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STRATEGIC MODEL AND POTENTIAL SOURCES OF FINANCING FOR THE POST-WAR REVITALIZATION OF AGRICULTURAL ENTERPRISES IN THE DE-OCCUPIED TERRITORIES

ABSTRACT

The purpose of this study is to assess the damages as a result of Russian aggression, to identify potential sources of funding for the post-war revitalization of the de-occupied territories and to form the first component of the strategic model of the post-war revitalization of agricultural enterprises in the de-occupied territories. The article analyzes direct losses from the war in Ukraine in general and in agriculture in particular. The distribution of losses by categories of the agricultural sector is presented: Agricultural machinery, Granaries, Animal husbandry, Perennial crops, Factors of production (fuel, fertilizers, PPE), and Manufactured products. It is established that the Recovery Plan of Ukraine is based on 5 main principles: immediate start and gradual development; increasing fair welfare; integration into the EU; reconstruction of the better than it was, on a national and regional scale; stimulation of private investments. Financing programs for the post-war revitalization of agricultural enterprises in the de-occupied territories are analyzed. The process of military revitalization of the strong support enterprises of the de-occupied territories (the first stage of strategy) is formed. It is proven that the creation of agricultural holdings, cluster development (aimed at the development of agricultural activities), as well as the development of non-agricultural activities will create additional jobs, rationally use the resource potential of the regions, improve social conditions and provide social support to the population. To achieve successful and effective diversification processes, support from the state, the region, and investors is especially needed, the combination of which will create a strong foundation for the further development of the modern economy of the de-occupied territories.

Keywords: revitalization, agricultural sector, enterprise, strategy, model, financing, investments, de-occupied territories, digitalization, project

JEL Classification: M21, O13, O16, O18, Q13, R11

INTRODUCTION

Russia's unprovoked military aggression against Ukraine destroyed and continues to destroy the Ukrainian economy, social, transport and energy infrastructure and people's lives, destroying entire cities and villages, the Ukrainian people and entire ecosystems of Ukraine. The scale of the destruction of assets is already estimated at USD 108.3 billion (according to the "Russia will pay" project, 2022), and the volume of indirect economic losses, according to various estimates, is USD 750 billion, which is an unprecedented amount of destruction and losses during the Second World War.

In order to restore the country after the war, integrate the economy into the European space and global value chains, Ukraine needs to implement a large-scale recovery program.

According to the modern development of information technologies (big data, cloud technologies, high-speed Internet coverage, modern satellite systems, etc.), the world has not seen reconstruction projects similar in scale to the future reconstruction of Ukraine.

Therefore, Ukraine should create its own recovery model using the best principles of recovery of countries after natural disasters and military conflicts using modern digital tools.

Throughout the world, the sustainable development of rural areas is a condition for the stable development of the country's economy, as it ensures the performance of its national economic functions, such as the production of food, raw materials for agricultural purposes, as well as social and public functions of the revival and preservation of village culture, the historical values of the territory, and the maintenance of ecological balance. Due to the full-scale war of the Russian Federation against Ukraine, a large part of agricultural farms suffered significant destruction, especially in the territories that were or are under temporary occupation. Thus, in order to increase the efficiency and development of the agrarian economy after the victory, it is necessary, in our opinion, to link these processes with the revitalization processes of the de-occupied territories (revival, revitalization, formation processes that contribute to the sustainable development of the territories, including the territories of the agricultural purpose).

LITERATURE REVIEW

In today's conditions of instability, extreme turbulence of the external and internal environment, domestic and foreign researchers are studying the issue of the future recovery of all branches of the Ukrainian economy in the post-war period. Recent years have become a difficult test, which will lead to a long period of revitalization, for which preparations must already begin. The Russian-Ukrainian conflict related to the consequences of the pandemic has "disrupted supply chains, increased inflationary pressure and caused a potential food crisis" [War in Ukraine impact on global trade]. Multilateral organizations and institutions of the world have faced many challenges. There were many forecasts of such a situation Harary, Y.; Snyder, T., & Applebaum, A. (2022); Soomro, M.U., & Yudina, N. (2021). O'Neill, A. (2022) and many authors around the world are concerned about possible scenarios of Total global population development trends. Harary, Y. (2019) argues that Europe is in a state of transition, where old political and economic systems are no longer working and require change. He also talks about the global challenges that Europe is facing, including migration, climate change, nationalism, and the breakdown of international institutions. Harari discusses two opposing strategies that can be used to change the political and economic landscape of Europe: technological development and a change in the cultural narrative. Harari, Y., Snyder, T., & Applebaum, A. (2022) observe the consequences of the conflict in Ukraine for international security and international relations. They argue that the conflict undermines the rules of international law and norms of behaviour between states, which could have consequences for the future of the world. Soomro M.U., & Yudina, N. (2021) discuss the role of various stakeholders in the innovation and marketing process, including the government, businesses, and consumers. They also identify some of the key trends and innovations in marketing that are likely to shape Pakistan's economic system in the coming years. UN-HABITAT identifies that the development of urban areas continues, particularly in low- and middle-income countries. The study also highlights social and economic issues associated with urban population growth, particularly in densely populated urban areas. UN-HABITAT recommends a focus on developing infrastructure and public transportation in urban areas, as well as reducing the environmental impact of cities on the environment (Total global population development trends, (2009); Trading Economics, (2022)). The video program "At Doom's Doorstep: It is 100 seconds to midnight" emphasizes that global challenges facing humanity require responsible behaviour, international cooperation, and the use of scientific developments to address them (Posner, H. (2022)). Yudina, N. (2020) suggests a new method for assessing and forecasting marketing risks based on a statistical analysis of marketing indicators and the use of fuzzy logic. The proposed method can help companies to identify and manage marketing risks, thus improving their performance in the market. The article includes a case study of applying the method to a real company and discusses the results and limitations of the approach. The study concludes that the proposed method can be a useful tool for businesses to assess and manage marketing risks and improve their market position.

