

SECTION 2. ECONOMY AND MANAGEMENT OF STATE GRATITUDE

2.1 Conceptual principles of strategic ensuring of food security in the system of implementation of the sustainable development goals of Ukraine until 2030

The food problem has become global since the last decades of the twentieth century, against the background of deepening inequality in food production and consumption in the world. Most often, food problems concern countries with underdeveloped agricultural production and countries that do not have a clear and sound strategy to ensure food security. The food problem is global because its solution requires not only the efforts of individual countries, but interstate cooperation, as it is organically linked to other global problems - demographic, environmental, energy. Therefore, Ukraine as a country with great agricultural potential plays an important role in ensuring food security in the world.

National food security in modern conditions should be based on the principles of globalization and European integration, taking into account the experience of other countries in solving the food problem. According to the OECD-FAO Agricultural Outlook 2019-2028, population growth will slow down and per capita consumption will stabilize [55]. At the same time, yields and gross harvests of agricultural crops will increase. All this will lead to lower real prices for most agricultural products in the next decade. However, this trend does not guarantee the stabilization of food prices for consumers, especially in the face of rising inflation. In Ukraine, the growth of prices for agricultural products amounted to 12.7% in January 2022 to January 2021. In May 2022, the consumer price index for food amounted to 123.6% compared to May 2021, and 337.6% compared to December 2010. This means that the population is forced to spend much more on food [56].

Ukraine is one of the world's largest producers of wheat. According to the forecast of the FAO and the OECD, in international markets, wheat prices in 2018 will fall from \$ 240 to \$ 193 per ton in 2028 (nominal price is expected at \$ 237 per ton). Corn and other cereals (except wheat) as well as butter and cheese will become cheaper

by 0.3-0.4% annually, oil (except soy) by a quarter of a percent and sugar by 0.63%. In particular, corn will rise in price to \$ 186 per ton, which in 2018 prices will mean a reduction from \$ 160 to \$ 150 per ton in 10 years. And nominal prices for ready-to-eat sugar are expected at \$ 438 per ton [55].

The increase in food prices for the population is due to such reasons as: growing global demand as a result of rising living standards, rising prices for energy, material and technical resources for agricultural and food production. Among these reasons, the most important for Ukraine is the growth of energy prices, as the energy intensity of the national economy is one of the highest in the world. This factor leads to higher food prices as costs for fertilizers, transportation and storage of agricultural products increase.

The Global Food Strategy aims not only to address hunger and malnutrition, access to and supply of food, but also the interrelated issues of rising energy costs, increasing crop yields, climate change, lack of investment, and economic growth. Food policy must be based on the achievement of the Sustainable Development Goals at the global level to address current challenges and threats to food security.

The National Report “Sustainable Development Goals: Ukraine”, adopted on 15.09.2017 by the Government of Ukraine contains developed strategic objectives for food security of Ukraine, indicators that measure the implementation of objectives, and their target values (table 1) [57].

Table 1

Strategic objectives, indicators and their targets in accordance with the National Report “Sustainable Development Goals: Ukraine”

Sustainable Development objectives	Indicators	Targets			
		2015	2020	2025	2030
Target 2.1. Ensure accessibility to balanced nutrition to the level of scientifically based standards for all population groups	Indicator 2.1.1. Consumption of meat per capita, kg/year	51	61	71	80
	Indicator 2.1.2. Consumption of milk per capita, kg/year	210	270	320	380
	Indicator 2.1.3. Consumption of fruit per capita, kg/year	51	65	78	90

Continuation of table 1

Target 2.2. Double agricultural productivity, primarily through innovative technologies	Indicator 2.2.1. Labour productivity in agriculture, USD1,000s per employee	8.7	10.0	12.5	15.0
	Indicator 2.2.2. The index of agricultural production, %	95.2	102.0	102.0	102.0
Target 2.3. Ensure the development of sustainable food production systems that help maintain ecosystems and gradually improve the quality of land and soil, primarily through innovative technologies	Indicator 2.3.1. The index of food production, %	87.2	103.0	103.0	103.0
	Indicator 2.3.2. Share of food industry and agricultural raw materials processing production in exports of Ukrainian Classifier of Goods for Foreign Economic Activity groups 1–24, %	38.3	51.0	57.0	65.0
	Indicator 2.3.3. Share of agricultural land under organic production in the total area of agricultural land, %	1.0	1.1	1.3	1.7
Target 2.4. Reduce the volatility of food prices	Indicator 2.4.1. The consumer price index for food (annual average), %	144.4	105.0	105.0	105.0

Source: compiled by author according to the data [57].

The agriculture is a strategic sector of the national economy, the main driver of socio-economic development. The share of agriculture in the structure of Ukraine's GDP is more than 10%, exports – 41 % in 2021. Almost 90% of the population's food needs are met by domestic products.

Agricultural products are exported to more than 200 countries. Ukraine is an important player in the international grain market, one of the guarantors of food security in the world. It has the potential to increase grain production and exports. According to the results of the 2019/2020 marketing year, Ukraine ranked 2nd overall in terms of exports of all cereals, ahead of only the United States. According to the US Department of Agriculture in the 2019/2020 marketing year in the ranking of the largest exporters of grain, Ukraine took 2nd place in export of barley, 4 – corn, 5 – wheat [56].

Further integration into the world economy, strengthening the processes of globalization and trade liberalization requires improving the principles of strategic food security in the system of implementation of the Sustainable Development Goals of Ukraine in the development of the agricultural sector and agricultural policy.

Since the beginning of the war, the food security of Ukraine and the world has been under threat. The Cabinet of Ministers of Ukraine approved a plan of measures to ensure food security during the war. The most important directions of food security are monitoring the trends of food security and agricultural infrastructure, providing state support to national food producers, providing targeted food assistance to socially vulnerable groups. Monitoring and appropriate regulation of food prices will be under state control. Ministries, the State Statistics Service, and regional military administrations will regularly monitor statistics on the balance of basic foodstuffs and monitor the level of trade surcharges. Volumes of domestic agricultural products for export will continue to be regulated by the state for the period of martial law. The enterprises that need financing for the expansion, rehabilitation and construction of production facilities will be studied. In addition, the needs of domestic enterprises of the agro-industrial complex in critical import goods will be constantly met. Local programs for self-sufficiency of territorial communities with food will be implemented [58].

Currently, the biggest problem for farmers is the impossibility of exporting grain. As the grain is not shipped, there is no sales, so farmers are in a situation of insufficient funding.

The main tasks of agricultural science in wartime are to create conditions to ensure a primarily stable and high level of food production in Ukraine.

Despite military actions and threats in our country, the spring sowing campaign in Ukraine was successful. According to the latest data, the sowing of spring crops is carried out by 23 regions of Ukraine, except for Luhansk, where military operations take place almost on the entire territory [59].

These measures will help meet the food needs of Ukrainians and fully provide food businesses with agricultural products for production. This will guarantee Ukraine and its citizens sustainable food security in this dangerous time of war.

According to the FAO report "Assessing Investment Needs in Ukraine's Agricultural Reconstruction and Recovery", the losses of Ukrainian agriculture have an unprecedented scale, both in the national dimension and for global food

security [60]. According to estimates by the FAO, only as a result of hostilities and Russian aggression in March 2022, the direct potential damage to the country's agricultural sector was already \$ 6.4 billion.

At the same time, according to the FAO, the total value of fixed capital in Ukraine's agriculture is estimated at \$ 29 billion, and additional economic losses to the agricultural sector due to the war in 2022 will amount to about \$ 22 billion [60].

But more impressive is the indirect damage that can be and will be incurred due to losses in the infrastructure. The FAO estimates the total damage to infrastructure, which was caused by the Ukrainian government - \$ 681 billion [60].

As agriculture in Ukraine provides 20-22% of GDP and about 40% of export revenue, the share of infrastructure involved in its maintenance is excessive – from roads of local importance and farm elevators to sea trade ports. The loss of infrastructure serving the agricultural sector can be estimated at \$ 68-199 billion. The large discrepancy in estimates is due to both the complexity of the assessment itself and the high intensity of hostilities [60].

