

FOOD SECURITY AND FOOD SAFETY DURING AND AFTER THE WAR

monitoring report

The document is prepared by the NGO "Analytical Center of the Agrarian Union of Ukraine" within the framework of the project "Supporting the activities of the UNP EaP in 2021-2023", which is implemented by the Institute of Economic Research and Political Consultations with the financial support of the European Union

Kyiv - 2022

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The monitoring report "Food safety and security during and after the war" is developed by the NGO "Analytical Center of the Agrarian Union of Ukraine" in partnership with the Chamber of Commerce and Industry of Ukraine and the All-Ukrainian Association for the Protection of Consumer Rights "Consumers' Trust" according to the results of:

- focus group for agrarian and food business "Assessment of the stage of food security and the situation within food markets in the regions", October 27, 2022

▶ [record of the event](#)

- expert round table "Prospects of the post-war development of food production in the context of European integration, according to the EU Green Course and "from farm to fork" concept", September 27, 2022

▶ [record of the event](#)

The monitoring report is completely based on information given by stakeholders - members of the profile expert network and representatives of the business. References to the authors of the text are in parentheses^(here). The reference number corresponds to the number of a person in the list of authors given at the end of the report.

Additional information on situation during the war in profile business and within food markets are available from the next resources:

- Ministry of Agrarian Policy and Food of Ukraine

▶ [official site](#)

- State Service of Ukraine on Food Safety and Consumer Protection

▶ [official site](#)

- Research on micro, small and medium entrepreneurship[©], prepared by Info Sapiens International LLC on behalf of the local office of the Center for International Private Entrepreneurship (CIPE) in Ukraine

▶ [report](#)

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Page of the project: <http://www.auu.org.ua/uk/publications/web/1865/>

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I. The state of food security and the situation within food markets

The situation. Military topics dominate in the information space and information on the problems of agriculture and operators of the food market is practically absent despite the exceptional importance of food security and safety of food products during the war⁽³⁾.

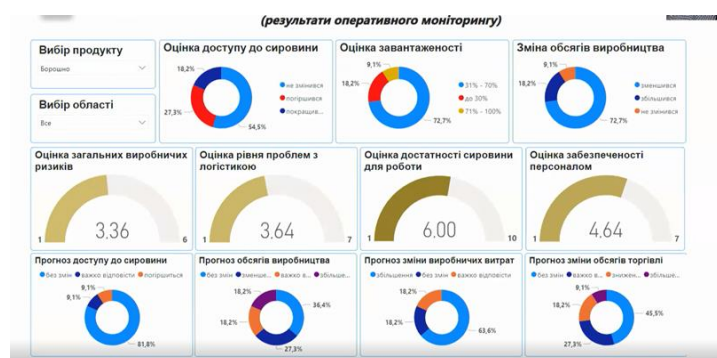
In addition, since previous times we have had a discussion about what model of agriculture we want to have? Do we bet on big agro holdings or do we support small farmers? To go further, we need to understand where we are and what processes are going on. Today, we cannot predict the consequences of the war and its impact on agriculture and the food sphere. So, it is worth combining the whole picture and its particular parts⁽³⁾.

Dynamics of changes. At the beginning of the war, food producers were disoriented, and supply chains were often disrupted. But by the end of September (the date of the expert round table), the situation has been stabilized. During the war, due to the IPRSA European Union Technical Assistance Project aimed to assist the Ministry of Agrarian Policy and Food of Ukraine, the activity of an expert group on monitoring food security was initiated. Looking at the situation retrospectively, it appears that



the food production index has not been stable in recent years. Due to the pandemic, it fell by almost 6% in 2021, and today there are reasons to suggest that the trend will continue in 2022⁽³⁾.

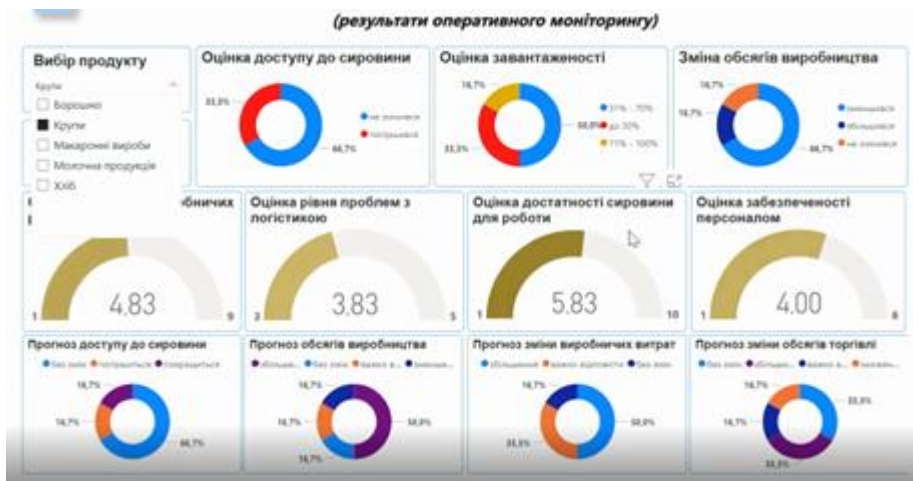
The pilot survey of producers of various types of food products was aimed to determine market



expectations and factors affecting food security. It was found that for the flour production, for example, decreasing access to raw materials indicates almost 30% of respondents, while 18% of enterprises improved their positions. In almost 20% of factories, the production decreased by more than 30%, and only less than 10% of them appeared able to maintain the production at the same

level. The majority of business representatives report a reduction in production volumes, thus 18% of them report an increase in production volumes. This happens mainly in the western regions hosting internally displaced persons, or at enterprises that work under the frame of special humanitarian programs. At the same time, business expectations in the sphere of flour production look quite optimistic: almost 82% of enterprises do not expect a decrease in access to raw materials, 45.5% of enterprises believe that trade volumes will remain unchanged and only 27.3% of businesses expect a decrease in production volumes. Thus almost 64% of respondents predict an increase in production costs and a corresponding loss of income⁽³⁾.

Another example is the production of cereals. The majority of respondents (66.6%) report that the availability of raw materials for producers had not changed. However, the workload and production volumes have decreased quite significantly⁽³⁾.



As for the future, 65% of producers believe that access to raw materials will not change, 50% expect an increase in production volumes, 33% - an increase in trade volumes. But 50% of manufacturers are sure that production costs will increase against 17% of those

who believe that the situation will remain unchanged⁽³⁾.

Price situation. During the war, operational monitoring of the price situation regarding food products according to the Act of the Cabinet of Ministers of Ukraine No. 780 dated 11.10.2016, was resumed. The increase in food prices is mainly affected by the increase in the prices of energy, fuel and lubricants, exchange rate fluctuations while using imported components. First of all, this applies to products, the production of which is energy-intensive⁽³⁾.

