



**Strengthening Bosnia and Herzegovina's resilience
to address the impact of the Ukraine war on food
security and incomes of most vulnerable groups**

Project number: UNJP/BIH/017/UNJ

ASSESSMENT REPORT

***on the impact of effects of the war in Ukraine on agri-
food sector in BiH***

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Abbreviations and acronyms

AMIS	- Agricultural Market Information System
BiH	– Bosnia and Herzegovina
BAM	– Bosnian Mark
BHAS	- Agency for Statistics of Bosnia and Herzegovina
CEFTA	- Central European Free Trade Agreement
FBiH	- Federation of Bosnia and Herzegovina
RS	- Republic of Srpska
BD	- Brcko District
FAO	- Food and Agriculture Organization
EU	- European union
IDR	- Import dependency ratio
SSR	- Self-sufficiency ration

Background

Bosnia and Herzegovina saw a moderate economic recovery with 5.8% GDP growth in 2021, as it rebounded from recession in 2020. Although one year of economic growth was not sufficient for the country to rebuild its fiscal and debt buffers, its current low Debt-to-GDP ratio of 25% puts the country in a relatively comfortable financial position relative to other countries in the region. The country is also a net exporter of electricity, which it produces from hydroelectric and coal plants that abound in the country. Despite these positive indicators, and according to FAO Data Lab, food price inflation reached 27.5% in May 2022, and is the highest in the Western Balkans. Keeping the cost of food affordable for is priority in the current crisis in the cost of living that affects all countries in the region. As far as food and agriculture are concerned, the supply chain disruptions caused by the war in Ukraine have exposed vulnerabilities associated with the country's heavy reliance on fossil fuels and fertilizers from the Russian Federation, and on certain agricultural commodities from Ukraine. Agribusiness is one of the country's most promising sectors, and Bosnia and Herzegovina is import-dependent for many basic food products and agricultural inputs. The Russian Federation is one of the export markets for fruits and nuts from Bosnia and Herzegovina.

Since February 2022, the country has seen price hikes for food staples, such as vegetable oils, flour, bread, milk and meat, and the inflationary pressure is likely to aggravate after the summer months, considering the projected rising heating costs for households. As other countries in the region and in the European Union (EU), Bosnia and Herzegovina relies for most of its supplies of natural gas from Russian Federation through the TurkStream pipeline. Recent energy market uncertainties, particularly the rising oil and electricity prices, have strongly impacted the country and led to price increases across all sectors. Gasoline prices in the country have already increased, on average by 20% since February 2022. Households are more than four times as energy-intensive as the average in EU countries, and have the highest energy intensity in the Western Balkans. Electricity prices are kept artificially low, but an economic crisis could change this, putting additional pressure in the cost of living. 16.9% of the country population live below the poverty line. The poverty rate for the rural population is almost double that for the urban population: 20.5% compared with 11.3% (Intergovernmental SDG working group, 2019). The gender dimensions of poverty are also significant in the country. Data on the structure of the poor population in BiH indicate that women make up slightly more than half of the country's poor (50.9%; BHAS, 2018b).

With regard to the recent social dynamics, the COVID-19 pandemic has affected both the economic and social situation across all age groups, especially negatively and disproportionately the impact of crisis has been felt by those who are either already disadvantaged, at risk or more vulnerable, such as people living below the poverty line, families with children, single parents (usually mothers), Roma, internally displaced people, and other groups. Of particular concern are the effects of the crisis on basic social services, including access to food and healthcare. The Household Survey of June 2022 conducted by UNDP and UNICEF within the scope of the Social Impact Assessment of COVID-19 and the Ukrainian crisis revealed that combined and cumulative effects of the pandemic and global instability are sending strong shockwaves across Bosnia and Herzegovina, causing increased poverty and food deprivation and worsening inequalities. Data points to the differential gender impact of

the crisis, with more women experiencing worsened financial situation. Consequently, there is an increase in poverty and debt, reduced food intake, with a disproportionate effect on the most vulnerable. A total of 15% of respondents reported turning to subsistence agriculture and animal husbandry for the first time to ensure the survival of their family and 13% of all households and 24% of the most vulnerable reported having to decrease their food intake. As many as 62.7% of the respondents who stated that they reduced food consumption were members of vulnerable groups. While there were no significant gender differences in financial deterioration among genders in the second wave, the third research wave shows that a higher percentage of women, 55.5% of them, experienced worsened financial situation (compared with 44.9% of men).

Hunger in Bosnia and Herzegovina is currently addressed through a) formal social security institutions that are limited in scope, heavily bureaucratic and often underfunded, and b) informal support networks providing meals to the needy outside of the official system. Institutions on the frontline are usually soup kitchens (meal centres), donors are sporadic, and intermediary institutions between food donors and recipients, such as food banks, are non-existent. Soup kitchens across the country (approximately 20 formal or non-institutional meal centres) provide vital food services for some of the poorest people in Bosnia and Herzegovina; many of them facing challenges due to increased demand and insufficient financing. Soup kitchens serve between 17,000 – 20,000 users (ca. 0,5% of total population). However, the recently adopted SDG Framework in Bosnia and Herzegovina implies that the number of people affected by food poverty is much larger – in 2015, according to the UN Statistics Division, a worrying 10,2% of the adult population faced uncertainty in food supply.

With significant levels of socioeconomic stress on top of the long-term impacts of COVID-19, a food and energy crisis could turn into social unrest. The challenging economic and social circumstances are further complicated by the upcoming general elections in October 2022. Given the urgency and severity of these risks, policy-makers need reliable data on food security and social protection to continue prioritizing a systematic response to a deteriorating food, energy and, eventually, the financial situation.

Having high dependence on fertilizers, natural gas and petroleum from the Russian Federation and moderate dependence on selected agricultural commodities from Ukraine, Bosnia and Herzegovina has already experienced inflationary pressure resulting from the war in Ukraine. According to the IMF, the country's average consumer price inflation is projected to skyrocket and reach 6.5% in 2022, and these increase in poverty and reduced food affordability and possible food shortages will have a disproportionately more drastic effect on the most vulnerable groups in Bosnia and Herzegovina. As this downward economic trend in more limited access to food is projected to deteriorate further, the current meal provision services will need to re-assess their capacities and changes in demand not to leave too many needy behind.

The war in Ukraine produces negative effects of the crisis caused The COVID-19 pandemic hat is put a lot of pressure on the chains supply and created a significant market uncertainty. We are facing three major crises –pandemic that is not over, war in Ukraine and climate changes that put pressure on individual regions and productions. Predicting risk and well managing them can contribute to the reduction of negative I possible positive effects and used

opportunities. All this together caused an increase (price volatility) in prices and Instability Markets

Ukraine and the Russian Federation are among the most important agricultural producers products in the world, together produce 25% of the world's grain production (wheat, corn and barley). In the oilseeds sector, they play an irreplaceable role - together they produce more of 50% of the total amount of sunflower oil. They have a significantly smaller share in production rapeseed, about 6% and 2% in soybean production.

- Most of the grain production is exported to the market of East and North Africa, only Egypt imports 27% of Russian wheat production and 22% of Ukrainian wheat. Next to Egypt, the big one importers of wheat from Russia and Ukraine are Turkey, Morocco, Saudi Arabia, Thailand, Nigeria, Sudan. In addition to wheat, there is a great dependence on the production of corn and oilseeds in Russian Federation and Ukraine. The European Union is mostly dependent on the import of animal feed from of Ukraine, which has particular consequences for the pig farming sector.

- The Russian Federation is the world's largest exporter of nitrate fertilizers while it is in second place for the supply of phosphorus fertilizers and potassium. And before the war, many countries have struggled with high fertilizer prices and now the problem has escalated. A large number of countries are highly dependent on the import of fertilizers from the Russian Federation, while from Ukraine, a significantly smaller number. Eastern European countries have the highest dependence, above 50% (including Serbia) and Central Asia.

Having high dependence on fertilizers, natural gas and petroleum from the Russian Federation and moderate dependence on selected agricultural commodities from Ukraine, Bosnia and Herzegovina has already experienced inflationary pressure resulting from the war in Ukraine. According to the Statistic institutions of BiH, the country's average consumer price inflation is projected to skyrocket and reach 16.5% in 2022, and these increase in poverty and reduced food affordability and possible food shortages will have a disproportionately more drastic effect on the most vulnerable groups in Bosnia and Herzegovina. As this downward economic trend in more limited access to food is projected to deteriorate further, the current meal provision services will need to re-assess their capacities and changes in demand not to leave too many needy behind.

So far, Bosnia and Herzegovina has not adopted any official contingency response and social protection strategy at any government levels to mitigate the negative impact of war in Ukraine on the country's food security and economy.

Executive summary

PURPOSE: This Document is the part of achieving FAO and UNDP plan to implement the Joint Programme in 2022 with the following objectives:

- Assess the impact of the war in Ukraine on smallholder farmers and agri-food producers' access to finance, seeds, fertilizers and other agricultural inputs and the resulting effects on the past and projected agricultural outputs.
- Analyse the degree of the country's dependence on other import and export markets for key agricultural commodities in the context of the intraregional trade and food security scenarios.
- Assess food security demand by the most vulnerable as well as map the food centres' infrastructure and develop concrete recommendations for policy and technical measures that contribute to zero hunger in the country.
- Support entity-level institutions and donor partners with evidence-based adaptive contingency planning and emergency response programming in the areas of food security and social protection, with the focus on the access to food by the most vulnerable groups.

METHODOLOGY: A wide range of different activities had to be carried out to create the document. The desk research consulted extensive documentation such as the strategic framework, legislation, reports at the national and international levels, statistical data. In the first phase of the research, key stakeholders were identified, both from the governmental (includes all levels of government) and non-governmental sectors. Several workshops were held aimed to get the data, documentation and opinions. Many F2F interviews were conducted with different stakeholders which were aimed of deeper analysis. A survey was conducted with the aim of collecting data on the fluctuation of prices of agricultural inputs as well as on the economic performance of agricultural production.

OUTLINE OF THIS DOCUMENT :

CHAPTER 1 – A BRIEF DESCRIPTION ABOUT BOSNIA AND HERZEGOVINA – provides a brief description of the socio-economic and agricultural profile of Bosnia and Herzegovina.

CHAPTER 2 - SUMMARY OF THE OTHER CONTRIBUTORS - Includes a key findings and recommendations of the other contributors in the project, which means UNDP project team and FAO international consultant. The complete reports were submitted in separate documents.

CHAPTER 3 – FOREIGN TRADE OF AGRICULTURAL PRODUCTS AND FOODSTUFFS - It consists of four subchapters that include: general overview, analysis of the key products, analysis of the key inputs and analysis by countries.

CHAPTER 4 – ANALYSIS OF AGRICULTURAL POLICY - After the brief overview of the agricultural policy, it provides a key data of agricultural support practices in Federation of BiH, RS and BD. A separate subchapter contains an overview of specific support measures in the agri-food sector in times of crisis. This includes specific interventions in the context of COVID 19 as well as specific measures in response to the Ukrainian crisis.

CHAPTER 5 – FOOD SECURITY POLICY IN BIH - provides key data on Food security policy of BiH, as well as at the level of entity and BD. It includes a description of the institutional framework and key policies at all levels.

CHAPTER 6 – AGRICULTURAL PRICE ANALYSIS - Based on official statistical data it includes an analysis of the prices index trend for last seven years, as well as a deeper analysis of prices trends for six products group. In the second part Input prices fluctuation was analysed where:

mineral fertilizers, seeds, fuel and finance are included. In the third part, the results of the analysis of the impact of input price fluctuations on the economic results of agricultural production are presented.

CHAPTER 7 – FRAMEWORK OF CONTINGENCY PLAN - As a result of communication with a wide range of stakeholders in the project, the Contingency Plan Framework was created and included in this document. It consists of 2nine measure clusters with 29 measures.

CHAPTER 8 – PROPOSAL ON PIPELINES FOR DONOR SUPPORT - It contains a specification of existing international donors in the agri-food sector in Bosnia and Herzegovina. Also, their focus of support is shown.

Methodological approach

This report was created within the project Joint un programme: strengthening Bosnia and Herzegovina's resilience to address the impact of the Ukraine war on food security and incomes of most vulnerable groups (UNJP/BIH/017/UNJ) and includes the FAO contribution. A wide range of different activities had to be carried out to create the document. The desk research consulted extensive documentation such as the strategic framework, legislation, reports at the national and international levels, statistical data. In the first phase of the research, key stakeholders were identified, both from the governmental (includes all levels of government) and non-governmental sectors. Several workshops were held aimed to get the data, documentation and opinions. Many F2F interviews were conducted with different stakeholders which were aimed of deeper analysis.

Data on both socio-economic and agricultural profile were collected from official statistics as well as from government bodies internal data bases at all levels. The same approach to data collection was adopted in case with analysis of agricultural policy and analysis of food security policy in BiH. The primary data from the database of the Indirect taxation authority of Bosnia and Herzegovina were used for analysis of foreign trade of agricultural products and foodstuffs. The analysis focused on key agricultural products and foodstuffs with a comparison of data over the last four years. Foreign trade by country was carried out, where the trade with the Republic of Serbia was analysed more deeply (included in the International Consultant Report). The analysis of agricultural policies was carried out at the entity and BD level.

The measures of agrarian policy in the time of crisis were analysed in particular. The same was done for Serbia (included in the International Consultant Report). Official statistical data were used to analyse fluctuations in prices of agricultural products and foodstuffs. Given that there is no AMIS in Bosnia and Herzegovina, data on price fluctuations of agricultural inputs were collected through a survey of both suppliers and agricultural producers.

Impact on the economic performances of agricultural production conducted through gross margin calculation of key agricultural production. The data was collected through a survey of agricultural producers. Calculations were created for the last three production years and an analysis of the impact of the increase in input prices on the economic performance of agricultural production was conducted. The contingency plan framework was created in consultation with key stakeholders.

1. CHAPTER 1 – A BRIEF DESCRIPTION ABOUT BOSNIA AND HERZEGOVINA

1.1. A brief socio-economic profile

Agriculture and the food industry are important branches of the economy of Bosnia and Herzegovina (BiH), its Entities and Brcko District (BD), both in terms of their contribution to the economy and overall employment and socio-economic development.

The macroeconomic indicators show that agriculture play important role in BH economy. It makes up large proportions of the total GVA, employment and trade (Table 1). Although economic activity contracted during the analysis period, 2015–2021, as a result of numerous socio-political and economic factors, the share of agriculture in the GVA creation is still relatively high (6,8 %), albeit lower than in 2015 (7.6 %). The sector is particularly important in contributing to employment. The agricultural sector represented 17.1 % of total employment in 2015, reduced to 9,4 % in 2021 (table 1).

Table 1 General economic data

	Units	2015	2016	2017	2018	2019	2020	2021
GVA (at current prices)	mill. EUR	910	975	939	1006.4	1008.3	1065.7	1086.2
Share in GVA of all activities	%	7.6	7.7	7.1	6.9	6.6	7.2	6.8
Employment in the agriculture, forestry, hunting and fishery sector	000	147	144	154	129	149	107	108
Share in total employment	%	17.9	18.0	18.9	15.7	18.0	9.3	9.4
Export of agri-food products	mill. EUR	430	499	540	450	435	464	492
Share in export of all products	%	9.4	10.4	9.3	7.2	7.2	8.4	6.6
Import of agri-food products	mill. EUR	1,464	1515	1611	1597	1652	1574	1762
Share in import of all products	%	18.1	18.3	17.1	15.9	16.3	17.9	15.7
Trade balance in agri-food products	mill. EUR	-1,034	-1,016	-1,070	-1,147	-1,216	-1110	-1270
Export/import rate	%	29.4	32.9	33.6	28.2	26.4	29.5	27.9

Source: Agency for Statistics of BH

1.2. A brief agricultural profile

Considering climate conditions and geographic position, it can be generally said that BiH has potentials for agricultural production. Total area of BIH is 5,120,900 ha out of which 41.7% makes agricultural area (2,136,000 ha). In 2021, total arable land was 1.073.000 ha, out of which almost 43.05% remained uncultivated. In average, in BIH there is 0.26 ha of arable land and 0.56 ha of agricultural land per capita. Before the war (according to the last census in 1990) BIH had 1,020,000 ha of cultivated land. Sown areas covered approximately 872.000 hectares and uncultivated land covered approximately 148,000 ha.

Table 2 Basic agricultural data

	Units	2015	2016	2017	2018	2019	2020	2021
Agricultural land -Total	000 ha	2,186	2,219	2,165	2,147	2,217	2232	2256
- Arable land	000 ha	1030	1,098	1,061	1,029	1,093	1074	1073
<i>of which fallow and uncultivated land</i>	000 ha	510	503	466	432	487	456	462
- Land under permanent crops	000 ha	107.4	105.8	108.3	101.6	107.8	107.0	107.7
<i>of which orchards</i>	000 ha	100.9	99.0	101.9	95.0	101.5	100.6	101.1
<i>vineyards</i>	000 ha	4.5	4.8	4.4	4.5	4.4	4.4	4.5
<i>olive trees</i>	000 ha	0	0	0	0	0	0	0
other permanent crops	000 ha	2	2	2	2	2	2	2
- Permanent grassland	000 ha	1049.1	1079.3	1061.3	1082.4	1095.2	1119.8	1146.7
<i>of which meadows</i>	000 ha	453.4	452.6	443.9	444.4	463.8	452.6	443.9
pastures	000 ha	595.7	626.6	617.4	638.0	631.3	626.6	617.4
Utilised agricultural area (UAA)	000 ha	1777.2	1778.8	1762.0	1779.6	1806.5	1845.6	1865.8

Source: Agency for Statistics of BH

According to statistical data (see table 2), for 2021, the arable land by type of cultivation amounted to 1 073 000 ha, of which 504 000 ha were sown area, 462 000 ha fallow and uncultivated arable land, and approximately 107 thousand ha are land under permanent crops.

The number of agricultural holdings and beneficiaries applying for support within the incentive schemes at the Entity, cantonal and municipal level and at the level of the BDBiH is available in the registries of agricultural holdings of the Entities and of the BDBiH. Information on the number and the average size of agricultural holdings in BiH for the period 2018-2020 is given in Table 3

Table 3 Number and average size of registered agricultural holdings in BiH (ha)

Republic of Srpska		
Total number of registered AH	38,792.00	Average size of AH
Total	173,375.00	4.47
Cultivated land	152,920.00	3.94
Arable land	118,183.00	3.05
Federation of BiH		
Total number of registered AH	72,424.00	Average size of AH
Total	109,024.00	1.51
Cultivated land	91,954.00	1.27
Arable land	49,164.00	0.68
BRČKO DISTRIKT		
Total number of registered AH	3,360.00	Average size of AH
Total	45,108.00	13.4
Cultivated land	34,401.00	10.2
Arable land	29,587.00	8.8
Total Bosnia and Herzegovina		
Total number of registered AH	114,576.00	Average size of AH
Total	327,507.00	2.86

Cultivated land	279,275.00	2.44
Arable land	196,934.00	1.71

Source: Competent entities ministries and BD department for agriculture, MOFTER BiH

The above data indicate that small family agricultural holdings are predominant in BiH, the land is fragmented and parceled out, with low productivity, which eventually results in relatively low competitiveness of most agricultural products.

The structure of used agricultural land has not been changed for many years since the largest share in sown areas are cereals with 59%, then forage crops 25%, vegetables 14% and industrial crops amounting around 2%. In 2021, the sown area under cereals amounted almost 313 000 ha, under forage crops 132 000 ha, under vegetables 74 000 ha and under industrial crops 12 000 ha.

Table 3 Plant production in BiH

	Units	2015	2016	2017	2018	2019	2020	2021
Area of production								
Total grain	000 ha	299.4	319.3	298.9	317.8	311.2	321.3	317.4
<i>of which: Wheat</i>	000 ha	60.4	71.4	69.5	73.6	70.0	69.9	66.8
<i>Maize</i>	000 ha	193.7	191.7	194.1	191.6	191.8	200.5	200.4
<i>Potatos</i>	000 ha	35.3	34.8	35.2	34.2	39.1	33.6	35.3
Production								
Total grain	000 t	1,137.2	1657.6	1113.3	1,743.8	1,666.2	1944.2	NA
<i>of which: Wheat</i>	000 t	213.0	306.6	288.7	295.8	264.8	321.8	NA
<i>Maize</i>	000 t	785.7	1178.4	709.4	1,272.3	1,235.6	1426.4	893.1
<i>Potatos</i>	000 t	351.2	423.0	335.5	394.3	377.2	441.3	339.7
Average yields								
Wheat	t/ha	3.5	4.3	4.2	4.0	3.8	4.6	NA
Maize	t/ha	4.1	6.1	3.7	6.6	6.4	7.1	4.5
Potatos	t/ha	12.0	9.6	11.2	11.0	11.3	10,1	12.0

Source: Agency for Statistics of BH

The production of cereal was from 1. 137 thousand tonnes in 2015 tonnes, till 1.994 thousand tonnes in 2021. Compared to 2015 this is increasing for 70,9%. Maize was produced on 193 000 ha (in average) with production from 785,7 thousand tonnes to 893,1 thousand tonnes. Compare with 2015 this is increasing for 13,6%. Average yields was 4,5 t/ha. Comparing with 2015 here we have increasing for 0,4 t, or 9%.

Potato as most important industrial crop was produced on 339 thousand tonnes in 2021. tonnes, Comparing with 2015 production is in decreasing for 3,27%. Average yield on same level as 2015. Year.

Regarding animal production according to statistical data on number of livestock in 2021, the total number of cattle was 339 000 units and here we have decreasing of number of cattle for 88 000 unites. Number of cows and heifer in calf was 339 000 units and it is lower for 106 000 units or 25% compared to last year. The total number of pigs is lower by 8 000 or 1,41%. Number of sheep remained unchanged at the level 1 029 thousand heads, and it is lower than 2015 for 64 000 of units while the number of poultry decreased by 0.48% compared to the 2015 year.

Table 4 Animal production in BiH

	Units	2015	2016	2017	2018	2019	2020	2021
Herd size (31. December)								
Cattle	000	455	455	445	438	430	427	339
of which cows and heifers in calf	000	293	290	272	265	275	273	207
of which milk cows	000	247	215	206	199	193	191	190
Pigs	000	564	545	548	542	543	547	556
of which breeding sows	000	77	74	76	73	72	74	96
Sheep and goats	000	1,093	1091	1090	1,086	1,085	1085	1029
of which breeding ewes/goats	000	592	593	595	576	573	577	726
Poultry	000	22,248	20292	21583	21,114	22,423	22140	22100
Production								
Beef & Veal								
- total indigenous production (live weight gain)	000 t l.w.	41.8	28.6	28.5	21.2	22.3	26.7	22.3
- total slaughtering	000 t c.w.	22.9	16.0	15.5	11.5	11.9	14.5	12.4
Pig meat								
- total indigenous production (live weight gain)	000 t l.w.	11.6	11.5	11.8	9.8	10.5	9.8	11.3
- total slaughtering	000 t c.w.	8.5	8.5	8.8	7.3	7.7	7.6	8.4
Sheep meat								
- total indigenous production (live weight gain)	000 t l.w.	2.7	2.4	2.6	2.9	3.1	1.8	2.5
- total slaughtering	000 t c.w.	1.4	1.3	1.3	1.5	1.6	0.9	1.3
Poultry meat								
- total indigenous production (live weight gain)	000 t l.w.	67.8	82.5	86.9	90.8	98.2	96.6	89.3
- total slaughtering	000 t c.w.	48.7	58.9	62.1	64.3	69.5	68.8	66.1
Eggs	mill. pieces	722	689	666	660	723	743.4	584.8
Cows milk	000 t	694	698	678	675	639	628	538
of which delivery to dairies	000 t	240	244	257	263	261	275	278
Sheep and goat milk	000 t	23.9	24.7	24.4	23.2	22.6	21.7	11.5
Sheep wool	000 t	1.4	1.4	1.4	1.4	1.4	1.4	1.1
Average yield								
Cows milk	t/cow	2.814	3.250	3.287	3.386	3.311	3.300	3.200

Source: Agency for Statistics of BH

The total production of raw milk in 2021 was 538 thousand litres and decreasing constantly from 2015. Year. This is decreasing for 156 000 t, or almost 25% in relative indicators. Purchase of raw milk was 278 thousand tonnes million and was slightly higher than the previous year's purchase. Approximately 50% of the total production of raw milk was purchase from dairy.

The total number of slaughtered cattle in slaughterhouses was 12,400 tonnes of c.w, sheep 1,3, pigs 11,3 and poultry 66,1 000 tonnes of c.w. In all meat productions we have decreasing of production compared with 2015. Year.

Egg production reached 584 800 thousand pieces and it decreased by 19% compared to the previous 2015-year production.

In the current stage of development, BiH food industry must improve all aspects of business efficiency as well as orientation towards the market and customers. When it comes to business efficiency, companies must be proactive in building and shaping efficient value chains and all other aspects of business interest connection and sharing information and resources and actively engage in efficient transfer of knowledge and technology. The main characteristic of the food industry in BiH is a low level of utilisation of existing processing and production capacity, below 50%.

2. CHAPTER 2 - SUMMARY OF THE OTHER CONTRIBUTORS

Since there are more contributors to this project, only the key findings/recommendations are presented in this chapter. Complete reports are submitted in separate documents.

2.1. Key findings of the UNDP Team

The UNDP Team was engaged in the implementation of two activities:

- Rapid assessment of food security and availability for vulnerable groups of the population in BiH and
- Mapping of soup kitchens in BiH

Under the first activity, the key findings are:

- There is enough food available in BiH, in stores, markets, and food produced by independent agricultural producers.
- The main problem of food security in Bosnia and Herzegovina is that members of vulnerable groups do not have enough money to provide themselves and their households with a regular and diverse diet.
- The aspect of the stability of food availability is relevant in BiH only in connection with the current economic instability caused primarily by the high inflation of food prices and the related increase in the prices of energy sources and medicines, which mostly affects the ability of members of vulnerable groups to allocate enough money for food.

