ORGANIKA

Shoqata e Përpunuesve dhe Eksportuesve të PPJD dhe BMA

Association of the Processors and Exporters of NWFP and MAP

STUDY OF THE NON-WOOD FOREST PRODUCTS (NWFP) AND MEDICINAL AND AROMATIC PLANTS (MAP) SECTOR 2021

April 2022

SIRED
Sustainable and Inclusive Rural Economic Development

CARITAS Schweiz Suisse Svizzera Svizra

With funding from
Austrian Development Cooperation

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Acronyms and Abbreviations

MAFRD	Ministry of Agriculture, Forestry and Rural Development
NWFP	Non-Wood Forest Products
MAP	Medical Aromatic Plants
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
USAID	United States Agency for International Development
EU	European Union
PPSE	Promoting Private Sector Employment
IADK	Initiative for Agricultural Development of Kosovo
CC	Collection Centers
SIRED	Sustainable and Inclusive Rural Economic Development
ADA	Austrian Development Agency
IFS	International Featured Standards
USA	United States of America
L.L.C.	Limited Liability Company
NGO	Non-governmental organization
NOP	National Organic Program
UTZ	A certification program for sustainable farming of coffee, tea, cocoa and hazelnuts
GAP	Good Agricultural Practices
HAACAP	Hazard analysis and critical control points

1. INTRODUCTION

Agriculture is an important economic sector in Kosovo; it absorbs a large number of workforces in rural areas working in several agricultural subsectors. However, the farmers are small-scale, farms fragmented, production technologies are mainly traditional and outdated but the process of updating them is ongoing.

According to the Green Report 2021, Kosovo's total output for 2020 was € 749 Million or € 447 million crop output and € 302 million livestock output; this represents an increase of the total output for 11%: crop output by 8% and livestock output by 3%[1]. Regarding employment in agriculture, 12,468 people were employed in 2020 by 2,405 registered and active agribusinesses.

The Non-Wood Forest Products[2] (NWFP) and Medicinal and Aromatic Plants (MAP) sector was re-established after the war by the initiatives of private companies involved in the collection of wild mushrooms with the support of several donors/development projects. Later on, the range of products expanded and new companies emerged bringing innovations and targeting export markets; new companies initiated the cultivation of MAP, for what there was no tradition in Kosovo.

A new development for the sector was the establishment of ORGANIKA association in 2013, by the leading companies in the sector of NWFPs and MAPs as a platform for the development of the sector through improving cooperation among stakeholders in the sector, promoting Kosovo's products in foreign export markets and through lobbying activities[3].

The support of donors/development projects for NWFP and MAP has been followed by MAFRD; firstly, by the provision of grants for investments in physical assets for companies involved in NWFP and MAP through the Rural Development Program since 2014 as a part of Measure 302 "Farm diversification and business development", sub-measure 302.2 "Processing of aromatic medicinal plants, forest fruits and collected mushrooms". Secondly, the support was provided through the Program for Direct Payments since 2016 for organically certified MAPs, where the eligible farmers could get subsidies in amount of 200€/ha and in 2018 the subsidy reached 500€/ha.

The sector of NWFP and MAP has been growing in the last five years, in both terms of increasing volumes of collected or cultivated products. In 2017 the total volume of products sold was 2,357 tons with exports at a value of € 6.14 Million; in 2018 the total volume of products sold was 2,088 tons with exports of € 7 Million, in 2019 the total volume of products sold was 2,189 tons with exports of € 8.5 Million, while in 2020, the sector's volume of products sold was 3,074 tons with export at value of € 12.6 Million. This shows that the NWFP and MAP sector is export focused with positive trends that contributed to the improvement of Kosovo's negative trade balance. The main reasons for the positive export trends of the sector are:

(1) the increased demand for healthy products world-wide - majority of products have herbal origin.

(2) good quality of products offered on the market which also linked to the implementation of quality and safety standards by the majority of companies involved and

(3) good market linkages developed by exporters.

In addition, Kosovo has favorable agro-climatic conditions for both collection of NWFP and cultivation of MAPs and it is in vicinity to the EU markets.