It is difficult to define a single approach to predicting the consequences of the war in Ukraine since the current stage of the development of this issue requires the accumulation of a critical mass of different points of view by various specialists in order to form a collective view of this problem. The authors tried to analyze the possible sources of funding for the revitalization of agricultural enterprises in the de-occupied territories and to form a preliminary possible strategy for this process.

AIMS AND OBJECTIVES

The purpose of the article is to assess damages as a result of Russian aggression, to identify potential sources of funding for the post-war revitalization of de-occupied territories and to form the first component of a strategic model of the post-war revitalization of agricultural enterprises in de-occupied territories.

METHODS

The authors used the following research methods: system analysis - aimed at determining the object and subject of research; abstract-logical method - for scientifically substantiated generalizations and conclusions of the problems of forming a strategy for the post-war revival of agricultural enterprises in the de-occupied territories, sources of its financing.

RESULTS

Ukraine is undergoing an existential test with the war unleashed by Russia. In this war, our state daily experiences unprecedented human losses, large-scale financial and economic losses, significant destruction of the industrial and infrastructural potential created over many years.

Damages caused to Ukraine as a result of the war exceed USD 700 billion, and recovery needs are increasing due to Russian attacks on infrastructure (War in Ukraine impact on global trade, 2022).

The war disrupted world production and trade in goods in many industries. About 600,000 businesses have been affected by the war around the world and global economic growth could slow by 0.8% in 2022 compared to 2021. The global economy was negatively affected by the disruption of the production capacities of both individual countries and global supply chains, which, in turn, contributed to the conditions for the growth of global inflation (War in Ukraine impact on global trade, 2022).

Consequences for global production:

- due to the war, manufacturers from various sectors of the economy have stopped working in Ukraine and Russia;
- for example, the automaker Volkswagen suspended operations in Russia, and the manufacturer of auto parts Sumitomo moved production from Ukraine to Romania and Morocco.

Global supply chains have been disrupted:

- the blockade of Ukrainian ports on the Black Sea and the delay of cargo ships led to the disruption of supply chains;
- as a result, the supply of raw materials to automakers around the world was disrupted;
- fertilizer supplies have also been significantly affected.

Rising commodity prices and global inflation:

- the war in Ukraine had the most global impact on the commodity markets in the countries, the main exporters were Ukraine and Russia (over the past 50 years);
- in January-March 2022, the prices of mineral fertilizers increased the most among all commodities – by 154.5%, which is the highest indicator among all raw materials;
- coal prices also increased by 74.7%.

Ukraine can use a damage assessment methodology similar to that used by other war-affected countries in the past. Key points can be:

- priority sectors of the economy are determined based on the number of the affected population, factors of production (capital, labour, raw materials and the market for entrepreneurial or managerial resources), production capacities, production opportunities, exports, imports, share in GDP, etc.;
- assessment of damages and losses in certain sectors;
- losses account for changes in economic flows to sectors due to war;
- assessment of damages, losses, and qualitative consequences;
- recovery needs are identified for each industry, which includes the cost of restoring destroyed facilities.

Full-scale Russian aggression against Ukraine has caused losses to the agricultural industry of more than USD 4.29 billion. However, until the acute stage of the conflict has not ended, it is possible to estimate losses only with a large degree of error and with a caveat about possible changes already in the near future. Therefore, in monetary terms, these losses are equivalent to USD 4.4 billion to USD 15 billion in reduced income from agriculture and related sectors or 10 to 30% of GDP losses. The Russian Federation's war against Ukraine had a devastating impact on the activities of the Ukrainian organic sector. In 2020, according to the "Organic Initiative", there were 445,000 km² of organic agricultural land in Ukraine. However, almost 20% of these lands are located in areas of hostility or in occupied regions. For example, the Kherson

region, which is the largest producer of organic products, was almost completely occupied by russian troops for a long time, currently, the left-bank part of the region, where the majority of farms are located, remains under occupation.

The greatest damage was recorded due to the destruction or partial damage to agricultural land and crop failure - USD 2.1 billion. Agricultural lands suffered two significant types of damage - mine contamination and direct physical damage. In addition, places affected by active hostilities are littered with unexploded ordnance, which poses a mortal threat to Ukrainian farmers. The cost of surveying and demining is estimated at more than USD 436 million.

The second type of damage is physical damage to the fertile soil layer:

- occupation, fighting and mine contamination limit farmers' access to fields and harvesting opportunities. About 2.4 million hectares of winter crops worth USD 1.435 billion will remain unharvested;
- agricultural machinery and equipment are also damaged as a result of shelling, airstrikes and hostilities. The estimated cost to replace and repair equipment is USD 926.1 million;
- in addition, damage to or destruction of granaries is estimated at USD 272 million;
- the estimated cost of the dead animals is over USD 136 million. It is estimated that 42,000 sheep and goats, 92,000 cattle, 258,000 pigs and more than 5,700,000 poultry died as a result of russian aggression.