The assessment generated recommendations, including:

- Services offered by the meal centres/soup kitchens in the country should be improved, including from the viewpoint of food nutritional value;
- Coordination of the wide range of government and non-government institutions and mechanisms who provide food should be enhanced to ensure a more adequate and needs-based allocation of food, leaving no one behind;
- Mechanisms that ensure access to quality food for all should be diversified, including through innovative financial schemes; models connecting people, organisations and companies with excess of food with individuals who are in need

of food (such as Food Bank); support schemes for the elderly (including homes for the elderly); testing of new services by non-governmental organisations, based on a people-centred and dignified approach;

- Targeting of beneficiaries should be more effective, ensuring measures within the social protection system encompass those in dire need (for example, there should be dynamic updates of the social profiles for vulnerable population groups, to enable adequate and timely (food) support);
- Improvement of the legal framework and mechanisms for access to food services and support, including alignment of the relevant legislation linked to food security with the relevant standards of the European Union;
- Policy focus should be on poverty reduction through support to economic activity and employment, especially for the most vulnerable population groups;
- Increase incentives that stimulate prevention of food loss, and support food accessibility and redistribution (e.g., tax incentives and removal of VAT for food donations).

Under the second activity, the key findings are:

- There are currently 52 public kitchens/organizations operating in BiH that distribute free meals to a total of 17,743 beneficiaries, based in 36 municipalities/cities, that is 25% of all municipalities/cities in Bosnia and Herzegovina.
- The largest number of soup kitchens are managed by humanitarian/non-profit organizations in BiH.
- Half of the soup kitchens believe that they do not have enough funds for work - the equipment and aids they need to perform their activities.
- The majority of organizations (80.00%) believe that the legal framework of social protection in BiH is not adequate for the functioning of public kitchens and achieving the goal of reducing hunger.

2.2. Key findings of the International Consultant

The Report focused on the legal framework of cooperation between the RS and BiH, policies and practices in food security policy of Serbia and foreign trade exchange between Serbia and BiH. The key findings and recommendations are:

- There is a trend of growth in exports and imports of agricultural and food products between Serbia and BiH;
- BiH can only reduce the deficit in commodity exchange through structural changes in the agricultural sector;
- Both countries must diversify exports and imports and reduce the risks that may arise from market disruptions;
- When adopting agricultural policy measures, care must be taken that they do not threaten the export potential of the sector;
- Institutions that monitor the situation in the sector and the market of agricultural and food products should be strengthened, not only in personnel but also technically, in order to monitor the situation and be able to quickly react to changes. The latter implies

the connection of competent institutions and ministries and, if there are opportunities, to hire scientific institutions that will analyze the effects of adopted measures and predict changes in the future.

3. CHAPTER 3 – FOREIGN TRADE OF AGRICULTURAL PRODUCTS AND FOODSTUFFS

3.1. General overview

Foreign trade policy lies within the competence of the country of BiH. Agricultural trade in BiH is governed by the Law on Foreign Trade Policy (Official Gazette of BiH, 7/98). Trade with the EU Member States is governed by the Stabilisation and Association Agreement (SAA) between the European Communities and their Member States, of the one part, and BiH, of the other part (Official Gazette of BiH – International Treaties, 10/08) and the Additional Protocol adjusting the Stabilisation and Association Agreement (SAA) between the European Communities and their Member States, of the one part, and BiH, of the other part, to take into account the accession of the Republic of Croatia to the EU (signed on 15 December 2016).

Trade with other countries is governed by multilateral agreements: Central European Free Trade Agreement (CEFTA) (Official Gazette of BiH – International Treaties, 9/07), European Union Free Trade (EFTA) – BiH Free Trade Agreement (Official Gazette of BiH – International Treaties, 18/14), and bilateral preferential trade agreements (Free Trade Agreement between BiH and the Republic of Turkey (Official Gazette of BiH – International Treaties, 6/03, 3/11) and Preferential Trade Agreement between BiH and the Islamic Republic of Iran (Official Gazette of BiH – International Treaties, 5/09).

It is necessary to continuously follow the implications of these agreements for trade in agricultural products, as one of the consequences are/may be increasing imports that will compete with domestic production. Consultations and at a later stage negotiation with the European Commission will include BiH agriculture joining the EU Single Market that will, on one hand, open the national market to imports, on the other, will increase export possibilities for BiH farmers and processors – provided they have suitable products and services 5.

The Law on Foreign Trade Policy of Bosnia and Herzegovina ("Official Gazette of BiH" No. 7/98 and 35/04) and the implementing acts adopted on the basis of this Law provide for mechanisms, i.e. foreign trade measures for the protection of domestic production from excessive, dumped and subsidized imports. The BiH Council of Ministers adopted two Decisions that were in line with the international trade principles established within the World Trade Organization - WTO and in accordance with Free Trade Agreements either bilaterally, or regional-CEFTA, SAA, as follows:

- *Decision on measures to protect domestic production from excessive imports ("Official Gazette of BiH", No. 30/02 and 16/10),*

- Decision on the procedure and method of determining the anti-dumping and compensatory duties ("Official Gazette of BiH", No. 77/05, 16/10 and 103/13)¹,

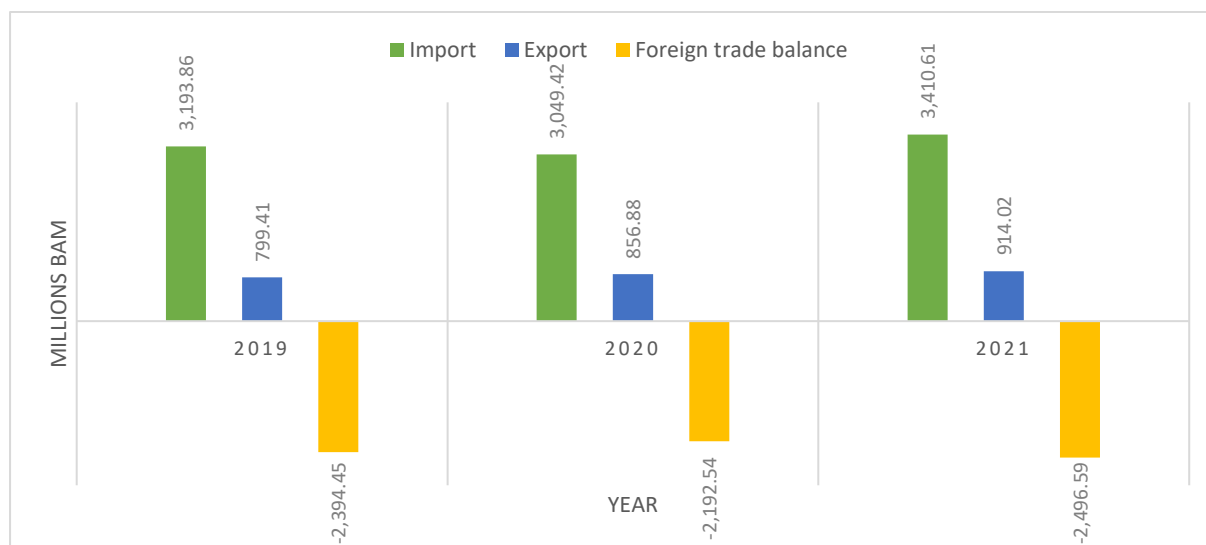


Figure 1 Foreign Trade balance, section 1-24 (2019-2021)

Source: Ministry of Foreign Trade and Economic Relations of BiH

BiH is a net importer of agricultural products and foodstuffs. A negative trade balance is achieved every year, so in 2021 it was 2,496.09 million BAM (Graph 1). There is the largest deficit in Section 22 - Beverages, spirits and vinegar (308.02 million BAM in 2021), as well as in Section 21 - Miscellaneous edible preparations (301.98 million BAM) and Section 2 - Meat and edible meat offal (298.08 million BAM). In each of the 24 sections there is a negative foreign trade balance.

3.2. Analysis of the key products

3.2.1. Wheat

According to statistical sources, there are 2.2 million ha of agricultural land in BiH, of which 1.6 million ha are arable land, and 600 thousand ha are pastures. About 500,000 hectares are planted with cereals, industrial plants, fodder plants, vegetables and fruits. Along with corn, wheat is the most important cereal, and in terms of human nutrition, it is the most important agricultural product in Bosnia and Herzegovina. Sown areas range around 70,000 hectares with average yields varying from just under 4 tones to over 5 tones. Meteorological conditions in certain years have a high influence on the variation of wheat yield. BiH continuously imports large quantities of wheat, and most of it is imported from Serbia and Croatia.

¹ Ministry of Foreign Trade and Economic Relations of BiH

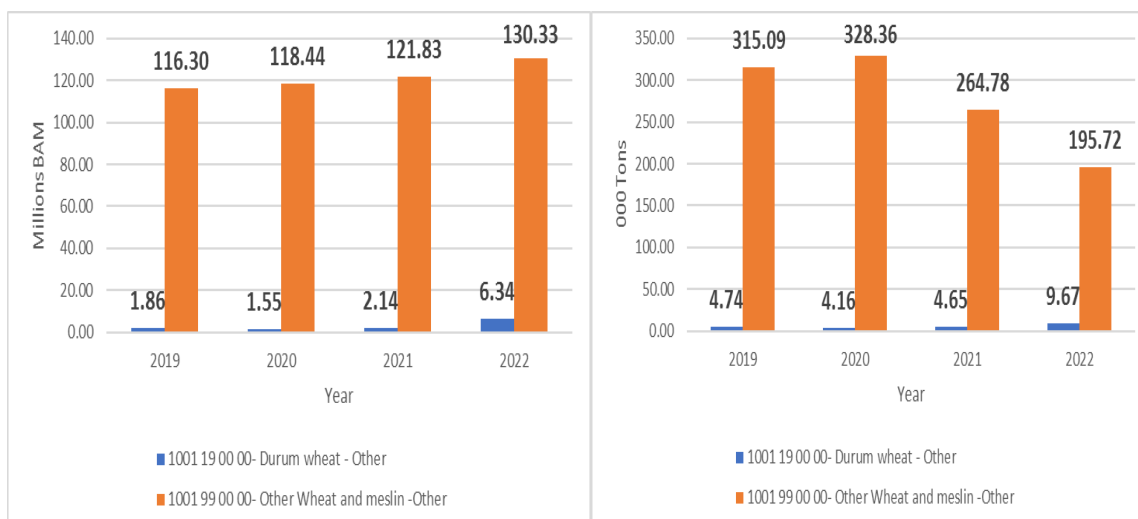


Figure 2 Total imported values and quantities of mercantile wheat

Source: Ministry of Foreign Trade and Economic Relations of BiH

The value of the annual import of mercantile wheat amounts to over 120 million BAM or over 300 thousand tons of wheat grains (see Figures 3.1 and 3.2). In addition to the above data, it is important to note that BiH annually imports about 40 thousand tons of wheat flour, which shows that BiH is depends of the foreign sources from the one of the key agricultural products.

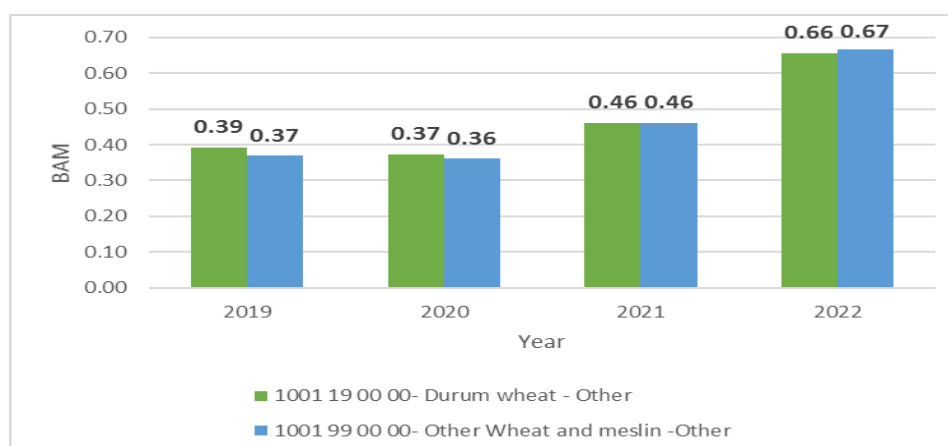


Figure 3 Average imported prices of mercantile wheat (BAM/kg)

Source: Indirect taxation authority of Bosnia and Herzegovina

As a consequence of global trends in supply chains, there has been a significant increase in import prices in the previous and current year. The import prices of wheat in 2021 were higher by 23% and 27% compared to 2019, while a more significant increase in prices was recorded in 2022. In the current year, prices are higher by 42.45% or 44.72% compared to prices from 2019 (Figure 3.3).

According to FAOSTAT, the total production of wheat in BiH was 264.8 thousand tons, and in 2020 it was 321.8 thousand tons. In the same period, 315.09 thousand tons, or 328.36 thousand tons, were imported. Based on the above data, it is concluded that the self-sufficiency of BiH for wheat is up to 50% or 45.66% in 2019, and 49.51% in 2020. If we also keep in mind the data on wheat flour trade, the level of self-sufficiency is even lower.

According to the FAO methodology, two coefficients were calculated: IDR (IMPORT DEPENDENCY RATIO) and SSR (SELF-SUFFICIENCY RATIO).² IDR provides answer on the question "how much of the available domestic food supply has been imported and how much comes from the country's own production". IDR is to determine the percentage of a country's dependency on imports of agricultural commodities to meet domestic needs. The higher import dependency ratio means the more supply of agricultural commodities to be imported IDR can be used for individual products as well as for groups of products. The IDR is calculated according to the following equation:

$$IDR = \frac{Import}{production + import - exports} \times 100$$

SSR expresses the magnitude of production in relation to domestic utilization. SSR calculates the percentage of food consumed and produced domestically. It defines whether the production of agricultural commodities for a country is sufficient to meet domestic needs. The higher the ratio, the greater the self-sufficiency. It is defined as:

$$SSR = \frac{Production}{Production + imports - exports} \times 100$$

Both IDR and SSR are calculated for the following two tariff codes:





1001 19 00 00- Durum wheat - Other

1001 99 00 00- Other Wheat and Meslin – Other

IDR was 56.90 % in 2019, 53.80 % in 2020 and 53.45 in 2021, which means that the domestic supply of mercantile wheat (IDR) from 43.10% (2019) to 46.55% (2021) came from domestic production.

SSR was 47.14% in 2019, 52.10% in 2020 and 54.56% in 2021, which shows a self-sufficient level to satisfy domestic needs for wheat in those years.

² Source: https://www.fao.org/3/x9892e/X9892e04.htm#P3438_105566

	The coverage ratio of foreign trade (export/import) of mercantile wheat was from 6.98% to 16.73% in the last four years
	IDR 2019-2021 (average) – 54.72 % SSR 2019-2021 (average) – 51.27 %
	The price of imported wheat increased significantly in 2022.
	There is no significant increase in production in the last five years.

3.2.2. Maize (corn)

Corn for grain is a grain that is sown on the largest areas in Bosnia and Herzegovina. BiH's needs are 1.3 million tons of maize per year, which is largely used for animal feed. Maize is sown on about 200 thousand hectares, and the yield varies from under 4 t/ha to over 7 t/ha. The main reason for yield variation is the increasingly frequent droughts in the growing season, which is a consequence of climate change. Irrigation areas are very low.

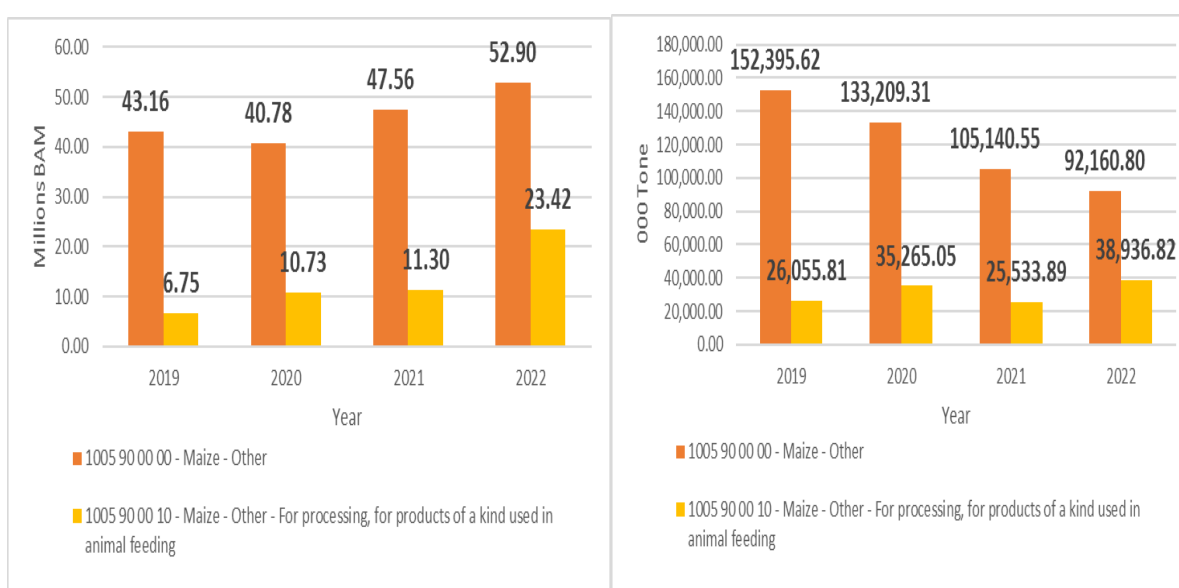


Figure 4 Total imported values and quantities of mercantile maize

Source: Indirect taxation authority of Bosnia and Herzegovina

In the period 2019-2021, BiH annually imported from 178.45 thousand tons (2019) to 130.67 thousand tons (2021) of mercantile maize (covering two tariff codes), while in the first nine months of 2022, 131.10 thousand tons were imported (Figure 3.5). The decrease in imported amounts of mercantile maize was not caused by an increase in own maize production, but by a decrease in livestock production.

While imported quantities are decreasing, the total value of imported corn is increasing (Figure 3.4). The average import price of 1 kg of corn (tariff code 1005 90 00 00) in 2019 was 0.28 BAM, and for tariff code 1005 90 00 10 it was 0.26 BAM, while in the first nine months of 2022 the average price was 0.57 BAM or 0.60 BAM respectively.

Graph 5: Imported prices of mercantile maize (BAM/kg)

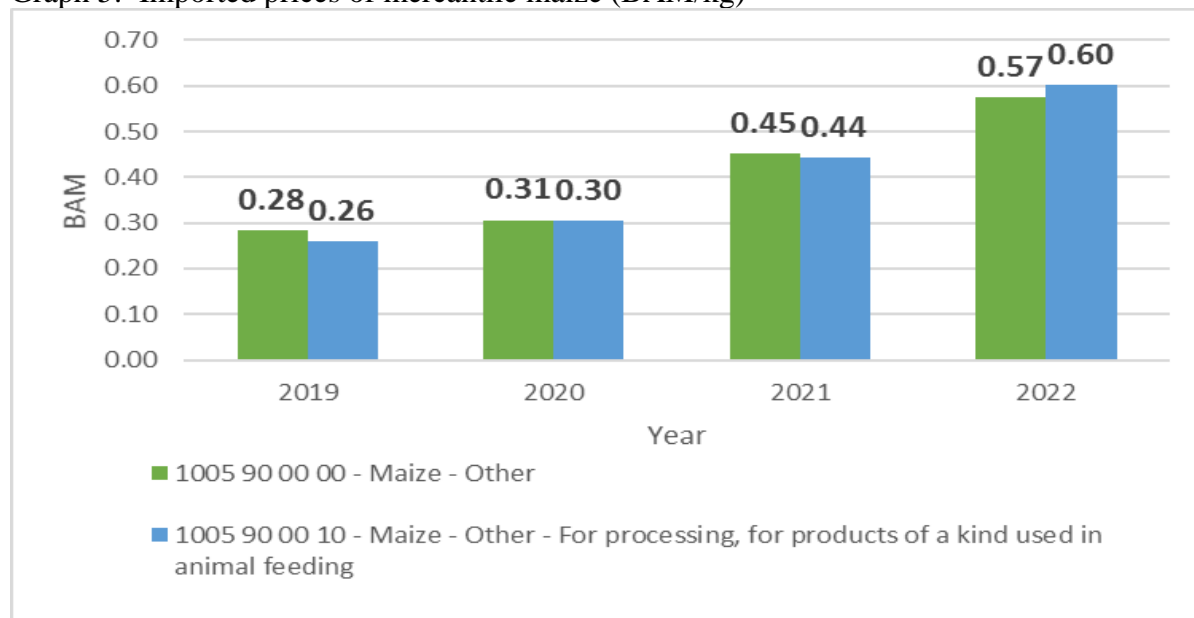


Figure 5 Imported prices of mercantile maize (BAM/kg)

Source: Indirect taxation authority of Bosnia and Herzegovina

There is an obvious trend of price increases, where the average prices for both tariff codes in 2022 increased by 31.34% compared to 2021, and by 116.81% compared to 2019. Given that most maize is intended for animal feed, price increases have a large negative effect on the economic results of livestock farming.

Based on data on foreign trade of maize and own produced quantities, IDR and SSR were calculated for the period 2019-2021. IDR was 12.62 % in 2019, 10.58 % in 2020 and 11.59 % in 2021, which means that the domestic supply of mercantile maize (IDR) 87.38% (2019) came from domestic production. or 89.42% (2020) and 88.41% (2021). SSR was 87.39% in 2019, 89.53% in 2020 and 88.71% in 2021, which shows a self-sufficient level to satisfy domestic needs for wheat in those years.

	The coverage ratio of foreign trade (export/import) of mercantile maize was from 0.15% to 6.60% in the last four years
	IDR 2019-2021 (average) – 11.60 % SSR 2019-2021 (average) – 88.54 %
	The price of imported maize increased significantly in 2022.



A decrease of imported quantities of maize has been registered in recent years.

3.2.3. Potato

Potatoes are the third largest crop in Bosnia and Herzegovina. It is planted on about 35,000 ha where the average yield is about 11 t/ha. The yield fluctuates on an annual basis, depending on the meteorological conditions, seed quality, technology etc. The total annual production is from 340 to 440 thousand tons.

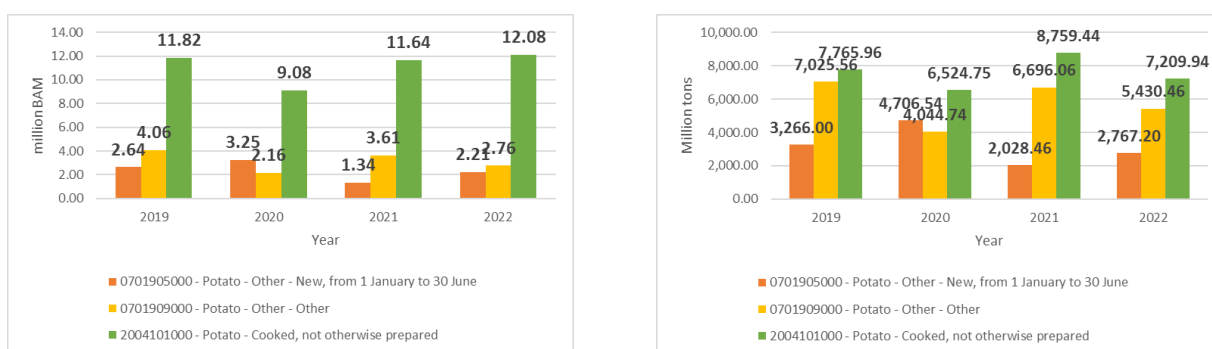


Figure 6 Total imported values and quantities of mercantile potato

Source: Indirect taxation authority of Bosnia and Herzegovina

Based on data on areas sown with potatoes and yields, it is estimated that BiH produces about 400 thousand tons of potatoes. The amount of annual import is 8 to 11 thousand tons of potatoes with a total value of 5 to 7 million BAM. Frozen (processed) potatoes have a significantly higher import value and amount to 10 to 12 million BAM.

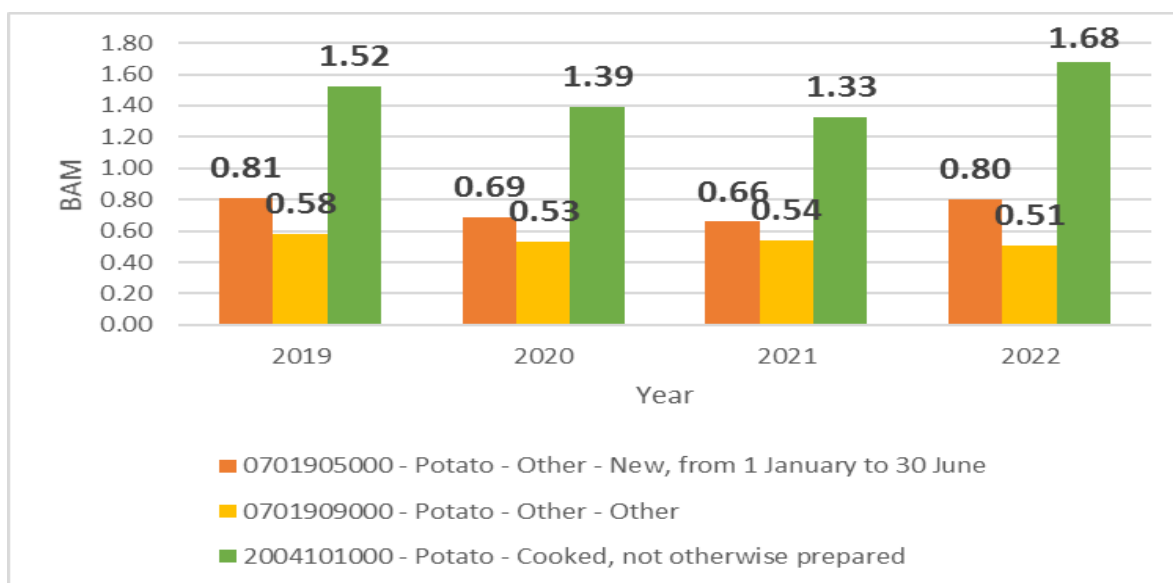


Figure 7 Imported prices of mercantile potato (BAM/kg)

Source: Indirect taxation authority of Bosnia and Herzegovina

Considering the high value of imported frozen potatoes, it is important to point out the increase in import prices in 2022. The average import price of this product in 2022 is higher by 26.32% compared to 2021.