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[1] https://www.mbpzhr-ks.net/repository/docs/Raporti_i_Gjelber_2021.pdf

[2] MAFRD's Administrative instruction nr.04/2008 - non-wood forest products are considered medicinal and aromatic plants found free in nature, forestry fruits, feeding stuff (mushrooms, nuts, herbs), extracts, liquids and distillates (resins, colors, essences) products of the fiber (osier, bamboo, rotan, etc.), products from animals and insects (meat, skin, bark, honey, etc.) and inert (sand, gravel, stone).

[3] Retrieved from https://organika-ks.org/en/about-us/

Despite the great market potential, the agricultural sector struggles with common problems as: fragmented land, use of outdated technologies, insufficient knowledge of relevant actors, limited knowledge on organic cultivation, low quality of inputs/seeds, high production costs, lack of quality management system of collection centers and lack of experienced extension services. Therefore, the focus on improved quality and increased quantity presents a cluster opportunity for growth both in sales and employment.

2. BACKGROUND

ORGANIKA association has been conducting studies of NWFP and MAP since 2017. The main objective of the study is to present the sector data collected from the members of the association and non-members with the same methodology and repeatedly (every year) and share findings of the study with all actors of the agricultural sector including the Ministry of Agriculture, Forestry and Rural Development (MAFRD), donors and other relevant institutions. The report became an information/reference tool for the actors of the sector as well as for other institutions and donors to prepare strategies and development programs. This year there is an exception in terms of selecting companies to be interviewed, some members of ORGANIKA that were not involved in neither NWFP harvesting nor in MAP cultivation, members such as those who were involved in pumpkin cultivation were not interviewed; this year some NWFP and MAP exporters that are not members of association have been interviewed, but they are important actors in the sector.

The report for 2021 was prepared by ORGANIKA with the support of SIRED project (Sustainable and Inclusive Rural Economic Development) implemented by Swiss Caritas in Kosovo and financed by ADA (Austrian Development Agency).

3. THE SURVEY

3.1 Methodology

This report provides an overview of NWFP and MAP sector for the 2021 including employment, processing capacities, food standards, collection of NWFP and cultivation of MAPs, contracts signed, sales, challenges, investment as well as plans for the next 3-5 years.

This report mainly utilizes data from primary sources. Initially, a questionnaire (Annex 1) was prepared by ORGANIKA's staff in consultation with the consultant hired for interviewing private companies in the sector. A total of 44 companies/operators were interviewed by the consultant using the questionnaire. The data collected were processed using Excel spreadsheets. In addition, to compare and confirm the data collected from the private sector, secondary data were used including documents, reports and studies from the Statistical Office of Kosovo, The Ministry of Agriculture Forestry and Rural Development, the Kosovo Customs and donor projects such as PPSE, GIZ, USAID, IADK etc.

Interviewed private companies/operators include collection centers, processors and exporters dealing with both NWFP and MAPs; they represent at least 99% of the total number of companies operating in this sector (excluding collectors and farmers).

Compared to the report of 2020, six additional companies were interviewed, mainly companies that are not members of ORGANIKA but that are important for the sector; five companies who are not involved in this sector were excluded. Some of the ORGANIKA members, besides NWFP and MAP are involved in the processing berries e.g., raspberries, using the same processing capacities and human resources for collection, processing and trading of both NWFP/MAP. Therefore, data on the quality and sales was collected for berries too. However, berries are not part of the scope of this document; thus, the data collected will be provided in a separate section. In regard to the employment of these members this report presents only a share of employees hired for processing NWFP and MAPs and not the number of employees hired in processing berries. The purpose of this approach has been to clearly define the number of employees engaged in the NWFP & MAP sub-sectors.

3.2 Results

2.2.1 Employment in the NWFP & MAP sector

The NWFP and MAP sector employs a large number of people in both, collection of NWFP and the cultivation of MAP. For the study collection centers, processors and exporters were interviewed, therefore, only the number of people employed by them directly, both full time and part-time is recorded and presented in this section and not the number of contracted collectors and farmers.