Recently, the price of eggs has increased by almost 50%. When we started to find out why this happened, it turned out that laying hens were not brought from abroad on time. We have our own incubators and eggs, and the disruption of logistics chains led to the halt of the entire technological cycle. And now we understand that after the war, we need to take care of import substitution and poultry business should not be so tightly dependent on import. Another example is that at the end of autumn, the issue of potatoes became relevant. In Europe this year, potato production decreased, the prices in Poland and, for example, in the north of Chernihiv region differ many times, so the business is currently looking for opportunities to expand the export of potatoes to Europe. Such specific examples show how the war affects the further development of the agricultural industry⁽¹⁾.

Also, since previous times, the issue of regulating relations between manufacturers and trade networks has remained unresolved. Food manufacturers have not yet been able to cooperate in order to resist the lobbying of retail chains. It is hardly possible to give a general assessment for the increase in food prices, since it depends on the type of product, on seasonal price fluctuations, and on the amount of product at the market. But if we compare the prices of products in similar periods, we clearly see that the lack of Kherson, Zaporizhzhya, and Mykolaiv products has a significant impact on the market situation⁽¹⁾.

The war once again highlighted the imbalance of production in the agricultural sector. From time to time, the price of one or another product rises unreasonably. At different times it was buckwheat, carrots, onions, cabbage. Looking at the high prices, farmers allocate areas for these crops next year, thus overproduction is observed and the prices fall down. At last, it is necessary to create a national system – state, educational or counseling, which would properly balance the market^(1,20).

In general, it is to say that food prices increase by 1-2% per month. After all, the cost of labor and raw materials does not change significantly, and restrictions of Ukrainian export put pressure on prices. As a number of large enterprises producing meat and dairy products in the eastern regions has been destroyed, an increase in prices for such products should be observed. But on the other hand, the purchasing capacity of the Ukrainian consumer remains limited⁽³⁾.

There is also a tendency to reorient in the markets. The loss of the opportunity to export corn, together with the shortage of fuel and the rise in energy prices, forced producers in the eastern regions to look for opportunities to process corn into biofuel⁽³⁰⁾.

Status-quo. As the situation with food production has generally stabilized, risks caused by interrupting technological processes and lacking of the staff remain quite high. Especially it concerns areas that are close to the area of military actions and affected by Russian besiege. On the other hand, getting membership in the EU means accepting all demands for absolutely all branches and spheres of agrarian and food business at all stages 'from farm to fork', implementing requirements of the Green Course for agriculture. We don't know how long the war will last, but what is clear is that any critical situation leads to rethinking and restarting⁽³⁾.

However, even now we are to take care that demand for processed products, including deep processing is created. It gives an opportunity to consume raw materials in the production process and to keep working capital of agrarian and food business at a true level, including for the rational use of limited logistical capabilities⁽³⁾.

But the main thing is that it is necessary to develop a vision for the future at the level of the state, the communities, agrarian and food business. Partially, from the perspective of the national priorities for the transformation of food systems, specified in the Decree of the President of Ukraine No. 41/2022⁽³⁾.

II. Prospects for the development of food production in the regions

Lviv region. It is good luck that Lviv was not as destroyed as other parts of Ukraine. The topic of food safety experiences an increased interest among both scientists and businesses. Business asks for advice, and the mission of specialists and members of the network of food safety trainers is to organize a broad educational campaign, to convey information to all levels of business and society. Located near the border, we see that in Poland, and especially in Europe, the economy is based on small enterprises. We also observe a tendency towards increasing of the share of small producers in the Lviv region. It is small businesses that lack information about what requirements exist and how to organize safe production. Therefore, both we and the state face a huge front in jobs⁽⁸⁾.

The Lviv region, of course, suffered less from direct military actions. We have no significant destruction as a result of the war. But the region is facing enormous pressure due to it becoming a state border and foreign trade relations are carried out through us. Ukraine has applied for EU membership, there is no way back and we have to educate ourselves about the food safety requirements that exist in the EU countries. But so far, small producers are confused. After all, it is one thing to cross the border, but another one is to meet the labeling requirements and put your own production on the store shelves. We still do not have either a state or a non-state organization that would assist business in its entire path⁽⁸⁾.

Lviv Oblast is also already taking care of green economy transformation and has great prospects here. In particular, this concerns gardening. Farms use organic fertilizers. There are more and more products labeled by "Organic Standard" on store shelves. And the future of small business is also in line with this direction⁽⁸⁾.

Zakarpattia region. Due to the maximum distance from hostilities, Zakarpattia region has not experienced any dramatic changes in the number of local businesses. Although the indirect impact in logistics, influencing production cycles, the increase in the price of raw materials is also felt by the agrarians and food producers of the region. Zakarpattia is not a classic agricultural area in

comparison with other regions of the country due to limited resources, lack of agricultural land. For example, up to 70% of regional needs for grain is compensated here by delivering from other regions. But there is traditional production - gardening, berry, vegetable growing - delivering its products to other regions of Ukraine. As well, the region has a sound production of early and ultra-early fruits and vegetables, which are supplied to the wholesale markets of Lviv and Kyiv ⁽²⁶⁾.

On the other hand, there are quite a lot of relocated enterprises in the region, some of them were relocated under Government programs, some themselves. Enterprises specializing in raspberries, cheese snacks and even the cultivation of watermelons, which are quite exotic for Zakarpattia, moved to the region. At the same time, most of the relocated businesses are from the IT sector. The region creates facilities for the relocated business to feel comfortable ⁽²⁶⁾.

There is a close interaction between the authorities and business in the region. Business is aware that aid from the state is limited, so we are looking for other opportunities together. In particular, due to the help from FAO, we develop the production of sheep breeding products. In addition, negotiations are underway and preliminary agreements have already been reached with public organizations in Slovakia. Meetings were held at the level of business associations of winemakers, sheep farmers and beekeepers. The region works with investors from Kazakhstan and certain aspects of work with Austria have been developed. Programs of cross-border cooperation were introduced in the region before the war and they have not been stopped since the beginning of the war⁽²⁶⁾.

Rivne region. The Rivne region has been a reliable rear until now, although sometimes Russian rockets reach the region as well. The relocated enterprises started working in the region in early March 2022 and created a number of jobs here. By now, they even import coffee directly from farmers of South America and Africa and produce up to 100 tons of roasted coffee per month. Four coffee shops with their own pastries have been opened here. In June, the Ukrainian-Polish engineering company specializing in the production of equipment for storing fruits and vegetables, industrial refrigeration and energy saving was relocated to the region.

By September 2022, in total, 38 enterprises had been relocated to the Rivne region: 33 to the Rivne, 4 to Dubno and one to the Vara local communities. Relocated businesses specialize in the wood processing and furniture production, textile production, IT developments, installation of machines and equipment, repair of motor vehicles, provide logistics services, are engaged in wholesale and retail trade and, of course, food production⁽²⁸⁾.

The Rivne Regional Military Administration in cooperation with local self-government bodies of territorial communities coordinates the process of business relocation. Addressing these needs, the Center for Economic Development and Business Relocation has been created. Special call center and Telegram bot has been launched. The business relocation platform was created due to the support from the USAID. It allows enterprises from the territories affected by hostilities to receive on-going information about real estate properties available for rent or for sale. By the end of October 2022, there were 251 offers there.