Considering the above, the development of effective tools for the revitalization of the agricultural sector of the economy of the de-occupied territories of the South of Ukraine in the post-war period, as the territory of the most damaged agricultural lands, is urgent.

According to the Kyiv School of Economics, the total amount of damage caused to the agricultural sector of Ukraine as a result of a full-scale russian invasion of the country has already reached USD 4.29 billion, which is almost 15% of the country's capital. Losses of land, infrastructure and agricultural machinery have a direct impact on agricultural production in Ukraine. Without the renewal of lost assets, Ukraine will not be able to return to its place in global food security. Damage assessment is the first element in assessing recovery needs. About half of the destruction caused by the war is due to the destruction or partial damage to agricultural land and crop failure - USD 2.135 billion. Agricultural lands suffered two significant types of damage - mine contamination and direct physical damage. In addition to minefields, areas affected by active hostilities are also contaminated with unexploded ordnance, which poses a deadly threat to Ukrainian farmers during fieldwork. The cost of surveying high-risk lands and demining affected areas is estimated at USD 436 million.

The second type of damage is physical damage to the fertile soil layer, for example, craters from artillery shelling and rocket attacks, damage to the soil by tank tracks or other military equipment. In addition to direct land damage, occupation, fighting and mines limit farmers' access to fields and harvesting opportunities. Approximately 2.4 million hectares of winter crops worth USD 1.435 billion will remain unharvested. Agricultural machinery and equipment are also damaged by shelling, airstrikes and fighting in the immediate vicinity. Tractors and trucks have a greater risk of damage than other types of agricultural equipment. The estimated cost to replace and repair damaged equipment is USD 926.1 million. There is evidence that russia is purposefully destroying grain storage facilities in order to weaken the Ukrainian agricultural sector.

The total amount of damage from damage or destruction of granaries is estimated at USD 272 million. The estimated cost of the dead animals is over USD 136 million. Domestic animals are killed not only directly from active hostilities but also from limited physical access to farms, limited opportunities to purchase feed and provide veterinary services. Animal deaths in the affected areas are estimated at 42,000 sheep and goats, 92,000 cattle, 258,000 pigs and over 5,700,000 poultry. While this damage reflects the total or partial destruction of tangible assets, indirect losses in agriculture are estimated at USD 23.3 billion. Indirect losses take into account the lost income from the reduction in the number of goods produced and the additional funds that producers are forced to lose due to the war of the war.

As of September 15, 2022, direct losses from the war in agriculture in Ukraine reached USD 6.6 billion. This is evidenced by the results of the "Review of military damage in agriculture in Ukraine", prepared by the Center for Research on Food and Land Use (KSP "Agrocenter") and the Ministry of Agrarian Policy and Food of Ukraine.

Over the entire period of the full-scale invasion, 84,200 pieces of machinery and equipment were completely or partially damaged. In total, granaries with a total capacity of 9.4 million tons of one-time storage were damaged or destroyed (this volume does not take into account the remaining capacities due to temporary occupation). The approximate number of animals killed as a result of the aggression of the russian federation is almost 400,000 bee colonies, 95,000 goats and sheep, 212,000 cattle, 507,000 pigs and almost 11,700 poultry. More than 14.3 thousand hectares of perennial plantings have been destroyed in the affected territories. 0.6 thousand tons of plant protection products, 124 thousand tons of

fertilizers and 11.5 million litres of fuel were destroyed and stolen. As a result of a full-scale invasion, 2.8 million tons of grain and 1.2 million tons of oilseeds were destroyed or stolen (Figure 1).

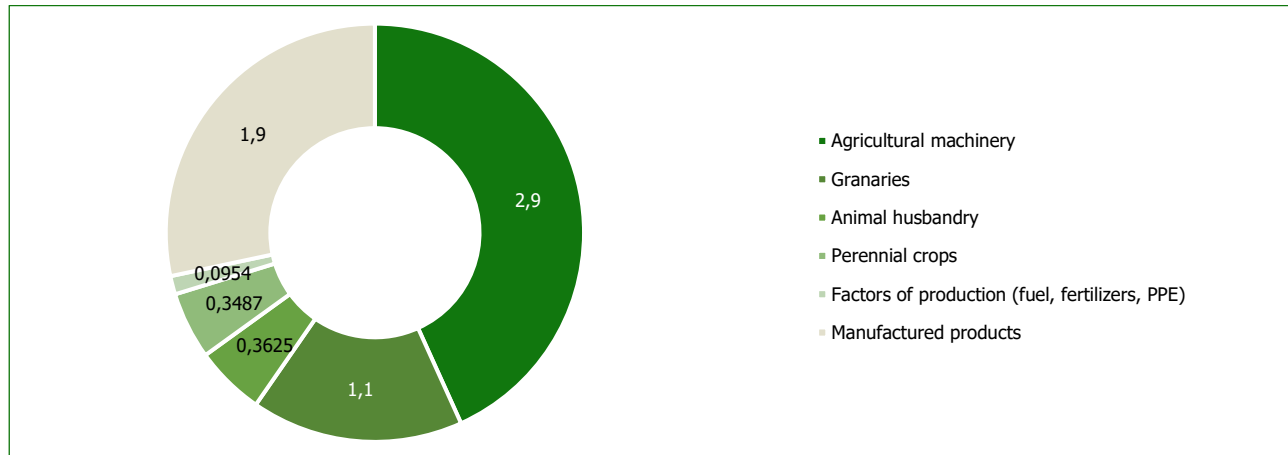


Figure 1. Distribution of expenses by categories of the agricultural sector, USD billion. (Source: summarized by the authors of [10])