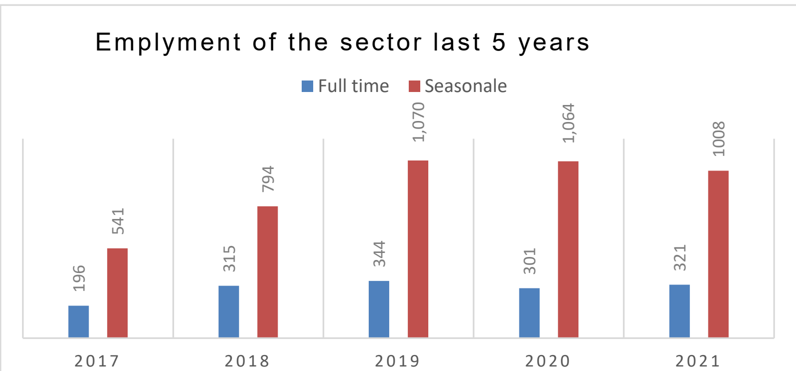
Total full-time employment 321 and seasonal 1,008

Full time and seasonal employment provided by the interviewees are disaggregated by gender and age are presented on the table below:

Table 1: Employment structure in NWFP& MAP 2017 - 2021

Employment	Full time				Seasonal			
	Total	Women	Man	Minorities	Total	Women	Man	Minorities
2021	**321**	164	157	45	**1,008**	687	321	409
share ratio		51%	49%	14%		68%	32%	41%
Inc./dec. %	7%	21%	-5%	-32%	-5%	-6%	-5%	2%
2020	**301**	135	166	66	**1,064**	727	337	402
share ratio		45%	55%	22%		68%	32%	38%
Inc./dec. %	-13%	-8%	-16%	0%	-1%	5%	-11	-4%
2019	**344**	146	198	66	**1,070**	693	377	417
share ratio		42%	58%	19%		65%	35%	39%
Inc./dec. %	9%	-7%	25%	16%	35%	32%	41%	54%
2018	**315**	157	158	57	**794**	526	268	271
Inc./dec.		50%	50%	18%		66%	34%	34%
2017	**196**	92	104	31	**541**	316	225	79

Figure 1: Employment structure in NWFP & MAP 2017 - 2021



In the year 2021, the NWFP & MAP sector employed a total of 321 full-time workers; out of which 164 or 51% were women. Seasonal workers in total were 1,008 including 687 women or 68% of the total number. Full-time employees in 2021 compared to 2020 have been increased by 21 or 7%, while the number of seasonal workers dropped by 54 or -5%. The main reason for that is the volume of NWFP harvested in 2021 was smaller than in 2020 due to extremely high temperatures during summer. In regard to gender, the data show that the number of women employed is high and they dominate the workforce among seasonal workers.

Disaggregating employees by age, the young employees 18 - 30 dominate employment. Out of total employees, both full-time and seasonal, 1,272, 620 or 49% were young, 482 or 38% were at the age between 31 - 44 and only 170 or 13% were between 45 - 65. These figures also represent the population of Kosovo which is mainly youth.

Table 2: Age of employees 2021

Age of employees	Full-time	Seasonal	Total	%
18 - 30	133	487	620	49%
31 – 44	143	339	482	38%
45 – 65	52	118	170	13%
	321	**1,008**	**1,329**	

The engagement of seasonal workers on average was for a period of 5 months, which is in line with the critical harvesting period of NWFP and the cultivation of MPA, i.e., it includes the peak months of this sector from May to September. But there is also a similarity in terms of months engaged in seasonal months with previous years, specifically the year 2020.