3.2.4. Meat

Participation of a livestock production in the value of total agricultural production is about 40%. The main problems facing the livestock and animal production in Bosnia and Herzegovina are small production, excessive imports, and unfavorable structure of production. BiH has a continuous foreign trade deficit in all types of meat. The value of imports for the chapter “Meat and edible meat offal” in 2019 was 307 million BAM, and in 2020, 2021 and the first nine months of 2022 (first nine months) it was 263, 326 and 302.9 million BAM respectively. In the same period, BiH had low exports values with a high negative foreign trade balance that was between 223 million BAM (2020) and 298 million BAM (2021).

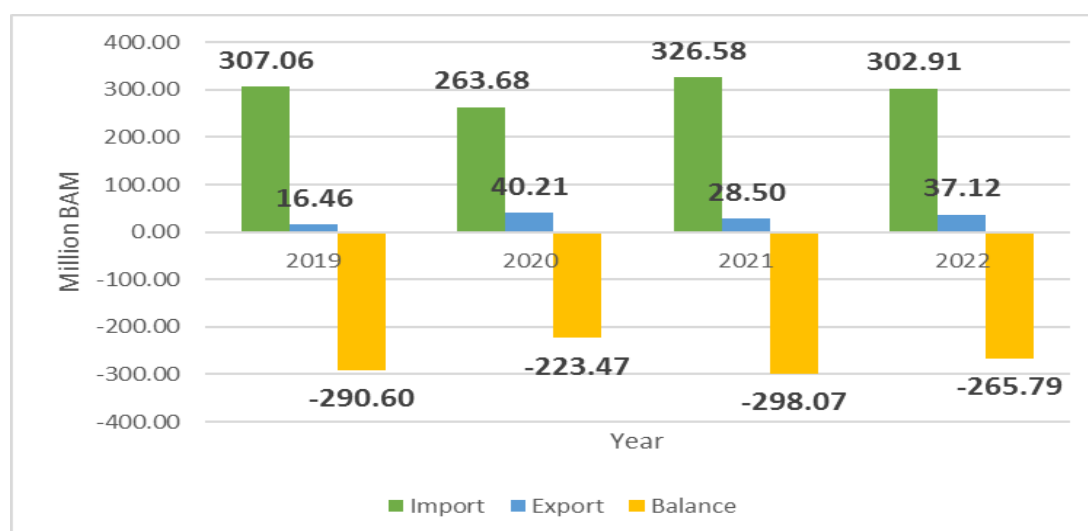


Figure 8 Total imported values of Meat and edible meat offal

Source: Indirect taxation authority of Bosnia and Herzegovina

The largest import (and deficit) is realized in trade with Meat of bovine animals, fresh or chilled, where the negative balance in 2021 amounted to 191.6 million BAM, and in the first nine months of 2022 it was 182.7 million BAM.

A high negative trade balance also exists in trade with Meat of swine, fresh, chilled or frozen (65.8 million BAM in 2021), as well as in trade with Meat of bovine animals, frozen (12.8 million BAM in 2021) and in Meat and edible offal, of the poultry of heading 0105, fresh, chilled or frozen (15 million BAM in 2021).

The highest import value is in the case of Unseparated or separated forequarters (103 million BAM in 2021). Given that the mentioned type of meat is the most represented in the trade, it is important to show its price trend in the last four years.

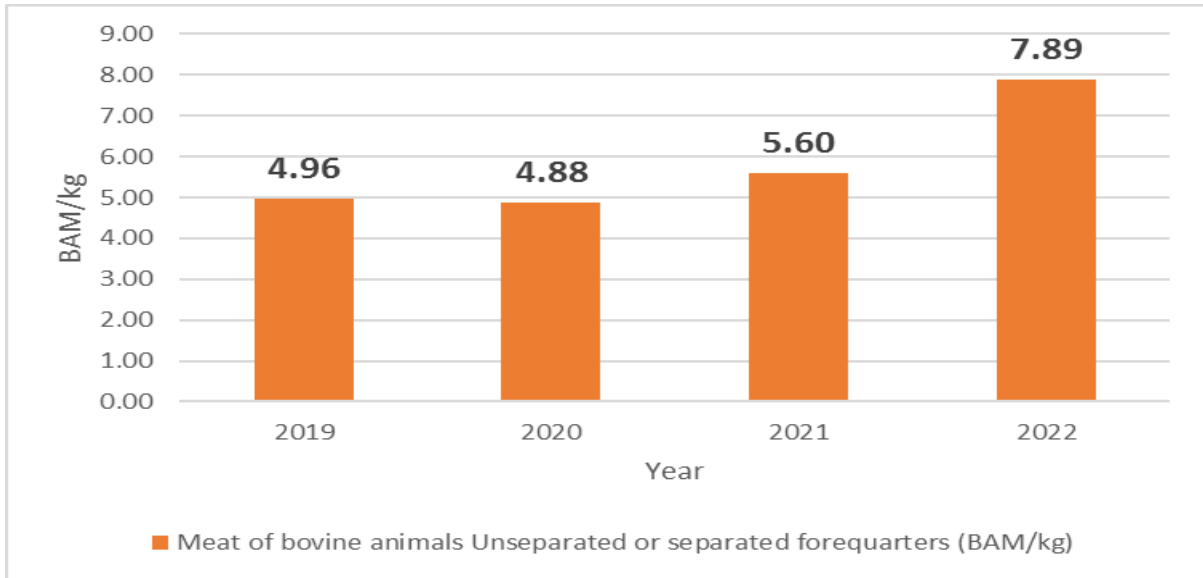


Figure 9 Imported prices Meat of bovine animals - Unseparated or separated forequarters (BAM/kg)

Source: Indirect taxation authority of Bosnia and Herzegovina

A significant increase in prices continued already in 2021 (14.64% compared to 2020), while in 2022 the import price increased even more. It was higher in 2022 by 40.98% compared to 2021 or by 61.61% compared to 2020.

3.2.5. Milk and dairy products

The production of fresh raw milk in Bosnia and Herzegovina is one of the most important sub-sector of agriculture. Positive trends for producers of milk and milk products began to be realized at the beginning of 2016, when the fulfilment of the conditions for the continuation of the export of milk and milk products to the European market was violated. The total value of foreign trade in milk and milk products is from about 250 million BAM to 285 million BAM in recent years.

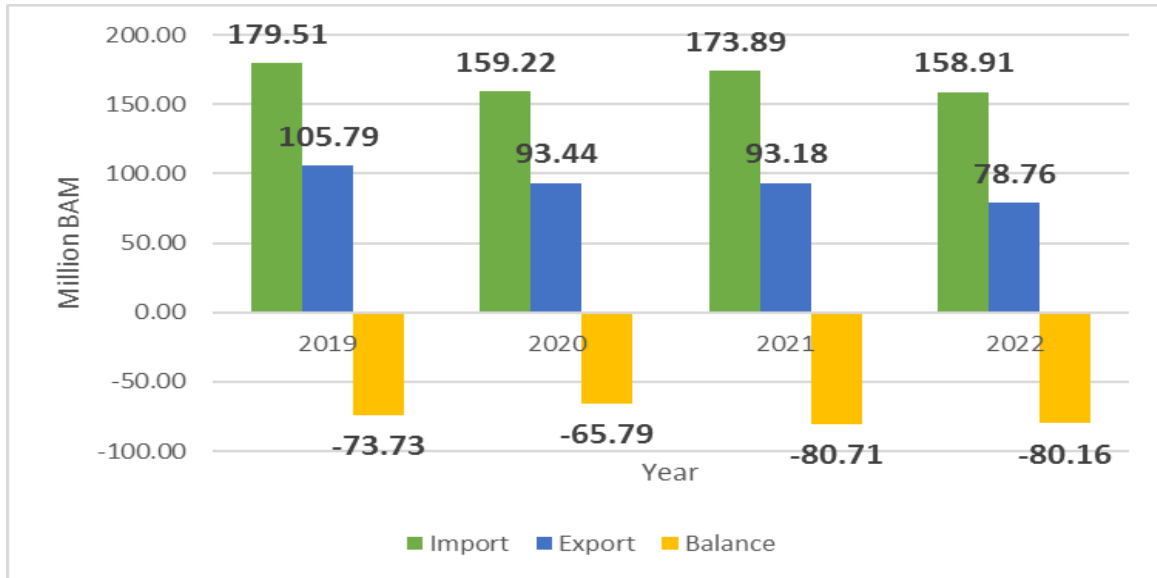


Figure 10 Total imported values of Meat and edible meat offal

Source: Indirect taxation authority of Bosnia and Herzegovina

Due to the COVID 19 pandemic in 2020, a decline in imports was noted, but in 2021 it was again raised to the level of 2019. Every year there is a negative foreign trade balance, and the coverage of imports by exports is from 53 to 58%. A special problem is the negative structure of foreign trade, where exports are dominated by UHT milk, and imports are dominated by products with higher added value such as cheese.

For example, in 2021, milk and cream (HS code 0401³) participated in total exports with 67.74% and yogurt and other fermented products (HS code 0403⁴) with 32.12% in 2019. On the other hand, cheeses as products with a higher added value participate in the total export with 6 to 11.5% in the covered period.

Imports are dominated by cheeses, with a share of 44 to 53% of the total value of imports of milk and dairy products in the years covered. Two types of cheese (Edam and Gouda) are dominant in terms of import value. In the period 2019-2021, the import value of the mentioned two types of cheese was from 43 to 50 million BAM.

Considering the high value of cheese imports (Edam and Gouda), it is important to analyze their import prices in the last four years.

³ Milk and cream, not concentrated nor containing added sugar or other sweetening matter

⁴ Yogurt, buttermilk, curdled milk and cream, kephir and other fermented or acidified milk and cream, whether or not concentrated or containing added sugar or other sweetening matter or flavoured or containing added fruit, nuts or cocoa

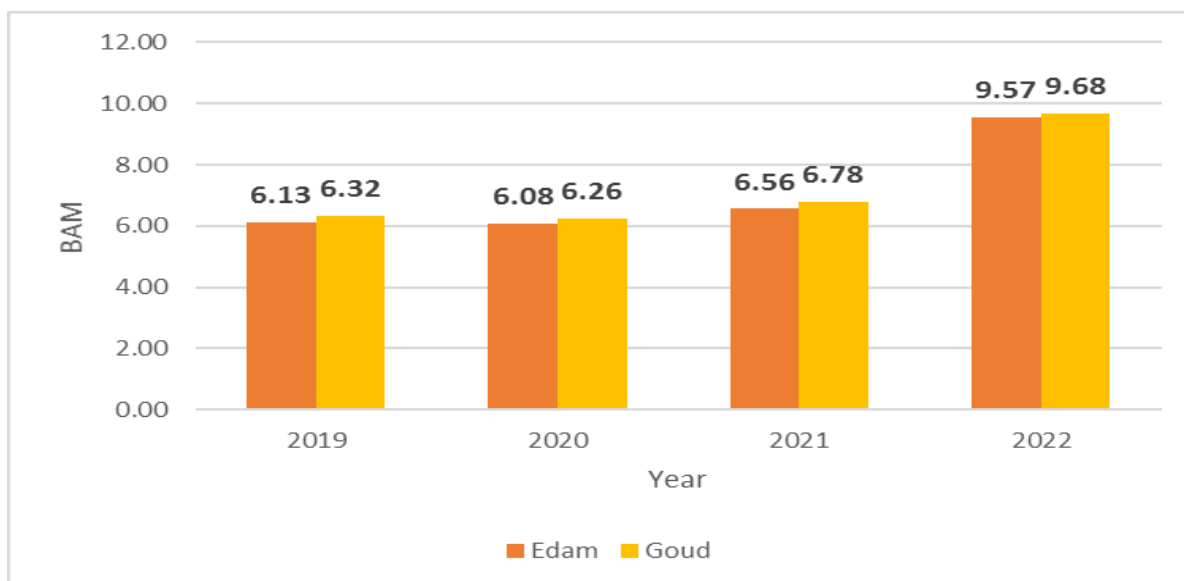


Figure 11 Imported prices of Edam and Gouda (BAM/kg)

Source: Indirect taxation authority of Bosnia and Herzegovina

The above graph shows a clear increase in prices in 2022 for both types of cheese. In 2022, the price of 1 kg of Edam is higher by 45.91% compared to 2021. At the same time, 1 kg of Gouda increased in value by 42.22%.

3.3. Analysis of the key inputs

3.3.1. Mineral fertilizers

Considering that the Russia is the world's biggest supplier of fertilisers, and second largest exporter of potash, a key ingredient in fertilisers (*European Parliament, 2022*)⁵, it is important to include these input in deeper analyse. « Fertilisers play a key role for food security » said Euroepan Commission⁶. Agricultural production in BiH is dependent on the import of mineral fertilizers.

⁵ [https://www.europarl.europa.eu/RegData/etudes/ATAG/2022/729368/EPRS_ATA\(2022\)729368_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/ATAG/2022/729368/EPRS_ATA(2022)729368_EN.pdf)

⁶ https://agriculture.ec.europa.eu/system/files/2022-11/factsheet-ensuring-availability-affordability-of-fertilisers_en_0.pdf



Figure 12 Total imported values of mineral fertilizers (2019-2020)

Source: Indirect taxation authority of Bosnia and Herzegovina

The data in the above graph show that in 2022, the value of fertilizer imports has almost doubled. Given that the data covers the first nine months of 2022, it is reasonable to expect higher import values by the end of the year. The value of imports in the current year is higher by 88.61%, while the imported quantity of fertilizers is lower by 8.52%. Imported quantities of certain types of mineral fertilizers have already decreased in 2021. For example, the amount of imported nitrogen fertilizer in 2021 is lower by 39% compared to 2020, while the amount of imported complex (NPK) fertilizers is lower by 34.22% in same period.

The three types of mineral fertilizers have the highest individual value of imports:

- Nitrogen fertilizer (tariff code 3102101000 - Urea containing more than 45 % by weight of nitrogen on the dry anhydrous product)
- Nitrogen fertilizer (tariff code 3102401000 - Mixtures of ammonium nitrate with calcium carbonate or other inorganic non-fertilising substances - With a nitrogen content not exceeding 28% by weight) and
- Complex fertilizer (tariff code 3105201000 - Mineral or chemical fertilizers containing the three fertilising elements nitrogen, phosphorus and potassium - With a nitrogen content exceeding 10% by weight on the dry anhydrous product).

The three types of mineral fertilizers listed above share from 58% to 71% of the value of total imports, and that is why it is interesting to analyze their average prices in the period 2019-2022.

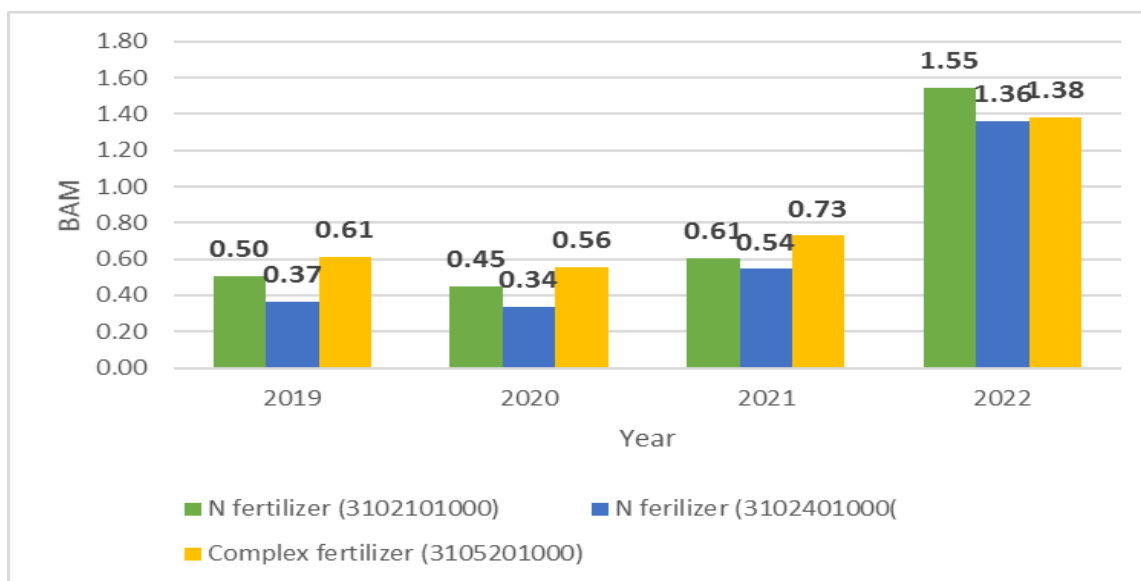


Figure 13 Average imported of selected mineral fertilizers (BAM/kg)

Source: Indirect taxation authority of Bosnia and Herzegovina

The above graph shows the current key problem in agricultural production in BiH - the rapid increase prices of mineral fertilizers.

In 2022, the import price of N fertilizer (Urea) increased by 155.27% compared to 2021, and by 242.52% compared to 2020. At the same time, the import price of Calcium ammonium nitrate (CAN) increased by 150.09% compared to 2021 and by 304.39% compared to 2020. Complex mineral fertilizer (NPK) had a higher import price by 89.651% compared to 2021 and by 147.69% compared to 2020.

3.3.2. Seed

BiH almost does not have its own cereal seed production. There is one domestic company that produces seeds (Agricultural Institute of the Republic of Srpska⁷), but the quantities produced are extremely low. From 4.5 to 5.5 thousand tons of wheat seeds are imported annually. Considering the area of wheat in BiH as well as the extremely low domestic production, it is clear that large quantities are sown with non-certified seeds. The aforementioned has a negative impact on the yield as well as on the competitiveness of domestic wheat production.

⁷ <http://www.poljinstrs.org/en/priznatesorteihibridi.html>

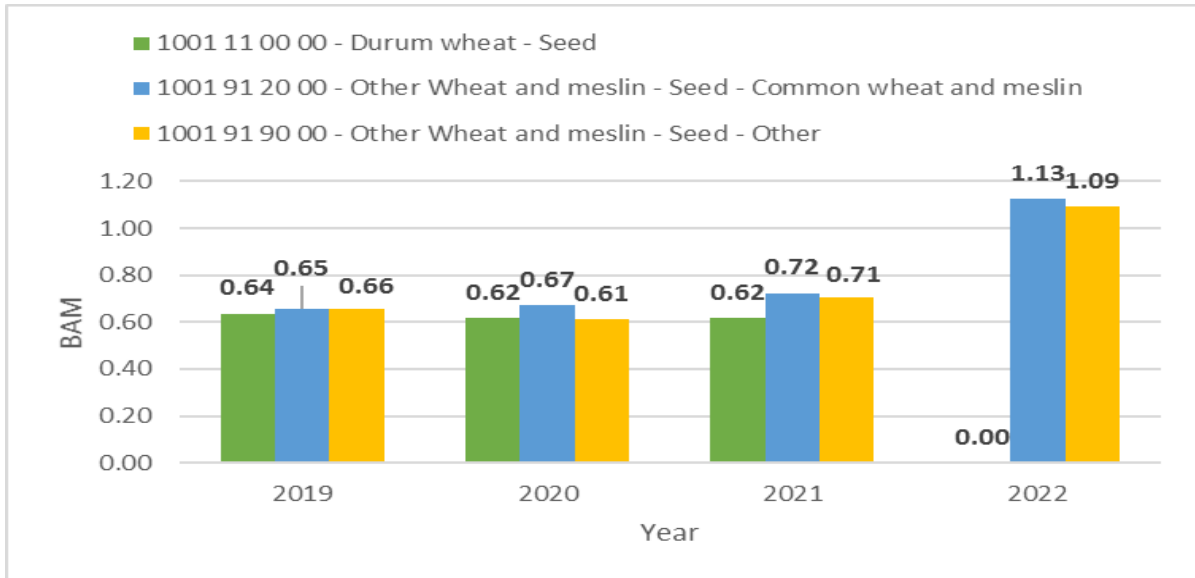


Figure 14 Prices of imported seed wheat (BAM/kg)

Source: Indirect taxation authority of Bosnia and Herzegovina

The graph above shows that prices have increased significantly in 2022 for two types of imported wheat seed. Common wheat seed shares with over 85% of the value of wheat seed imports and its price has increased by 55.46% compared to 2021 and by 67.53% compared to 2020.

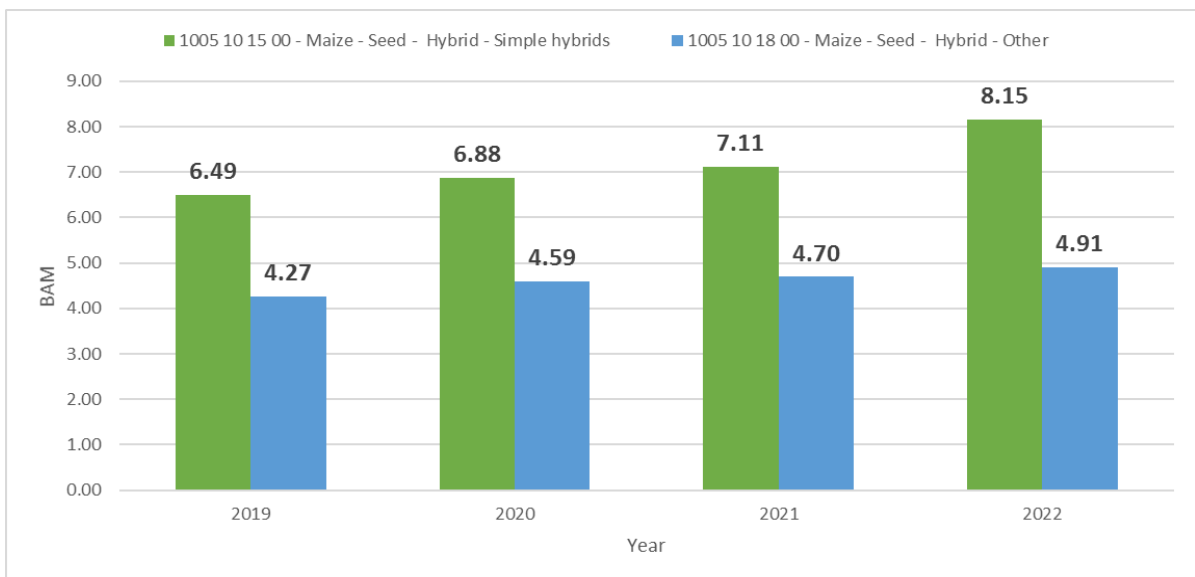


Figure 15 Prices of imported seed maize (BAM/kg)

Source: Indirect taxation authority of Bosnia and Herzegovina

Maize simple hybrid seed is dominant in the import where it shares with more than two third in total import quantity. Its price increased in 2022 by 14.61% compared to 2021 and by 18.40% compared to 2020.

Potatoes are the third crop (behind maize and wheat) in terms of participation in the total orange areas in BiH. According to official statistical data, potato seed production is realized on very small areas, 152 ha in 2021 (*Agency for Statistics of Bosnia and Herzegovina, First Release Areas sown and plantations at the end of spring sowing, 2021*⁸).

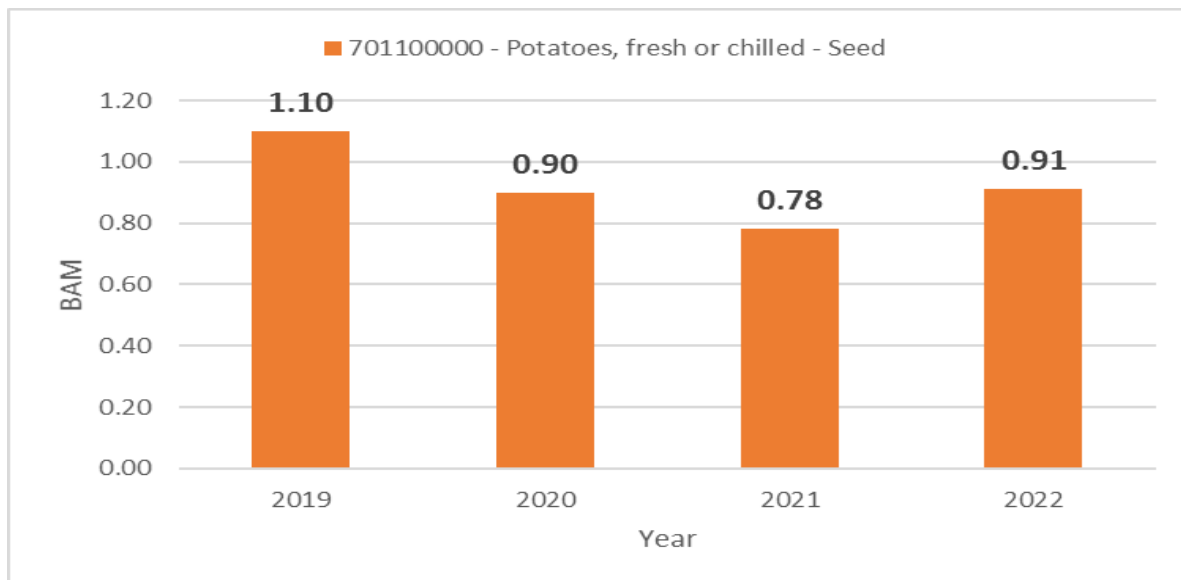


Figure 16 Prices of imported seed potato (BAM/kg)

Source: Indirect taxation authority of Bosnia and Herzegovina

Price per kilogram of imported potato seeds in 2022 was higher by 16.72% compared to 2021, but lower by 17.18% compared to 2019 year.

The total sown areas of potatoes in Bosnia and Herzegovina are about 35 thousand hectares. This means that the annual need for potato seeds is about 70 thousand tons.