The regional employment center plays as a reliable partner of the state administration. In a short time it arranged staffing, training and retraining of the personnel for relocated industries and businesses. We invite businesses from "hot" territories to the Rivne region! We are a rear area that firmly holds the "economic front"⁽²⁸⁾.

Ivano-Frankivsk region. During the war, the Ivano-Frankivsk region appeared in a relatively favorable situation. During the 7 months of war, the work on auditing and certification of food safety management systems does not stop in the region. Although the enterprises in the region

were also confused for some time and did not know how to proceed next. It is to be underlined that the fair producers namely appeared the most adaptive to the situation. Implementing good practices and quality management systems, business owners endowed managers with the competence to make decisions taking into account all current risks. Thanks to this, managers appeared able to react to the challenges in time and huge problems with logistics regarding ingredients and raw materials were solved quite quickly⁽¹¹⁾.

In particular, enterprises producing semi-finished products did not go away during the war, and even did not stop innovative changes experiencing, at the same time, significant impact of the war in personnel supply and sales. There were also problems with raw materials. Reliable suppliers disappeared and this led to problems in ensuring the quality level. Enterprises were forced to strengthen input control. There were also big problems with the packaging materials that were received previously from the eastern regions. During the first months of the war production fell significantly and only by September it had reached the pre-war level. But the price situation remains threatening, businesses are losing working capital due to inflation⁽²²⁾.

The impact of the war also shows the tendency for raising cooperation of businesses that competed before aimed to solve common problems. Of course, every business wants to optimize its activities to escape losses. But the eliminating of hygienic measures did not take place. Unless some hygiene products are replaced by others available. Moreover, almost every business has found an opportunity to implement new food safety programs proven to be effective in practice. Even volunteer organizations that are engaged in feeding military and displaced persons, even in the conditions of a field kitchen, when it is necessary to quickly serve a large number of people, appear able to organize a process of proper compliance with technological and thermochemical requirements⁽¹¹⁾.

All this raises a great pride to the profession of a food producer and inspires young people to go to profile educational institutions, to study food technologies, to raise the level of competence in order to join world markets and to compete with European producers. And we see that it is right now, during the war the basics for implementing new proper and good practices concerning food safety are laying. We are on the eve of big changes, we really have a "clean slate" now, and it is up to us which route we will be going through in the future⁽¹¹⁾.

Khmelnyskyi region. The economy of Khmelnytskyi region has always had an agrarian-industrial character. Until recently, the agricultural sector has been developing at a rapid pace. The region had the leading position in Ukrainian exports of cereals, winter wheat, barley, corn and legumes. Unfortunately, at the beginning of the war, the export of agricultural products stopped, and now a difficult situation remains here⁽¹⁰⁾.

Traditionally, more than 30% of industrial production has been concentrated in the food industry. The main strategic goal of the development of agrarian and food sphere in the region suggests development of the processing industry. We strive to organize closed cycles that would allow raw products – crop and livestock, horticulture – to be processed in the region. Sugar production and sugar beet processing have always played a significant role in the economy of the region⁽¹⁰⁾. Before the war, butter was exported even to the United Arab Emirates. But the lion's share of its price belonged to logistics, as well as certification, which was not passed in Ukraine⁽²⁰⁾.

During the war, the tend towards development of closed production cycles increased. Companies purchase equipment, develop capacities for packaging of final products. And they go even further, ensuring a green transformation in the region. They keep production chains “from farm to fork” and then also take away the waste for anaerobic fermentation and further processing⁽¹⁰⁾. Products from Europe will not be able to replace products that are produced within the closed cycles in

Khmelnyskyi region, in particular buckwheat. Although during the war cutting of logistics capacities had a strong impact on the expansion of markets, export of products to the EU⁽²⁰⁾.

Khmelnyskyi region has always been a leader in the production of organic products. Before the war, more than 12 thousand hectares were allocated for organic production, 25 enterprises had received the "Organic Standard" certification. This area is developing very dynamically even now. Small enterprises are expanding the production of ready-made organic products and entering the European and foreign markets with these products very quickly. The regional office of the State Service of Ukraine on Food Safety and Consumer Protection provides all possible assistance to businesses in complying with requirements and rules. We hope that the cluster of fair food business operators will provide even greater opportunities in the development of high-quality food production in the region. After all, Khmelnyskyi was the pioneer in the development of clusters in Ukraine. Within the cluster framework, we have already created greenhouses functioning on solar batteries and are training personnel for greenhouse management⁽¹⁰⁾. Further development of the food and energy cluster in Khmelnyskyi will contribute to the development of Ukraine's overall exports⁽²⁰⁾.

Vinnytsia region. Vinnytsia region has the most powerful agro-industrial complex in Ukraine. The region has always occupied leading positions in agricultural production of Ukraine, and the situation did not change during the war. The production volumes of sugar beets and sugar remain at the level of last year. A sufficient amount of food products is available in the region, despite a certain decrease in production volumes. Partial loss of logistics, rising prices for energy, fuel and lubricants, and frequent power outages are also reported. Last year Vinnytsia produced 6 million tons of grain, but this year - only 4 million. Production volumes in the food and processing industry will decrease by approximately the same percentage. Although the exact figures are difficult to predict, since the war is not stopped and lack of electricity contributes to all the problems the further the more⁽²¹⁾.

The situation within the food market in the region is also not easy, as the purchasing power of the customers has fallen sharply. A part of folk people has no access to an adequate level of nutrition. Inflation contributing to this - even traditional local lard costs up to 300 UAH/kg and not everyone can afford to buy it. We understand the situation with the state power, all funds should be directed to satisfy the military needs at first. But at the same time, we should not forget the category of low-income citizens. The state should take more care of people, provide the proper level of supplying the population with the food taking into account that forecast for inflation by the end of the year is at the level of 30%. Today we have a war, an unusual situation, and this allows us to talk about state regulation of prices⁽²¹⁾.

It would be reasonable to implement the European experience in reducing the VAT rate on food products in Ukraine – at all stages of production, from the production of raw agricultural products to the retail. This will give an opportunity to lower the price, increase citizens' access to food products⁽²¹⁾. Practice of reducing VAT for food products in EU countries is wide spread. Attempts to reduce VAT on agricultural raw materials have recently been made in Ukraine as well. But due to the lack of proper professional support, such an attempt was poor and the VAT reduction was finally canceled⁽³⁰⁾. During the war, the state budget needs funds for defense and the maintenance of the army, so a reduction in tax revenues is unlikely to be acceptable⁽¹⁾. In the future, previous negative experiences will also influence the attempts to reduce VAT rate. Therefore, in the post-war times, this topic requires special attention to be paid⁽³⁰⁾.