The world community, having supported Ukraine in this war, demonstrates high solidarity and readiness to consolidate aid in the reconstruction of the affected economy. The creation of a joint long-term instrument for infrastructure reconstruction, institutional modernization, and economic transformation has already been virtually guaranteed to Ukraine by its allies, primarily the USA and the EU.

The recovery strategy should contribute to a constructive, consolidated vision of the new future of the country by Ukrainian society: the rule of law, the confidence of every citizen in a dignified and secure life, business confidence in the prospects of the country's development. This will provide guidelines for potential donors to select optimal priorities for supporting the reconstruction of Ukraine. The national strategy forms the subjectivity of the country. The subjectivity of the aid recipient significantly increases the level and quality of this aid in accordance with popular smart approaches. The implementation of the recovery strategy will contribute to the progress of Ukraine as a candidate country for EU membership and will be the basis for receiving resource and organizational support from Ukraine's inclusion in pan-European programs, Euroregional and cross-border cooperation. Therefore, the institutional changes that will take place in the process of implementing the recovery strategy will be synchronized with the changes provided for in the EU membership plan.

In the medium-term perspective of recovery, Ukraine should focus on obtaining membership in the EU, which requires compliance with certain guidelines for the implementation of transformations already now, primarily in the institutional sphere and the policy of technical standards.

The key problems of the development of Ukraine's economy both before the beginning of the aggression and during the war were not economic, but institutional. To ensure the economy's capacity for sustainable development, it is necessary to ensure its institutional stability. And the stability of institutions is also formed due to the adequate development of entrepreneurship, structured business institutions. Modernization should be carried out not only in the sectoral but also in the territorial dimension because the stability of the economy in the conditions of war risks was ensured to a large extent at the expense of territorial and regional stability. Regions and communities were able to take on the lion's share of preserving the stability that could have been destroyed in the first weeks of the war.

The main vision of the Restoration of Ukraine: "A strong European country - a magnet for foreign investments" (Figure 2). The Recovery Plan of Ukraine is aimed at accelerating sustainable economic growth. As part of the plan, a list of National programs for achieving key results is defined. At the same time, the Recovery Plan of Ukraine is based on 5 main principles:

- immediate onset and gradual development;
- increasing fair welfare;
- integration into the EU;
- reconstruction of the better than it was, on a national and regional scale;
- stimulation of private investments.

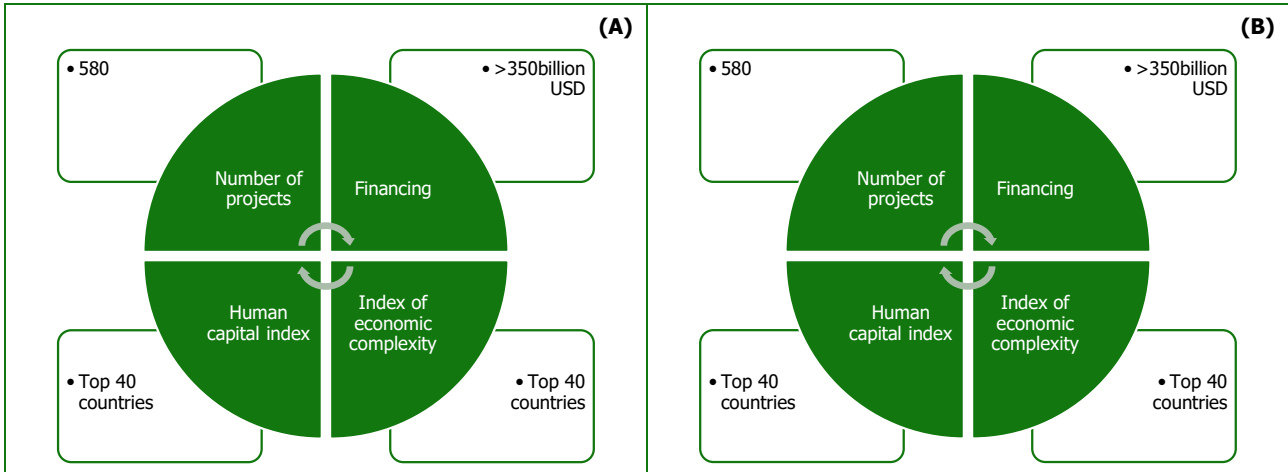


Figure 2. The goals of recovery and post-war development of Ukraine by years. Notes: (A) – 2023-2025; (B) – 2026-2032. (Source: summarized by the authors of [10])

Key sectors necessary to be included for damage assessment projects (Figure 3).