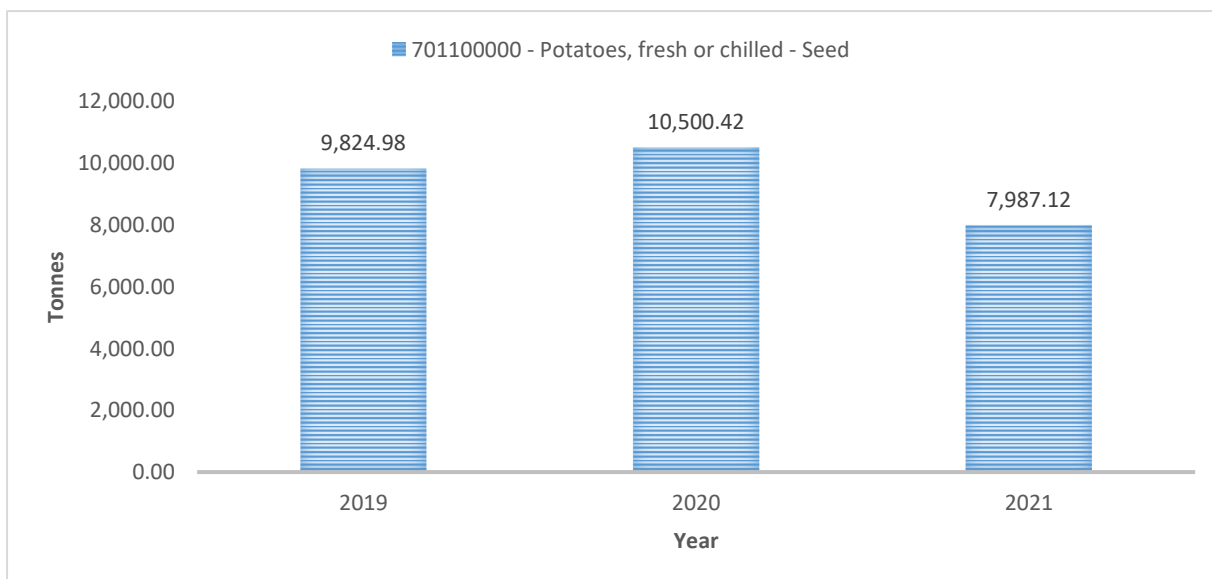


Figure 17 Imported quantity of seed potato

Source: Indirect taxation authority of Bosnia and Herzegovina

⁸ https://bhas.gov.ba/data/Publikacije/Saopštenja/2021/AGR_09_2021_Y1_1_BS.pdf

Domestic production provides about 3 thousand tons, and about 10 thousand tons of certified seeds are imported. A simple calculation leads to the conclusion that certified potato seed is sown on less than 20% of the area. This is one of the key reasons for the extremely low yield of potatoes in BiH.

3.4. Analysis by countries

BiH has foreign trade in agricultural products and foodstuffs with over 100 countries of the world. The import value of over 100 million BAM is realized from 10 countries, while the export value is over 100 million BAM in only two countries (Serbia and Croatia). The graph below shows foreign trade data with ten countries, the largest importers in BiH in 2021.

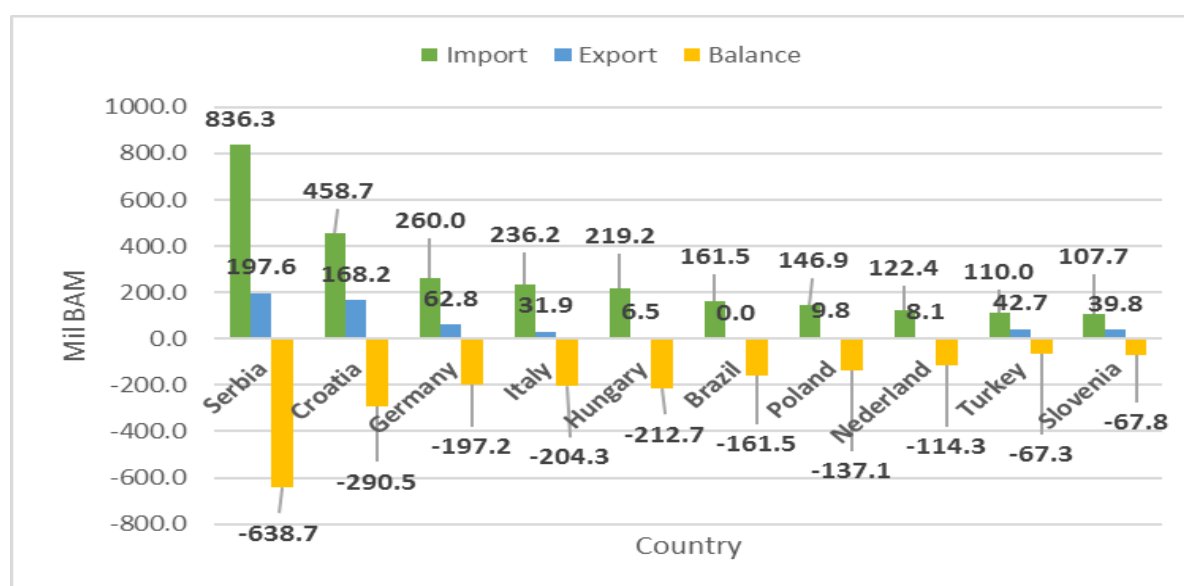


Figure 18 Foreign trade balance with top ten countries

Source: Indirect taxation authority of Bosnia and Herzegovina

Serbia is the largest importer of agricultural products and foodstuffs in Bosnia and Herzegovina, with the value of imports in 2021 of BAM 836 million. In the same year, the value of BiH exports to Serbia was 197.6 million BAM with a negative balance of 638.7 million BAM. The second largest importer is Croatia, where the value of imports was 458.7 million BAM with a negative balance of 290.5 million BAM in 2021. Then comes Germany with an import value of 260.0 million BAM and a negative balance of 197.2 million BAM.

Apart from Serbia and Croatia, BiH sources the most in Montenegro (67.4 million BAM in 2021), Germany (62.2 million BAM) and North Macedonia (60.0 million BAM).

Along with Serbia and Croatia, BiH has the highest negative foreign trade balance with Hungary (212.7 million BAM), Italy (204.3 million BAM) and Germany (197.2 million BAM).

4. CHAPTER 4 – ANALYSIS OF AGRICULTURAL POLICY

4.1. A brief overview

Agricultural policy is carried out at several levels of the government administration in BA because of the complex political system implemented in the country. Each separate regional entity of BA has jurisdiction over the agricultural policy in its territory. That is, there are two separate ministries of agriculture, water management and forestry in the Federation of Bosnia and Herzegovina (FBH) and the Republika Srpska (RSr) and, along with the Division for Agriculture within the Government of Brčko District, they are the most important institutions in charge of adopting and implementing agricultural policy in BA. For FBH the administration of agricultural policy is further split to cantonal level (to 10 cantonal ministries) as a result of which policy measures may differ between cantons. In both BA regional entities (i.e. in FBH and RSr) agricultural support is also allocated at the municipal level, but these transfers are generally low compared with the overall size of national support (*Bajramovic et al. 2014*)

Based on the abovementioned legislation, Entity, cantonal and the BD governments adopt each year regulations such as rulebooks, programmes and plans that regulate conditions, scope, and manner for obtaining financial incentives for agriculture and rural development on their administrative area. Support to agriculture in BiH is implemented by institutions at Entity and Brčko District level and in FBiH by cantonal level as well. The state level has no authority for budget support for agriculture and rural development.

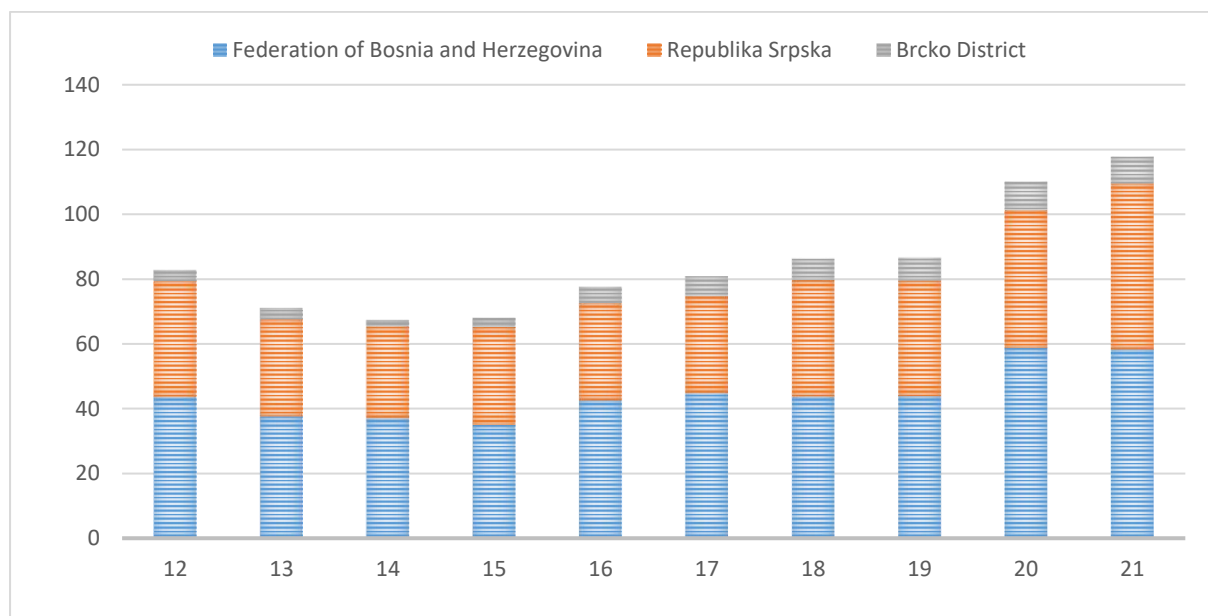


Figure 19 Agricultural support in BiH

Source: APMC base for BiH

The total budget for agriculture in Bosnia and Herzegovina is constantly increasing since 2015, when it had the lowest level (EUR 68.15 million), and in 2021 it reached the highest value of EUR 117.7 million. Compared with previous year budget incised for 7,7 million of EU or 6,9 %. In general budget Federation of BiH participated with 49,5%, Republic of Srpska 43,5% and Brčko District 6,9%

Agricultural policy in BH is based on three pillars contained in the measures of market-price policy plus direct payments (Pillar I), structural measures and measures of rural development (Pillar II) and measures related to general services to agriculture (Pillar III). Support to the farmers in the BiH is carried out through different group of measures:

- Market price support (MPS) policies, including administered prices and market intervention. Direct payments to producers including payment based on output, payments based on variable input use, production related payments based on current area/animal number, other direct payment like compensatory payment, deficiency payments.
- Rural development policy including investment aid, payments for diversification rural activities, infrastructure, aid for young farmers, rural tourism, etc.
- General services in agriculture: research, inspection services, pest and disease control, training services, extension and advisory services, marketing and promotion services, infrastructural services.



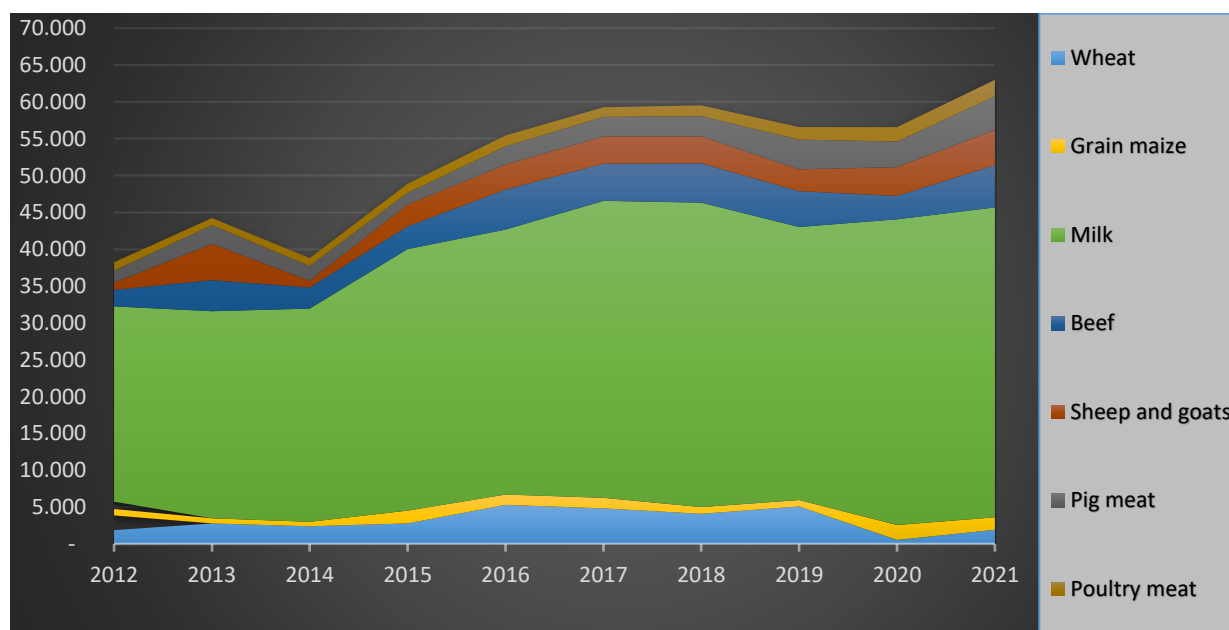
Figure 20 Agricultural support in BiH (mil. EUR)

Source: APMC base for BiH

In the structure of the budget for 2021, the largest part (EUR 93.8 million, or 79.7%) are direct support measures to producers, rural development measures participated with EUR 16.9 million or 14.4%, while general measures in agriculture participated with EUR 6.9 million or 5.9%

As in previous years, the largest amount of funds allocated was realized through measures of direct production support. In absolute value, it is 145.5 million BAM (74.4 million EUR), or 88.7% of the budget spent on supporting agriculture and rural development in Bosnia and Herzegovina in 2017. The increase in the amount of funds allocated for this group of measures compared to the previous year is 5.7% and for the observed period this represents a record for the measures of direct support. The past year is also characteristic for the fact that, according to the amount of funds allocated, measures of general services in agriculture are elsewhere, for which 7,8 million BAM (3,9 million EUR) were allocated or 4.8% of the total budget for the previous year. Rural policy measures are ranked third in terms of allocation. Approximately 7 million BAM (3.6 million EUR) or 4.3% of the total budget were allocated for rural policy measures in 2017. The last place is a group of market support measures, for which only 0.76 million BAM were allocated. With a percentage share of 0.46% in the total agricultural budget, this is the lowest recorded amount so far. The group "unallocated" participates in the total agricultural budget with 2.8 million BAM (1.4 million EUR), which is 1.7% of the total budget.

Figure 21 Single Commodity Transfers in Mil EUR



Source: APMC base for BiH

From Graph 21, which presents the structure of support for products/productions, it can be seen that during 2021, the largest amount of support was spent on support for Single products. A little over 128.5 million KM, or 66% of the total agricultural budget, was allocated for this type of support in the past year. The structure of support by products/groups of products is presented in graph above shows that during 2021, cow's milk received the largest amount of support, 43.7%, compared to all other products/groups of products. In addition to milk, the production

of beef, which participates in the percentage of 5.74%, and pork, 4.58%, is more significantly supported. Other individual products are below 4% share.

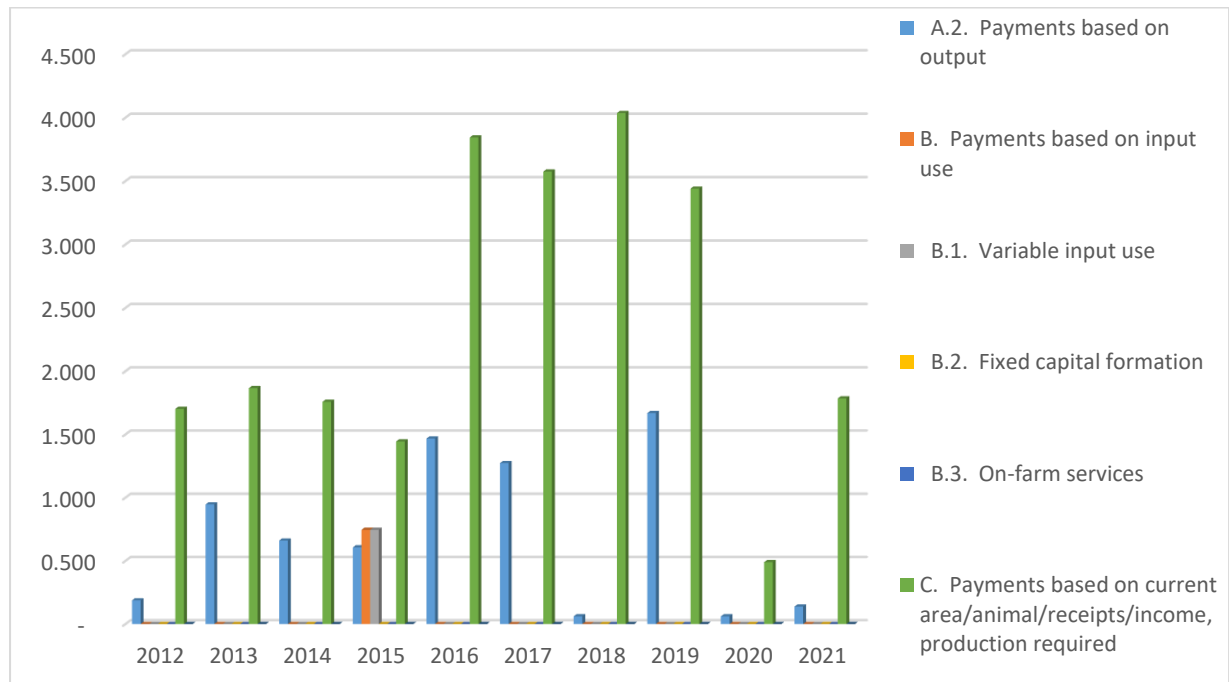


Figure 22 SCT/Single Comodity Transfer/ for Wheat (mil. EUR)

Source: Own calculation based on APMC BiH database

The first pillar – Measures of the market-based pricing policies should be based on the incremental introduction of measures similar to the EU CAP, and the suspension of the introduction of measures which are not in accordance with CAP.

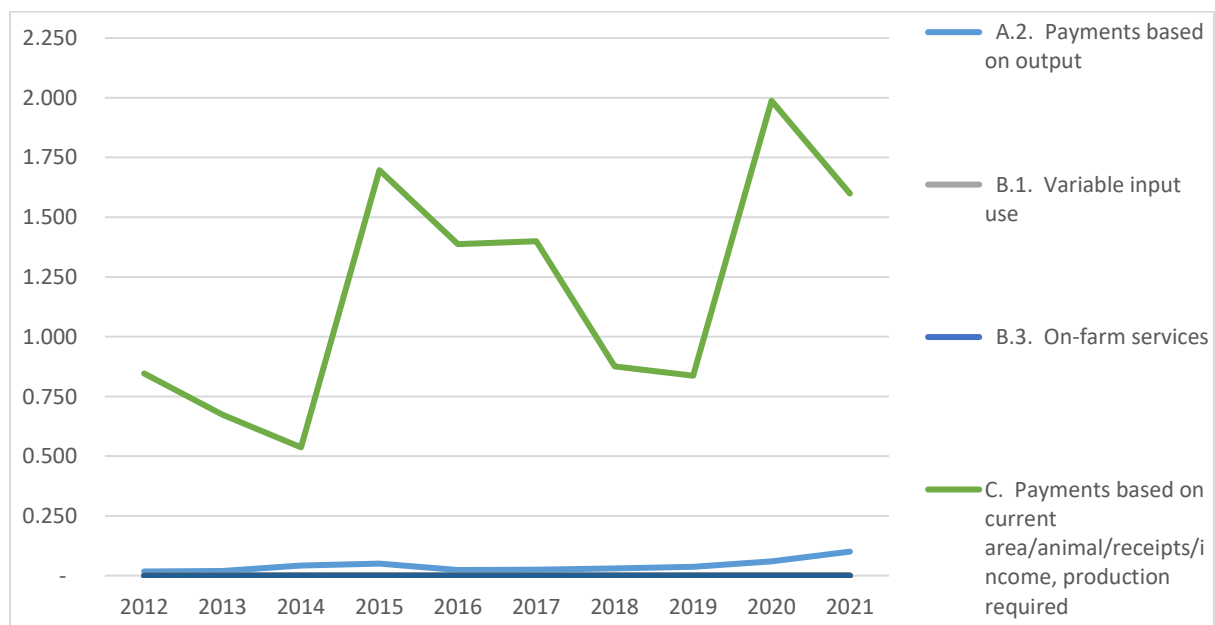


Figure 23 SCT/Single Comodity Transfer/ for Maize (mil. EUR)

Source: Own calculation based on APMC BiH database

Direct payment per ha and per head of cattle – should provide security and stability of income and reduce the differences between local and foreign producers in terms of conditions in which they do business, while avoiding the favouring of a particular production and succeeding in gradually becoming closer to the EU CAP model. Support related to production (kilogram, litre and similar) should gradually be abandoned.

Entity of the RS throughout the reporting period, in its model of support, has implemented variable inputs subsidy measures in production. These are measures for subsidising mineral fertilisers and diesel fuels. In Federation of BiH there is no variable input subsidies. Also within the RS Investment Bank and Federal development bank, farmers have, at their disposal, loan lines for the purchase of fixed and current assets under favourable conditions. Credit subsidies on loans for purchasing inputs and/or capital investments - Measure is related to co-financing of one part of interest rate on loans which are used for purchasing raw material or for capital investments. Co-financing of interest rate is carried out annually (for the period of one year, in other words, for the period of validity of the Rulebook on the basis of which the support was granted), and in the amounts of 2 – 4% of the interest rate.

4.2. Agricultural support in Federation of BiH

In the Federation of BiH, support measures for agriculture and rural development are paid from the level of the FBiH and from cantonal levels. In accordance with the Law on Financial Support for Agriculture and Rural Development of FBiH, incentives for agriculture and rural development in the FBiH can be paid from the Federal Ministry of Agriculture, Water Management and Forestry budget and budgets of the cantonal ministries in charge of agriculture.

Measures of support for agriculture and rural development in FBiH are paid from Ministry of Agriculture, Water Management and Forestry budget and budgets of the cantonal ministries responsible for agriculture. Measures of support in agriculture and rural development of the Federation of Bosnia and Herzegovina are divided into two groups: measures of stimulation of production and measures of structural policy. Production incentives are implemented through a model of encouraging plant and animal production while structural policy measures are implemented through a capital investment model, a rural development model, a model of income support and a model of other types of support. Cantonal support programs are mainly structured according to the following types of support: support for plant and animal production, capital investments, support for the implementation of health measures, other support measures, etc. Implemented budget for support measures in agriculture and rural development amounted in 2021. year was 58,3 million EUR, which is 58% increasing from budget in 2015.

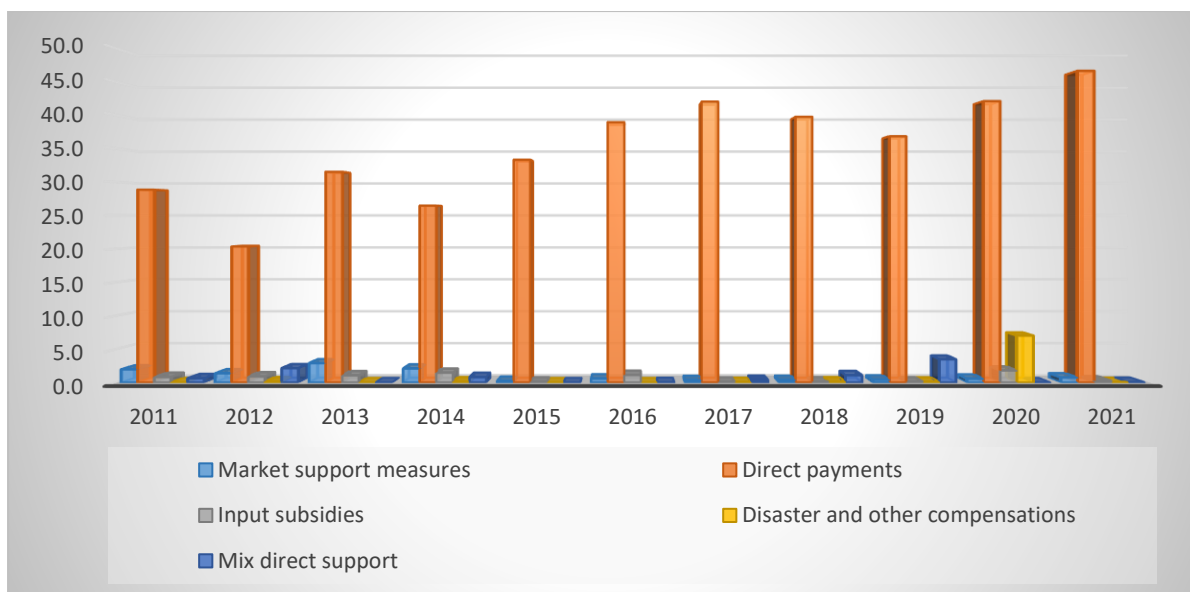


Figure 24 Agricultural support in FBiH (mil EUR)

Source: APMC base for BiH

In 2020, the increase was due to significant investments in farms (rural development measures) and interventions in the sector to mitigate the effects of the Covid-19 pandemic, whereas in 2021 the increase in support to the sector is a result of higher budget allocations for direct support to producers and investment in farms. In 2021, although significant funds (EUR 7.8 million) were approved, there was no support for mitigating the effects of Covid-19. The main feature of agricultural policy throughout the implementation of the sectorial strategy is the dominant support to producers through direct payments, especially until 2019, whereas support for rural development was almost completely absent (participation in total support ranged between 3-5%). In 2020 and 2021, there are significantly higher budget transfers for rural development through measures related to support for investments in agricultural holdings and plants for food industry, with EUR 12.0 million in 2020 and EUR 16.9 million in 2021. With these amounts, the second pillar of the agricultural policy of this BiH entity participates significantly more in the total budget allocations. Even with this share of the second pillar in 2021 (15.8%), the ratio with the first pillar did not even come close to the planned and defined by the Strategy (first pillar 55%: second pillar 45% of budget allocations). Budget allocations for the third pillar and measures of general services in agriculture are still not of great importance in this entity and with the exception of 2021 it does not exceed the amount of EUR 0.6 million per year (Bajramovic et al, 2021)

Table 5 Payments for input use (000 EUR)

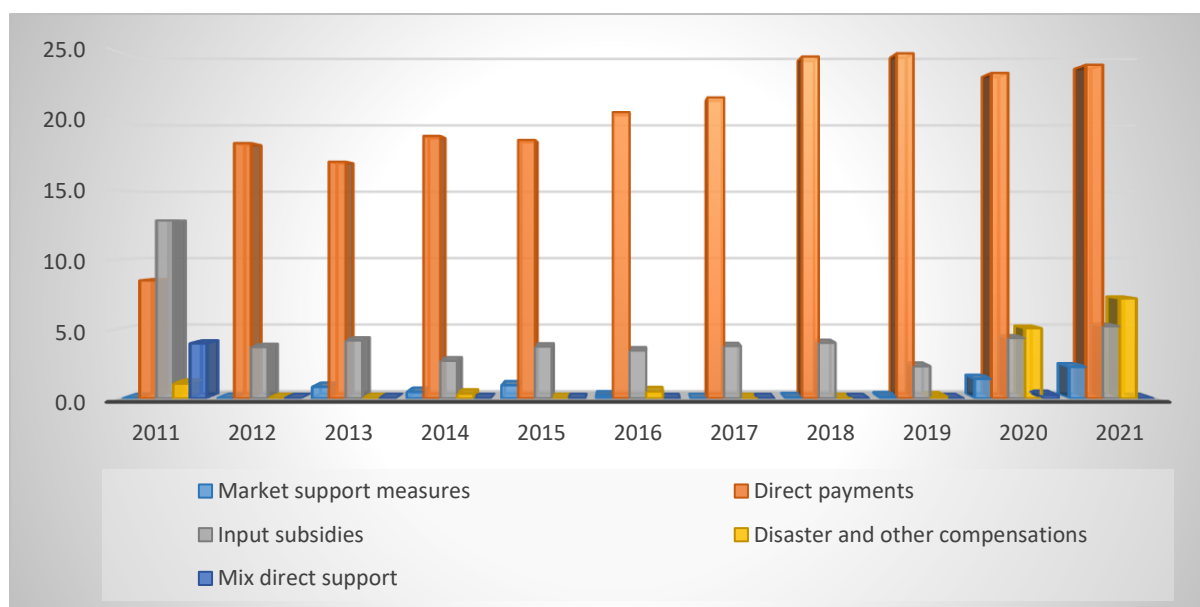
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Seeds									5.9	853.4	30.1
Breeding animals										514.0	
Fuel	604.0	746.4	963.3	976.9		800.8					
Fertilisers, pesticides	9.5			4.8							
Interests			20.0	248.5		25.6	22.4	15.1	17.6	20.6	26.3
Insurance	45.7	61.7	38.7	98.1				47.6			92.4
Other inputs	187.5	123.7	74.5	156.2	119.7	314.5	79.5	87.4	108.0	424.9	144.6

Source: APMC base for BiH

4.3. Agricultural support in Republic of Srpska

Measures to support agriculture and rural development in the Republic of Srpska are divided into three groups: support for current production (direct support to livestock production and direct support to plant production), support for long-term development and systemic measures. Ministry of Agriculture, Forestry and Waters of the Republic of Srpska, whose integral part is the Agency for Agricultural Payments, designs and implements the policy of incentives for agriculture and rural development in the administrative territory of the RS, and carries out administrative supervision over the implementation of regulations regulating the policy of stimulating agriculture and rural development. Inspection supervision of the implementation of regulations in this domain is carried out by Republic Administration for Inspection Affairs of the RS, through republican agricultural inspectors and agricultural inspectors in local self-government units. In Republika Srpska, there was also a significant increase in total budget allocations for the agricultural sector, which increased from an average of EUR 36 million (2018-2019) to EUR 42.5 million (2020) and EUR 51.3 million (2021). This increase was due to intervention measures and the compensation fund due to Covid-19 (2020) and higher investments in farms (rural development measures) from the mentioned compensation fund (2021). In this entity, too, the largest budget allocations relate to the first pillar and direct support to producers, which continued in 2020 and 2021 (increased by the mentioned compensation funds). Support for rural development has been growing since 2017, but the amounts are modest and in 2021 they reach the level of EUR 6.9 million, which is 13.5% of the total budget allocations. Support for general measures in agriculture recorded a slight increase in the period 2016-2021 and ranged from 10-13% of all budget allocations.