As for the prospects of post-war development, Ukraine should get rid of the status of a commodity supplier, make a leap and turn into a producer and an exporter of products with added value. For

example, it is worth mentioning the fact that a large-scale production of corn exists in Ukraine, there are a number of distilleries capable to process it into biofuel, which is in demand both in Ukraine and in the EU countries. The number of investments for rearranging existing capacities of distilleries is relatively negligible. Thus, for Ukraine, there will be added value, additional jobs, revenues to the state budget, increased demand for corn and a corresponding increase in the income of its producers. Although there are difficulties associated with resistance from sellers of traditional fuel and the slow privatization of state-owned distilleries⁽²¹⁾.

At the beginning of the war, 40 enterprises from the east and south of Ukraine were relocated to the Vinnytsia region under the framework of the governmental program. The regional and city authorities are keeping in a permanent dialogue, trying to facilitate the activity of businesses in such a difficult time. In order to develop cross-border cooperation, an industrial park is planned to be created in the Yampil territorial community on the border with Moldova by the end of 2022. A similar park will also be created at a distance of 40-50 km from the border on Moldova's side. The authorities of Vinnytsia city also decided to create an industrial park for food and processing business. So, in the Vinnytsia region, all previous developments have been saved, the development trends during the war slowed down a little, but did not stop. The business works with the aim of integration into European markets⁽²¹⁾.

Kyiv region. The producers of the region, in general, also are not affected by the war at a large scale. Hopes are imposed on the Kyiv region that both the country and its capital will be supplied with food products, and agricultural producers know this. A big number of large businesses are concentrated in our region, huge production areas are involved in processing. In general, they have not lost their potential and have an intention to move to foreign markets. Although we need to implement compliance with European standards at home as well. Today, many people in the Kyiv region are returning home, and we hear about their impressions of European food products. It follows from this experience that we need to improve the quality of dairy products. But the domestic situation with the meat products does not look bad. The international community after the war will support the revival of Ukraine. Certain grant programs will work as part of the financial support from the state budget. and we need to use such support in an effective way⁽⁹⁾.

It is extremely important for the Kyiv region to develop small businesses. Communication with young people, students, shows that they become very patriotic, interested in creating their own businesses. The regional authorities in the education sphere, from their side, introduce a special course on studying entrepreneurship in secondary schools for students of graduating classes. They will be taught how to open and to run their own business. This is an extremely important and timely decision. Such training of young people will contribute much to the post-war recovery of Ukraine. The future economic prosperity of our country is based on such developments⁽⁹⁾.

Zhytomyr region. Over the past three years, the food industry of the region has faced a situation that is prescribed in the contracts as "force majeure". First, there was the COVID pandemic, then the Russian invasion, a hot phase of the war. Although in general it is worth to say that the war has bypassed Zhytomyr Oblast - only the northern regions of the region were injured. Thus, crop areas were reduced by 7-8% and it did not influence the general situation significantly. Even more, in animal husbandry the number of cattle increased by 3%, sheep and goats - by 22% and the number of pigs by 8%. It suggests a certain development in comparison with the pre-war situation⁽¹²⁾.

About 30% of food businesses are concentrated in the city of Zhytomyr. Increase in the price of gas caused reduction of the production at the beginning of 2022. First of all, this affected the production of confectionery products ("Zhytomyr sweets"). With the beginning of the war, the

vast majority of food industry enterprises stopped activity. All 100% of them had resumed production only at the beginning of June. Survey data shows that at the beginning of July, about 42% of enterprises had production volumes less than before the war, 34% had the same or slightly smaller volumes, and 24% businesses increased production significantly. We see success for those enterprises that had high rates of development before the war. The main problems for food producers were related to logistics, but they adapted to difficult circumstances very quickly. By now, logistics remains one of the main challenges for enterprises in the region, along with problems of lacking electricity, arising from the Russian rocket attacks on energy infrastructure. Huge departure of women abroad at the beginning of the hot phase of the war and the conscription for military service of men, which have been engaged in the maintenance of machinery and equipment make acute staff issues, especially in the northern regions of the region⁽¹²⁾.

A decrease in the solvency of the population and the total number of consumers is felt among enterprises that focus on local markets. Enterprises focused on foreign markets feel more stable. The issue of financial resources is acute. Now, while prospects for entering foreign markets are opening up, the question of technical re-equipment, changes in technologies are coming. Clusterization can solve many problems here. War unites, with joint efforts today we go through troubles, but a European perspective opens before us⁽¹²⁾.

Chernihiv region. Today the region is not occupied, but the time when the troops of the aggressor state were present at certain parts of Chernihiv region demonstrated the importance of small businesses that allowed people there to survive. When logistics were completely disrupted, communities were besieged, the local bakeries and food warehouses made it possible for communities to exist for several months.

Currently, the main issue for the region is clearing of areas from mines. Contamination of areas by military leftovers had a very negative impact on the sowing campaign in spring. Some areas remained not processed, people died in the fields. A large part of the territory remains contaminated, primarily around Chernihiv city, and the region needs international assistance here. Damage to production facilities, primarily small enterprises, is also significant⁽¹³⁾.

Business began to return to the region only at the beginning of summer. But this does not appear as a complete return, there is a shortage of personnel, there is a large number of destroyed capacities⁽¹³⁾. The essential destruction of potato processing facilities significantly reduced the price of raw potato⁽¹⁾. In the future, the issues of restoring the activity of the food industry at a new technological level, compliance with standards and good practices, competition with foreign products that currently flood the local market will be relevant⁽¹³⁾.

Sumy region. The region is an active participant in the cluster of fair market operators FairFood-Ukraine. Their activity had been supported even during the hot phase of the war. Although the local food market has changed during the war. Local producers and interregional networks have left forever. Before the war, there were many food business operators from Kharkiv in the region, now they are also left. Local business reorients and occupies the vacated spaces. The production of local semi-finished products also increases. But not all manufacturers of such products comply with safety requirements and sometimes even do not have official permits to operate. The moratorium on state inspections contributes to the flourishing of such a situation. But in general, small and medium-sized businesses in the region began to take their usual place. Prices are rising and it is good for business. But this situation will remain until cheap imported food products appear in the regional market - Polish cheeses, for example. Then the business will face challenges⁽¹⁴⁾.

On the other hand, farmers of the region are in a rather difficult situation. Some of them did not seed up to 20% of the land with winter crops. Shelling takes place regularly alongside the border,

where both farmers and processing business are suffering. There are quite a large number of fields contaminated with mines and residuals of the other weapon. But manufacturers hope for reconstruction, for the coming era of small and medium-sized businesses, and first of all, for the fair one⁽¹⁴⁾.

The agrarian business operating in the region before the war has remained in general. Although at the same time, the transfer of land assets from one business entity to another is observed often. For example, large agricultural companies subleased plots of land that they considered risky for their own activity. Most of the food processing business temporarily stopped their activities during the occupation, but now their activities have already been resumed⁽²⁹⁾.

The livestock sector suffers the greatest losses. The number of cows in households is now 20% less than before the war. The number of pigs in households and profile enterprises has decreased by a third, livestock - minus 7%, poultry production in both enterprises and households - minus 25%. However, recovery processes are already present. Chickens were planted in the summer, and the region is waiting for the recovery of egg production by the end of autumn⁽²⁹⁾.