Table 3. Seasonal workers, number of months 2021

2019	2020	2021
4	**5**	**5**

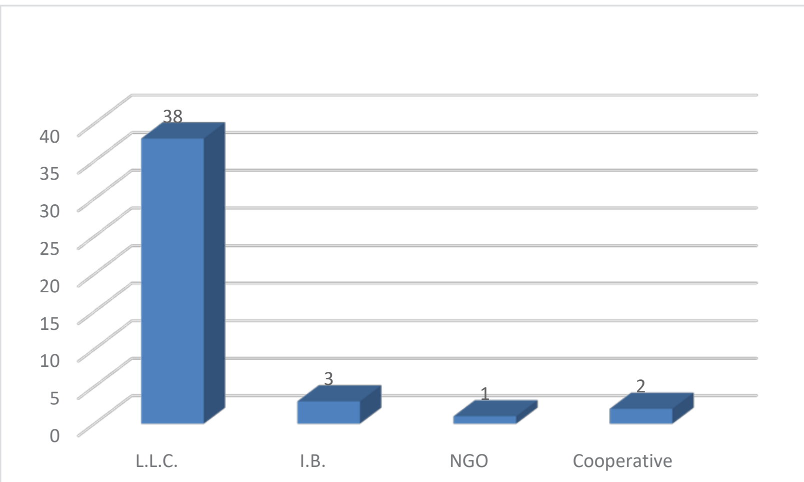
Comparing employment over five years (2017 – 2021), the employment, both full-time and seasonal, has constantly increased following the development of the sector, however, in 2021 the number increased for full-time by 7% and decreased for seasonal by -5%.

Increased employment is an indicator that the sector is constantly growing and it has shown to be a promising sector for Kosovo economy, even though the employment of seasonal workers had a slight decrease in 2021. In the following years it is expected that employment will increase steadily.

2.2.2 The structure of businesses

The main type of businesses involved in the sector is Limited Liability Company - LLC. Out of 44 interviewed companies, 38 are LLC, 3 individual business, 2 agricultures cooperative and 1 women NGO. Initially most of the companies were registered as individual businesses, however, due to the better business funding possibilities mainly grants from donors, most of the companies have switched their statute to LLC and all new businesses were registered as LLC.

The business structure is dominated by LLC - 38 out 44 interviewed businesses interviewed



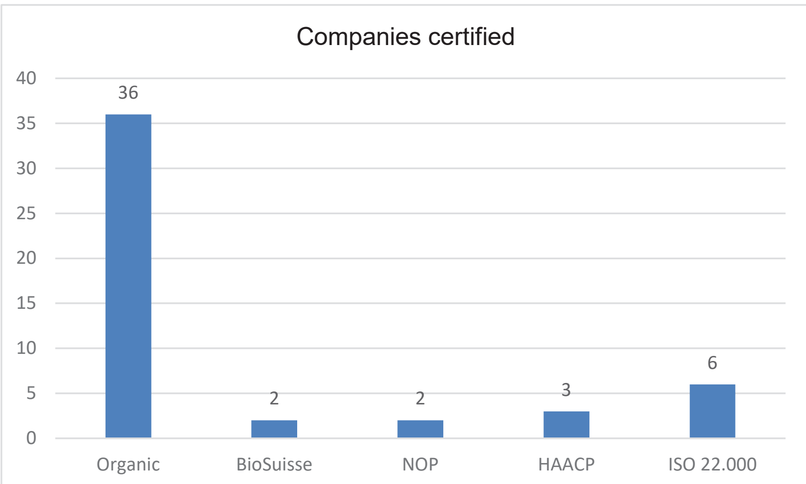
2.2.3. Food quality and safety standards

Quality and safety standards are important for the NWFP and MAP sector as the main targeted market is export. Following the demand of the buyers in export markets, the organic standard is the most implemented standard among the interviewed companies; out 44 interviewees, 36 companies were certified with organic standards. Two companies were certified additionally with BioSuise and two NOP, standards that are similar to organic but are required for selling organic products in Switzerland and USA. Regarding HAACP standards, three companies were certified, while for other standards one company is certified with IFS (the highest quality standard), 5 companies with ISO 22,000 and one company with UTZ (social aspects). For standards in regards to cultivation, one company is certified with Integrated Production for cultivation of berries and one company with Global GAP.

Compared to 2020, there is a small decline in the number of organic certified farmers/companies from 39 in 2020 to 36 in 2021. This is because companies dealing with pumpkins were not interviewed and some other companies that were not certified with organic certificates were added.

The implementation of standards developed the internal capacities of the companies to produce higher quality products, subsequently sales at export markets have increased continuously. The following table presents the number of companies certified with different standards.

Figure 3 – Number of companies implementing standards.