Figure 25 Agricultural support in RS (mil EUR)



Source: APMC base for BiH

Subsidies for purchasing inputs (fertiliser and fuel) - Measure for reimbursement of the costs of variable inputs. In most cases used for diesel fuel and fertilizers used in agricultural production. Reimbursements are granted to the registered agricultural producers. Amount per producer is calculated on the basis of the size of farmed area or per head livestock. Specific

amount of the fuel price or fertilizer is reimbursed (20 – 25% of market price). Implementation of this measure is carried out through Entity institutions. The aim and description of the scheme: the aim of the measure is to improve production by stimulating the procurement of the most important inputs for production, at more favourable conditions than those at the market. The registered agricultural producers will have the right to regenerated artificial fertiliser, for the planned areas for sowing/planting of agricultural crops in the spring sowing in previous and for the areas of orchards/vineyards for the maintenance.

Table 6 (000 EUR)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Seeds				8,0		10,0	6,0			169,0	2,295
Breeding animals	-	7,0									
Fuel	6,242	-	3,202	2,706	3,711	3,386	3,775	3,893	2,323	4,180	2,575
Fertilisers, pesticides	6,242	3,703	967,0								
Interests								111,0			
Insurance	81,0	-	14,0								200,0
Other inputs	256,0					62,0					128,0

Source: APMC base for BiH

4.4. Agricultural support in Brčko District

Implementation of incentive policy in the administrative area of the Brčko District of BiH is under the responsibility of the Department of Agriculture, Forestry and Water Management of BD. In reporting period, the Rulebook on the method and conditions for incentives for agricultural production for 2018 was adopted.

In accordance with the Rulebook, in 2018, incentives in agricultural production are intended for:

- encouraging development of plant and animal production
- capital investments
- rural development.

Brčko District achieves the growth of total budget allocations in the period 2016-2021, which reached EUR 4.6 million in 2016, reaching EUR 8.6 million in 2020 and EUR 8.1 million in 2021. The support structure has been retained, dominated by the share of direct support to producers, whereas rural development measures participate with 9-14%. There is no support for general measures in the agricultural sector in this BiH administrative unit.

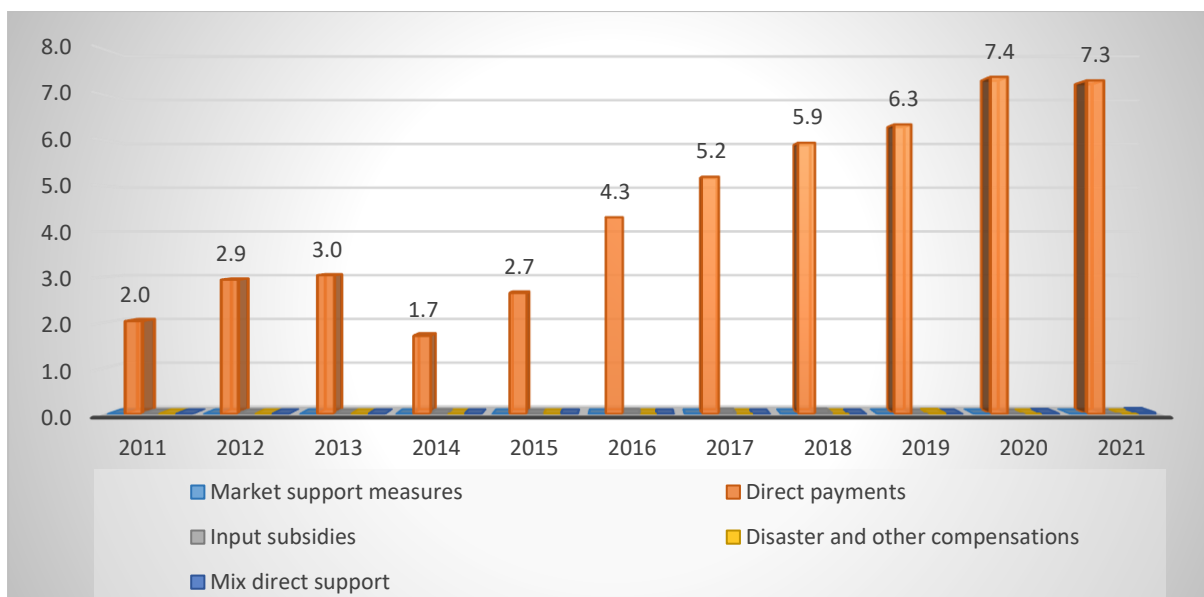


Figure 26 Agricultural support in BD BiH (mil EUR)

Source: APMC base for BiH

Incentives are granted for plant production based on area covered, that is, by number of heads in livestock production. Incentives for development of plant production are directed to field crops, vegetable growing and fruit growing. Incentives for development of livestock production are directed to cattle breeding, pig farming, poultry farming, sheep farming, goat farming and other cattle breeding. Incentives for capital investments include construction of greenhouses, raising new fruit plantations, and ensuring agricultural production. Incentives for rural development include investments in agricultural machinery (self-propelled and connecting), processing capacities, other agricultural investments and certification according to GLOBALGAP standards

Table 7 (000 EUR)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Seeds											
Breeding animals											
Fuel											
Fertilisers, pesticides											
Interests								18,1			
Insurance				5,78							
Other inputs						10,6	15,7				

Source: APMC base for BiH

Conclusion about Agi policy in BiH

There is no common agricultural policy in the country, and that is one of the reasons why we haven't higher productivity in agriculture. Agricultural policy divided between administrative units (as many as 13 of them), cannot contribute to a stronger development of agricultural production, and indirectly, on food security. Agriculture budget is still the lowest in the West Balkan region, import protections are on the lowest level in all Europe. There are not enough investments that would contribute to stronger competitiveness of domestic production. There

is a lack of foreign investments in agriculture, primarily EU pre-accession funds for agriculture (IPARD fund). Structure of agricultural support is very unfavourable, most of the support is transferred to milk producers (about 65%), while 35% goes to all other products. Products that are important from the aspect of food safety (wheat, corn, oilseeds) are insufficiently supported. Due to the complex structure of agricultural policy, there is a lack of flexibility in creating and responding to outbreak of crises. For the above reasons it is necessary to harmonize agricultural policy in BiH and set up an institution for implementation of EU pre-accession funds for rural development.

4.5. Specific measures in crises

Covid-19 interventions in policy and implications

The pandemic caused by the COVID-19 virus affected BiH at about the same time and in the same way as other European countries. The first case of corona virus infection in BiH was recorded on March 5, 2020 and the pandemic lasted throughout 2020 and 2021, with oscillations in the number of infected and dead. The balance of BiH during 2021 and 2022 is 291,313 of confirmed cases of infection by the COVID-19 virus, of which 13,442 ended in death (Worldmeter). Considering the modest financial and other resources for emergency situations and the complex administrative structure of BiH, reactions and measures to prevent and mitigate the consequences of the COVID-19 virus were delayed and had a limited scope. In the first days of the pandemic, the import and export of all goods stopped, but solutions were quickly found and the so-called "green corridors" were established for food and other priority goods, thanks to which cross-border trade continued. All sectors of the economy and population were affected by the COVID-19 pandemic, including agriculture sector and the rural population. As BiH is highly dependent on food imports, the first reaction was fear of hunger, due to the interruption of international trade. Farmers reacted by increasing sown areas (especially in 2020), and this was encouraged by the ministries of agriculture (for example, in RS about 10,000 vegetables sowing packages were free distributed for vulnerable rural population to increase own food production). At the very beginning of the pandemic, quantitative restrictions on food purchases were applied in parts of BiH (RS), as well as restrictions on trade margins on food, fuel and inputs for agriculture (which were short-lived)⁹.

The Ukraine crises

The agricultural sector, as well as other economic sectors in Bosnia and Herzegovina, was significantly affected by the Ukrainian crisis. At the beginning of the crisis, the fruit production sector was the most affected, because it was the only one that registered direct exports to the Russian Federation, due to difficult transport and payment transactions. Other sectors (production and processing of milk, meat, soft drinks, juices, beer, fruit and vegetable processing) suffer indirectly due to the increase in the prices of input resources. Special emphasis is placed on industries that depend on primary agricultural and livestock production. Also, importers of wheat, as well as other importers from the food sector (producers of bread, pastries and confectionery industry), found themselves in a big problem due to the introduction of temporary bans on the export of wheat, corn, flour and refined oil. When it comes to wheat, BiH depends on 3 markets (Hungary, Serbia and Croatia) and currently there are no alternative markets. The sunflower oil market has been destabilized due to the Ukrainian crisis and the temporary ban on exports in certain countries of the region. When it comes to the mentioned

⁹ BOSNIA AND HERZEGOVINA AGRICULTURAL POLICY DEVELOPMENTS, Bajramović, S, Vaško, Ž., 2022)

products within the CEFTA agreement countries, the Foreign Trade Chamber of Bosnia and Herzegovina sent an initiative through the Chamber of Commerce of Serbia to take care of pre-signed contracts that Bosnia and Herzegovina companies have with suppliers from Serbia, which should be respected, as well as to exempt Bosnia and Herzegovina from the aforementioned ban as the country with which Serbia has the largest foreign trade exchange. Ministry of Foreign Trade and Economic Relations of BiH:

At the proposal of the Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina, the Council of Ministers of Bosnia and Herzegovina adopted a Decision to reduce customs duties on imported fertilizers by 5%, that the customs duty rate is 0% for mineral fertilizers imported from third countries. The decision temporarily enables the duty-free import of 100,000 tons of mineral fertilizers until December 31, 2022, and establishes the criteria for the application of temporary tariff quotas and the method of distribution. In this way, the Council of Ministers of BiH, in cooperation with entity governments and relevant entity ministries, wants to help farmers in ensuring adequate agrotechnical measures, and above all, nutrition of cereals and other cultivated crops, and to provide sufficient quantities of these crops on the market with good yield quality, and thus influence on the reduction of food shortages in BiH and mitigation of price increases in the interest of citizens.

Also, the Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina requested that the Republic of Turkey consider the possibility of placing the necessary quantities of mineral fertilizers on the market of Bosnia and Herzegovina, which are needed for agricultural production in the current year, in accordance with the existing legal mechanisms of the Republic of Turkey. Based on consultations with entity ministers responsible for agriculture, Turkey was asked to approve export quotas of 50,000 tons of mineral fertilizers to BiH.

Activity of entity governments:

The Republic of Srpska:

The Government of the Republic of Srpska is on February 17, 2022. at the regular 157th session, in Banja Luka, adopted the Information on the state of agricultural production, product placement and prices of raw materials in 2022, which states that 10 million BAM will be provided from the Compensation Fund of the Republic of Srpska to finance agricultural production in the Republic of Srpska, in order to prevent further disruptions on the market, to ensure sufficient quantities of domestic agricultural products and to ensure the food security of the population. Funds of 10 million BAM would be distributed in such a way that:

- 1.5 million BAM supported the production of mercantile wheat,
- 2.2 million for regressing all corn seeds,
- 1.8 million to support the production and purchase of vegetables, and one million to support fruit production. 1 million BAM will be provided for co-financing the purchase of high-quality breeding heifers, and 2.5 million for the purchase and processing of pork.

Government of FBiH:

Although the increase in prices was caused by external factors, as a result of the pandemic and the war in Ukraine, the FBiH Government, intervening in the field of strengthening food independence, secured a record 106 million BAM for farmers in the federal budget for this year, which is an increase of 22% compared to 2021, year. Subsidies have created an environment for stable domestic milk production. This year, for the first time, 20 million BAM

was allocated from the FBiH Budget for the Federal Directorate of Commodity Reserves, which is ten times more than in previous years.

In order to prevent possible abuses of the current situation in order to achieve higher profits, the Government left in force the measures on limiting prices, which was adopted during the coronavirus pandemic. These are decisions on prescribing direct price control measures by determining the maximum amount of margins for basic foodstuffs and other products, as well as oil derivatives. The restriction applies to 17 types of food products, which includes about 535 products, where margins in wholesale may not exceed 6%, and in retail a maximum of 8% of the purchase price. When it comes to fuel, a maximum margin of 0.06 BAM per liter is prescribed for those engaged in the activity of wholesale trade in oil products, and 0.25 BAM per liter for retailers.

Other crisis measures /euthanasia cause by epidemic/

For the farmers whose animals are euthanized, the damage is compensated according to the current market price of the animals. Estimation is made of the market price of the same animal of the same or similar production characteristics. This estimated market price is taken as a basis for compensation, whereas the amount of compensation varies depending on amounts prescribed under the relevant bylaws. This amount ranges between 50% and 100%. As for the payments for damages caused by droughts, there is no compensation form prescribed (in terms of compensating the profit loss) and the aid is granted mostly off-the-cuff or on the basis of the amounts planned in the budget for such purposes. Considering an extremely small agriculture support budget envelope in Bosnia and Herzegovina, this support is more symbolic than it is capable of having any impact on some profit loss compensation.

5. CHAPTER 5 – FOOD SECURITY POLICY IN BIH

5.1. Food security policy in BiH

Food security is often referred to in discussions on the development of food and farming policies both at the EU and international level. The most recent global definition of food security was adopted at the World Food Summit (WFS) of 1996 and reaffirmed at the last WFS in 2009 which states that:

“Food security exists when all people at all times have physical, [social] and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.”

It recognises four dimensions of food security as follows: availability (of sufficient quantities of appropriate quality food);

- access (to adequate resources for acquiring appropriate food)
- utilisation (of food through adequate diet, clean water, sanitation and health care); and
- stability (of supply by providing access to adequate food at all times – essentially fulfilling the other three dimensions).

AP -Governments have several ways to address this situation: they can import or facilitate imports (some measures have already been discussed in the preceding section); put reserves available in public or private stocks on the market; or call for more food aid.

In BiH unfortunately there is no state food security policy. Instead lower administrative levels (entities, Brčko District and Cantons in Federation of BiH) have competence on food security policy. For that reason, in next will be more on entities and other food security policy in BiH,

5.2. Food security policy in FBiH

Commodity reserves of the Federation of BiH are made on the basis of the Act of Federal commodity reserves, which was published in the Official Journal of the Federation of BiH in 1999 (the Act). Commodity reserves on the basis of the Act are:

- Basic food products (including meat reserves in the form of live animals) and industrial food products essential to the human population.
- Certain industrial non-food products (raw materials, inputs, petroleum products, medicines for the human and veterinary medicine, medical supplies, veterinary resources) needed for the production and transport of goods of special importance for national defence and
- Money in local and foreign currency.

By the Act permanent and market intervention commodity reserves are established. Permanent reserves are used to supply the needs of residents in case of war or direct threat of war, in cases of interference in the national economy as a result of natural elemental disasters or other extraordinary events. Commercial reserves are used in cases of:

- Intervention in an unstable market or for ensuring stable supply of the population and
- Maintaining stability in the production of certain goods

In Federal model of commodity reserves we have some kind of public-private partnership, through public subscription form of contractual public-private partnership. Warehouse is owned by the state (for some products as an Oil), the goods are owned by the state and a company operates the storage facility. This model is used in Region (Slovenia and in Croatia). The state and the company enter into a contract that governs the mutual rights and obligations relating to the storage and restoration of goods and warehouse management¹⁰.

5.3. Food security policy in RS

Material Reserves of the Republic of Srpska was formed on the basis of the Law for Republican commodity reserves, which was published in the Official Gazette of Republika Srpska in 2007 (the Law). The Law governs the planning, management, design, use and release and restoring of the Republic commodity reserves as well as provision of storage capacity. In the Law there are also basis for provision of community's commodity reserves by sensible use of this law¹¹.

Organizations of special importance for the Republika Srpska can indecently form commodity stocks on basis of a special legal act approved by the Government of the Republika Srpska. Commodity stocks according to the Law are:

¹⁰ Action plan for development of national food security strategy, 2011

¹¹ Action plan for development of national food security strategy, 2011

- basic agricultural products (including meat reserves in the form of live animals)
- and industrial food products, which are indispensable for the population, selected industrial
- non-food products, raw materials, inputs, energy products, industrial products and petroleum products necessary for production, human and veterinary medicines, medical supplies, medical veterinary products and other resources necessary for production and transport of goods of special importance for the Republika Srpska;

Due to financial and other problems, the Material Reserves of the RS went bankrupt during 2017. In meantime government of RS established new FS policy where key role was commodity reserves through public-private partnership so called SWISS model. This model represents a public-private partnership through concession form of a public-private partnership. Storage is owned by the company, the goods are owned by the company and the store is operated by the company. The state is merely supervising the implementation of contractual obligations of storage. Practical in this model ensuring commodity reserves are financed by the companies.

5.4. Food security policy in BD

Brčko District has no commodity reserves. Despite the fact that in the Brčko district is local community and have no budgetary resource, it is necessary to consider whether they should create the Commodity Reserves, which are primarily intended to provide vital supplies for the population during emergencies. Commodity reserves are definitely necessary, especially since climate changes are causing an increasing number and scale of natural disasters, such as floods, earthquakes, droughts and alike. Commodity reserves are not intended for intervention in cases of imbalances in the market. They would provide security of food supply in emergency situations.

One of most important role of Commodity reserves in both entity is market intervention for certain agricultural product for which is prescribed administrative (guaranteed) price. The intervention mechanism implies that the Entities, should such need arise (i.e. market prices fall below the level of administrative cost), buy certain volume of market surplus products through Commodity reserves institution, that are covered by the regime of administrative (guaranteed) prices. The administrative prices are prescribed on the basis of calculations that are made by various scientific and research institutions (agricultural faculties, agro-economics institutes, and the like) or within the national expert services (such as, for example, an expert extension/advisory service). These institutions (insofar as they are commissioned or as part of their regular activities) calculate the cost prices for certain agricultural products (e.g. wheat, corn, milk, etc.). When setting the administrative prices, the cost price calculated (by the said institutions) is taken as the basis for the administrative price. This "basis" shall incorporate a calculated minimal amount ensuring that the farmers can run their businesses with at least a minimum profit so that they would not abandon their production. The added percentage actually represents an income for the agricultural producer. This is, in brief, a description of the ways of prescribing the administrative prices (in this case intervention prices).

Role of the administrative prices are intended to preserve farmers' income in case that market prices fall below the costs of products. Bosnia and Herzegovina's Entity ministries of agriculture prescribe some guaranteed or intervention prices for certain agricultural products, mainly cereals meet and milk. In practice, however, the situation is quite different. Due to lack

of funds in the Entities' budgets, lack of institutional capacities and certain databases (most frequently those related to prices), the intervention is seldom. It is evident that such interventions are of ad hoc and not systemic nature (no interventions reported since 2010) and consumed very small amounts of budget.

However, this system of market interventions and commodity reserves is not applied in the EU. Commodity Reserves should not impact, influence and affect the current market supply and thereby distort the free functioning of staple farm products market/s. It is essential to exclude from the directorate/Federal reserve's responsibility an obligatory purchase of products at the minimum protective prices. European countries have transferred this feature to the so-called Agencies for Agricultural Markets, who are engaged in granting of incentives, subsidies for food production and potential purchase in the event of market surpluses. This step is necessary, if BiH prospectively wants to become an EU member. Changes should be gradual. In EU New member States this process took more than five years as they managed to eliminate the purchase of agricultural products and promotion of agriculture from work field and responsibility of commodity reserves by following the example of other EU members.

6. CHAPTER 6 – AGRICULTURAL PRICE ANALYSIS

6.1. Agricultural product prices fluctuation

Agency for Statistics of BiH continuously publishes Consumer price index in Bosnia and Herzegovina. Key data from the latest "first release" (September 2022) are shown in the following chart.

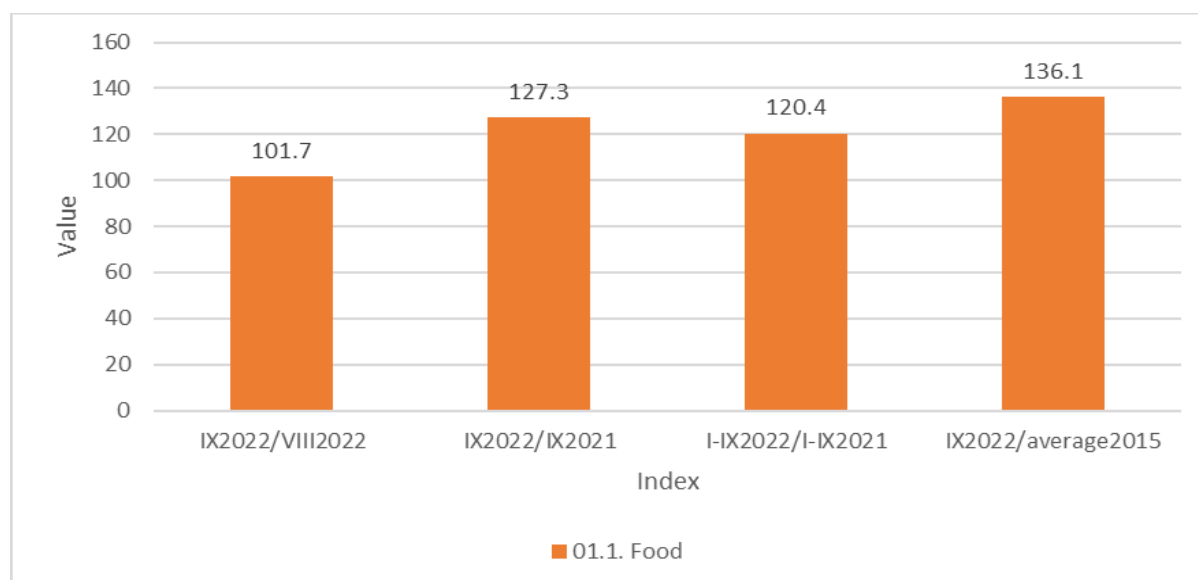


Figure 27 The Consumer Price Index by COICOP classification in September 2022

Source: Agency for Statistics of BH

Table 8 Agricultural price index (2015=100)

Nominal index	2015	2016	2017	2018	2019	2020	2021
Total input	100.0	96.2	98.0	98.2	100.6	100.3	112.1
Intermediate consumption goods and services	:	:	:	:	:		
Seeds, other reproductive material	100.0	102.1	104.6	101.5	104.6	108.8	108.8
Energy, lubricants, fuels	100.0	92.4	96.7	108.2	110.7	99.9	109.2
Fertilizers, soil improvers	100.0	95.6	87.5	86.9	90.4	94.8	109.2
Plant protection products	100.0	98.9	97.1	99.7	102.4	102.1	104.9
Veterinary services	100.0	95.5	103.1	100.6	100.4	102.1	103.5
Animal feed	100.0	95.3	95.4	96.1	99.5	101.0	119.4
Maintenance of materials and buildings	100.0	99.9	102.4	100.1	100.7	89.8	102.5
Other goods and services	100.0	100.3	99.5	100.4	98.0	96.4	97.3
Investment goods and services	:	:	:	:	:		
Real index	2015	2016	2017	2018	2019	2020	2021
Total input	100.0	97.3	97.9	96.8	98.5	99.8	109.7
Intermediate consumption goods and services	:	:	:	:	:		
Seeds, other reproductive material	100.0	103.2	104.5	100.0	102.5	108.3	106.5
Energy, lubricants, fuels	100.0	93.4	96.6	106.6	108.4	99.4	106.9
Fertilizers, soil improvers	100.0	96.7	87.4	85.6	88.5	94.4	106.9
Plant protection products	100.0	100.0	97.0	98.2	100.3	101.6	102.7
Veterinary services	100.0	96.6	103.0	99.1	98.3	101.6	101.3
Animal feed	100.0	96.4	95.4	94.7	97.5	100.5	116.9
Maintenance of materials and buildings	100.0	101.0	102.3	98.6	98.6	89.4	100.3
Other goods and services	100.0	101.4	99.4	98.9	96.0	96.0	95.2
Investment goods and services	:	:	:	:	:		

Source : Agency for Statistics of BH

The price of food in September increased by 27.3% compared to the same month in 2021. The chart shows that the increase in the price of food was significantly higher in the last year than in the previous six years.