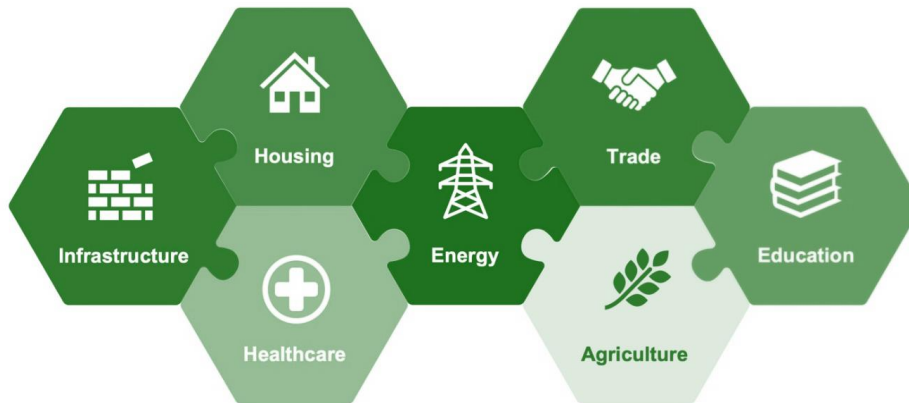


Figure 3. Main sectors to be included in loss assessment projects. (Source: summarized by the authors of [11])

Despite the help that war-torn countries receive to overcome the consequences of armed conflict, the path to becoming a self-sufficient nation is a multi-stage and long process that takes time.

There are 15 national programs aimed at post-war recovery. Two programs covering aspects of the revitalization of the agricultural sector of agricultural territories can be singled out.

1. Improving the business environment as a key to increasing the number of new enterprises in Ukraine. This program includes funding from Ukraine, Poland and South Korea. The funding directions are as follows: Deregulation, Tax and Customs transformation, Business support, Infrastructure, and Employing workers.

2. Development of sectors of the economy with added value by increasing the competitiveness of Ukraine. This program includes financing of the following sectors: Agriculture, Metallurgy, Machine building, Construction and materials, Furniture and wood processing, IT. Regarding the agricultural sector, it is worth paying attention to the following directions:

- Ukraine competitiveness: Land resources; Competitiveness, leading export positions in grain and some other products;
- challenges and limitations: Land degradation; Low value added; High dependence on bulky imports; Low level of processing;
- key projects of the National Program: Try to develop a higher proportion of processing, esp. in corn (starch, molasses), wheat, sunflower oil (special oils), etc.; development of industries with high added value (for example, berries, fruits, meat and milk); Irrigation system to increase productivity. The total amount of financing specifically for the agrarian sector under this program is more than USD 37 million.

Table 1 shows programs for the financing of the post-war revitalization of agricultural enterprises in the de-occupied territories by categories: Defense Modernization and Development; Boost business environment; Grow value-adding sectors of the economy; De bottleneck logistics with EU; Modernize regions: launch housing upgrade program.

Table 1. Financing programs for the post-war revitalization of agricultural enterprises in the de-occupied territories. (Source: summarized by the authors of [11])

Strategic group	Program	Time horizon	Funding needs, USD bn	Addressed sectors	Projects
"Strategic imperative"	Defence Modernization and Development	2022-2025	~ It will be determined based on the results of the review of the Government's powers	Overall economy Investments Light industry Construction	1A.1 Professional Armed Forces of Ukraine, other components of the defence forces. 1A.2 Comprehensive rearmament of the defence forces. 1A.2 Solving the housing problem and developing infrastructure.
Enablers	Boost business environment	2023-2025	~5	Overall economy	<i>Deregulation</i> 5.1. Assess opportunities for deregulation by (a) launching a red tape reduction program with crowdsourcing of ideas and a streamlined regulatory review process; (b) establishing a systematic measurement of the regulatory burden and analysis of the regulatory impact of draft laws and regulations. 5.2 Analysis of the degree of concentration in priority sectors Tax and customs transformation. 5.3. Transforming the tax administration into a compliance and service-oriented organization; eliminating immediate blockers in tax administration. 5.4. View the potential to reduce the share of tax revenues in GDP 5.5. Transforming Customs into a Security and Trade Facilitation Organization Business Support. 5.6. Further development of "Diia.business" as a universal centre and a key repository of information for small and medium-sized businesses. 5.7. Expand the functions and mandate of the Investment Promotion Agency to actively attract FDI for reconstruction investment projects. <i>Infrastructure</i> 5.8. Simplification of access to electricity for enterprises Procurement for reconstruction. 5.9. Establish procurement practices for renovation projects in line with EIB recommendations.
Enablers	Boost business environment	2023-2025	~5	Overall economy	<i>Labour market</i> 5.10. Create a program aimed at stimulating the creation of a new business (for example, funding for starting a business, etc.) 5.11. Increase labour mobility by (a) financing transfers to other regions for the purpose of employment; (b) simplification of the rules for the employment of foreigners in Ukraine and the employment of Ukrainians abroad. 5.12. Launch of a PPP re-employment program with a part of retraining (physical and financial infrastructure, coordination of employers' financing), reaching up to 1 million people. 5.13. Transforming the recruitment agency into a re-employment-focused organization, matching supply and demand (e.g. providing career counselling services, advanced skills demand planning model).
Engines of transformation	8. Development of sectors of the economy with added value	2023-2032	~50	Energy, Steel, Machinery, Construction, IT	8.1. Agriculture: develop the processing of agricultural products (starch, corn syrup, gluten, lecithin, protein) in accordance with the principles of the EU Green Deal. 8.2. Agriculture: Build a 1 million ha irrigation system in line with EU directives. 8.3. Agriculture: production of agricultural products with high added value (vegetables, fruits, berries, seeds). 8.4. Agriculture: Reclamation of damaged lands. 8.5. Agriculture: increase the production and processing of meat and milk. 8.6. Agriculture: Facilitating the Green Growth Transition of the Agri-Food Sector (through Precision Agriculture). 8.7. Agriculture: Rapid recovery after the war of 10.5 thousand agricultural enterprises.
	9A. Debottleneck logistics with EU	2022-2025	>2.4	Infrastructure, Construction, Machinery, Steel, Agri	9A.1. Capacity expansion at the border with the EU. 9A.1.1. Construction of ~200 km of railway 1435 and ~330 km of railway 1520 to the border with the EU and the Danube. 9A.1.2. Construction of the cross-border agricultural network of the EU. warehouses and terminals. 9A.1.3. Repair and modernization of marshalling yards on key routes (including export routes). 9A.1.4. Maintenance of 20+ pieces of equipment for changing freight wagons from 1520 to 1435 mm gauge. 9A.1.5. Modernization of 12 existing EU road border crossings and construction of 3 additional ones. 9A.1.6. Expansion of the capacity of the Danube port infrastructure (including agricultural).