In general, the economy of the region is working, although there are factors that cannot be avoided in any way. First of all, this is the price situation. Prices in the Sumy region are the lowest in Ukraine, and logistics and transporting grain cost the most. Therefore, farmers do not receive efficient resources from sale of products⁽²⁹⁾.

Dnipropetrovsk region. Regarding food safety during the war in Dnipropetrovsk oblast, the regional laboratory of the State Service of Ukraine on Food Safety and Consumer Protection did not stop its work for a moment. Although many specialists left and some local laboratories were destroyed. In 2021 the staff of the institution counted up to 300 people, the profit was more than 20 million hryvnias. In 2022 the lion's share of the income goes for helping the army⁽²⁵⁾.

The regional laboratory notes that it is difficult for businesses to keep the established time frames of analyses. It is also difficult to monitor the state of water and soil, which is affected by the death of both animals and people. Some parts of Dnipropetrovsk, Luhansk, and Donetsk regions are not available for food safety monitoring due to the hot phase of the war. Some dairy enterprises are not able to deliver products for research because fighting is going right on in their territory. Even those businesses that continue to export products experience problems caused by not submitting product examples for the research⁽²⁵⁾.

There are questions on the safety of packaging materials, easy usage of the food products delivered to the army. The salmonella research program, which was previously funded by the state, has been stopped. On the other hand, prices for laboratory services have not been reduced by the state as the owner of the laboratory. It complicates the operation for the food business. The price for the services of state laboratories should be reduced to the prime costs, additional expenses should be excluded. For example, there is no need to confirm the qualifications of truly experienced personnel that costs much and affects the price of the service⁽²⁵⁾.

Before the war, 15 large egg producers worked in the region. But due to the fighting going on in the spring, they could not plant the bird. Nowadays, some birdhouses are simply eliminated as a result of a missile hit. And today, the region, which was a recognized leader in this sphere, supplied the national confectionery industry, is not able to cover even its own needs. Therefore, it is quite possible that the price of eggs will rise to 100 UAH per dozen⁽²⁵⁾.

Donetsk region. Food production in the Donetsk region experienced problems caused by the war both in 2014 and 2018. In 2022, the occupiers began to hang their flags on assets of local business, take away private businesses even before the official start of the war, on February 22. In general,

from 20 to 25% of enterprises relocated from Donetsk region to Western Ukraine, some enterprises moved even further, to Europe. At the moment, business activity in the Donetsk region has practically stopped due to the absence of electricity, gas and water. Logistics is very expensive, as almost nobody wants to transport raw materials to the region and to move away finished products. However, after the war, if strategies and an understanding of the direction of movement were available, Donetsk businesses would be ready to return and to start working in the region⁽²³⁾.

A sound example of the situation in the food business in Donetsk region is the activity of the Eastern Ukrainian food cluster. After February 24, the cluster participants tried to keep working for some time, but in April a decision to relocate businesses was made. Several locations in Kyiv and Dnipropetrovsk regions were considered. But since the Ministry of Economy provided transport only for the relocation of enterprises to the western regions and one of the cluster members had already relocated his business to Lviv, the cluster members united and moved their businesses to Ivano-Frankivsk. A coffee shop from Sloviansk is already operating here together with its confectionery processing department, which supplies products to local consumers. A factory producing semi-finished products and a cheese factory are also being launched, and we are going to launch the production of sublimated products. People displaced from Donetsk also work in Lutsk, Ternopil. The clusters' plans include scaling up the newly established production, accessing European markets and next returning to the region⁽²⁴⁾.

Zaporizhzhia region. Zaporizhzhia region now appears in an extremely difficult situation. The territory of a large part of Zaporizhzhia and Kherson regions is occupied by Russian troops. Agrarian business is stopped, cut from all state registers for declaration of the property, tax reporting and receiving financial support. But people have not left their villages mainly, farmers continue to work, businesses are trying to survive because there are workers and lessors of the land plots. Agricultural production technologies are all broken due to the lack of fertilizers and plant protection products. The road connection with Ukrainian territories is practically absent, the banking sector has completely ceased its activities in the region. Enterprises are trying to get at least some kind of product in order to pay wages, rent permitting people to survive⁽²⁷⁾.

Farmers continue to cultivate the fields in most of the areas, although such activity is focused not on production, but on land conservation - keeping the land "under steam"⁽²⁷⁾.

The situation in 2022 is not the first time while the farmers of the south are facing unprecedented challenges. In 2003, there was a big drought and crop failure. But the region has not yet experienced hostilities, so it is difficult to estimate the time to return to usual economic activity. Permanent arrivals of missiles, permanent destructions are experienced in the region, a lot of equipment and premises have been lost. It is difficult to talk about development, food technology today, because it is not clear what the authorities rule in the region⁽²⁷⁾.

The situation in the occupied territories is also complicated by the fact that, in addition to large damages, losses, destruction of material assets, contamination of land, collapse of logistics, businesses, according to the Ukrainian legislation in force, are subjected to the criminal responsibility for keeping ordinary economic activities as collaborators. This contradicts international legislation on the customs and rules of the war, which Ukraine ratified many years ago⁽³⁰⁾.

III. Perspective of business on the post-war development

Food Safety. We have ongoing reforms in Ukraine, but it is hardly necessary to treat what is quite healthy. In particular, institutions or areas of state bodies that work appropriately. The war emphasized this once again. When there was a transport collapse, it was impossible to export products and live animals, when the purchasing power of the population fell, there was an urgent need to export food products to foreign markets. Thanks to having the epizootic situation under control, the EU granted us permission to work within third countries and we received means to export live animals and products through Romania. The necessary documents have been signed and this allows us to export our products. Therefore, during the next reforming of the state safety control, parts that work appropriately should be saved as much as possible⁽¹⁵⁾.

Added value. We understand that production of milk and meat requires raw materials. But we have a very strange situation when we export fodder grain, and then purchase animal meat and observe the dominance of imported dairy products at national markets. Therefore, government support programs should be aimed at sectors that provide added value⁽¹⁵⁾.

Today, many enterprises are closed and unemployment is growing. It takes 100 people to grow crops on 10,000 hectares of agricultural land. If you raise 100,000 sheep in the same area, it suggests completely different labor costs, different economy, different taxes. But animal husbandry does not develop, as far as long-term funds that are repaid over 5-6-7 years are absent. Credit programs available in Ukraine cannot handle these issues. There are certain state support programs implemented by the Ukrainian State Fund. But a maximum of 10 sheep is possible to purchase under the frame of these state funds. It's not even a small business. Such a situation slows down the development of agriculture in Ukraine a lot⁽¹⁵⁾.

Strategic perspective. Ukraine is a major player in the world food markets, occupying leading positions at the markets of grain, oil crops, vegetables, fruits, poultry, dairy products, first of all, dry milk. These positions should not only be saved, but also strengthened after the war. For such a perspective, special attention should be paid to the development of irrigation. We are to realize the potential of the livestock industry, first of all in dairy cattle breeding and pig breeding. The post-war recovery programs should be oriented toward the strategic approach of Ukraine to the EU. It concerns the areas of food safety, implementation of the EU Green Course, and decarbonization of the economy. Particular attention should be paid to the principles of sustainability, strengthening of economic, social and environmental values⁽⁶⁾.