It is very interesting to observe the fluctuation of prices of key food products in the last five years. Data from the Agency for Statistics of Bosnia and Herzegovina were used for this analysis, which are collected throughout the entire territory of the country. According to available statistical data, price fluctuations were analysed for the following six product groups:

- Cereals and cereal products
- Meat
- Milk, dairy products and eggs
- Fats and oils
- Fruits and vegetables
- Sugar

Within the previous six groups of products, the analysis was performed for a total of 19 agricultural and food products, and the data are presented in the following graphs¹².

¹² Sources: Agency for Statistics of Bosnia and Herzegovina, Economic Statistics, Average consumer prices in Bosnia and Herzegovina

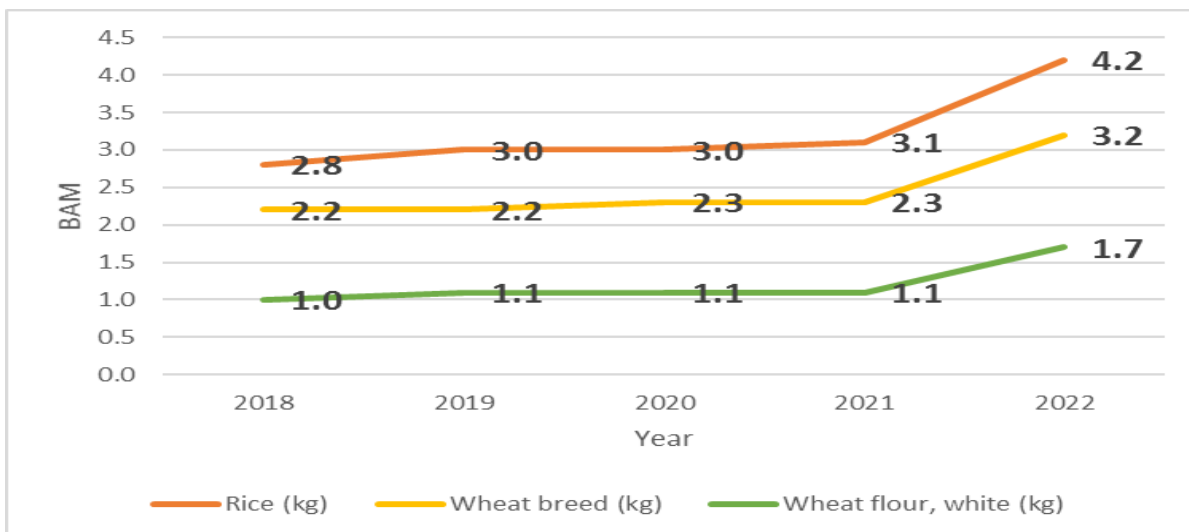


Figure 28 Average prices of selected cereal products in BiH (in September)

Source: Agency for Statistics of Bosnia and Herzegovina, Economic Statistics, Average consumer prices in Bosnia and Herzegovina

The prices of all three products have increased in the previous four years, and the highest price increase was registered in 2022. Wheat flour, as one of the key food products in BiH, has a higher price by 54.55% in September 2022 compared to September 2021.

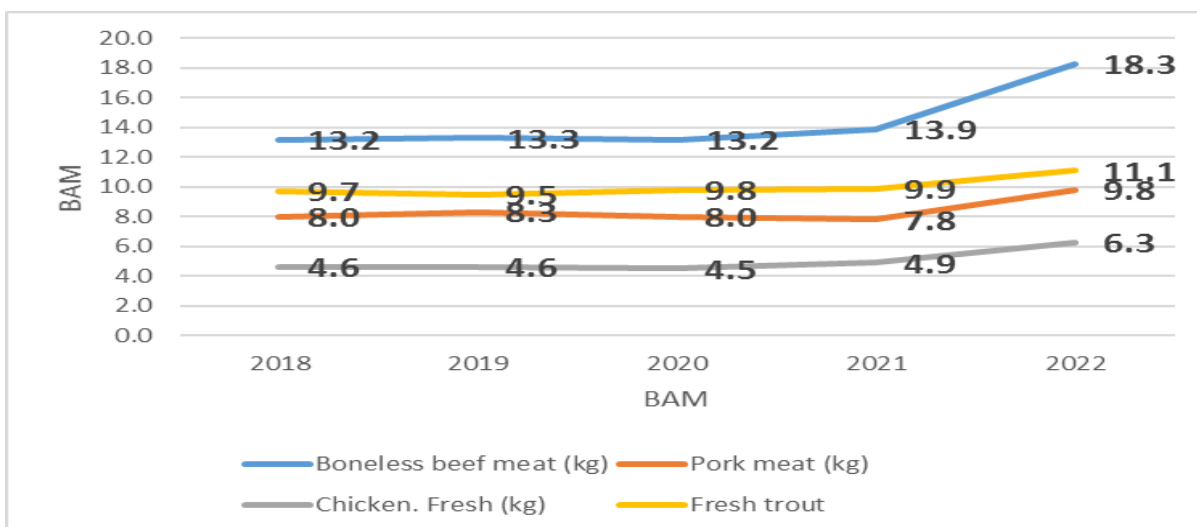


Figure 29 Average prices of selected meat products in BiH (in September)

Source: Agency for Statistics of Bosnia and Herzegovina, Economic Statistics, Average consumer prices in Bosnia and Herzegovina

An increase of prices was registered for all four types of meat, with the largest increase in prices in the period September 2021 - September 2022. The price of 1 kg of beef meat had the

First release, year VIII, number IX
 First release, year IX, number IX
 First release, year XI, number IX
 First release, year XI, number IX
 First release, year XII, number IX

highest growth in the last year (31.65%), and the price increase for other types of meat ranges from 12.12-28.57%.

Official statistical sources show that the prices of milk, dairy products and eggs have increased in the last period, where the price of milk in the period September 2021 - September 2022 increased by 62.28%, cheese by 3.881% and butter by 42.86%. It is important to emphasize that milk prices increased in October and November 2022, so the current price of 1 liter of whole milk is 2.4 BAM:

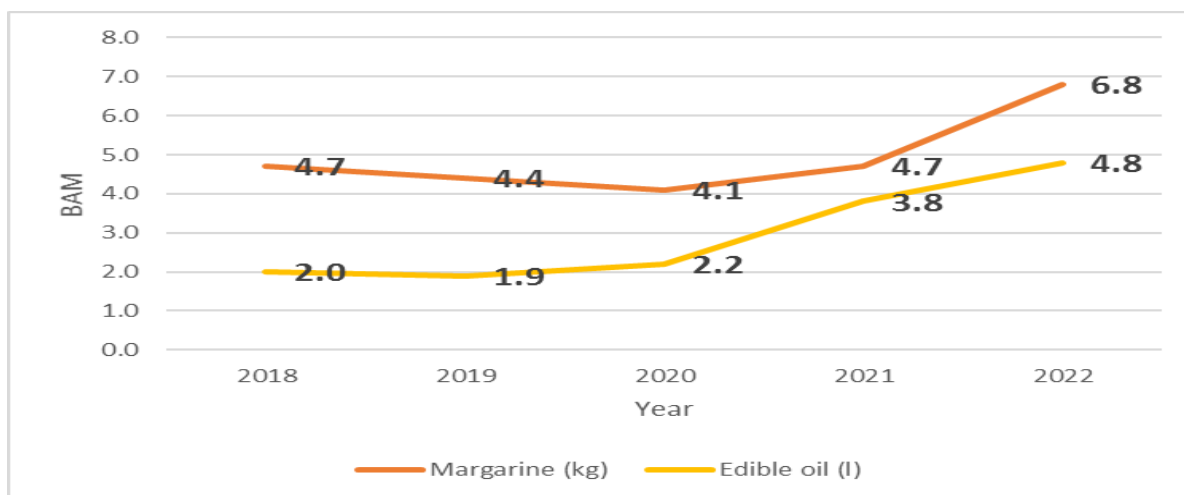


Figure 30 Average prices of selected products of fats and oils in BiH (in September)

Source: Agency for Statistics of Bosnia and Herzegovina, Economic Statistics, Average consumer prices in Bosnia and Herzegovina

Following the aforementioned trends, other key agricultural products and food products have seen price growth in the past year. The price of sugar increased by 53.84%, bananas by 50.00%, margarine by 44.68% and cooking oil by 26.34%. The price of edible oil also increased in 2021, where the price increased by 72.73% compared to 2020.

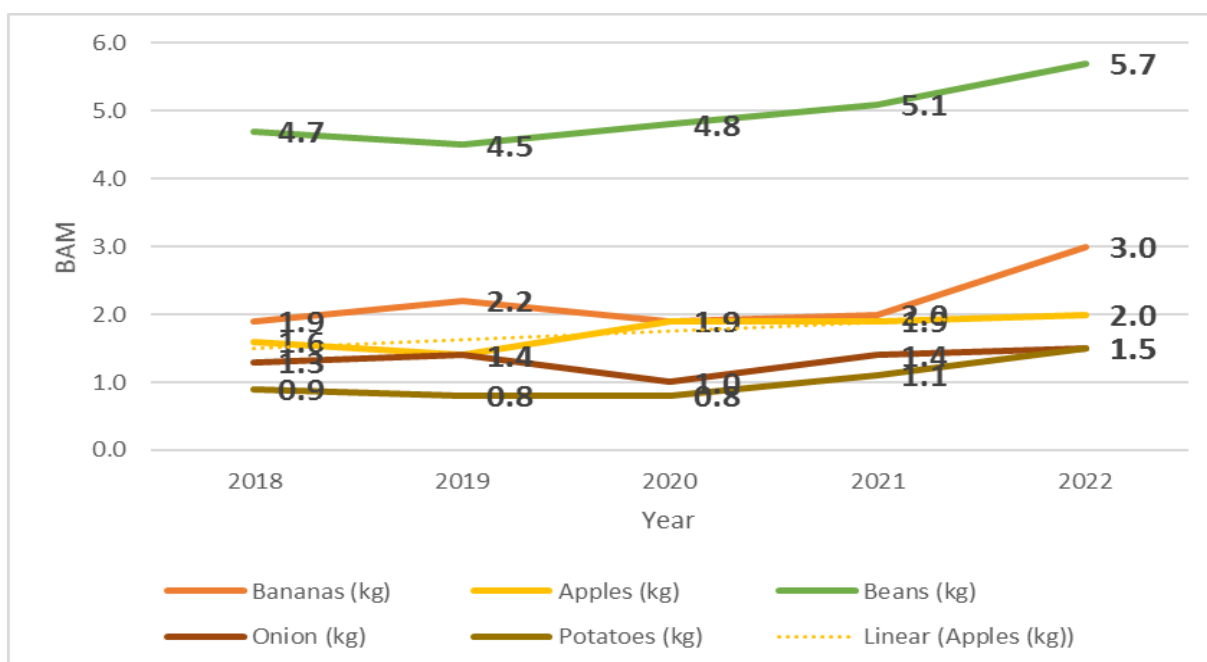


Figure 31 Average prices of selected fruits and vegetables products in BiH (in September)

Source: Agency for Statistics of Bosnia and Herzegovina, Economic Statistics, Average consumer prices in Bosnia and Herzegovina

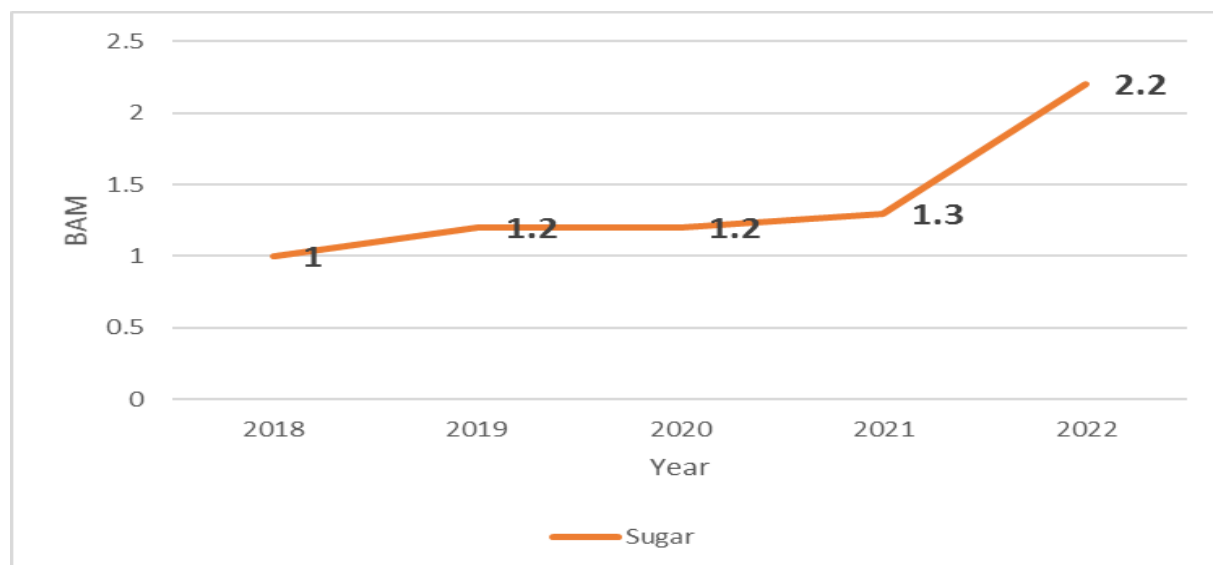


Figure 32 Average prices of sugar in BiH (in September)

Source: Agency for Statistics of Bosnia and Herzegovina, Economic Statistics, Average consumer prices in Bosnia and Herzegovina

6.2. Input prices fluctuation

BiH is an importer of agricultural inputs and almost doesn't have its own production. This means that it is dependent on global trends in agricultural input supply chains. In 2022, the agriculture of BiH was affected by the increase in the prices of key inputs (mineral fertilizers and diesel). These are the inputs that have the largest share in the variable costs of the main crops, such as wheat and corn.

6.2.1. Mineral fertilizers

Fertilizers play a significant role for food security. While no official data has yet been published on input price fluctuations in 2022, the project team conducted a survey of several suppliers. The survey covered five key types of mineral fertilizers used in BiH:

- UREA (46%N)
- CAN (27%N)
- NPK (15-15-15)
- Potassium fertilizer (7-20-30)
- Phosphorus fertilizer (NP 10-40)

The results are shown in the figure below.

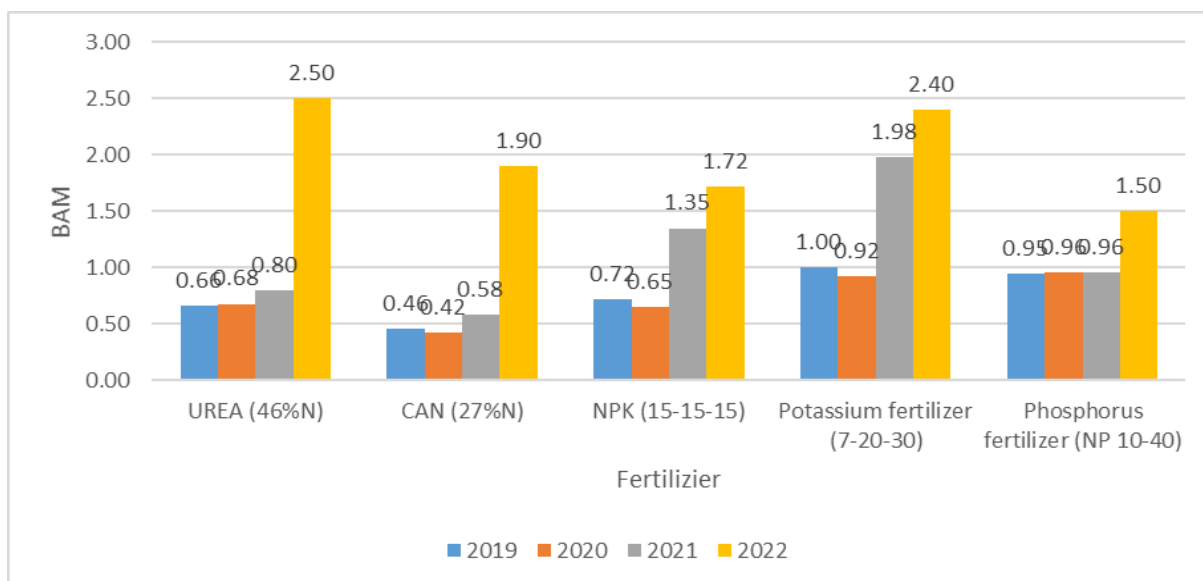


Figure 33 Price trend of mineral fertilizers in BiH, 2019-2022 (BAM/kg)

Source: Survey, own calculation

The prices of all types of mineral fertilizers, including nitrogen, potassium and phosphorus, have increased in 2022, which is a direct consequence of the war in Ukraine. Combined fertilizer (NPK 15-15-15) and potassium fertilizer became more expensive in 2021 compared to 2020 (107.96% and 115.22%, respectively). Prices of other fertilizers (Urea, CAN and Phosphorus fertilizer) increased rapidly in 2022 compared to 2021 (212.50%, 227.59% and 56.25% respectively). In the same year, the prices of NPK (15-15-15) and potassium fertilizer continued to increase by an additional 27.40% and 21.21%, respectively.

6.2.2. Seed

Given that there is no AMIS in BiH, as well as official published statistical data on prices of agricultural inputs, data on seed prices were collected through a survey. Suppliers of agricultural inputs were surveyed, where data were collected on the prices of three types of grain (wheat, corn, barley) for four years period.

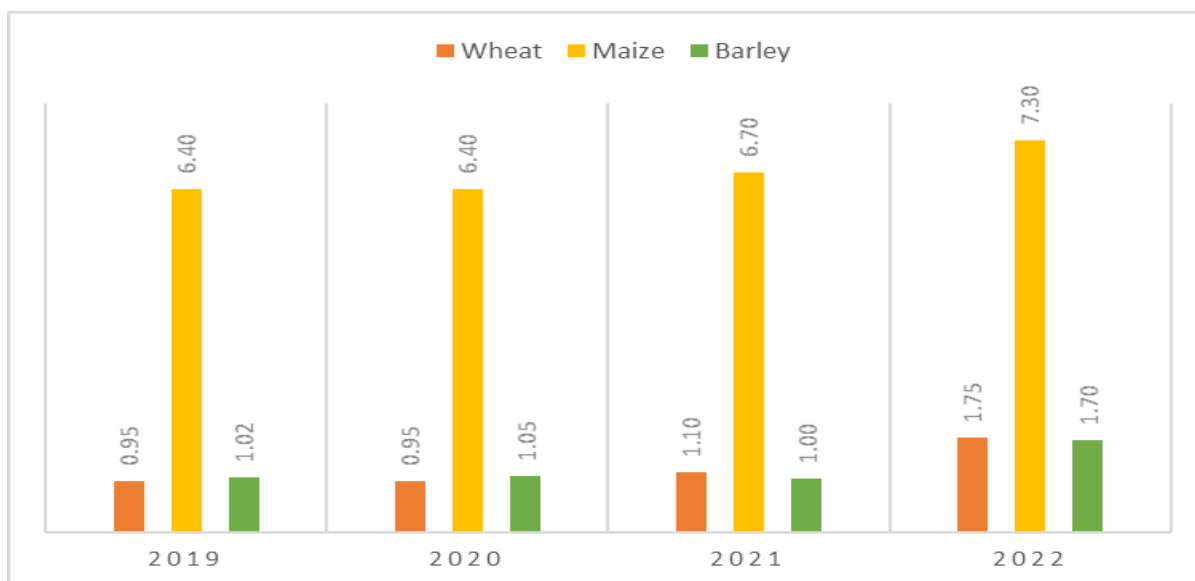


Figure 34 Average prices of sugar in BiH (in September)

Source: Survey, own calculation

The price of wheat seeds was higher by 59.09% in 2022 compared to 2021, barley by 70% and maize by 9%. Both wheat and maize seeds had a higher price in 2021 compared to 2020, while barley had a lower price.

6.2.3. Fuel

The price of fuel has both a direct impact on the level of input costs in agricultural production, and an indirect impact, through the increase in prices of other inputs. In addition to the increase in the prices of mineral fertilizers, fuel is another input with a significant price increase.

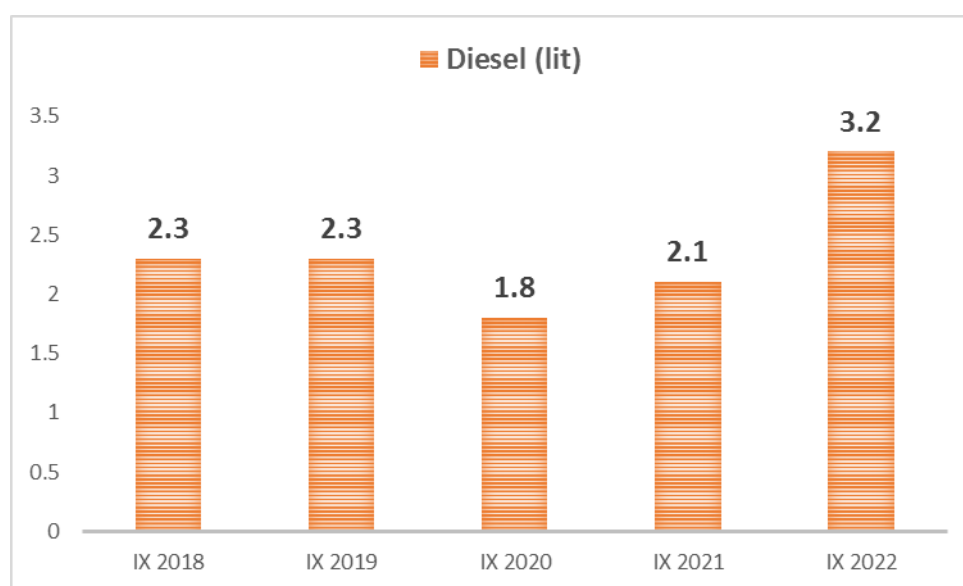


Figure 35 Average prices of diesel in BiH (in September 2018-2022)

Source: Agency for Statistics of Bosnia and Herzegovina, Economic Statistics, Average consumer prices in Bosnia and Herzegovina

The price of one liter of diesel in September 2022 is higher by 52.38% compared to September 2021 and by 77.78% compared to September 2020.

6.2.4. Finance

When it comes to the conditions for granting loans to companies involved in agricultural production and the food industry, they have the same treatment as other companies from other sectors. In some cases, these companies even had slightly better conditions for credit approvals or exclusive rights of access to some of the separate credit lines secured through loan financing projects by the World Bank, and the International Fund for Agricultural Development.

The effective interest rate on short-term loans in commercial banks ranges from 3,5-4,5% (in FBiH) to 4,5-6,0% (in RS), while for long-term loans the range is from 7.95% (FBiH) to 8.33% (RS). Although their origin cannot be seen from the available structure of deposits, based on experience it can be said that farmers have a very small share of deposits (savings) in banks. When it comes to financing, we should also mention the Development Bank of the Federation of Bosnia and Herzegovina and the Investment Bank of RS, which are state-owned and have special credit lines for agriculture. Thus, the Development Bank of the Federation offers agricultural loans at an interest rate of 2.5%, with a grace period of up to 3 years and a repayment period of up to 15 years. Investment Bank of RS offers similar conditions, an interest rate of 3.0-3.6%, a grace period of 3 years and a repayment period of up to 15 years.

Some buyers of agricultural products make payments for purchased products through current bank accounts, but farmers usually withdraw these funds in full, immediately after payment. Agricultural producers are not the "favourites" of banks in terms of crediting, because, banks consider them as a high-risk debtor. Therefore, the interest rates on agricultural loans to farmers that they use as a physical entity are higher than for other users, and the same coverage is required, if not much higher. In most cases, real estate in rural areas (agricultural land and buildings) is not accepted as cover, and the alternative is guarantees from other physical entities (guarantors), which are difficult for farmers to find. As a result of the above, farmers are mostly focused on using loans approved by microcredit organizations. The exception is larger international projects such as those by the World Bank or IFAD, which approve funds to banks in the amount of several million for granting loans for a certain period to farmers on preferential terms.

Most banks do not have a separate offer of loans for agricultural production. They often do not have predefined conditions for granting loans, especially related to the level of interest rates, which often depend on whether the applicant for the loan is an existing client of the bank, whether the loan will be used for the first time, what kind of security the applicant has, etc. In general, a small number of farmers use loans from banks (which is confirmed by the data on the total level of loans for agriculture), because it is often very difficult to meet all the conditions set for a loan, and banks are much stricter towards such debtors in the process of assessing their credit capacity.

SMEs in the agricultural sector mostly share the fate of other SMEs without any special conditions, although there are sporadic credit lines, that are exclusively available for SMEs in the food or agriculture industry.