(continued on next page)

Table 1. Continued

Strategic group	Program	Time horizon	Funding needs, USD bn	Addressed sectors	Projects
	10a. Modernize regions: launch housing up-grade program	2022-2025	~70 150	Construction, Energy, Infrastructure	<p><i>Implementation of energy efficiency and supply chain security</i></p> <p>10a.1. Large-Scale Residential Energy Efficiency Program.</p> <p>10a.2. Develop a communication program.</p> <p>10a.3. Launch a retraining program for 150,200 thousand workers 1.</p> <p>10a.4. Localization of the production of insulating materials (~13 million m3 per year).</p> <p>10a.5. Localization of glass production (300 thousand tons per year).</p> <p>10a.6. Localization of window production (56 million units per year.)</p> <p><i>Modernization of centralized and individual heating</i></p> <p>10a.7. District heating modernization (including installation of heat pumps, and biomass).</p> <p>10a.8. Large-scale installation of heat pumps instead of gas boilers. in individual heating.</p> <p>Provision of temporary and restoration of damaged housing 2</p> <p>10a.9. Temporary housing (conversion of non-residential buildings, social rent), financing (mortgage, compensation.)</p> <p>10a.10. Build a new residential infrastructure in accordance with the city's good planning practice (starting with high visibility pilot projects, e.g. Bucha, Irpin, Chernihiv).</p>

International organizations also play a key role in supporting war-torn countries by providing monetary, social and humanitarian assistance. Since these aspects fade into the background during armed conflicts, their influence manifests itself in the later stages of the war, which puts the country in a rather hopeless situation.

The World Bank has taken a rather apolitical stance and is focused on rebuilding the economy of the war-torn country, prioritizing the country's financial performance through such steps as financing investment projects, financing policies and programs focused on results.

The EBRD's Resilience and Livelihoods Program provides assistance to countries directly affected by war. The focus is on energy security, restoration of municipal services and livelihoods for displaced people, trade finance and liquidity for small and medium enterprises. The Bank has pledged up to EUR 3 billion over 2022-2023 to restart Ukrainian businesses and keep the economy functioning.

The International Monetary Fund also works in a similar way to the World Bank, lending to countries in need at concessional rates. The organization also contributes to the stabilization of inflation, GDP growth and support for the falling national currency.

USAID. Under the USA foreign aid program, the United States provides assistance to allied countries in the form of financial and humanitarian resources. Recently, the countries of the Middle East have been the largest recipients of financial aid from the United States. In 2003, Iraq received aid for humanitarian needs in the amount of USD 2.5 billion in connection with the war in which it became a participant. After that, over three and a half years, USD 20.9 billion in aid was provided for the reconstruction of Iraq.

The European Union (EU) applies a comprehensive approach to the recovery of countries affected by conflicts and crises. It is involved in all stages of the conflict, from prevention to crisis resolution, and makes a significant contribution to achieving a durable world. The EU works in constant coordination with its member states and effectively combines conflict prevention, mediation and peacebuilding. Since 2016, the EU has provided USD 166 million to Iraq. He pledges to support stabilization efforts, strengthen the anti-corruption program and strengthen local institutions.

According to the authors, the process of revitalization of the agricultural sector of the de-occupied territories must be planned immediately after de-occupation and growth must be implemented from the spring of 2023 at three levels: enterprises, agro-firms, agro holdings, clusters and industries [10], which will undoubtedly lead to the revitalization of rural areas (Figure 4.).