As the FAO concludes, there has been no comparable precedent since World War II for a warring country whose agricultural sector would be so important to the world. This suggests that once the hostilities are over, efforts and investment in restoring the country's agriculture will also be unprecedented [59].

The European Union will suspend all import duties on Ukrainian goods for a year. These include all industrial tariffs, agricultural duties and quotas, the system of entry prices, anti-dumping duties and protective duties [61].

Given that the EU is currently the main trade route for all Ukrainian exports, such a decision will allow the development of logistics to third countries. This is an important support for the entire Ukrainian economy.

Most duties and quotas apply to agricultural products, so the EU's decision is also to help Ukraine and the world maintain food security.

Only the normalization of agricultural exports from Ukraine can reduce food inflation in the world and save millions of people from starvation. This decision already encourages Ukrainian business to integrate into the EU internal market, without

waiting for political decisions on EU membership.

The EU's share in Ukraine's pre-war trade was 39.5%. In 2021, Ukraine exported goods to the EU worth 26.7 billion US dollars [61].

For Ukrainian business, the abolition of customs duties opens up additional opportunities, and products become more competitive in the European market.

In addition, the EU is currently working to facilitate the ground transportation of goods to help export Ukrainian products. In particular, the liberalization of conditions for Ukrainian truck drivers transporting goods between Ukraine and the EU, the facilitation of transit and the use of EU infrastructure to direct Ukrainian exports to third countries have begun [62].

Assessment of the level of food security in Ukraine is carried out according to the Methodology for determining the main indicators of food security "Some issues of food security" [65]. Table 2 presents data on the daily energy value of the diet and the structure of nutrition.

Table 2

Daily energy value of the diet and its structure in Ukraine

Indicators	Years								
	2012	2013	2014	2015	2016	2017	2018	2019	2020
Caloric content of the average daily diet of the population, kcal	2954	2969	2939	2799	2742	2707	2706	2691	2674
Including products of animal origin	844	868	849	791	790	781	787	800	802
products of plant origin	2110	2101	2090	2008	1952	1926	1919	1891	1872
The share of products of animal origin in the diet (regulatory value – 55 %),%	28.6	29.2	28.9	28.3	28.8	28.9	29.1	30	30

Source: compiled by author according to the data [56].

Although the caloric content of the average daily diet exceeds the recommended value of 2500 kcal, the excess is insignificant. There is a low level of consumption of products of animal origin in the diet: the share of products of animal origin is only 30% at a preferable rate of 55%. The main part of calories Ukrainians consume with products of plant origin.

One of the most acute food security problems is low food quality. Deterioration

of the ecological situation simultaneously with the decline in technological characteristics and nutritional value has led to a deterioration in the quality and safety of agricultural products and food products, their non-compliance with established standards [63]. The intensification of agricultural production and a fairly loyal state control system has led to the excessive use of agrochemicals in the cultivation of crops and storage of products, and hence to the deterioration of food quality.

The caloric content of the diet in Ukraine is 22.6% lower than in the EU, where it averages 3456 kcal per day in 2020. However, the share of animal products in the diet of the EU population is at the same level as in Ukraine, i.e. 29.3% (1012 kcal) [64]. Table 3 shows the average volume of food consumption.

Table 3

Level of food consumption in households of Ukraine on average per year per person,
kg per year

Foods	Years								
	2012	2013	2014	2015	2016	2017	2018	2019	2020
Meat and meat products	54.4	56.1	54.1	50.9	51.4	51.7	52.8	53.6	53.8
Milk and milk products	214.9	220.9	222.8	209.9	209.5	200.0	197.7	200.5	201.9
Eggs, pcs	307.0	309.0	310.0	280.0	267.0	273.0	275.0	282.0	278.0
Fish and fish products	13.6	14.6	11.1	8.6	9.6	10.8	11.8	12.5	12.4
Sugar	37.6	37.1	36.3	35.7	33.3	30.4	29.8	28.8	27.8
Oil	13.0	13.3	13.1	12.3	11.7	11.7	11.9	12.0	12.3
Potatoes	140.2	135.4	141.0	137.5	139.8	143.4	139.4	135.7	134.0
Vegetables, water-melons, melons and gourds	163.4	163.3	163.2	160.8	163.7	159.7	163.9	164.7	164.0
Fruits, berries and grapes	53.3	56.3	52.3	50.9	49.7	52.8	57.8	58.7	56.5
Bread products	109.4	108.4	108.5	103.2	101.0	100.8	99.5	97.6	96.6

Source: compiled by author according to the data [56].

Analysis of the dynamics of food consumption showed a significant deterioration in food security of the population for almost all types of food. In 2020, compared to 2012, the most significant was the decrease in the consumption volume of bread (by -11.7%), sugar (by -26.1%), eggs (by -9.4%), fish and fish products (by -8.8%). Less sharp was the decrease in consumption of milk and dairy products (by -6.0%), meat and meat products (by -1.1%), potatoes (by -4.4%), oils and other

vegetable fats (-5.4%) [56].

Food supply of the population has significantly deteriorated in recent years. The dynamics of consumption allows us to conclude that the reduction in food consumption at a faster pace after 2014, due to the economic situation in the country, the decline in the purchasing power of the population due to the deterioration of food security.

Analysis of food consumption on average per year per capita in comparison with the rational consumption norms approved by the Ministry of Health of Ukraine “Approximate set of basic food raw materials and food products per capita in Ukraine for 2005-2015” shows non-compliance with the approved norms and significant malnutrition (Table 4).

Table 4

Comparison of fact volumes and rational norms of consumption in Ukraine per capita
per year, kg

Foods	Rational norm of consumption	The difference between fact and rational consumption, kg								
		2012	2013	2014	2015	2016	2017	2018	2019	2020
Meat and meat products	80	-25.6	-23.9	-25.9	-29.1	-28.6	-28.3	-27.2	-26.4	-26.2
Milk and milk products	380	-165.1	-159.1	-157.2	-170.1	-170.5	-180.0	-182.3	-179.5	-178.1
Eggs, pcs	290	17.0	19.0	20.0	-10.0	-23.0	-17.0	-15.0	-8.0	-12.0
Fish and fish products	20	-6.4	-5.4	-8.9	-11.4	-10.4	-9.2	-8.2	-7.5	-7.6
Sugar	38	-0.4	-0.9	-1.7	-2.3	-4.7	-7.6	-8.2	-9.2	-10.2
Oil	13	0.0	0.3	0.1	-0.7	-1.3	-1.3	-1.1	-1.0	-0.7
Potatoes	124	16.2	11.4	17.0	13.5	15.8	19.4	15.4	11.7	10.0
Vegetables, water-melons, melons and gourds	161	2.4	2.3	2.2	-0.2	2.7	-1.3	2.9	3.7	3.0
Fruits, berries and grapes	90	-36.7	-33.7	-37.7	-39.1	-40.3	-37.2	-32.2	-31.3	-33.5
Bread products	101	8.4	7.4	7.5	2.2	0.0	-0.2	-1.5	-3.4	-4.4

Source: compiled by author according to the data [56].

Analysis of consumption of basic food products per capita per year shows that the agri-food market of Ukraine operates in conditions of low demand of the majority of the population for almost all food products.

Ukrainians do not have the possibility of sufficient nutrition in accordance with the

needs of the body for almost all types of food. This indicates negative trends and the critical level of food security on this indicator. The low level of food consumption is a consequence not so much of insufficient volumes of agricultural production, but of low purchasing power of the population.

The level of consumption of most products became lower than the recommended norms. The revealed facts testify to the imbalance of food rations of the Ukrainian people, which tries to provide its own energy needs at the expense of cheap (economically affordable) food.

People do not consume the main nutrients contained in animal products, fruits, and are forced to form their diet at the expense of fats and carbohydrates. This has a negative effect on health and ability to work.