6.3. Impact on the economic performances of agricultural production

Small farms and plot fragmentation predominate in Bosnia and Herzegovina's agriculture. In 2016, the number of farms in the country was 90.092, whereas the average farm size was 2,96 hectares. Total number of registered agricultural holdings in Farm Registers (entities and BD) is 103.565 in 2019 year.¹³

Agricultural production, which includes small-scale agriculture with mixed production systems, produces small amounts of market surplus, whereas fragmented production and the lack of mechanization and expertise hinder the agricultural workers' ability to achieve economy of scale in production and produce the amounts needed in some markets, which limits the growth of agriculture. Additional problems are that primary production is unlinked with the processing industry, the share of contracted production is insufficient, as well as the share of added value production and in the total value of agricultural production. An additional challenge are the negative demographic changes reflected in high migration rates, both permanent migration and migration from rural to urban areas, the lack of new generations to take over agricultural activities, high emigration rates of the female population from rural areas due to difficult living conditions and the lack of employment opportunities. Multiple jurisdictions of a large number of institutions, misaligned policies and standards, and limited institutional capacities, which are insufficiently equipped for development and implementation of agricultural policies, are the factors limiting the growth of the agriculture and rural development sector, which results in the inability to identify the real needs, insufficient funding, inadequate allocations to the sector and low productivity of this sector.¹⁴

Based on the previous facts, it is concluded that agriculture in BiH is mostly uncompetitive and vulnerable to various disturbances.

Based on the structure of plant production in Bosnia and Herzegovina, where corn, wheat and potatoes are the crops with the highest area, a deeper economic analysis has been conducted for those crops.

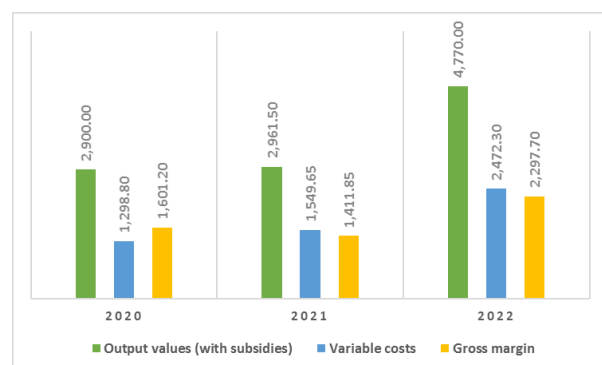


Figure 36 Variable costs calculation of wheat (FBiH)

Source: Survey, own calculation

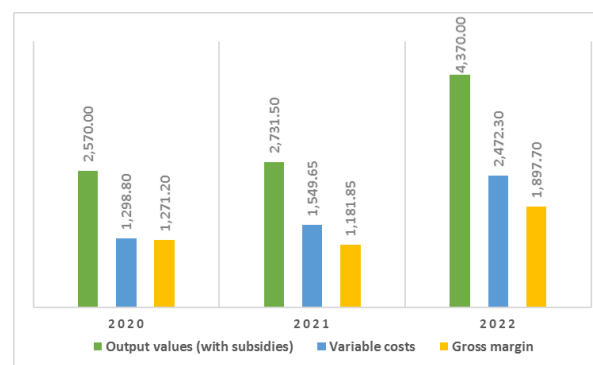


Figure 37 Variable costs calculation of wheat (RS)

Source: Survey, own calculation

Considering the increase in wheat grain prices as well as the increase in subsidies in both entities, FBiH and RS, the gross margin of wheat production in 2022 has increased. It is also important to note that yields in 2022 were significantly higher than in 2021. The combination of the above factors contributed to an increase in the gross margin by about 62.74% in the FBiH in 2022 compared to 2021, as well as an increase by 60.57% in the RS. In the same period, the

¹³ Annual Report on state of agriculture, food and rural development of Bosnia and Herzegovina – 2019 year.

¹⁴ Economic Reform Program of Bosnia and Herzegovina (2021-2023)

selling price increased by 46.15%. In the FBiH, subsidies per hectare have been increased from 500 BAM to 750, while in the RS they are 300 BAM/ha.

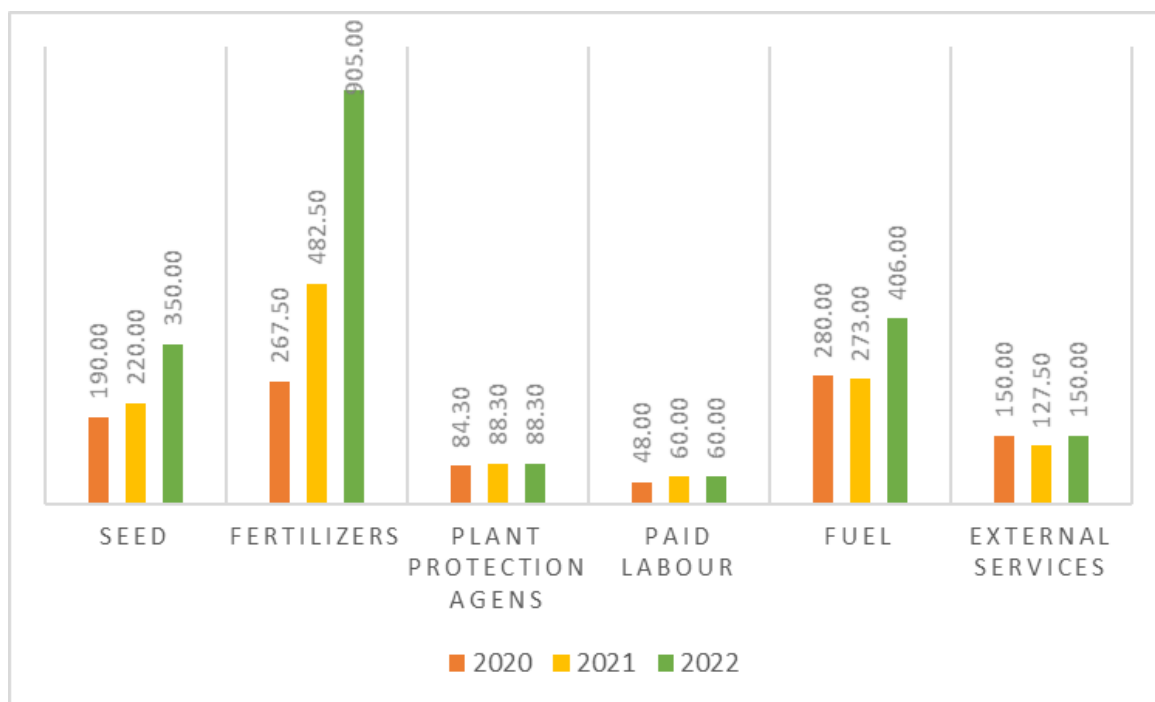


Figure 38 Variable costs composition in wheat production, 2020-2022 (BAM/ha)

Source: Survey, own calculation

The costs of mineral fertilizers have the highest amount, and they had the highest increase in 2022 compared to 2021 (87.56%). Seed costs increased by 59.09% and fuel costs by 48.72%.

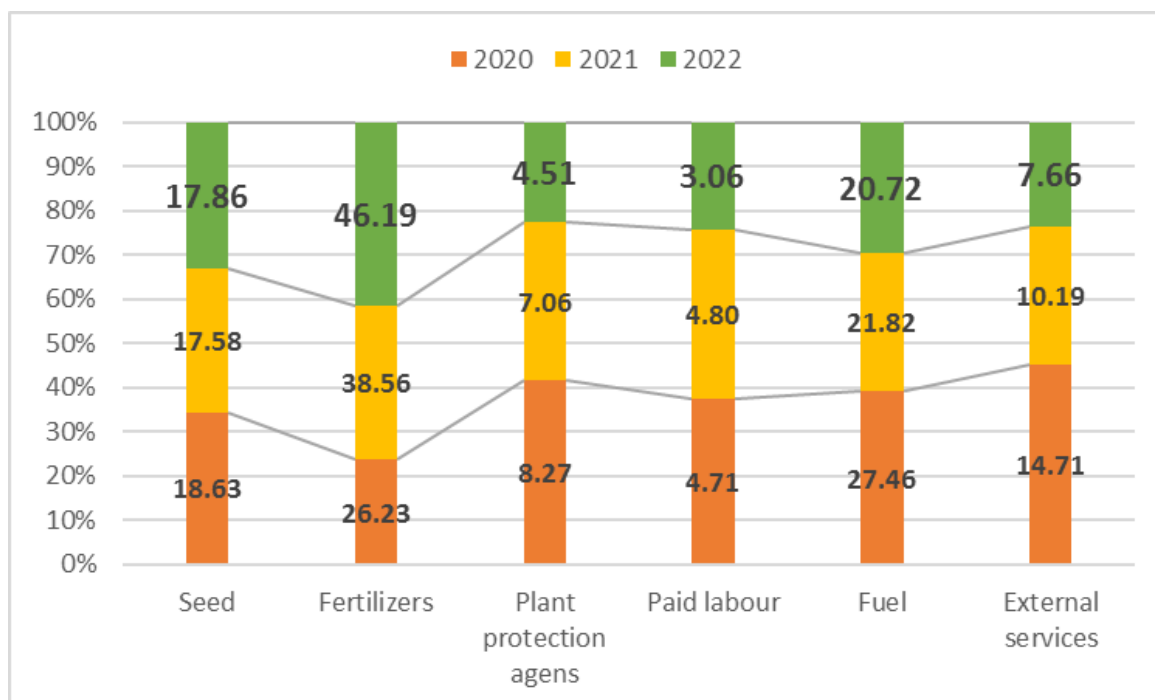


Figure 39 Share of different types of variable costs in wheat production (2020-2022)

Source: Survey, own calculation

The increase in the cost of mineral fertilizers in 2022 is accompanied by an increase in their relative share. These costs have the largest relative share in 2022 (46.19%).

As the maize is a crop with the highest sown area in BiH, it is very important to analyze the impact of input prices on economic results.

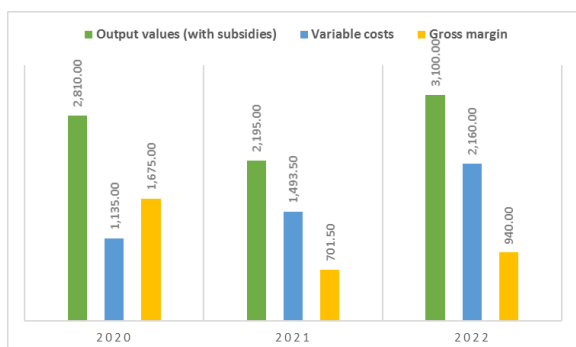


Figure 40 Variable costs calculation of maize (FBiH)

Source: Survey, own calculation

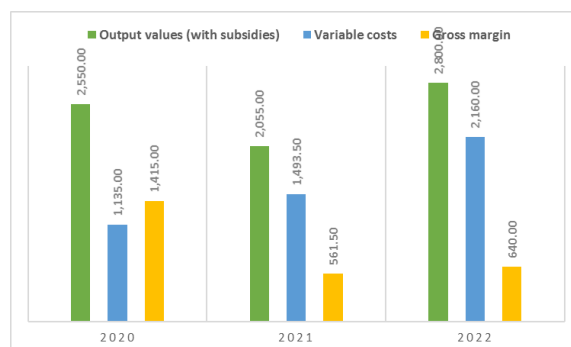


Figure 41 Variable costs calculation of maize (RS)

Source: Survey, own calculation

The graphs above show the extremely negative impact of rising input prices on the gross margin of maize production. Maize production in the FBiH had a lower gross margin of 43.88% in 2022 compared to 2020 (FBiH), and it was also lower by 54.77% in the RS at the same time. The value of variable costs increased by over 40% in 2022 compared to 2021.

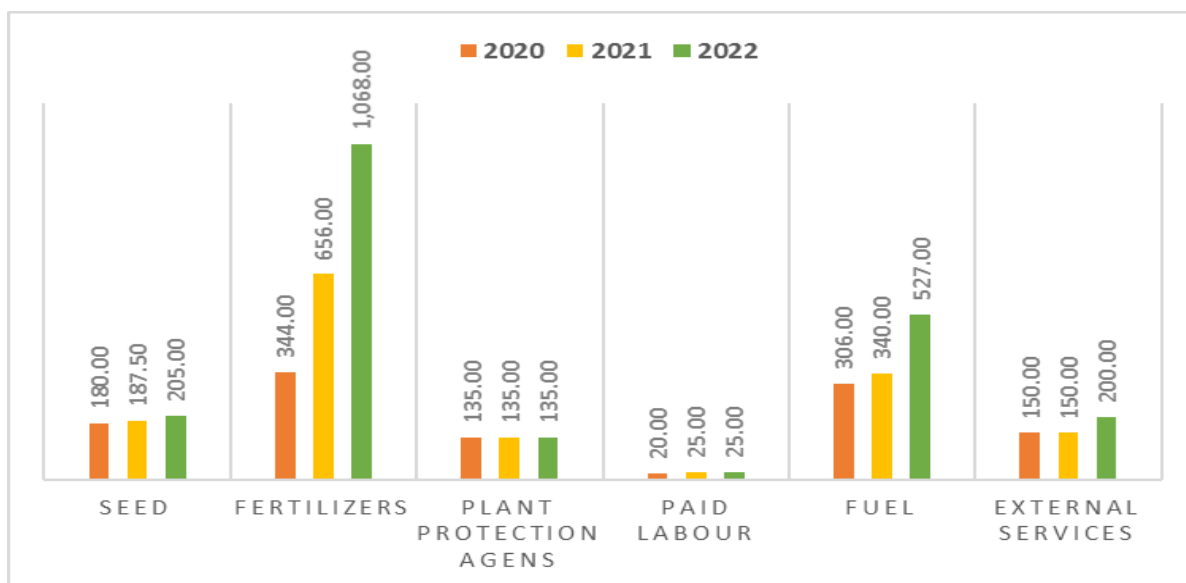


Figure 42 Variable costs composition of maize production, 2020-2022 (BAM/ha)

Source: Survey, own calculation

The value of variable costs increased by over 40% in 2022 compared to 2021. Mineral fertilizers are the input with the largest increase in costs in 2022 compared to 2021 (62.80%), fuel had an increase of 55.00%.

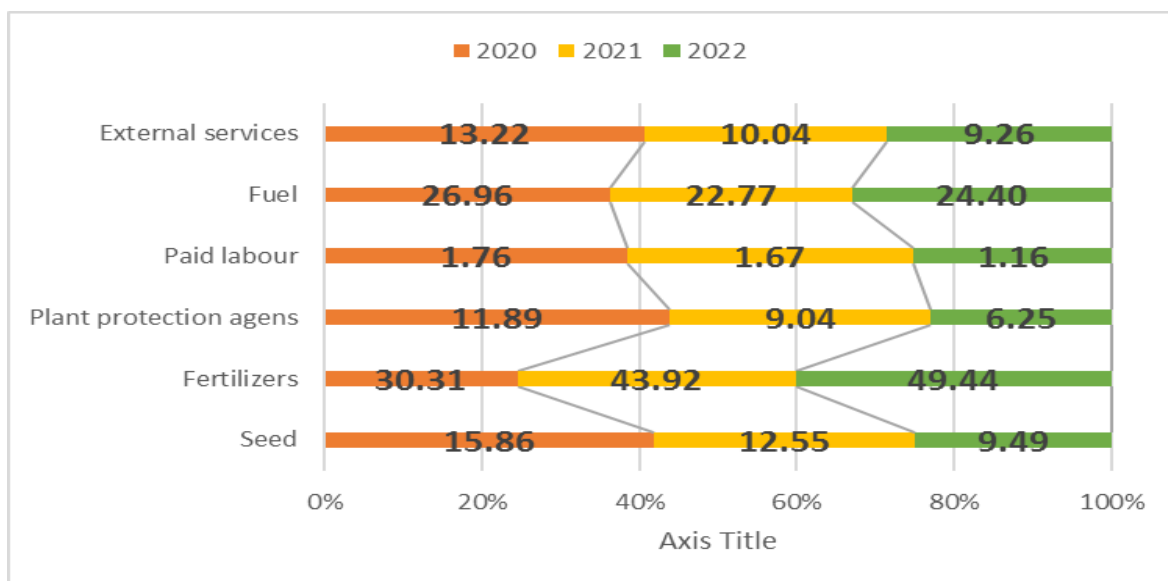


Figure 43 Share of different types of variable costs in maize production, 2020-2022

Source: Survey, own calculation

Seed, plant protection agents, paid labor and external services are types of costs with a smaller share in 2022 compared to 2021, while the share of mineral fertilizers increased from 43.92 to 49.44% and fuel from 22.77 to 24.40%. The cost of mineral fertilizers in 2019 had a share of 30.31%. It is important to point out that the growing season of corn includes the summer period in which droughts have been frequent in recent years. Irrigated areas are extremely low. These are the key reasons for the large variation in yields years by years.

Potatoes are the third crop in BiH according to the share of sown areas. It is a very important in local people diet. The impact of the increase in input prices was analyzed based on the calculations of the variable costs of producers in the hilly-mountainous area. The sample included commercial producers sowing certified seeds. This is the reason for the higher yield compared to official statistical data.

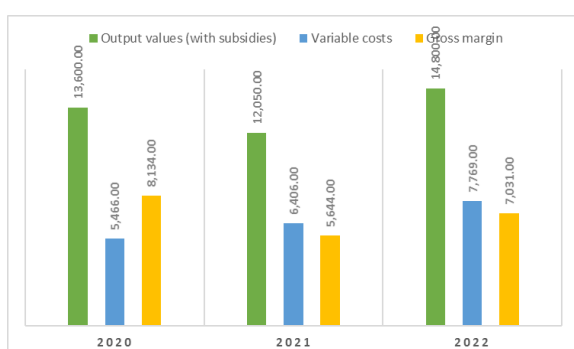


Figure 44 Variable costs calculation of potato (FBiH)

Source: Survey, own calculation

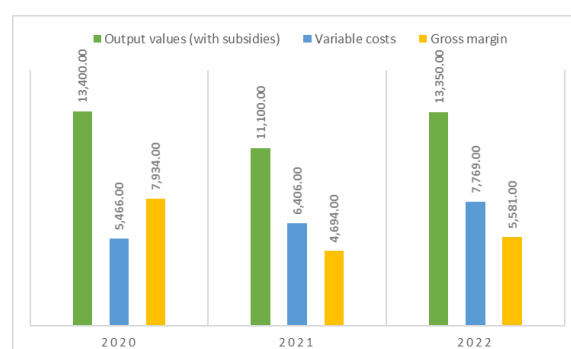


Figure 45 Variable costs calculation of potato (RS)

Source: Survey, own calculation

Thanks to the increase in subsidies (FBiH) as well as the increase in sales prices, the gross margin in 2022 increased by 24.58% compared to 2021. In RS, the gross margin increased by

18.90%. In both entities, in FBiH and RS, the gross margin is lower in 2022 compared to 2019 (FBiH 13.56% and RS 29.66%). Total variable costs are higher in 2022 compared to 2021 and 2020 by 21.28% and 42.13%, respectively.

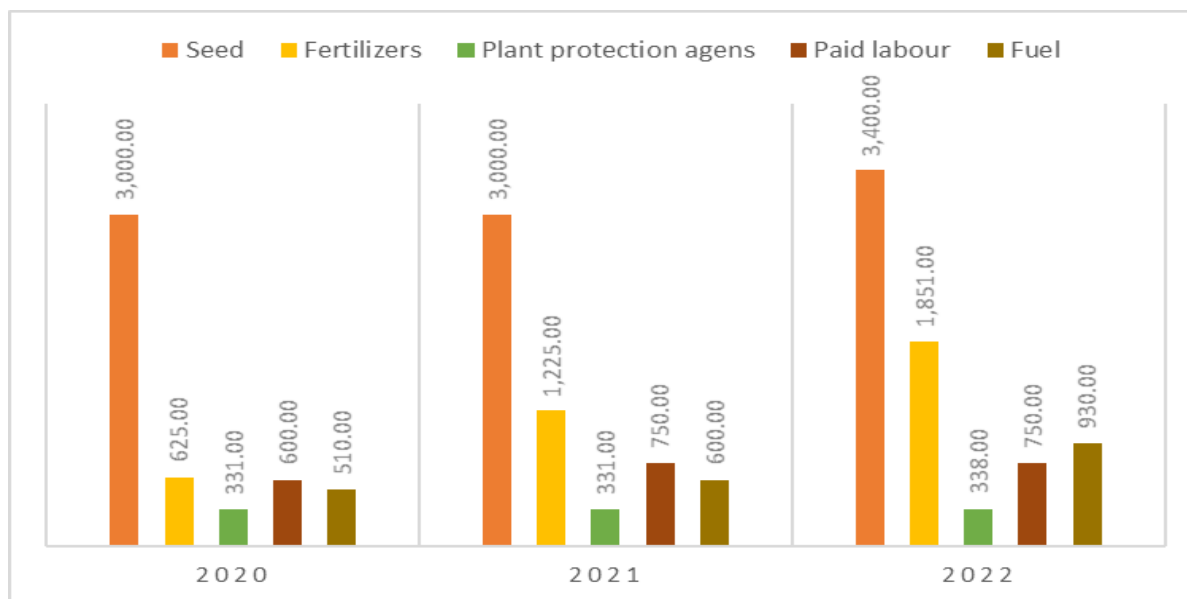


Figure 46 Variable costs composition of potato production, 2020-2022 (BAM/ha)

Source: Survey, own calculation

Mineral fertilizer costs increased by 626.00 BAM/ha (51.10%) in 2022 compared to 2021, while fuel costs increased by 330.00 BAM (55.00%).

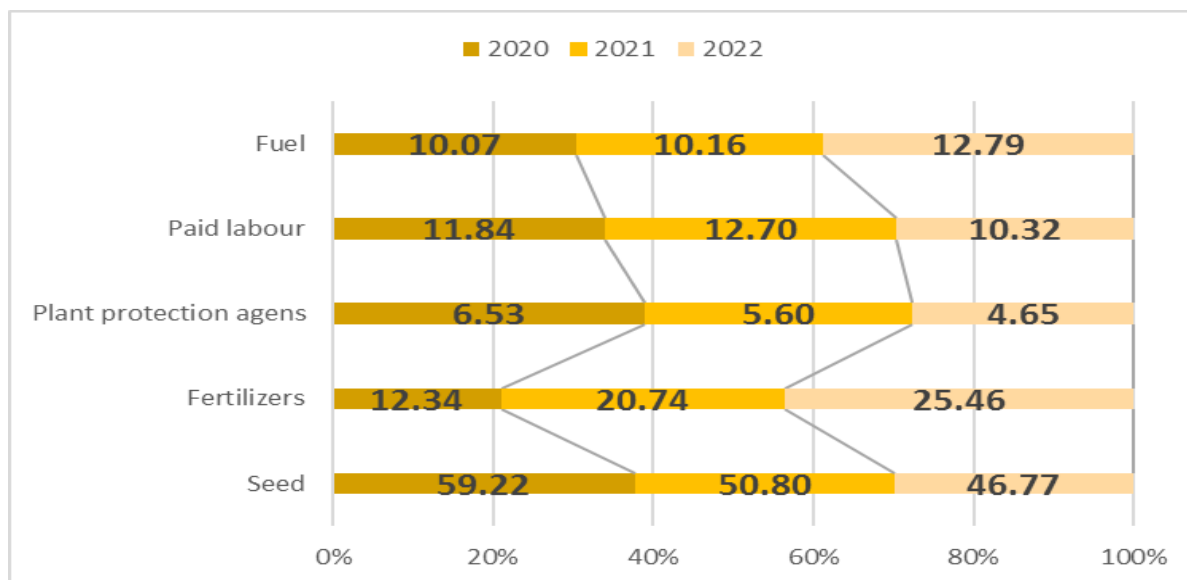


Figure 47 Share of different variable costs in potato production, 2020-2022

Source: Survey, own calculation

The cost of mineral fertilizers increased the share from 11.43% (2020) to 23.83% (2022). Fuel costs also increased their share, while other types of costs decreased their share.

Maize silage is one of the most important voluminous feed for both dairy production and cattle fattening. The total sown area of silage maize in BiH amounts to about 35 thousand hectares (Agency for Statistics of Bosnia and Herzegovina, 2021¹⁵).