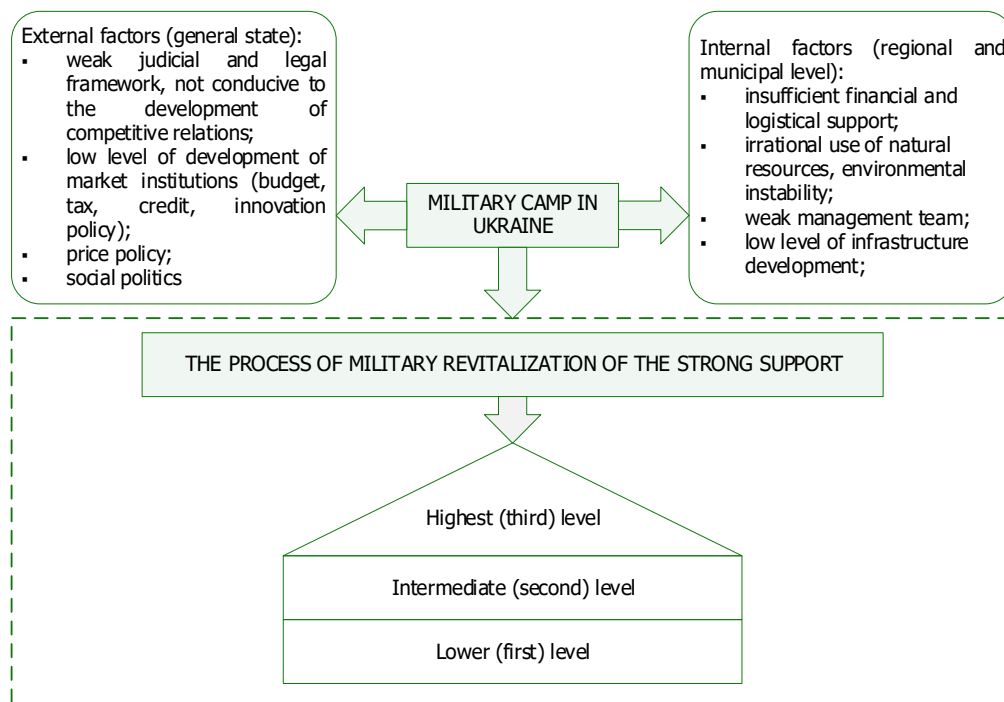


Figure 4. The process of military revitalization of the strong support enterprises of the de-occupied territories (the first stage of strategy).

The lower (first) level is the enterprise level. This level is characterized as a changing set of technical products of the community, which is produced on a certain plot of land with the help of technical means (land resources or means used for the production of not only one or several types of agricultural products for own needs, but also for the production of products of other types, industries) (Kuznietsova, A. Y., & Getman, Y. M. (2018)). After de-occupation, there are issues of restoring the economy, farms, demining, returning equipment, rebuilding from scratch.

The middle (second) level is the level of agricultural firms, agricultural holdings, and clusters. This level is characterized by a measurable set of interconnected communities of product purpose and production technologies. Some of these enterprises export part of their assets or have branches in other regions. Here it is possible to count on the support and there are opportunities to start somewhere.

The highest (third) level is the industry level. This level is characterized by the unification of various types of activities of several divisions into a single organizational and interconnected technological process. The level of aid to the state – the support of the Southern regions of the country – the breadbasket of our state is one of the key areas of military reconstruction.

DISCUSSION

The purposeful destruction of important large industrial, infrastructural, and logistical objects of civilian and military importance has become one of the key tactical goals of the Russian Federation's military aggression against Ukraine, which is manifested in constant massive missile and air strikes against these facilities and persistent attempts to seize industrial cities in the east of the country. Such tactics are aimed at quickly undermining the economic potential of the country and depriving it of its ability to effectively and long resist aggression. In addition, it pursues the goal of creating a humanitarian disaster, as enterprises whose activities are directly related to the livelihood of the civilian population of cities and the country as a whole are destroyed. Pasichnyk, N. & Kryuchek, I. (2017) investigate the problem of financing the post-crisis development of agricultural enterprises in Ukraine. The authors propose a financing mechanism that includes a development fund, grants, subsidies, and other sources of funding. Serdiuk, T.V. & Bondarenko, L.S. (2020) consider the issue of financing the development of enterprises in the agricultural sector of the economy in the conditions of instability of the world financial markets. The authors explore the possibility of using various financing instruments such as bank loans, investment funds, and state funding programs. Kravchuk, A.G. and Matviichuk, O.Yu. (2021) discuss the need for financing the post-war revitalization of agricultural enterprises in the de-occupied territories in Ukraine. These authors do not study

the issue of the southern part of Ukraine specifically and do not propose an effective strategic model for the post-war revitalization of agricultural enterprises in the de-occupied territories.

The speed and quality of the post-war recovery of the country's economy, housing and communal infrastructure, recovery of employment and incomes of the population directly depend on the state of the industry, the degree of its destruction and preservation both in the branches and in the spatial dimension. It should be noted that the issue of post-war industrial recovery should not be considered only in the context of the return of production to pre-war characteristics. Such an update should become a "window of opportunity" for the creation of a modern, developed in terms of goods, structural-technological and organizational industry, typical of the industrially developed countries of the world.