Programs for post-war development are to be comprehensive. Temporary programs give an opportunity to stay afloat only. Strategic development programs are of great need. First of all, it concerns the sphere of sheep and goat breeding, which are not affected by climate restrictions. EU countries would unlikely reduce red meat consumption, including due to the consumption habits of the refugees. Today the EU imports such products from Brazil, but everyone will benefit if they come from Ukraine. We have a small logistical route and available natural resources⁽¹⁵⁾.

The war shows how fragile and vulnerable is logistics for agricultural and food products. The post-war development is to be based on the achievements of the "paths of solidarity" that were built by the European community during the war. At the post-war stage, further diversification of Ukrainian export routes is of need. Transportation across Europe by river, road, and rail transport is to be rearranged from the perspective of unifying railway tracks and development of ports in Poland, along the Black and Mediterranean seas⁽⁶⁾.

IV. Protection of the food consumers during the war and at getting membership in the EU

Status-quo. Defenders of consumer rights in Ukraine are aware of the situation during the war and have the idea on how to move after its end. The support of the European community is also evident. In this area, we have the opportunity not to start from a "blank sheet " and to use the experience and results that we have achieved before⁽¹⁹⁾. Also, a large number of European standards have already been harmonized in Ukraine, including in the sphere of electronic commerce, which are just coming to practice in the EU. Methods for control in Ukraine are also already harmonized with European and international profile standards⁽¹⁶⁾.

War-time. During the war, the moratorium on government inspections of food safety was imposed. Unfortunately, not all manufacturers are conscientious about the production of food products and have not even started implementing proper internal procedures and control systems for food safety. They insist that development of such systems imposes an additional burden on the cost of production. Therefore, right now, during the war, it is urgently necessary to restore the activity of control bodies providing state, market and metrological supervision. State control cannot be completely excluded. After all, it follows from the experience of independent market monitoring that a situation has developed over many years: as soon as state control weakens or disappears, many producers putting their own profit above the interests of consumers appear at the market. The quality and safety of food products put on the market due to such circumstances appeared to be in question^(4,17,19).

From the beginning of the war, during almost six months, the business did not show any activity regarding cooperation with organizations protecting consumer rights. But in September 2022, the request for such cooperation appeared and the first studies of butter, which is an indicative product from the perspective of compliance with consumer rights, have been carried out. It shows that 40% of the product samples were counterfeit, the non-dairy fat content exceeds 90%. Consumers pay for oil, but in fact receive a completely different product of quality in question. Many cases have been fixed as market operators decide that "the war influences everything" and there is no need to comply with the legal requirements. As well, "consumer's corners" prescribed by the law are absent in shopping premises, and at city markets - wholly. The temperature regime for product storage, sanitary and hygienic requirements are violated as well. Many products are sold without labeling, expiration dates are not indicated. Under such circumstances honest producers find themselves in a poor competitive position^(17,19).

In 2014, as food products from EU countries appeared in Ukraine, domestic enterprises experienced tough competition, the legislation was not harmonized, and the domestic producers appeared unprotected. In particular, producers of dairy products were forced to change technological processes in order to minimize costs and it caused deterioration of product quality. At that time, the amount of counterfeit goods at the market increased dramatically. In the years before the war, the situation changed significantly, but after February 24, we again got negative signals. While the task to feed people remains urgent, their access to vital goods is restricted, consumer rights are neglected^(4,19).

In general, during the war, it became much more difficult for consumer protection organizations to fulfill their functions. But they do everything possible to protect consumer rights, respond to citizens' requests, give advice, help resolve controversial issues and if impossible to assist that resolving, compose a complaint to the local offices of the State Service of Ukraine on Food Safety and Consumer Protection^(4,17).

Participation of the state. The state takes care of the agricultural sphere, implements target programs for vulnerable groups of population, monitors prices, but leaves people to their own as it concerns food safety. As well, during the war, the State Service of Ukraine on Food Safety and Consumer Protection was suspended from activity on protection of the food consumers rights. However, the lack of official capabilities in this area could be compensated by the associations of honest producers, their active participation in developing the requirements for products, including at the legislative level. Namely at the legislative level the requirements are to be implemented as the production of fakes increases⁽¹⁹⁾.

The consumer protection system should be holistic. On the one hand, manufacturers focus on consumers, on the other hand, consumers seek for safe and healthy consumption. But if compliance is voluntary for market operators, the state plays the key role in protecting consumer's rights. In the EU, the protection of consumer rights has been put on the highest level, and effective tools for the realization of these rights have been created. We hope that these tools will also start to work in Ukraine soon^(4,30).

Spreading information. Now, the attention of the media is focused on the war and other news from the military sphere, no one is interested in informing consumers. From the beginning of the war the mass media were not interested in disseminating the results of an independent study on quality of food products not wanting to spread negative information additionally. It was possible to post important information about the falsification of goods only on the own resources of the consumer organizations. As research revealed facts of unfair behavior of market operators, we informed all profile authorities - the State Service of Ukraine on Food Safety and Consumer Protection, the Ministry of Agrarian Policy and Food, law enforcement state agencies^(4,19).

EU experience. On the other hand, in the EU, in particular in Bavaria, products in stores and supermarkets contain full information that consumers need. Therefore they are fully protected from the machinations of manufacturers. Unbranded products can, in particular, be bought at fairs. But they will be the products of local manufacturers, which contract places with event organizers, plan and adjust supply volumes only^(4,18).

Post-war recovery. At the stage of post-war recovery, it will be necessary to conduct extensive educational work for consumers, to talk about the danger of counterfeiting and to teach consumers to read labels. It will also be important to work with all market stakeholders, to inform manufacturers and retailers about all the tools and procedures that allow to stop counterfeiting⁽¹⁹⁾.

In the context of European integration processes, Ukraine has already done a lot of work, although during all these years in the sphere of consumer rights protection, there was a lag behind the harmonization plan. Therefore, we will need to create a consumer rights protection system that would be independent from business, ensure effective interaction with consumers and exclude the possibility of lobbying the interests of individual business representatives. As well we need an effective system of control over the circulation of food products. In order to achieve balance in the markets, it is reasonable to delegate functions of market monitoring and consumer education to specialized public organizations. We have to introduce a system of alternative dispute resolution for the protection of consumer rights. Protection of consumer rights is a matter of the state and Ukraine must fully comply with the conditions that exist in the European Union. This also requires special programs that would protect our domestic market from unfair producers and other market operators^(4,19).

V. Frameworks for the post-war development of the food business in Ukraine

Model of the national economy. Today it is difficult to say what the post-war economy of Ukraine will look like, but right now we can definitely say that there should be no space for oligarchs, that the economy should be green, digital and inclusive, built on the principles of smart specialization. These principles also set trends for the development of the food industry⁽⁵⁾.