The significant decline in food consumption indicates a deep economic crisis in the country, when due to a significant increase in food prices, people began to limit themselves in their consumption. People increasingly began to consume cheap bakery products, potatoes. Ukrainians' energy needs are met by cheap (more affordable) products, which indicates an imbalance in nutrition. Consumption of such important products as meat, milk, fish, fruits and berries has decreased significantly.

Let's analyze labor productivity in agricultural enterprises as a target indicator of "Sustainable Development Goals: Ukraine".

Table 5

Labor productivity in agricultural enterprises

Years	Per 1 employed in agricultural production, at constant prices in 2016; thousand US dollars			In % to the previous year		
	agricultural production	crop production	animal production	agricultural production	crop production	animal production
2012	15.66	16.80	12.36	97.0	92.4	116.5
2013	19.94	21.76	14.52	127.3	129.5	117.5
2014	21.73	23.54	16.16	109.0	108.2	111.2
2015	21.33	22.56	17.22	98.2	95.8	106.6
2016	26.15	27.48	21.01	122.6	121.8	122.0
2017	25.82	26.57	22.72	98.7	96.7	108.2
2018	29.66	30.77	24.97	114.9	115.8	109.9
2019	31.74	32.62	27.87	107.0	106.0	111.6

Source: compiled by author according to the data [56].

Indices of agricultural production of enterprises as one of target indicators are shown in Table 6.

Table 6

Indices of agricultural production (in 2016 prices; in % to the previous year)

Years	All agricultural holdings		
	agricultural production	of which	
		crop production	animal production
2012	96.1	93.3	104.9
2013	113.6	117.1	103.9
2014	102.2	103.1	99.5
2015	95.2	94.8	96.4
2016	106.3	109.1	97.3
2017	97.8	97.1	100.2
2018	108.2	110.2	101.2
2019	101.4	101.8	100.2
2020	89.9	87.9	97.5
2021	116.4	122.6	95.4

Source: compiled by author according to the data [56].

According to the monitoring data in 2020, the total area of agricultural land with organic status amounted to 462 thousand hectares (1.1% of the total area of agricultural land in Ukraine - Indicator 2.3.3 of SDGs). There were 549 operators of the organic market, 419 of which are agricultural producers [66].

In recent years, the domestic consumer market of organic products has expanded through major supermarket chains. The main types of consumed organic products were milk and dairy products, cereals and grains, flour, seeds, vegetables and fruits, eggs, juices, beverages, pasta, meat products, spices and condiments, sugar, oil, ice cream and other products (including bakery and pasta products, oil, honey, chocolate, tea and coffee).

Exports of organic products are focused mainly on European countries, whose market in 2020 was directed to 73% of Ukrainian organic exports [66].

According to a report by the European Commission in 2020, Ukraine ranked 4th out of 124 countries in terms of imports of organic products to the EU. During 2020, 2.79 million tons of organic agri-food products were imported into the EU, 7.8% of which were Ukrainian (217.2 thousand tons worth 116.7 million US dollars) [67]. In total, by the end of 2020, Ukraine exported 332 thousand tons of organic products worth \$ 204 million USD to about 40 countries. The largest consumers of Ukrainian organic products were the

Netherlands, the United States, Germany, Lithuania, Austria, Great Britain, Poland, Canada, Italy, and Switzerland. Ukrainian producers have also exported organic products to Australia and some Asian countries, including China, Vietnam, India, Japan, the Republic of Korea, and Myanmar.

The main export products supplied to international markets were cereals, oilseeds, honey, eggs, vegetables and fruits. Sunflower meal, flour, sunflower oil, sunflower meal, apple concentrate and birch sap were also exported. In total, about 80 items of organic goods were exported from Ukraine in 2020 [66].

Ensuring national food security is impossible without the state guaranteeing food independence and food self-sufficiency. At the same time, among the existing methodological approaches to assessing the state of food security, the definition of the maximum value of food imports is used. The criterion of food self-sufficiency and food independence in world practice (according to the FAO methodology) is the level of satisfaction of food needs by domestic production not less than 70% and not more than 30% due to imports [68].

Food independence for certain types of food is equal to the ratio of imports and the domestic food market capacity and has a maximum threshold of 30% (Table 7).

Table 7

Food independence by main foods in Ukraine, %

Foods	Years								
	2012	2013	2014	2015	2016	2017	2018	2019	2020
Meat and meat products	17.1%	13.0%	8.6%	7.3%	8.3%	10.6%	12.7%	11.6%	10.2%
Milk and milk products	4.2%	5.5%	3.7%	0.9%	1.2%	1.6%	2.2%	4.0%	8.2%
Eggs	0.5%	0.6%	0.9%	1.6%	0.8%	1.0%	0.6%	0.7%	0.6%
Sugar	0.6%	0.7%	0.4%	0.3%	0.4%	0.5%	0.2%	0.3%	0.3%
Oil	39.1%	49.1%	39.7%	30.5%	44.0%	48.1%	51.7%	49.6%	47.8%
Potatoes	0.4%	0.4%	0.7%	0.3%	0.5%	0.4%	0.5%	4.9%	5.8%
Vegetables, water-melons, melons and gourds	2.9%	3.2%	3.2%	1.4%	1.9%	1.9%	2.7%	4.5%	4.3%
Fruits, berries and grapes	48.3%	45.9%	38.1%	27.0%	34.5%	36.5%	35.9%	42.6%	48.8%
Bread products	4.6%	4.9%	5.6%	4.3%	5.6%	6.0%	6.7%	5.3%	8.7%
Food independence by all foods	7.3%	7.7%	6.2%	4.6%	5.8%	6.6%	7.6%	9.4%	11.5%

Source: compiled by author according to the data [56].

Food independence exceeds 30% for foods such as oil and other vegetable fats and fruits, berries and grapes. In general, food independence in Ukraine is ensured for almost all types of food at a high level in recent years. Satisfaction of the needs of the population in vital foodstuffs is carried out at the expense of domestic production. Analysis of food independence is a key task in Ukraine's foreign trade. Legal restrictions on food exports and imports or other restrictions on food security without violating the international legal obligations of the state, in particular WTO rules, are introduced based on the results of food independence calculations [69, p. 34].

Table 8 shows indicators of self-sufficiency in the main foods, which is calculated as the ratio of production to domestic use in Ukraine.

Table 8

The level of food self-sufficiency in Ukraine

Foods	Years								
	2012	2013	2014	2015	2016	2017	2018	2017	2018
Meat and meat products	88.9	93.4	101.2	106.2	105.4	105.1	105.1	110.2	110.1
Milk and milk products	104.6	101.6	103.6	105.0	103.6	107.7	107.5	103.1	99.1
Eggs	108.3	109.7	116.5	113.9	114.0	119.8	123.9	125.2	125.0
Sugar	125.1	74.9	131.7	95.5	142.3	158.4	139.2	122.9	84.6
Oil	688.2	614.6	878.1	872.6	1088.3	1265.5	1246.1	1366.8	1473.3
Potatoes	98.4	97.2	105.5	96.3	101.6	101.7	101.5	100.0	100.1
Vegetables, water-melons, melons and gourds	105.8	101.2	103.4	100.3	101.6	102.9	103.4	104.0	104.6
Fruits, berries and grapes	71.8	81.0	82.0	92.3	84.9	82.9	91.3	78.1	75.9
Bread products	161.0	221.0	230.9	238.9	290.5	292.2	319.2	341.3	123.3

Source: compiled by author according to the data [56].

In Ukraine, the consumption of meat and meat products, milk and dairy products, bread and bakery products, eggs, vegetables and melons, potatoes, oil, sugar is fully ensured through the domestic production. The oilseeds and grain crops industries cover the domestic consumption in several times, and form a strong base of Ukrainian agricultural exports [69, p. 32].

The need to ensure food security requires the maintenance of food self-sufficiency. The effective state support for domestic agricultural producers and import control to protect the domestic market from competition is very important.