In developed countries, unlike Ukraine, the development of the industry is one of the key priorities. Therefore, our country is often inferior to them in terms of the main indicators of industrial development. For example, according to UNIDO, the volume of the added value of the processing industry (PVPP) per capita in Ukraine in 2018 was almost 100 times lower than in Ireland with a population of five million (the leader of the European Union in terms of this indicator) – USD 277 vs. Germany with USD 26.1 thousand (the leader of the YANIDO world rating of industrial competitiveness). Ukraine lagged behind more than 30 times, former socialist countries, in particular the Czech Republic – 18.5 times, Slovakia – 14.3, Lithuania and Hungary – 10.6, and Poland – 9.8. Ukraine's technological backwardness is clearly evidenced by the low share of medium- and high-tech industries in the creation of GDP (27% in 2018), the highest added value of processed products in GDP (13%), as well as significant differences in the structure of industrial production. In addition, during the last three decades, developed countries have seen positive dynamics of increased production volumes, for example, in China, FDI in 2019 increased more than 18 times (1884.8%) compared to 1990, in Ireland – almost 9 (874, 7%), in Poland – 7 (730.3%), in Slovakia – 4 (393.8%), in the Czech Republic – 3.5 (340.3%). On the other hand, the volume of FDI in Ukraine decreased by almost three times and amounted to only 39.6% of the 1990 level.

CONCLUSIONS

The full-scale war started by the Russian Federation against Ukraine revealed a number of significant flaws in the reform of the national economy over the past decades, which led to technological backwardness, economic weakness and military vulnerability. The country's post-war reconstruction policy should take into account preliminary development miscalculations, namely, recovery should be considered as a "window of opportunity" for the formation of a new highly efficient and high-tech "smart" and "green" economy, an important component of which should be modern industry, including in the agricultural sector. This is especially important for de-occupied territories that have lost almost all of their accumulated resources. The state should play an important role in reindustrialization, which is confirmed by the successful experience of foreign countries. State entrepreneurship as a modern model of state behaviour in the economy, which has proven its effectiveness in practice, should establish long-term positive trends of structural industrial and social transformations based on rationalism, national interests and general well-being. Achieving the country's strategic development priorities should be based on a complementary combination of structural and fundamental development factors in the implementation of the renewal policy. The determination of industry priorities as growth drivers and the formation of these priorities for large national companies are the basis of structural factors.

Assessment of damages caused by Russian aggression depends on many factors such as the level of destruction and damage to infrastructure, loss of human life, loss of income from tourism, and more. To conduct the assessment, detailed information about the state of affairs in the affected territory is necessary.

Potential sources of funding may include various sources such as the state budget, assistance from international organizations and partner states, equity capital, and bank loans. The choice of a specific source depends on the region's needs and capabilities.

To form the initial component of a strategic model for the post-war revival of agricultural enterprises in the liberated territories, it is necessary to determine the main directions of activity, taking into account the level of territorial development and market potential. It is important to consider opportunities for attracting investments, organizing the production and marketing of agricultural products, as well as providing support for local agricultural producers.

The creation of agricultural holdings, cluster development (aimed at the development of agricultural activities), as well as the development of non-agricultural activities will allow the creation of additional jobs, rationally use the resource potential of the regions, improve social conditions and provide social support to the population. In order to achieve successful and effective diversification processes, support from the state, the region and investors is especially needed, the combination of which will create a solid foundation for the further development of the modern economy of the de-occupied territories.

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СТРАТЕГІЧНА МОДЕЛЬ ТА ПОТЕНЦІЙНІ ДЖЕРЕЛА ФІНАНСУВАННЯ ПОВОЄННОЇ РЕВІТАЛІЗАЦІЇ СІЛЬСЬКОГОСПОДАРСЬКИХ ПІДПРИЄМСТВ ДЕОКУПОВАНИХ ТЕРИТОРІЙ

Метою дослідження є оцінка збитків унаслідок російської агресії, визначення потенційних джерел фінансування повоєнної ревіталізації деокупованих територій та формування першої складової стратегічної моделі повоєнної ревіталізації сільськогосподарських підприємств деокупованих територій. У статті проаналізовано прямі збитки від війни в Україні в цілому та в сільському господарстві зокрема. Представлено розподіл утрат за категоріями аграрного сектора: сільськогосподарська техніка, зерносовища, тваринництво, багаторічні культури, фактори виробництва (паливо, добрива), продукція, що випускається. Установлено, що План Відновлення України базується на 5 основних принципах: негайний початок і поступовий розвиток; нарощування справедливого добробуту; інтеграція в ЄС; відбудова кращого, ніж було, у національному та регіональному масштабах; стимулювання приватних інвестицій. Проаналізовано програми фінансування повоєнної ревіталізації сільськогосподарських підприємств на деокупованих територіях. Сформовано процес поживлення військової підтримки підприємств деокупованих територій (перший етап стратегії). Доведено, що створення агрохолдингів, кластерний розвиток (спрямований на розвиток сільськогосподарських видів діяльності), а також розвиток несільськогосподарських видів діяльності дозволять створити додаткові робочі місця, раціонально використати ресурсний потенціал регіонів, покращити соціальні умови та забезпечити соціальну підтримку населенню. Для досягнення успішних та ефективних процесів диверсифікації особливо потрібна підтримка з боку держави, регіону та інвесторів, сукупність яких створить міцний фундамент для подальшого розвитку сучасної економіки деокупованих територій.

Ключові слова: ревіталізація, аграрний сектор, підприємство, стратегія, модель, фінансування, інвестиції, деокуповані території, цифровізація, проєкт

JEL Класифікація: M21, O13, O16, O18, Q13, R11