The vision of what the post-war economy should be is just taking shape today. But the business quite clearly sees issues that should be changed in the tax and custom spheres, on which the activity of the Bureau of Economic Security should be focused⁽¹⁾. Although the understanding of strategic goals, in particular in agricultural production and food security, must be developed right now. All trends for development should be integrated into the European integration perspective, experts and business should exchange opinions in order to form a balanced strategy. It is also necessary to develop a vision for the implementation of the Green Course in Ukraine, the concept of "from farm to fork" as part of it⁽²⁾.

Mechanisms for post-war reconstruction. Today, in Ukraine, there is a lack of understanding of the mechanisms of post-war recovery. But the EU already has developed an official document on this matter - it is a Communique of the European Commission to the European Parliament, the Economic and Social Committee and the Committee of the Regions "Ukraine Relief and Reconstruction" dated May 18, 2022. In this document, the principles of restoration are fixed. First of all, it concerns sustainability and European integration. In Ukraine, the processes of European integration are already institutionally ensured by the fact that a specialized committee works in the parliaments, the positions of deputy ministers for European integration have been introduced in the executive state agencies. The civil society is also institutionalized within the framework of two public forums - UNP EaP and US PCS. As for sustainability, a lot of assets have already been created in Ukraine on a grant basis at points of growth. But a huge number of them were frozen due to lack of funding. We hope that at the stage of revival, all these resources will enter the national economic turnover. The activation of resources at the regional and local levels, horizontal interaction between business, public organizations, cities and regions, which actually already took place during the war, is also foreseen⁽³⁰⁾.

Post-war reconstruction must be carried out in accordance with the recent EU policies and standards. For these, proper governance must be ensured, the rule of law, which is harmonized with the EU acquis, must be reached. Particular attention should be paid to ensuring inclusiveness, participation of all interested parties. The situation when plans for reconstruction are formed behind the scenes and finances are distributed in an untransparent way should be excluded⁽³⁰⁾.

In order to provide international aid, it is envisaged to create a Ukrainian reconstruction platform. Its activity will be directed by the European Commission and the Government of Ukraine, the supervision will be carried out by the Verkhovna Rada of Ukraine and the European Parliament. EU member states, bilateral and multilateral partners and observers are supposed to interact on the platform. The Platform will play a single point of entry for all parties and partners involved in the reconstruction of Ukraine⁽³⁰⁾.

The specially created tool "Rebuild Ukraine' Facility" should work for the restoration of Ukraine. The passing of special legislation is foreseen for the proper implementation of the principles of post-war reconstruction. As well, a special government structure should be established. Digital transformation, logistics and energy infrastructure are recognized as the main areas of activity. It should be developed in accordance with EU policies on climate change and environmental protection. It should be noted that the cluster of fair food market operators mentioned in this document meets these specified requirements⁽³⁰⁾.

The issues of proper governance, the rule of law and the reliability of financial management are emphasized separately. It is planned that the market in Ukraine will look the same as in EU countries, including consumer protection, a favorable business climate, especially for private investments. Emphasis is put on anti-corruption policy and the fight against counterfeiting⁽³⁰⁾.

In the spring of 2022, the process of writing plans for post-war revival was launched in Ukraine. A number of working groups were created at the ministries. The results were presented in July in Lugano. As a result, the presented version reflects a vision of what the revival should be from the point of view of state officials. Thus the business starts to form its vision only now⁽¹⁾.

Development priorities. War brings destruction to all spheres of the economy. There is an opinion that it is too early to talk about further development while hostilities continue. However, we should already have a certain basis on which the further development of the agricultural sector and the food industry will be built. And such a basis is being formed today within the Working Group 2 of the Ukrainian National Platform of the Eastern Partnership. It focuses on the integration with EU principles and standards, implementation of modern digital technologies, reduction in amounts of fertilizers and pesticides in agro production, establishment of logistics chains for the safe supply of products 'from farm to fork', environmental protection and compliance with standards for energy efficiency. It will lead Ukraine to a completely new level of development in the production of safe and high-quality food for the national and world markets⁽²⁾.

Legislation. The law "On the basic principles and requirements for the safety and quality of food products" had been put in force according to the DCFTA. Today, it is harmonized with the EU norms. But unfortunately, the matter does not go further. By now, the regulatory framework forcing market operators to transfer information "from farm to fork" is absent. There is also no national notification system for dangerous food products. At the stage of Ukraine's acquisition of EU membership, all these gaps must be eliminated⁽⁴⁾.

We should finally complete work on the Consumer Protection Law, which would become a reliable source of information, providing a clear road map on how consumers can protect themselves⁽¹⁹⁾.

Governance. Good governance should be based on the involvement of all stakeholders. The scientific and the expert communities should work out options for decisions of state agencies and submit them for discussion to all those who will later experience the results of the implementation of such state decisions. We need to move from formal consultations with the public that exists now to ensuring the full-scaled participation of the public and experts in the state governance, including on the basis of digitalization of the processes of such an interaction⁽⁵⁾.

The state of affairs regarding the stability of the Constitution, the rule of law and the involvement of the public are the criteria for the decision on Ukraine's accession to the EU. In Ukraine, the best practices of the state management existing in the EU should be widespread. The state is obliged to allocate resources for supporting interaction of think tanks, educational institutions and state agencies. Unfortunately, all existing problems regarding the involvement of the public, scientific and expert potential in the development of state decisions (untransparent way of involvement, lack of criteria for the selection of experts, etc.) were vividly demonstrated during the development of the recovery plan for Ukraine by state officials⁽⁵⁾.

Both during the war and in the next period, in order to ensure food safety and consumer rights protection, it is necessary to have effective state regulation⁽¹⁷⁾, including tax regulation⁽³⁰⁾, monitoring of the situation is to be available⁽¹⁷⁾. These functions should be implemented by the state, since civil society structures and resources are not sufficient, and the tasks of civil society

structures are different⁽³⁰⁾. Right now, proposals to liquidate the Ministry of Agrarian Policy and Food of Ukraine have appeared. It will have a negative effect on the development of the national strategy for the agrarian and food sectors and the implementation of agrarian policy⁽⁶⁾.

Trade policy. National development strategy, trade policy is not believable without such aspects as producer responsibility and ensuring the eligible level of product safety and quality. During the war, we faced, first of all, logistical aspects, lowering of import duties. But the issue of product safety, even during the war, was not canceled by anyone, it remains just in place. And this suggests that Ukraine needs an effective and integrated infrastructure for the safety and quality of agricultural and food products⁽⁶⁾.

There is an ongoing debate about how the situation is to be developed. Many people here suggest the traditional way, when most of the power, procedures and functions should be put onto the state. But we know that the state is not quite effective in such things. International practice shows that it is civil society and specialized professional public associations who should take the initiative here. However, Ukrainian business is not yet ready to support the development and harmonization of profile standards. The optimal situation suggests that the state forms the legislative and regulatory framework of such a quality infrastructure and scientific and expert community, civil society, business associations form specific rules, including using innovative digitization tools. After all, a number of food safety aspects can be monitored only with the help of decentralized procedures⁽⁶⁾.