However, food security is often threatened by the risks of reduced imports, and the lack of effective mechanisms for control of quality and food safety. With a low level of self-sufficiency, food security is reduced. Food imports increase the country's dependence on it [70]. Avoiding these threats requires a developed and highly efficient agricultural sector and food security strategy. In addition, even with almost absolute self-sufficiency in food, restrictions on imports and exports to international markets, the country may not be able to ensure national food security due to low food consumption. Conversely, the stability of the national economy, strong export opportunities can guarantee the population an adequate level of food consumption and self-sufficient in basic foods.

Ensuring the food security is inextricably linked with food independence (self-sufficiency), and the full satisfaction of the population's food needs through sufficient volumes of local agricultural production. The national food security is based on the principles of self-sufficiency, independence, accessibility, quality. These principles should form the basis of a food security strategy. The main strategic areas of food security should be: effective development of the agricultural sector, effective foreign economic activity in the agriculture, the formation of effective demand from income, ensuring balanced and quality consumption.

Ensuring food security depends on the potential of the agricultural sector and production of basic foods in the country.

Table 9

Dynamics of production of main foods in Ukraine

Foods	Production volume, thousand tons								
	2012	2013	2014	2015	2016	2017	2018	2019	2020
Meat and meat products	2210	2389	2360	2323	2324	2318	2355	2492	2478
Milk and milk products	11378	11488	11133	10615	10382	10281	10064	9663	9264
Eggs	1104	1133	1131	969	872	896	932	963	934
Sugar	2143	1263	2053	1459	2021	2043	1754	1490	982
Oil	4067	3712	4926	4581	5409	6277	6243	6894	7549
Potatoes	23250	22259	23693	20839	21751	22208	22504	20269	20838

Continuation of table 9

Vegetables, water-melons, melons and gourds	10815	10668	10323	9792	9998	9721	9940	10244	10148
Fruits, berries and grapes	2465	2871	2435	2539	2385	2458	3039	2485	2305
Bread products	46216	63051	63859	60126	66088	61917	70057	75143	64933

Source: compiled by author according to the data [56].

During the period, the production of certain food products increased, in particular, meat and meat products – by 12.1%, oils and other vegetable fats – by 86.5%, bread and bread products – by 40.5% in 2020 compared to 2012.

At the same time, the production of potatoes decreased by 10.4%, vegetables and melons – by 6.2%, fruits, berries and grapes – by 6.5%, milk and dairy products – by 18.6%, eggs – by 15.4%, sugar – by 54.2%.

Analyzing the growth rate of foods production each year compared to the previous year, it is seen that the dynamics of production of meat and meat products, milk and dairy products, as well as vegetables and melons were relatively stable. However, there were sharp fluctuations in the production of eggs, sugar, oil and other vegetable fats, potatoes, fruits, berries and grapes and bread and bread products, in particular in 2014-2015.

The growth of food production indicates the adequacy of food security and is a factor in ensuring food security in Ukraine. Threats to food security are the instability of production volumes, when there is a need to compensate for the shortage of food through imports. Having a strong and highly efficient agricultural sector of the economy is a strategic aspect of food security.

The internal market capacity indicator is an important indicator for compiling supply and demand balances and determining food independence for a particular product. Table 10 shows the capacity of the domestic food market.

Table 10

Actual consumption funds (food market capacity) of the main foods by the population of Ukraine, thousand tons

Foods	Years								
	2012	2013	2014	2015	2016	2017	2018	2019	2020
Meat and meat products	2473	2545	2325	2179	2195	2195	2232	2252	2244
Milk and milk products	9768	10023	9581	8995	8942	8496	8355	8428	8430
Eggs, pcs	810	813	771	694	659	670	671	683	667
Fish and fish products	618	662	479	367	410	460	497	524	517
Sugar	1709	1683	1559	1528	1420	1290	1260	1212	1161
Oil	591	603	561	525	497	497	501	504	512
Potatoes	6373	6143	6061	5892	5966	6091	5893	5705	5593
Vegetables, water-melons, melons and gourds	7427	7409	7019	6890	6984	6783	6927	6924	6846
Fruits, berries and grapes	2423	2554	2249	2179	2119	2242	2445	2469	2357
Bread products	4973	4918	4668	4423	4309	4285	4207	5470	4034

Source: compiled by author according to the data [56].

The analysis of the food market capacity showed that during the reviewed period the consumption of all types of food decreased. The most significant was the reduction in the capacity of the food market of sugar (-16.3%), oil and other vegetable fats (-32%), potatoes (-13.3%), vegetables (-12.2%), milk and dairy products (-13.7%), eggs (-17.6%) in 2020 compared to 2012. Less sharp, but still significant was the reduction in food consumption of meat and meat products (- 9.2%), fruits, berries (-7.8%).

If we analyze the dynamics of the food market capacity, we consider the annual decline in consumption of milk and dairy products, oils and other vegetable fats, potatoes, the chain growth rates of consumption of which were negative from year to year. The consequences of the identified trends are significant threats to the food security of Ukraine. We present in table 11 the food market capacity under the condition of food consumption at the level of the recommended norms approved by the Ministry of Health of Ukraine.

Table 11

Food market capacity under the condition of food consumption at the level of the recommended norms, thousand tons

Foods	Years								
	2012	2013	2014	2015	2016	2017	2018	2019	2020
Meat and meat products	3636	3630	3620	3421	3407	3391	3372	3352	3327
Milk and milk products	17272	17242	17193	16249	16182	16107	16018	15923	15804
Eggs, pcs	909	907	905	855	852	848	843	702	697
Fish and fish products	909	907	905	855	852	848	843	838	832
Sugar	1727	1724	1719	1625	1618	1611	1602	1592	1580
Oil	591	590	588	556	554	551	548	545	541
Potatoes	5636	5626	5610	5302	5280	5256	5227	5196	5157
Vegetables, water-melons, melons and gourds	7318	7305	7285	6884	6856	6824	6787	6746	6696
Fruits, berries and grapes	4091	4084	4072	3848	3833	3815	3794	3771	3743
Bread products	4591	4583	4570	4319	4301	4281	4257	4232	4200

Source: compiled by author according to the data [56].

The capacity of the food market with rational consumption is much higher than with the actual. The market capacity of meat and meat products exceeds the actual value by 1083 thousand tons, milk and dairy products – by 7373.3 thousand tons, fruit – by 1386.1 thousand tons, etc. [56]

In Ukraine, food consumption does not depend on the volume of agricultural production. Therefore, it is necessary to study the factors related to the purchasing power of the population. Since the food market capacity depends not only on the volume of consumption, but also on the population, it should be more objective to estimate the average food consumption volume per person [71].

The food consumption of Ukrainians is lower compared to the developed countries and rational norms. International Statistics (FAO) uses two quantitative threshold criteria that determine the minimum level of food security. First, the energy value of the daily diet is not less than 2500 kcal. Second, food expenditures should not exceed 60% of the household (family) budget. According to international norms, the goal of food security for poor countries is to ensure a minimum ration for survival, as the population of such countries spends most of their income on food. Economically developed countries form food security strategies based on meeting a variety of food

consumer preferences at relatively low cost compared to income.

One of the most significant threats to food security is the deepening economic crisis in Ukraine, which leads to a decrease in the purchasing power of the population. As a result, food prices are rising and food security is deteriorating.

The cost of food products in Ukraine grew at a slower pace than the growth rate of real wages (Table 12). Consumer price indices were higher than food price indices. The exception is the period of 2014-2015, when the growth rate of food prices significantly exceeded the growth rate of real wages.

The growth of the value of different types of food products was at different rates. Prices for eggs, bread and bread products grew faster than real wages. At the same time, the growth rate of prices for other foodstuffs was moderate relative to real wages. However, the situation in previous years (especially 2014-2015) was worse. Thus, prices for bread, meat, and vegetables increased, while real wages decreased by 6.5 and 20.2%, respectively, in 2014-2015, respectively. Prices for the most nutritious products (meat, poultry, fish, fruit) increased especially, which led to a significant reduction in the consumption of these foods by the population.

