspond to the dynamics of turbulent changes in the agri-food markets of Ukraine. Challenges arising from the military-political situation and economic collapse have forced Ukrainian agricultural enterprises to make radical changes in the management system, which requires the highest level of market research, planning, organization and control of innovation activities.

In the process of organizing innovation planning at agricultural enterprises, we consider it expedient to take into account the following basic principles Formation of an organizational and economic mechanism for functional support of the innovation management system, namely: purposefulness, systematicity, efficiency in use, optimality, complexity of planned activities, multivariate, reliability, scientific validity, automation of business processes and analytical calculations.

It is difficult to imagine the creation of such an organizational and economic mechanism in the form of an ordinary list of mandatory actions or normatively defined rules or regulations. The implementation of the innovation planning function looks, by and large, like the concept of putting into practice scientifically based methods within the framework of strategic marketing management by enterprises of the agricultural sector of Ukraine.

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