But so far, experience shows that only 10% of businesses are ready to financially support the development of decentralized systems, and 90% plan to use the results for nothing. That is why we need tools for delivering information, open discussion platforms and a large-scale educational campaign to show how such systems work in the world. Unified system for the quality infrastructure will contribute to the development of the agricultural sector, food market operators, will cause increasing export potential, stabilization and strengthening of foreign trade⁽⁶⁾.

Infrastructure. Specialists on ensuring the safety of food products should unite within the framework of a complex interdepartmental, scientific and educational public platform. The mission of such a platform is coordinating activity of all stakeholders involved in the food safety sphere⁽⁵⁾. It is also worth emphasizing the importance of building innovative ecosystems in the post-war period⁽⁵⁾.

Special attention should be paid to development of the national infrastructure for ensuring the safety and quality of food products in accordance with international standards and good practices⁽⁶⁾. European standards are recognized among the highest in the world, so now, when we will quickly catch up with the European Union, we need to accept the experience and the guidelines that are available in the EU. In particular, a very promising direction is the involvement of food business - especially small and medium-sized - into a cluster. Under such an umbrella, it will be able to get knowledge and practical advice on bringing its activities into compliance with the current legislation of Ukraine, European standards and good practices, communicate directly with international certification organizations and receive resources of green financing. And the commercial labeling of the cluster participants will allow the consumer to be aware of products manufactured in accordance with the latest safety and quality requirements⁽⁷⁾.

EU experts believe that it is the standards that inspire legislators to form norms and rules that will become mandatory in the future. So, businesses participating in such a cluster will always be prepared for new legislative changes. Due to this, it will also maintain a more stable position on the market, especially on the foreign market, than operators not paying attention to getting compliance with standards⁽³⁰⁾.

Standards and certification. Today, there is no road map showing the way for business to comply with international requirements and standards. The national standardization body – Ukrainian National Scientific and Education Centre – adopts standards by the "cover method" widely. Reform of equivalence and mutual recognition of national standards is going on. The trend to adopt a large number of standards takes place. In June, preferences were given to Ukrainian manufacturers, but they did not affect the requirement to comply with standards. At the same time, there is just no demand from business to comply with standards. A separate barrier here is that the standards are written in a foreign language. Also a problem is the lack of approved methods for monitoring indicators, which are mandatory for compliance^(6,16).

During the entire period of martial law, the work of the National Standardization Body did not stop for a single day, although it was partially carried out remotely. The National Standardization Body maintains a unified catalog of national standards and codes of good practices, provides services for clarifying the norms of standards and advising newly established businesses on a number of standards concerning the sphere of their activity. But businesses rarely accept the services of the National Standardization Body. At the same time, we know that in EU countries businesses apply to standardization bodies while needing unified documents and control methods. Standards will continue to be adopted by the "cover method" in all industries, not only in the food industry. And the translation of the names will be adjusted with the technical committees⁽¹⁶⁾.

On the other hand, certification bodies report the lack of necessary standards. This is caused by the fact that technical committees lack funding. While regulations on the voluntary use of standards appeared in the legislation, the state stopped supporting activity in the field of standardization. However, standards are needed and these functions should be undertaken by industry associations. And today there are cases when producers of dairy and meat products apply for independent audit and certification, but standards for their products are absent⁽¹⁷⁾.

At the same time, the national system of product certification according to standards meets international requirements at the whole scale. Certification bodies involved into metrological activity confirm their qualifications in the National Accreditation Agency of Ukraine. In turn this agency is authorized by the international community to confirm that Ukrainian certification companies meet the requirements. Today, they are fully capable of covering the demands of the domestic market. Our certificates are already recognized in Europe and companies can export products having domestic certificates of compliance with harmonized international standards⁽¹⁷⁾. Although sometimes a negative attitude towards Ukrainian certificates takes place⁽¹⁶⁾.

During the war, certification bodies survived precisely due to small business. Even in cases as the business was relocated from Kherson to Uzhhorod, Ivano-Frankivsk, Khmelnytskyi regions it has continued to cooperate with the Ukrstandartmetrologiya system. Another example is when enterprises of the Kyiv region, which had a closed production cycle from raw materials to the sale of finished products in their stores and did not have internal quality control procedures, even during the war, decided to develop the necessary procedures in order to expand markets and applied for the certification. For newly created businesses, we have developed a road map of steps that need to be taken in order to obtain confirmation of compliance with the requirements of standards and legislation in force⁽¹⁷⁾. But in general, business does not understand how the conformity assessment system works and why it is necessary to comply with standards⁽³⁰⁾.

Education. Recently, there has been a noticeable trend in Ukraine to represent young people both in government and in business. Educational institutions of Ukraine have been continuing their work during the war, including in physical space, not only virtually. Higher schools that train specialists in the area of food safety try to approach the training of specialists in a comprehensive way, not only "from farm to fork" (or to table in Ukrainian version), but also "from farm to mouth", combining the food product science component with knowledge on logistics supply chains and protection of consumer rights⁽⁴⁾.

The field of food safety is under reforming in accordance with EU requirements and regulations, and this is reflected in the curricula, which are changing on-going. Recently, many new products, technological processes, methods of deep processing, resource-saving technologies, waste-free production cycles, ways of individualizing nutrition, combating diseases of alimentary origin, have appeared on the food markets. And both future specialists and consumers should be familiar with these⁽⁴⁾.

Also, in the educational process for food specialists, attention should be paid to the issue of import substitution. The issues of conveying information on goods and services to the consumer, fair marketing, training on how to read food labels, making a rational choice of goods, etc. need attention as well⁽⁴⁾.

In a market economy everything starts and ends with the consumer. This concerns not only food products, but also educational services. Therefore, those who will hire former students should have the right to participate in the formation of educational programs⁽⁴⁾.

The knowledge obtained within the framework of specialized courses should be supplemented with the skills of project management, attracting grant funding and investments⁽⁵⁾.

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- (25) **Iryna Borovyk**, PhD, head of the department of the Dnipropetrovsk Regional State Laboratory of the State Production and Consumer Service of Ukraine, member of the KDK trainers' network
- (26) **Viktor Terelya**, Deputy Director of the Department of Agro-Industrial Development of the Zakarpattia Regional Military Administration
- (27) **Volodymyr Tsap**, PhD, associate professor of the Department of Finance, Accounting and Taxation of the Tavryisky State University of Agrotechnology
- (28) **Olena Rozhkova**, methodologist of the Educational and Methodological Center of Vocational and Technical Education in the Rivne Region, Rivne regional coordinator of the KDK trainers' network
- (29) **Oleksandr Maslak**, Director of the Department of Agro-Industrial Development of the Sumy Regional Military Administration
- (30) **Larisa Starikova**, PhD, Chairman of the Board of the NGO "Analytical Center of the Agrarian Union of Ukraine", member of the coordination board of the KDK trainers' network