Table 12

Dynamics of food price indices and people's income growth rates

Foods	Years								
	2012	2013	2014	2015	2016	2017	2018	2019	2020
Meat and meat products	111.6	95.4	122.9	138.6	100.4	140.1	104.4	97.8	99.1
Milk and milk products	86.7	125.0	106.5	120.8	126.1	131	104.6	107.5	107.9
Eggs	117.4	104.8	118.6	167.5	83.5	104.3	127.0	76.7	102.7
Sugar	82.4	92.1	122.1	160.5	105.9	98.1	89.5	101.5	114.8
Oil	107.5	90.8	124.9	182.8	114.2	104.2	102.9	88.8	126.6
Potatoes	47.6	146.4	112.3	79.9	104.9	127.1	108.7	144.9	94.6
Vegetables, water-melons, melons and gourds	74.1	92.8	137.6	142.7	108.4	112.4	104.3	117	82.1
Fruits, berries and grapes	92.9	96.0	116.6	163.7	99.1	134.4	72.5	100.4	127.5
Bread products	109.1	90.8	132.8	156.6	119	109.2	116.2	91.4	121.1
The growth rate of real wages	114.4	108.2	93.5	79.8	109.0	119.1	112.5	109.8	107.4

Source: compiled by author according to the data [56].

A significant increase in basic food prices leads to higher household

expenditures, reduced affordability and disruption of the balanced structure of food and its deterioration. The fastest growth was in the prices of livestock products (meat and meat products, milk and dairy products) and fruit.

According to the Economic Discussion Club monitoring, consumer prices in Ukraine (in euro equivalent) for most basic foods remain lower than in the EU. More than a third of the food in the winter of 2021/2022 could be bought abroad cheaper than in Ukraine, for example:

- in Poland – 8 items (wheat bread, rice, milk, butter, pork, poultry, sunflower oil, sugar);
- in Hungary – 6 items (wheat flour, milk, poultry, sunflower oil, sugar, salt);
- in Spain – 7 items (wheat bread, wheat flour, milk, butter, sunflower oil, sugar) [64].

The total cost of a set of 18 socially sensitive foods in Ukraine was:

- lower than in Hungary by 17.5% (in the autumn of 2021 this figure was 11%), Spain – by 16.4% (+ 19%);
- higher than in Poland by 7.8% (by 11.1% in autumn 2021).

The average Hungarian can buy more than 33 food sets for the average monthly salary, a Pole – 46, a Spaniard – almost 55, while a Ukrainian can afford to buy only 15 [64]. The cost of the minimum food set in Ukraine and EU countries, calculated according to the monitoring of the Economic Discussion Club, is shown in Table 13 [64].

Table 13

Economic affordability of food in Ukraine and some EU countries in 2021

Indicators	Ukraine	Poland	Hungary	Spain
The cost of a set of 18 food products, EUR	30.68	28.28	36.04	35.72
Average monthly salary, euros	464	1300	1201	1952
The number of food sets that can be purchased with a salary	15.1	46	33.3	54.6
Ratio between salaries in other countries and in Ukraine, times	-	2.8	2.6	4.2

Source: compiled by author according to the data [56].

In 2020, the average monthly total consumer expenditure of one Ukrainian

household was UAH 8,694 per month. Of this amount, the household spent an average of UAH 4,907 on food per month. The share of food expenditures in total consumer expenditures was 56.4% with a 60 percent threshold criterion for this indicator. Compared to 2019, this figure increased by 1.9 percentage points.

The share of food purchase costs in Ukraine is 4.3 times higher than in the EU-27, where it averages 13.0% [64]. The excess of the share of expenditures on the purchase of food products by the 50% limit indicates a low standard of living and is one of the indicators of poverty.

According to the analysis, mainly cheap potatoes and bakery products met the food needs of the Ukrainian population 5 years ago. However, in the last 5 years, even this opportunity has been lost. The most significant problem of food security is the low purchasing power of the population. Ukrainians spend most of their income on food compared to residents of economically developed countries. Despite the full satisfaction of food needs by the domestic production and the absence of food shortages, in Ukraine the consumption of basic foods is below the rational norms. In addition, the reason for insufficient consumption of high-quality food products is a decrease in livestock production, the increase in production costs which leads to higher prices for people. Food independence and self-sufficiency do not guarantee food security due to low effective demand of consumers, which is the main condition for sufficient food consumption. The problem of food security is exacerbated by rising food prices at a higher rate than rising incomes.

Therefore, the strategic direction of ensuring food security of Ukraine should be to achieve the level of food consumption at the level of economically developed countries in terms of economic affordability, quantity and quality of food.

Among the main problems of the development of the agricultural sector in the context of increasing threats to food security are:

- reduction of rural population and workers employed in agricultural production (the share of the rural population of Ukraine decreased from 32.36% in 2000 to 30.7% in 2021, the number of rural population during this period decreased by 19.9% (3,2 million people), and the number of people employed in the agricultural sector – by

32.7% (1.43 million people) [56];

- a low level of labor productivity due to a high level of wear and tear of production assets, the use of outdated technologies, poorly developed infrastructure of rural areas (in 2020, labor productivity in agricultural enterprises was 31.74 thousand USD per employee, while in Poland this indicator is about 50 thousand USD; the level of depreciation of fixed assets in agriculture in 2020 was about 40%);

- the inconsistency of Ukrainian agricultural products on international markets due to the incompleteness of adaptation processes to European requirements regarding the quality and safety of food products. As a result, the share of export of food products is smaller than the share of export of agricultural raw materials;

- the imperfection of the legislation regarding compliance by agricultural commodity producers with agro-ecological requirements;

- lack of awareness of the majority of agricultural producers about market conditions and business conditions in the industry;

- incomplete land reform.

A number of significant threats to food security are the lack of balance in the diet of Ukrainians, a high share of food costs in family budgets. According to the “Sustainable Development Goals: Ukraine”, ensuring the availability of balanced nutrition for the population, primarily for the poorest people, should become a priority of the state agrarian policy for the coming years [57].

By 2030, the consumption of the main foods (meat, milk, fruit), which is insufficient, should be increased to a scientifically justified level due to the improvement of the efficiency of the agricultural sector and the rational use of natural resource potential. It is planned to increase labor productivity in the agrarian sector, increase in the production of agricultural products, which should increase by more than a third by 2030. Growth in agricultural production is expected due to compliance with environmental norms and international food quality standards. According to the SDGs, an increase of almost 300,000 hectares of agricultural land for the production of organic products is expected. Increasing the volume of agricultural production will allow to increase the export of Ukrainian agricultural products on world markets, and stimulate

the development of the domestic food industry (to ensure an increase of at least 3% every year). Due to this, optimization of the structure of domestic agricultural exports is expected. By 2030, it is planned to reduce the export of agricultural raw materials and replace it with the export of agricultural raw materials and food processing products by almost 20 percentage points [72]. Guaranteeing food security depends on the level of economic development and the level of population income due to the implementation of macroeconomic measures.

The national report provides the following recommendations for increasing the food security:

- increasing the level of investment attractiveness of the agricultural sector, especially due to the completion of creating a civilized agricultural land market;
- support of small farms (area up to 50 ha), in particular family farms, by improving the legal framework and ensuring favorable socio-economic and organizational conditions for their activity;
- technical modernization of agricultural production and food industry, increasing their energy efficiency and realization of energy saving potential;
- promoting the growth of food exports with a high added value, in particular by completing the adaptation of Ukrainian legislation to EU requirements in the agricultural sector, stimulating the implementation of permanent procedures based on the principles of the HACCP system at the facilities of the food and processing industries;
- creation of a clear mechanism for regulating the market of organic products and raw materials, an appropriate system of its certification;
- creation of a stable, transparent and predictable system of state support for the agricultural sector by implementing medium-term budget planning and allocating at least one percent of the gross agricultural output to support agricultural production. Funds should be spent primarily on priority financing of innovation and investment projects and stimulation of small business development;
- development and implementation of a system of targeted food aid to the most vulnerable categories of the population;

- implementation of food programs for children “school milk”, “vegetable mix”, “school lunch”, which will allow children to have daily access to a minimum set of food products and provide a third of their daily caloric intake;
- informing the population about maintaining a healthy diet, primarily in preschool and school educational institutions;
- restraining the volatility of food prices and regulating the functioning of food markets, in particular by: reducing market risks for agricultural producers using market instruments (guarantee funds, derivatives trading, insurance, forward trading, electronic trading, etc.) [72].