2.2.4. Processing capacities

The processing capacities of actors in the sector are important in order to produce products that meet the quality requirements of the buyers on export markets. By investing in processing capacities, the sector has been increasing the volumes and quality of exported products; more importantly, selling prices were higher and the satisfaction of buyers was higher.

2.2.4.1 Dryers

Drying is the most important activity of the processing process for the NWFP and MAP due to the fact the products should be dried as soon as possible after the harvest in order to preserve the quality. Dryers have also shown to be the most important tool to initiate the aggregation of NWFP and MAPs in a certain area; operators (e.g., collection centers) involved need driers, also, to convince a buyer (e.g., exporter) that they are able to supply good quality products.

The total drying surface is 3,480 m2 or 32% more compared 2020

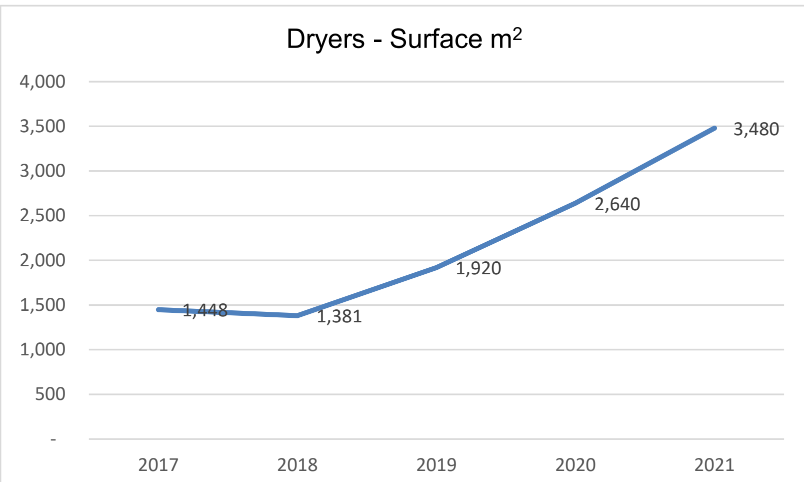
Following this logic, international development agencies and MAFRD have provided financial support to businesses to install driers. In 2021, the drying surface (area) has increased to a total of 3,480 m^2 or 32% more compared to 2020.

Table 4: Processing capacities - Dryers

Years	Surface in m^2	Capacity tons/24 hours	Used Capacity days/year
2021	3,480	143	108
Increase/decrease %	32%	0%	0%
2020	2,640	143	108
Increase/decrease %	38%	63%	-8%
2019	1,920	88	117
Increase/decrease %	39%	22%	6%
2018	1,381	72	110
2017	1,448		

For more details see the diagram that from 2018 onwards there is a significant increase of the number of dryers. This difference between the years 2021 and 2020 is 840 sqm or 38%. This change has happened that this year some actors of the sector are included who have a very large capacity of driers. The total surface of dryers was 3,480 m^2. The daily capacity of all dryers was an average of 5 tons/day; however, the daily capacity depends on the water content of the products. The average use of driers was 116 days/year.

Figure 4: Processing capacities - Dryers



2.2.4.2 Shock tunnels (blast freezers)

Out 44 companies only 18 have reported possessing shock tunnels (blast freezers). Those are companies dealing with mushrooms or cultivated fruits. The total surface of shock tunnels (-40°C) installed is 680m^2 with the capacity to process 190 tons of goods per day but the annual usage is relatively low - only 120 days/year.

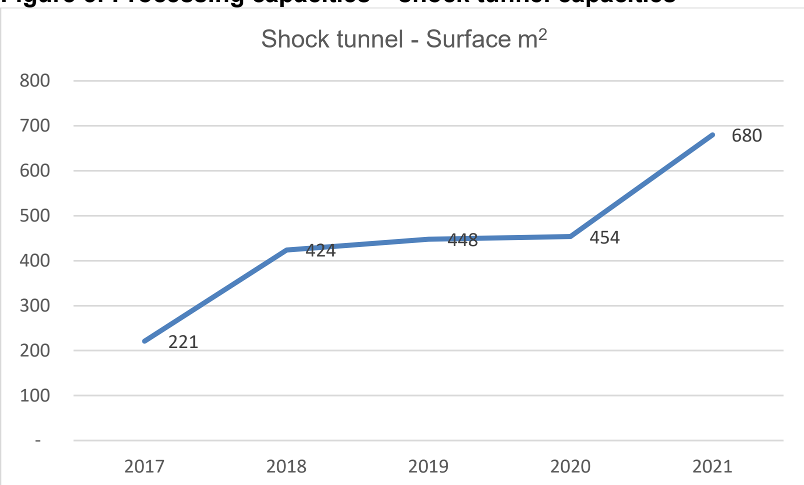
The total surface of shock tunnels is 680 m2