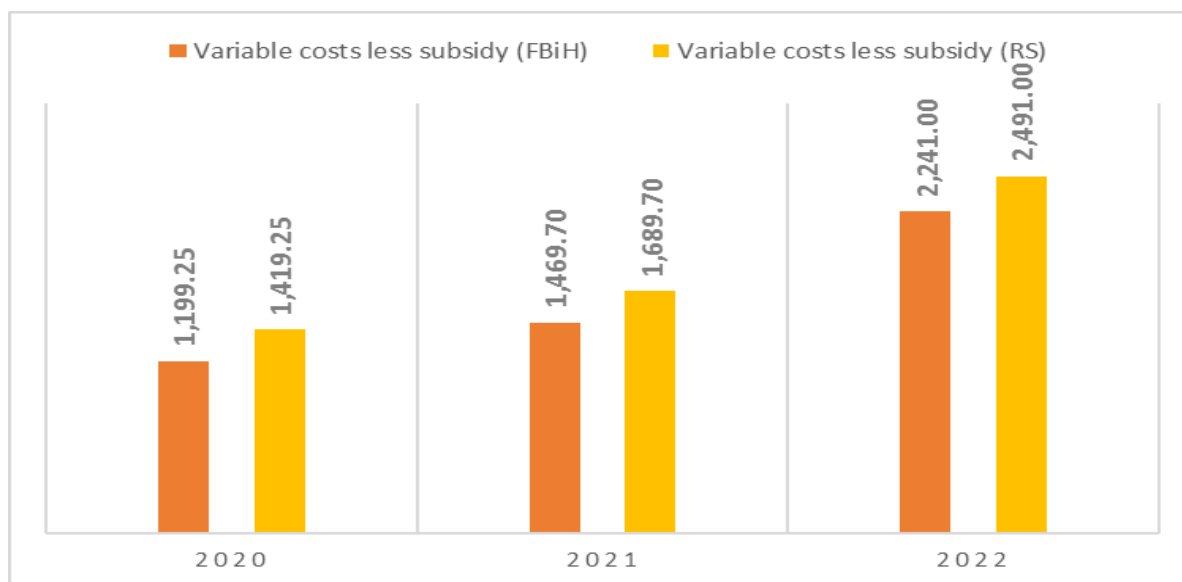


Figure 48 Variable costs less subsidy in maize silage production, FBiH, RS (BAM/ha)

Source: Survey, own calculation

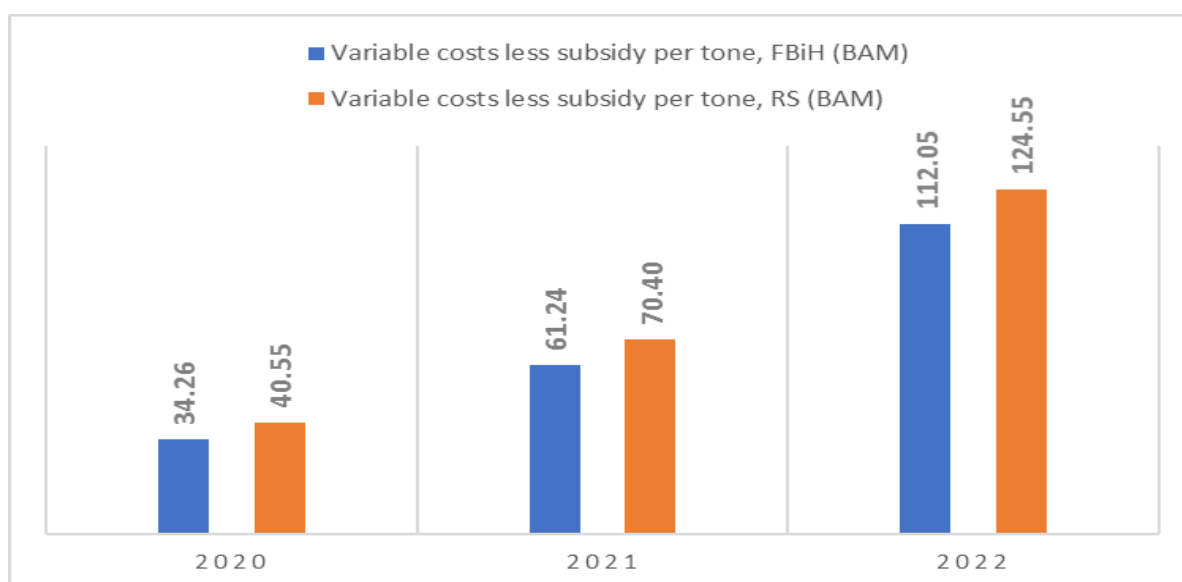


Figure 49 Variable costs less subsidy in maize silage production, FBiH, RS (BAM/t)

Source: Survey, own calculation

¹⁵ Agency for Statistics of Bosnia and Herzegovina, Areas sown and plantations at the end of spring sowing, 2022 (final data)

https://bhas.gov.ba/data/Publikacije/Saopštenja/2022/AGR_09_2022_Y1_2_HR.pdf

In both entities FBiH and RS, the variable costs of maize silage production have increased significantly. In FBiH, Total variable costs in 2022 are higher by 82.98% compared to 2021, while variable costs are higher by 227% compared to 2020. In RS, total variable costs in 2022 are higher by 76.91% compared to 2021, while variable costs are higher by 207.15% compared to 2020.

Production of fresh raw milk in BiH is one of the most important agricultural activities. In 2021, dairies bought 278 tons of raw milk.

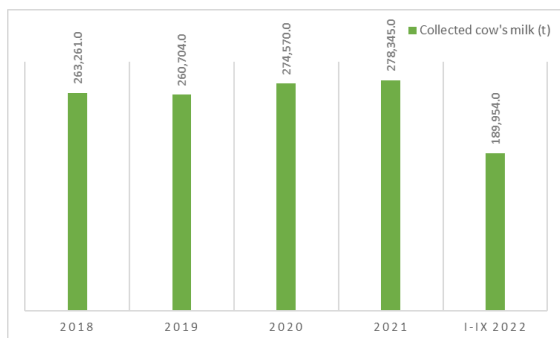


Figure 50 Total collected raw milk in BiH

Source: Agency for Statistics of Bosnia and Herzegovina, collected cow's milk and milk product obtained¹⁶

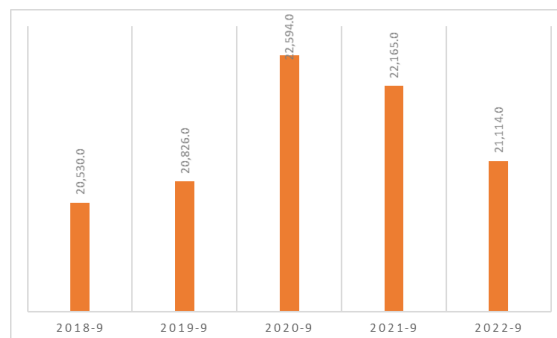


Figure 51 Total collected raw milk in BiH

Source: Agency for Statistics of Bosnia and Herzegovina, collected cow's milk and milk product obtained

The collected quantities of raw milk had a slight positive trend, while a decline can be expected in 2022. The graph above shows the decrease in collected volumes in September 2022 compared to previous years. The reason for the above is probably the worse economic conditions of milk production in 2022 in Bosnia and Herzegovina.

The conditions and results of milk production are very heterogeneous in different areas of BiH. The milk yield is better in the larger farmers in the plain area. They are included in the production control system, so they have better genetics. For the purpose of this research, the data was collected from larger farmers and that is the reason why the milk yield is higher than the official statistical data.

¹⁶ Agency for Statistics of Bosnia and Herzegovina, collected cow's milk and milk product obtained <https://bhas.gov.ba/Calendar/Category/23?lang=en>

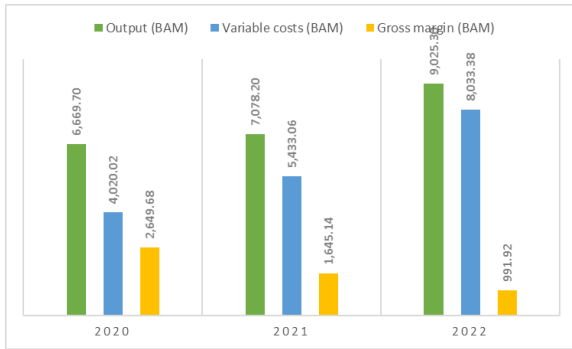


Figure 52 Variable costs calculation of dairy production, dairy cow/year(FBiH)

Source: Survey, own calculation

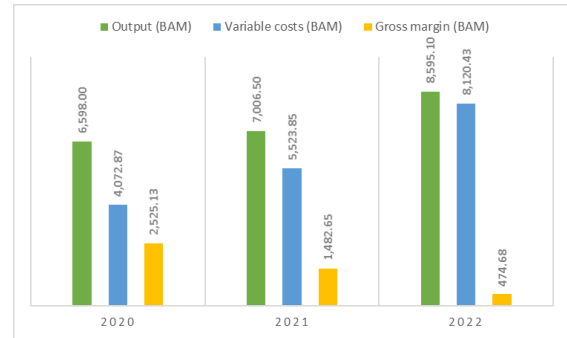


Figure 53 Variable costs calculation of dairy production, dairy cow/year(RS)

Source: Survey, own calculation

On the one hand, in 2022, input prices increased in milk production, and on the other hand, raw milk sales prices did not follow the increase in input prices. This resulted in a decrease in gross margin in 2022 compared to 2021 by 39.71% in the FBiH and by 97.98% in the RS. The reason for this is the significant increase in animal feed costs in 2022 compared to 2021. In FBiH, animal feed costs increased by 54.22% and in RS by 52.99%. The Study has already stated that the retail prices of milk and dairy products have increased considerably, but it is obvious that the dairies are taking extra profit.

7. CHAPTER 7 – FRAMEWORK OF CONTINGENCY PLAN

Table 9 Contingency plan Framework

Measure	Time frame	Responsibility	Beneficiary	Key outcome(s)
Measures cluster 1 – Sustainable agricultural production				
Investments in manure storages	Long time	Competent entity ministries of agriculture, Cantonal Ministries, Government of BD, Farmers, International donors	Small and big livestock producers	Reduction of losses of nutrients in manure
Investments in agricultural machinery for spreading manure	Long time	Competent entity ministries of agriculture, Cantonal Ministries, Government of BD, Farmers, International donors	Small and big livestock producers	Increasing of manure utilization
Education on manure management	Long time	Agricultural extension services, HEIs	Small and big livestock producers	Raising awareness and better knowledge on manure management
Investments in composters for small agricultural producers	Short time	Competent entity ministries of agriculture, Cantonal Ministries, Government of BD, Farmers, International donors	Small vegetable producers	More efficient plant nutrition management
Improved resilience to climate change	Short/Long time	Competent entity ministries of agriculture, Cantonal Ministries, Government of BD, Farmers, International donors	Ministries, Institutes, Producers, Academia, Water Departments	Strengthened improved land governance, water management and resilient varieties will bring more resilient agricultural production,
Land management and organic farming	Long	entity ministries of agriculture, Cantonal Ministries, Government of BD	Government, Producers	A stronger focus was also put on sustainability with the introduction of measures to support more sustainable land management through the establishment of compulsory agri-environment schemes and voluntary support for organic farming
Measures cluster 2 – Agri policy measures				
Investments in food value chains and agro-ecological and other innovative approaches in production	Long time	Competent entity ministries of agriculture, Cantonal Ministries, Government of BD, Farmers, Financial institutions, International donors	Academia Producers Agri-companie Processors	Measures to enhance access to affordable healthy food, reduced dependence on and use of fossil fuels and more efficient and sustainable use of synthetic inputs (fertilizers, pesticides),

Measure	Time frame	Responsibility	Beneficiary	Key outcome(s)
Subsidizing of purchasing of agricultural inputs	Short time	Competent entity ministries of agriculture, Cantonal Ministries, Government of BD,	Producers	Provided tools to counter market imbalances or producers' cash flow issues. Farmers in BiH pay more for purchased inputs and receive less for their outputs compared to their equivalents in neighboring countries, as shown by calculations of nominal and effective rates of protection for a number of products
Strengthening local production and reducing import dependency	Long time	Competent entity ministries of agriculture, Cantonal Ministries, Government of BD, Farmers, International donors	All type of agricultural producers. Processors	Supporting the transition towards sustainable food systems and enhanced resilience.
Boosting sustainable production, resilience and food systems transformation	Long time	Competent entity ministries of agriculture, Cantonal Ministries, Government of BD, Farmers, International donors	All type of agricultural producers. Processors	Largest source of budget funds and public expenditure have to targeted investments in agricultural production. On this way agricultural production will be in possibilities to compete with international competition
Strengthening of harmonization and coordination of different agri-policies in country	Short time	MOFTER, entities ministries, cantonal ministries, Department for Ag of Brčko District	All type of agricultural producers. Processors	Gradual adjustment and harmonization of B&H agriculture support measures within B&H , will provide boost effect for agricultural production and food supply
Measures cluster 3 – Social interventions				
Support food affordability by supporting of low-income and vulnerable households	Short time	Competent entity ministries of agriculture, Cantonal Ministries, Government of BD,	Low-income and vulnerable households and groups	The increase of producer prices of agricultural commodities is expected to weigh on food consumer prices. This impact differs depending on income groups. Especially vulnerable categories of households with low income are therefore is necessary intervention of the state for these groups/households

Measure	Time frame	Responsibility	Beneficiary	Key outcome(s)
Capacity building in local institutions against food waste	Short/long time	Competent entity ministries of agriculture, Cantonal Ministries, Government of BD,	Producers, Consumers, State institutions, Academia	Undertaking specific activities to all those who deal with food will: Improved efficiency of the national food system; Optimized use of natural resources; improved national food and nutrition security; Improved income and livelihoods for producers; Contribution to climate change adaptation, from its production to its consumption
Developing and implementing a food safety system – harmonized throughout the country		Competent entity ministries of agriculture, Cantonal Ministries, Government of BD,		Creation a group of food supply chain experts coordinated by state level institution (MOFTER) to exchange data, practices and strengthen coordination which will bring better response for crises
Measures cluster 4 – Trade measures				
Reforming of trade policy in BiH according WTO rules	Long time	Ministry of Foreign Trade and Economic Relations of BiH (MOFTER)	Agricultural producers	It is necessary to carry out a reform of the foreign trade policy in terms of ensuring better protection of domestic producers. This reform must be providing in accordance with WTO rules. Reform should lead to better control of imports as well as reduction of unfair competition and dumping imports
Diversification of trade flows of fertilizer material stuff supply	Short/long time	Ministry of Foreign Trade and Economic Relations of BiH (MOFTER) Competent entities ministries, Foreign trade chamber of BiH, Trade companies	Agricultural producers, Trade Companies	Agri-food trade disruptions caused by Russia's invasion of Ukraine exacerbate inflationary pressures throughout the supply chains.
Diversification of trade flows of food supply	Short/long time	Ministry of Foreign Trade and Economic Relations of BiH (MOFTER) Competent entities ministries, Foreign trade chamber of BiH, Trade companies	Agricultural producers, Trade Companies	Different supply country will The movement of goods to ensure food supply and food security in times of crisis.
Reduction of import duties for agricultural inputs and key foodstuff	Short time	Ministry of Foreign Trade and Economic Relations of BiH (MOFTER)	Agricultural producers, Trade Companies Consumers	Cuts in tariffs and other trade barriers will help private market actors boost imports and supply food throughout the country at competitive prices.

Measure	Time frame	Responsibility	Beneficiary	Key outcome(s)
Export restrictions on food and key agricultural inputs in crisis	Short time	Ministry of Foreign Trade and Economic Relations of BiH (MOFTER)	Consumers	Bosnia and Herzegovina is net importer country. Most of food and foodstuff is from import. However, some important product is export. In time of crisis (pandemic COVID 19 show that) is necessary to band of export and supply domestic market
Measures cluster 5 – Fiscal Policy				
Tax reduction for main agricultural variable inputs	Short time	Parliament of Bosnia and Herzegovina, MOFTER, Competent entity ministries of agriculture, Cantonal Ministries, Government of BD,	Agricultural producers and companies	Reduction of administrative burden for a sample of import/export of agricultural inputs, ultimately resulting in lower input prices, increased yields for BiH producers and increased agri-food exports;
Tax reduction for essential food and foodstuffs	Short time	Parliament of Bosnia and Herzegovina, MOFTER, Competent entity ministries of agriculture, Cantonal Ministries, Government of BD	Consumers	Reduction of administrative burden for a sample of import/export procedures for key final products, ultimately resulting in lower prices for consumers
Measures cluster 6 – Food Security Policy				
Developing of model for providing emergency commodity reserves in the Bosnia and Herzegovina including private-public partnership for better food security	Long term	MOFTER, Competent entity ministries of agriculture, Entitles ministry of Trade, Commodity reserves institution, Traders and retailers	Low-income and vulnerable households and groups	Different system of Commodity reserves is in BiH. Developing of new, modern, model which will include public-private partnership is very acceptable for small and developing country as BiH is. The fact that the owner and operator of the warehouse is one and the same legal person company which concludes storage contract with the state.

Measure	Time frame	Responsibility	Beneficiary	Key outcome(s)
Creation of a coordinated crises preparedness and response mechanism.	Short term	MOFTER, Competent entity ministries of agriculture, Entitles ministry of Trade Commodity reserves institution, Statistic institutions, Association of Producers, Associations of Processors, Agricultural institutes, Academia, Transporters and logisticians	Consumers	Creation of a coordinated crises preparedness and response mechanism will strengthen the resilience of food systems and the system's ability to respond to crises threatening food security.
Safety nets	Short term	MOFTER, Competent entity ministries of agriculture, Entitles ministry of Trade Commodity reserves institution, social partners, Local communities and NGOs,	Consumer	Safety nets which includes cash for food, cash for food production and a network of pubic kitchens. Safety nets may include assistance in the form of food, vouchers or cash transfers, employment programmes (food or cash for work), school feeding and specific nutritional activities focused on members of vulnerable food insecure households
Measures cluster 7 – Internal market intervention				
Enhanced capacities of local producers	Short/long term	Local communities	Producers and Consumers	Strengthening of local producers and local market places. Integrated local and regional markets.
Establishing local e-commerce platforms	Short/long term	ICT companies, Trade companies	Producers and Consumers	Boosting of local market channels
Measures cluster 8 – Access to Finance				
Increasing of access to finance	Short time	Entities ministries of agriculture and finance, State owned bank, Commercial Bank, Microcredit Organizations, International donors, EU funds	Agricultural producers	Increasing of access to finance by smallholder farmers and farmers' organizations will bring more investments in agriculture, better financial position of producers and directly increasing od production
Increasing of Foreign Direct Investment (FDI) in agricultural sector	Short/long term	MOFTER, Foreign Investment Promotion Agency of Bosnia and Herzegovina, Competent entities and cantonal ministries	Agricultural producers and processors	Increasing of Foreign Direct Investment (FDI) will contribute to increasing of competitiveness in agricultural productions increasing of yields and quality of final products

Measure	Time frame	Responsibility	Beneficiary	Key outcome(s)
Measures cluster 9 – Building of institutional capacity				
Establishing of the Agricultural Market Information System (AMIS) (coordination with international price basis)	Long time	MOFTER- Office for harmonization of payments systems in Ag and RR, entities ministries, cantonal ministries, Department for Ag of Brčko District	Producers Consumers	Set up of AMIS monitoring system in BiH will contribute to monitor price volatility for food and agricultural inputs.
Establishing of the IPARD paying agency in BiH	Long time	MOFTER- Office for harmonization of payments systems in Ag and RR, entities ministries, cantonal ministries, Department for Ag of Brčko District	Producers Ag processors	Building appropriate public, state institution for implementation of Instrument for Pre-accession Assistance for Rural development (IPARD) will be key to increasing investments in agricultural production and producing of food

8. CHAPTER 8 – PROPOSAL ON PIPELINES FOR DONOR SUPPORT

The main donors in this sector in BiH are the European Union, the Kingdom of Sweden, the specialized United Nations Organizations, FAO and UNDP, the Czech Republic, the republic of Italy and the United States of America. International assistance for Bosnia and Herzegovina is also provided through projects implemented through regional initiatives such as the Standing Working Group for Regional Rural Development of Southeast European Countries - SWG RRD. Agricultural development lending services in Bosnia and Herzegovina are provided by international financial institutions such as the International Fund for Agricultural Development - IFAD and the World Bank (with members). The table below shows key donors with information on their focus and key programs/projects.

Table 10 Key donors in agri-food sector in BiH

Name of Donor	Program/ project	Goal	Focus	Beneficiaries
European Union	EU4Agri	Modernization of the agri-food sector and strengthening the rural economy in BiH	increase the competitiveness of agricultural production and jobs and services in rural areas and strengthen the capacity of institutions responsible for the agriculture and rural development	Agricultural producers, Food processors, Local communities, Public administration bodies

Name of Donor	Program/ project	Goal	Focus	Beneficiaries
			sector in order to meet the obligations arising from the EU integration process and Support the alignment of the acquis and the implementation of policy measures in the areas of food safety, veterinary and phytosanitary standards	
European Union	EU4BusinessRecovery	Project aims to reduce the impact of the Covid-19 pandemic on agricultural and tourism enterprises, micro, small and medium-sized enterprises (MSMEs) in the metal, wood-processing, and textile/apparel/footwear sectors, as well as on entrepreneurs and farmers.	The project is focused on providing technical and financial support. Overall, EUR 10 million are available for support to MSME, farmers, and entrepreneurs, with a focus on women, youth and persons who belong to vulnerable groups	SMEs, farmers, entrepreneurs.
European Union	Assistance from EC Technical Assistance and Information Exchange - TAIEX	The aim of the TAIEX instrument is to provide short-term technical assistance to the new EU Member States, accession countries, candidate countries and the Western Balkans in line with the general policy objectives of the European Commission, in the field of approximation, transposition and introduction of EU legislation	Reforms in line with EU legislative.	MOFTERBiH, the Ministry of Agriculture, Forestry and Water Management of RS and the Federal Ministry of Agriculture, Water Management and Forestry, the Department of Agriculture of the Government of Brčko District of BiH, the BiH Agencies and

Name of Donor	Program/ project	Goal	Focus	Beneficiaries
				representatives of other institutions and organizations whose work is directly related to the field of agriculture, food, forestry and rural development (veterinary inspectors, laboratory staff, etc.
Kingdom of Sweden /Sida	Sida's reform cooperation	Contributing to bring the country closer to a EU membership - as a path to improved living conditions for women and men in the country.	Democracy, human rights and the rule of law Sustainable peace Environment and climate change Inclusive economic development	Public authorities, SMEs, NGOs, rural population...
Food and Agriculture Organization of the United Nations - FAO	Country programming framework for Bosnia and Herzegovina - CPF	Strengthening the competitiveness of small family farms, value chains and developing rural living conditions for women and men through improved food security, phytosanitary, veterinary and institutional systems; and Sustainable management of natural resources and adaptation and mitigation of climate change.	Agriculture, food, climate change, natural resources etc.	Government bodies, local communities
United Nation Development Program- UNDP	Various programs/projects	Contributing to the improvement of the living standards of BiH citizens.	Several sectors, including agriculture, food processing and rural developmen	Public and private sector
Czech Republic/CzDA	Czech Development Cooperation Strategy 2018-2030	Contribute to the elimination of hunger, nutrition improvement and support for rural development	Building sustainable, environmentally friendly and profitable agricultural production.	Public and private sector
Italian Agency for Development Cooperation (AICS)	Continuous support	Contribute to the inclusive and sustainable growth of the country and its path to European integration	Focused on environment and local development, agriculture and	Mainly public sector

Name of Donor	Program/ project	Goal	Focus	Beneficiaries
			food safety, civil protection, education and human rights.	

ANNEX

Table 1: Values of imported products, sections 1-24 (in millions of BAM)

Section	Value_20 19	Value_20 20	Value_20 21
SECTION 1 – Live animals, animals' products	61.13	63.64	72.58
SECTION 2 - Meat and edible meat offal	307.06	263.68	326.58
SECTION 3 - Fish and crustaceans, molluscs and other aquatic invertebrates	31.30	30.26	38.81
SECTION 4 - Dairy produce; birds' eggs; natural honey	185.13	166.56	183.47
SECTION 5 - Products of animal origin, not elsewhere specified or included	2.51	4.65	5.61
SECTION 6 - Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage	19.33	18.82	23.42
SECTION 7 - Edible vegetables and certain roots and tubers	105.98	99.97	107.61
SECTION 8 - Edible fruit and nuts; peel of citrus fruit or melons	200.95	204.94	205.52
SECTION 9 - Coffee, tea, maté and spices	99.30	89.79	110.92
SECTION 10 - Cereals	205.84	206.60	221.90
SECTION 11 - Products of the milling industry; malt; starches; inulin; wheat gluten	43.10	43.23	44.48
SECTION 12 - Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal plants; straw and fodder	84.78	102.39	112.98
SECTION 13 - Lac; gums, resins and other vegetable saps and extracts	2.83	2.14	2.52
SECTION 14 - Vegetable plaiting materials; vegetable products not elsewhere specified or included	0.12	0.19	0.24
SECTION 15 - Animal, vegetable or microbial fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes	185.86	148.53	165.27
SECTION 16 - Preparations of meat, of fish or of crustaceans, molluscs or other aquatic invertebrates or of insects	125.17	117.89	116.62
SECTION 17 - Sugars and sugar confectionery	117.07	117.79	114.78
SECTION 18 - Cocoa and cocoa preparations	180.09	179.15	195.43
SECTION 19 - Preparations of cereals, flour, starch or milk; pastrycooks' products	231.88	231.00	253.58
SECTION 20 - Preparations of vegetables, fruit, nuts or other parts of plants	89.06	82.79	94.70
SECTION 21 - Miscellaneous edible preparations	285.25	295.88	330.94
SECTION 22 - Beverages, spirits and vinegar	357.04	308.12	379.07
SECTION 23 - Residues and waste from the food industries; prepared animal fodde	197.21	193.15	218.62
SECTION 24 - Tobacco and manufactured tobacco substitutes	75.86	78.25	85.00

Table 2: Values of exported products, sections 1-24 (in millions of BAM)

Section	Value_20 19	Value_20 20	Value_20 21
SECTION 1 – Live animals, animals' products	4.94	3.32	3.93
SECTION 2 - Meat and edible meat offal	16.46	40.21	28.50
SECTION 3 - Fish and crustaceans, molluscs and other aquatic invertebrates	17.09	20.29	24.76
SECTION 4 - Dairy produce; birds' eggs; natural honey	110.88	101.54	100.25
SECTION 5 - Products of animal origin, not elsewhere specified or included	0.22	0.63	0.62

SECTION 6 - Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage	6.84	7.54	6.16
SECTION 7 - Edible vegetables and certain roots and tubers	43.36	48.08	48.44
SECTION 8 - Edible fruit and nuts; peel of citrus fruit or melons	116.97	122.88	144.04
SECTION 9 - Coffee, tea, maté and spices	12.44	16.14	22.99
SECTION 10 - Cereals	10.53	17.64	24.04
SECTION 11 - Products of the milling industry; malt; starches; inulin; wheat gluten	14.27	16.88	12.45
SECTION 12 - Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal plants; straw and fodder	14.44	25.21	23.30
SECTION 13 - Lac; gums, resins and other vegetable saps and extracts	0.02	0.08	0.05
SECTION 14 - Vegetable plaiting materials; vegetable products not elsewhere specified or included	0.02	0.14	0.03
SECTION 15 - Animal, vegetable or microbial fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes	123.97	108.29	89.21
SECTION 16 - Preparations of meat, of fish or of crustaceans, molluscs or other aquatic invertebrates or of insects	56.09	89.01	108.29
SECTION 17 - Sugars and sugar confectionery	14.34	5.27	2.69
SECTION 18 - Cocoa and cocoa preparations	19.76	24.72	22.90
SECTION 19 - Preparations of cereals, flour, starch or milk; pastrycooks' products	67.47	75.00	91.50
SECTION 20 - Preparations of vegetables, fruit, nuts or other parts of plants	19.56	18.65	19.47
SECTION 21 - Miscellaneous edible preparations	28.12	28.53	28.96
SECTION 22 - Beverages, spirits and vinegar	74.41	62.53	71.05
SECTION 23 - Residues and waste from the food industries; prepared animal fodde	20.68	19.66	33.40
SECTION 24 - Tobacco and manufactured tobacco substitutes	6.54	4.64	6.97