Considering the above, fig. 1 presents the system of strategic goals for ensuring the state food security in the context of SDG No. 2 of the National Report “Sustainable Development Goals: Ukraine” [57]. In accordance with it, the basis of national food security should include mechanisms for the development of farms. Family farms more fully realize the potential of the agricultural sector compared to other agricultural enterprises, providing not only the production of agricultural products, but also public welfare: the preservation of ecosystems, the use of natural resource potential. Family farms stimulate the development of rural areas, infrastructure, and the economy of the region, thereby ensuring food security and independence through food self-sufficiency.

State support for family farms is an effective tool for stimulating the development of rural areas in Ukraine. A number of legal acts have been adopted to support the activities of farms. The Cabinet of Ministers of Ukraine by its Resolution “On Approval of the Procedure for Granting Additional Financial Support to Family Farms through the Subsidy Payment Mechanism of the Unified Contribution to Mandatory State Social Insurance in favor of Insured Persons – Members / Heads of the Family Farm” of 22.05.2019 No. 565 approved the Procedure for Granting family farms with additional financial support through the mechanism of additional payment of the Unified Social Contribution (hereinafter – USC) in favor of insured persons – members / heads of family farms [76].

Financial support mechanism provided by the Law of Ukraine of 24.06.2004 No. 1877-IV “On State Support of Agriculture in Ukraine”. The resolution entered into

force on January 1, 2020.

Members or the head of a family farm have the right to receive additional financial support if the farm:

- created in accordance with the Law of Ukraine of 19.06.2003 No. 973-IV “On Farming”;
- registered as a single tax payer of the 4th group in accordance with Tax Code of Ukraine;
- special conditions.

Therefore, the recipients of financial support can be members of not just any family farm, but only one that meets the criteria for registration as a single tax payer, including the area of agricultural land.

Financial support is not provided to members (head) of a family farm who are subject to insurance on other grounds, or who are exempt from paying USC in accordance with the Law of Ukraine of 08.07.2010 No. 2464-VI “Collection and Registration of Unified Contribution for Compulsory State Social Insurance” and do not voluntarily participate in the system of mandatory state social insurance. In 2018, 203.3 million UAH of budget funds were allocated to support farms.

In the conditions of Ukraine’s integration into the European economy, it is especially important to create a system of using the potential of personal peasant farms and the further development of family farms. For this we need:

- to apply the preferential system of social insurance for members of family farms, for which a legal basis has been created today;
- to group commodity producers (including individual peasant farms) into “small”, “medium” and “large” according to the European criterion of standard output;
- use mechanisms of state support for family farms and personal peasant farms.

Ensuring national food security in the context of Sustainable Development Goal No. 2 requires a system of organizational and financial support measures for the development of family farms.

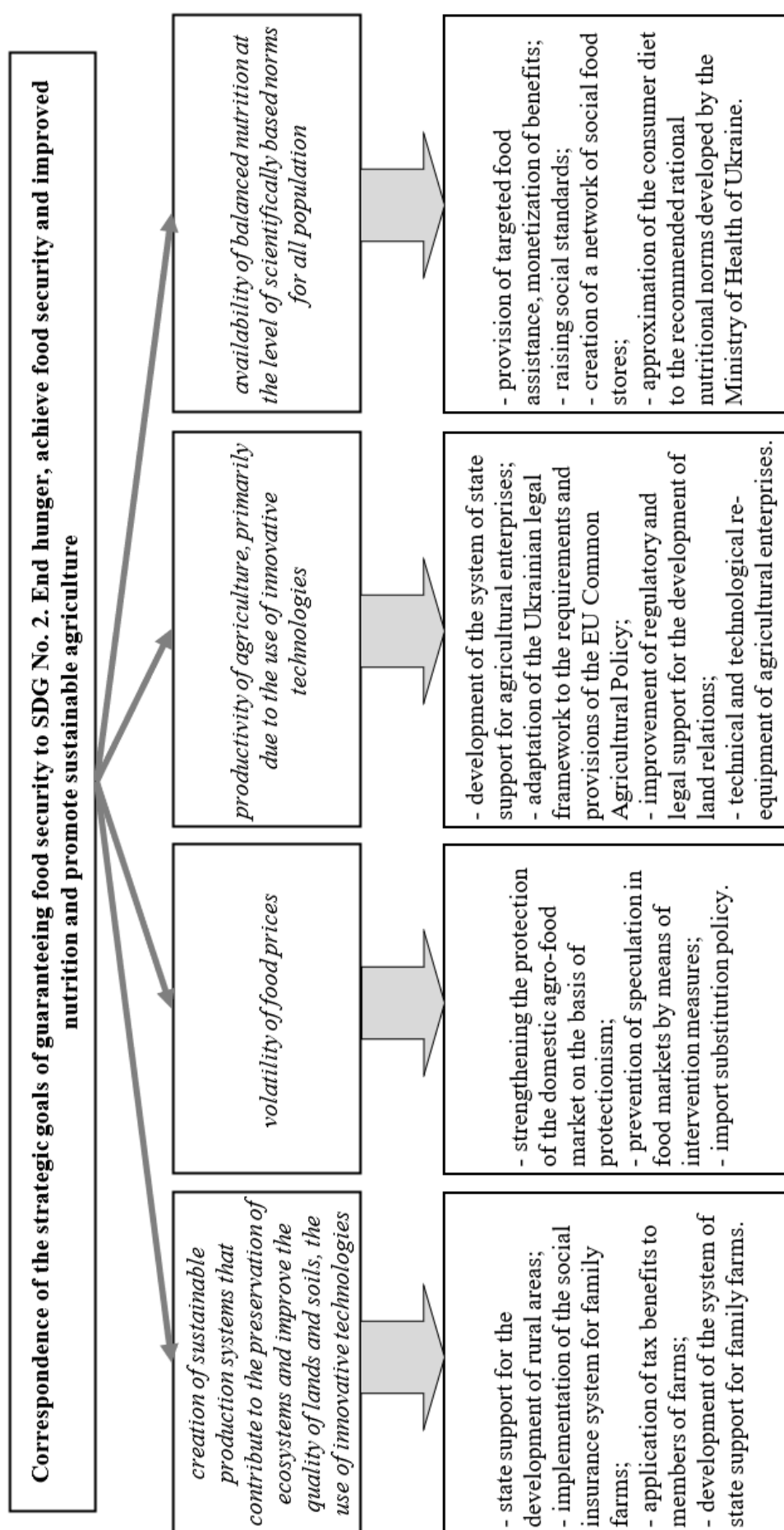


Fig. 1. The system of strategic goals for guaranteeing food security in accordance with “ Goal No. 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture” of the National Report “ Sustainable Development Goals: Ukraine”

Source: developed by author according to the data [57].

In the world, the leading role in agricultural production belongs to family farms. According to the FAO, family farms account for 88% of the world's agricultural enterprises, which provide jobs for about 40% of the population (from 2% in Western Europe to almost 80% in West Africa), and are leading suppliers of food on world agricultural markets [68].

In Ukraine, the number of economic entities in the agricultural sector is dominated by households, most of which are personal peasant farms. At the beginning of 2021, there were 36,277 agricultural enterprises, including 26,691 farms (83.8%). According to indicators of the economic activity of households (family farms) lose to agricultural enterprises due to lower possibilities of using scale effects. The share of households in the production of gross agricultural products in 2020 was 37.2% [56].