Compared to 2020, there is an insignificant increase in the surface; however, few companies have expanded the surface with both shook tunnels and storage for frozen products and as mentioned above this year some companies that own shock tunnels were interviewed. The difference is 226 m^2 and there is an increase of freezing capacities by 50%.

Table 5: Processing capacities - Shock tunnel capacities

Shock tunnel Capacities -40° C°			
Years	**Surface m²**	**Capacity tons/24 hours**	**Usage in days/year**
2021	**680**	190	120
Increase/decrease %	50%	169%	0%
2020	**454**	70.5	120
Increase/decrease %	1%	5%	
2019	**448**	67	
Increase/decrease %	6%	12%	
2018	**424**	60	
Increase/decrease %	92%		
2017	**221**		

Figure 5: Processing capacities – shock tunnel capacities



2.2.4.3 Storage for frozen products

Similarly, as for shock tunnels (blast freezers), the storage capacities for frozen products have changed significantly. The total surface with storage of frozen products in 2021 was 7,941 m2, which represents 26% compared to 2020; however, the capacity declared has increased by 128%, but again it is not linked to the surface but with the products that were stored in 2021 (different products were store compared to 2020).

The total surface of the cooling freeze is 7,941m2

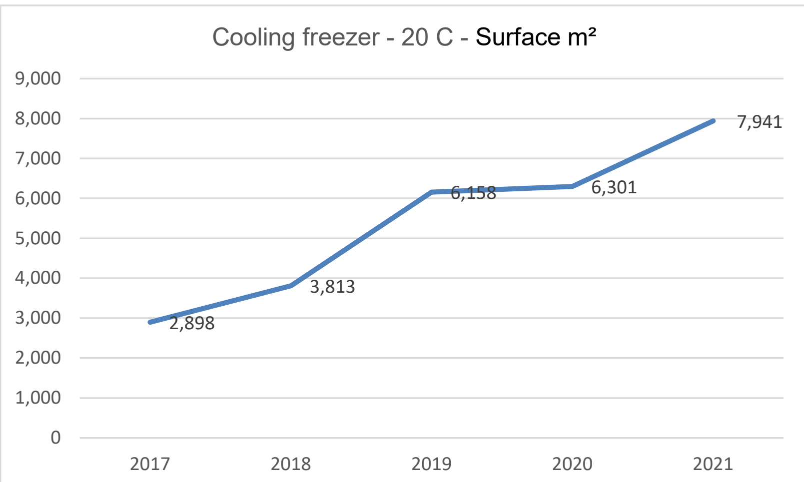
In addition, the number of days those storages were used has decreased to 240 days/year – the main reason is that due to the high request from buyers, sales were quicker than in previous years. In total 21 companies have storage capacities for frozen products and in 2020 there were 15; whereas three companies that do not have shock tunnels have storage for frozen products (products freeze there).