Agrarian policy in many countries of the world, in particular the Common Agricultural Policy of the EU, is aimed at supporting the activities of small (family) farms. In Ukraine, state support for family farms has not acquired a priority status. Even under the conditions of land use expansion, the population, unlike agricultural enterprises, did not receive financial and organizational support. According to statistical data, the share of gross output of households during 2000-2020 decreased (in 2020 – 36.6%, in 2010 – 50.0%, in 2000 – 61.8%) [56]. It indicates a decline and decrease in their internal development potential. There is a slowdown in the process of commercialization of households that could be transformed into farms. In spite of granting family farms the legal status of personal peasant farms in 2003, in the agricultural economy of Ukraine, these economic entities remained on the sidelines of the state system of support for agrarians. The labor status of members of personal peasant households (self-employed without registration) and social insurance (voluntary with a monthly payment of social insurance in the amount of 22% of the minimum wage) are imperfect. State subsidy measures are practically not available to private peasant farms [74].

The lack of strategic measures to support family farms will lead to a decrease in development of agricultural sector, an increase in disparities in the sectoral and commodity structure, and the destruction of important link of agricultural production, which allows maintaining a sufficient level of food self-sufficiency of the state even in

crisis conditions. This threat to food security must be taken into account when justifying the creation of conditions for the development of small (family) farms. The strategic areas of support for the development of small farms are defined by:

- Strategy of development for the agrarian sector of economy for the period till 2020 (order of the Cabinet of Ministers of Ukraine of 17.10.2013 No. 806-r);
- Single and Comprehensive Strategy and Action Plan for Agriculture and Rural Development in Ukraine for 2015-2020 (supported by the National Council of Reforms on November 9, 2015) [77];
- recommendations of the Committee of the Verkhovna Rada of Ukraine on agrarian policy and land relations “Transformation of the agro-industrial complex of Ukraine. Stimulating the development of family farms and their taxation” (October 12, 2016).

The main implemented measures include the creation of a separate section “Features of support for small agricultural producers” of the Law of Ukraine “On State Support of the Agriculture of Ukraine”; amendments to the Tax Code of Ukraine and some legislative acts of Ukraine regarding the stimulation of the creation and operation of family farms. The government approved the Concept of the development of farms and agricultural cooperation for 2018-2020. The Law of Ukraine of 23.11.2018 “On the State Budget of Ukraine for 2019” provided for 800,000 UAH of state support for use in 2019 under the “Financial Support for the Development of Farming” program. However, in 2021 the amount of funds was 175 million UAH. Financial support is provided to recipients in separate areas (Table 14).

Table 14

Directions of state support of farms in Ukraine in 2021

Areas of support	Volumes of support
partial reimbursement of costs related to the provided agricultural advisory services	in the amount of 90 % of the cost, but not more than 10,000 UAH
financial support for newly established farms to obtain agricultural advisory services	provided once in an amount not exceeding 36,000 UAH
budget subsidy per unit of cultivated land (1 hectare) – for newly established farms	in the amount of 5,000 UAH per hectare, but no more than 100,000 UAH per farm
a special budget subsidy for keeping cows of all types of productivity	in the amount of 5,000 UAH per head, but no more than 250,000 UAH per farm

Source: compiled by author according to the data [79, c. 19]

Today, it is premature to assess the effectiveness of the indicated areas of support. However, it is assumed that due to the measures of the Concept of Farming Development and Agricultural Cooperation for 2018-2020, the level of energy equipment of farmers will increase, and the volume of production of organic and livestock products will increase. However, strategic measures are not enough to solve the problems related to the development of family farms in Ukraine. These measures aimed at supporting farms, but do not motivate peasant farms to obtain enterprise status.

In Ukraine, a small number of farms are registered compared to the number of rural households. Many of them can be classified as farms according to global criteria of production volume and land area. These business entities are in the informal sector of the economy and are outside of the stimulating measures of agrarian policy. In addition, the criteria for small producers of agricultural products for receiving state funding are not clearly defined, which makes it possible to manipulate it during the distribution of support funds. Finally, the support is provided for clearly limited purposes of stimulating the production of certain products or compensating certain costs, which does not allow it to be used for the innovative development of small farms.

In Ukraine, family farms in the agricultural sector are mainly represented by personal peasant farms. The main strategic direction of supporting their development should be to stimulate these farms to leave the informal sector of the economy and obtain the legal status of taxpayers, which will give them the right to participate in state support projects for small producers of agricultural products. This involves the registration of peasant farms as recipients of budget funds, their submission of reports, payment of taxes, etc. The procedure for formalizing the activities of personal peasant farms in particular, their acquisition of the status of family farms and the conditions for obtaining state support, should be simplified. Today, excessive regulation of the specified procedures does not allow to attract peasant farms to participate in state support projects.

According to the section “State support of producers of certain types of

agricultural products” of the Law of Ukraine “On State Support of Agriculture”, since December 2016, budget subsidies have been provided to commodity producers in areas of activity typical for small (family) farms. This includes, in particular, the cultivation of vegetable and melon crops, potatoes, grapes, grain and stone fruits, berries and nuts; breeding of cattle, sheep, pigs, poultry, etc. First, family farms are not provided with priority access to the mentioned subsidy. The implementation of the specified support mechanism is carried out by submission of subsidy recipients to the controlling body at the place of registration as a value added tax payer using the prescribed form and monthly submission of an appendix to the tax declaration. This does not help individual peasant farms to acquire the status of a family farm, but it stimulates the production of the above-mentioned types of agricultural products by large agricultural enterprises.

The Association of Farmers and Private Landowners of Ukraine proposed to create at least 250,000 family farms by 2021. The advantages of stimulating the growth of the number of farms are that they have higher growth rates of production volumes and are able to stabilize its industry and commodity structure. Legalizing the employment of peasants will increase the attractiveness of rural areas for attracting labor resources, and strengthen the economic base for the development of rural communities. The use of state support for personal peasant farms consists in the implementation of support projects aimed at the participation of commodity-oriented personal peasant farms. At the same time, it is worth using the experience of EU member states.

In EU countries, projects to support small (family) farms are implemented within the priorities of the Common Agricultural Policy: increasing the competitiveness and viability of all types of farming and promoting social integration, reducing poverty and economic development in rural regions [74]. In Poland, for example, these are the following projects: “Prize for young farmers”, “Prize for starting non-agricultural activities”, “Restructuring of small farms”, “Modernization of agricultural farms”, “Processing and marketing of agricultural products”. These projects aimed at supporting not the production of individual types of products, but the effective

operation of family farms as a whole, their modernization, development, and the creation of conditions for increasing incomes. Each project determines the type of support (award, joint funding, etc.); determination of the recipient of support; expenses that can be compensated by support; conditions for providing support; criteria for selecting recipients; quotas and support rates.

Similar measures to support family farms can be applied in Ukraine, in particular, assistance for the modernization of small farms; awards to young farmers; development of market infrastructure for small farms. State support measures for family farming will be more effective if they are implemented simultaneously with other economic, social and institutional measures, in particular, ensuring access to land resources, simplifying taxation, implementing a preferential system of social insurance for members of family farms. It is advisable to apply a preferential approach to the insurance of owners and members of family farms. Separate proposals are set out in the Law of Ukraine of 10.07.2018 No. 2497-VIII “On Amendments to the Tax Code of Ukraine and some legislative acts of Ukraine regarding the creation and operation of family farms”. It would be expedient to specify them taking into account the size (economic size) of farms and the validity period of benefits. For small farms, they should exceed a ten-year term or even be permanent. In conditions where the Pension Fund of Ukraine will remain subsidized for some time, the introduction of a preferential system of social insurance for members of family farms will not require additional budget expenditures. The funds needed for this can be transferred to the Pension Fund within the total amount to cover its deficit directly or indirectly as one of the forms of support for the agricultural sector.

The next strategic direction of guaranteeing food security in the context of SDG No. 2 is the development of state support for agricultural enterprises.

In the conditions of increased globalization and significant natural resource potential of Ukraine, the strategic priority of ensuring food security should be the state agrarian policy focused on interaction with the EU in the field of implementation of interstate standards. It is necessary to modernize and reform the management of the

agricultural sector in Ukraine on the basis of successful European experience and interstate coordination within the framework of European standards. European integration in the agricultural sphere is also a necessary condition for the acquisition of full membership of Ukraine in the EU.

The leading positions of the European agricultural sector are determined by the Common Agricultural Policy, which is based on a system of subsidies to farmers of the EU countries, pan-European programs for regulating the development of agricultural industries, guaranteeing the production of a sufficient amount of food and ensuring a high standard of living of the population employed in agriculture.

In order to guarantee food independence in the conditions of the development of foreign trade and the weakening of trade barriers in the food sector, the harmonious development of branches of the agricultural sector is necessary. The stimulation of innovations in agricultural production and the efficiency of agricultural land use are important strategic objectives. The gradual decrease of foreign food products in the domestic market will allow the domestic agricultural sector to move to an intensive type of development and a new technological level. Therefore, the food security strategy should include measures and mechanisms for the development of backward branches of agriculture and increasing their competitiveness on the Ukrainian and world markets.

The main problems for the growth of food independence of Ukraine, which must be included in the food security strategy, should be considered:

- lack of comprehensive targeted state support for commodity producers, therefore the production of individual food products within the country is not effective;
- insufficient awareness of producers about state support measures, as well as the complexity of the mechanisms of obtaining them;
- problems in crediting commodity producers and high risks of agricultural production;
- low level of state price regulation of the agricultural market.

The food security strategy should provide for a set of measures to stimulate the

development of a number of sectors of agriculture and food industry to ensure their competitiveness. State financial support is necessary for regulating the development of agricultural sector and overcoming price and structural disparities, as well as strengthening the integration of Ukrainian agriculture into the international market.

The system of state financing to ensure food independence before the Ukraine's entry into the WTO provided for the compensation of interest rate payments on loans to agricultural producers, as well as direct support for the production of milk and dairy products. The elimination of customs protection and support for some types of agricultural products after the accession to the WTO led to the crisis, for example, in animal husbandry [69, p. 32].

Solving existing problems requires the targeted use of loans not for the production of certain types of food, but for the support of commodity producers. It is appropriate to direct credit funds to finance the development of the infrastructure of the agro-food market, environmental measures, and scientific research, which will increase the efficiency and quality of agricultural production.

In order to support the agricultural sector, it is necessary to introduce a mechanism for subsidizing the purchase of agricultural machinery in accordance with WTO requirements and providing subsidies to machinery manufacturers within the country.

For the strategic development of rural areas, it is necessary to take into account the specificities of the regions and develop regional food security programs. Social support of the population of the regions, legal protection of farmers are important.

Ensuring food security requires indirect instruments and mechanisms of financial support of the agricultural sector, in particular, state regulation of pricing by establishing minimum guaranteed prices at the level of the lower limit of fluctuations in average market prices, state commodity interventions in the food market. This mechanism will increase the protection of commodity producers from monopolists, as well as from weakly forecasted fluctuations in agro-food markets.

Effective foreign economic regulation in the agricultural sector will improve the

pricing mechanism, protect domestic producers from unfair and excessive competition from foreign suppliers, support exporters and protect consumers from low-quality products. Price formation based on market mechanisms and mechanisms of state management should contribute to the rational distribution of resources between agricultural industries. Consumer prices for agricultural and food products should be socially oriented.

Therefore, guaranteeing the Ukraine's food security in conditions of increased imports requires the following measures. Ensuring Ukraine's national interests on the international agricultural market and food independence requires creating an optimal structure of export-import operations. It is necessary to continuously monitor the dynamics and structure of imports; monitor and analyze strategically important export-oriented goods and establish indicative indicators of limiting their import; develop a national strategy for food independence as a component of the state food security strategy.

The process of Ukraine's integration into the European economic system requires the support of the agricultural sector and the development of strategic directions of state policy aimed at reducing risks, neutralizing threats to food security, and taking advantage of the liberalization of trade regimes:

- improvement of legislation in the field of regulation of the agrarian sector, tax, customs, financial and credit policy;
- export support for the purpose of expanding foreign sales markets for Ukrainian exporters;
- stimulation of domestic demand for food;
- increasing the competitiveness of agricultural producers on domestic and foreign markets due to the improvement of product safety and quality due to the implementation of international standards;
- support and development of the agricultural sector by restructuring unprofitable enterprises, state regulation of agro-food markets, use of state support mechanisms;

- increasing the competitiveness of agricultural producers on domestic and foreign markets by restructuring unprofitable enterprises, state regulation of agro-food markets, using effective mechanisms of state support;
- state stimulation of the development of service and sales cooperation of small producers, formation and development of market infrastructure;
- promoting the development of rural regions.

Successful integration of Ukrainian agricultural sector should be based on the implementation of European standards of quality and safety of agricultural products and food, implementation of measures to support producers. Rationally implement transparent production control mechanisms, which is important from the point of view of the European consumer, since the EU is a potential market for agri-food products. Guaranteeing food security in the conditions of food independence and self-sufficiency requires the saturation of the Ukrainian market with high-quality products at optimal prices and development of export of surplus products. For this, a strategy and tactics of food security should be developed on the basis of effective state management.

The implementation of the Sustainable Development Goals of Ukraine for the period till 2030, requires the implementation of a system of financial, organizational and infrastructural measures in guaranteeing food security.

Financial measures include development of a number of targeted state financial programs aimed at stimulating the production of high-quality products and supporting small and medium-sized businesses. Financial measures include:

- provision of subsidies and compensations at the expense of the state budget to agricultural enterprises; compensatory payments to producers of certain types of products to create market and industry balance;
- taxation of the final cost of products, and not at the current technological stages of its production; taxation of certain types of products in order to create target funds to support producers;
- a unified system of financial support for enterprises participating in targeted programs for the development of agriculture. The priority of target programs should be

based on the greening of production and the application of quality control and food safety systems.

Organizational measures should ensure the economic availability of food and guarantee its quality and safety in accordance with EU standards:

- a balanced system of quotas and tariffs for the import of products, taking into account the volume of production in the country;
- implementation of the system of controlling the quality of foods in domestic and foreign trade;
- optimization of market infrastructure, price regulation to protect small and medium-sized producers, anti-dumping control and trade quotas.

Infrastructural measures consist in improving the process of interaction between state authorities and commodity producers regarding the improvement of product quality and the development of rural areas. It is necessary to establish directions for the development of agricultural production and comprehensive development of rural areas of Ukraine, improvement of their infrastructure in the conditions of European integration, improvement of the socio-demographic situation in rural areas in the context of improving the quality of human capital, investment climate of rural areas. In addition, the development of rural areas is one of the goals of the Common Agricultural Policy, which solve the strategic tasks of financing agricultural enterprises, ecology, infrastructure, cooperation development, and supporting the population's income. It is necessary to combine administrative and financial resources with the organizational functions of enterprises and to form a multi-level structure of the Ukrainian agricultural sector by:

- establishing a strategic priority for the development of rural areas in the context of raising the level and quality of life and guaranteeing employment;
- ensuring environmental safety of production and food, land protection, modernization of production infrastructure;
- supporting small businesses in rural areas, stimulating regional food independence.

In order to implement the identified strategic measures, it is necessary to: improve the regulatory framework in the regulation of the agro-food market; determine in legislative acts the directions of market regulation that ensure the quality of domestic products, food safety and environmental protection; determine the mechanisms of subsidizing food manufacturers on the basis of internal competition to stimulate their introduction of technological innovations, improvement of product quality. These measures must be implemented through the formation of a unified food security strategy and a set of state target programs based on EU experience and domestic agro-ecological development conditions.

The priority strategic objective of Ukrainian agrarian policy should be to increase food independence. Agrarian economy should be oriented towards food self-sufficiency. Therefore, it is worth shifting the emphasis from the policy of liberalization of foreign food trade to the policy of agrarian protectionism based on a well-founded strategic mechanism of foreign trade protection and state support of the domestic agro-food market.