Table 6: Processing capacities - Cooling freezer - 20 C

Years	Surface m²	Capacity tons/24 hours	Used Capacity days/year
2021	7,941	2,472	240
Increase/decrease %	26%	128%	-20%
2020	6,301	1,084	300
Increase/decrease %	2%	38%	54%
2019	6,158	788	195
Increase/decrease	62%		
2018	3,813		
Increase/decrease	32%		
2017	2,898		

The graph below shows the best realistic significant surface growth for Storage for frozen products

Figure 6: Processing capacities - Cooling freezer - 20 C



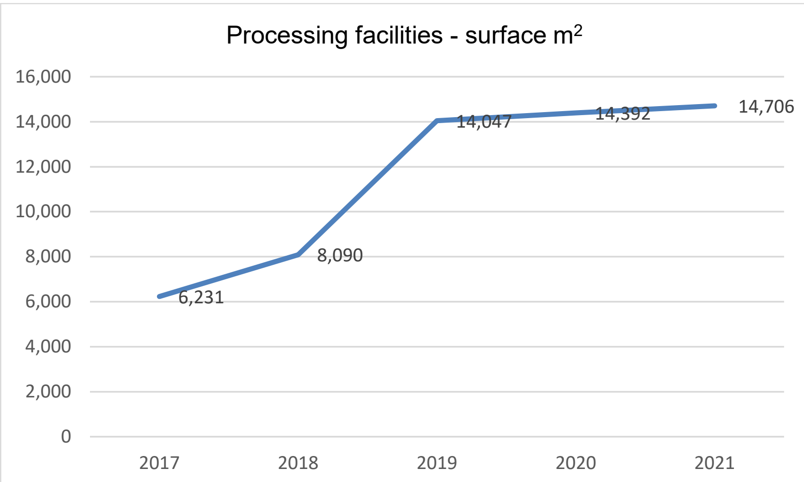
2.2.4.4 Processing facilities

The processing facility is the space where companies receive products, prepare products for drying and processing, and finally packaging of products. Besides owning a dryer, having a facility/space for processing is key to having high product quality. In the last years, companies have invested considerably in processing facilities, firstly, to make the processing process easier and secondly, to ensure high product quality. Out of the total interviewed companies, 34 interviewees reported that they own processing facilities; they, in 2021, have an additional surface of 314 m^2, a 2% increase compared to 2020. Regarding the average usage, the facilities were used 225 days during 2021 (the number of days reported divided by the number of companies interviewed – 7,895 days/ 34 companies). We have a decline in the use of processing facilities due to high demand for products because as seen in other storage capacities they are released much faster from use.

Table 7: Processing capacities - Processing Facilities

Years	Surface m²	Capacity tons/24 hours	Used Capacity days/year
2021	**14,706**	**593**	**225**
Increase/decrease %	2%	65%	-11%
2020	**14,392**	**359**	**253**
Increase/decrease %	2%	25%	83%
2019	**14,047**	**287**	**138**
Increase/decrease %	74%		
2018	**8,090**		
Increase/decrease %	30%		
2017	**6,212**		

Figure 7: Processing capacities – processing facilities



2.2.4.5 Processing machines

This year the companies were asked to present the capacities of processing machines only and not equipment and machines for primary production because they are too many and those are mainly used for basic agriculture activities. The sector develops through investments made on processing machinery and processing lines for value adding. Machines that companies own are diverse, starting with cutting machines valued to around €500 up to advanced processing lines in a value of €150,000. The interviewees based on the possession of the processing machines are grouped as follows:

1. Companies with no processing machines – 12 companies do not possess any processing machines. These companies are mainly companies cultivating MAPs that are either small companies that recently started with cultivation or those that are specialized only in MAP cultivation.

2. Companies with basic processing machines – 17 companies mainly small-scale collection centers own machines for basic processing – cutting machines for slicing mushrooms and wild apples.
3. Companies with processing lines - 21 companies own several processing machines including cutting machines e.g., for mushrooms, and wild apples as well as cleaning machines (air blowers and inspection belts) and wild fruits e.g., bilberries and juniper berries.
4. products having as output herbal leaves in several fractions, a laser line for cleaning of frozen products etc.

These groups also represent the ways that companies within the sector have been developing; they start with no machines and as they grow in production, they invest more on machinery to add value to products.

2.2.5 Collection of NWFP

In 2021, 32 NWFP products were collected at volumes of 2,336 tons. The volume compared to 2020, 3,074 tons, is much lower. In 2020, mushrooms have dominated due to suitable climatic conditions, while in 2021, juniper berries have dominated. The table below shows only NWFP's accumulated over 1 Ton.

2,336 tons NWFP collected

Table 8: Quantity Collected of the NWFPs in 2021

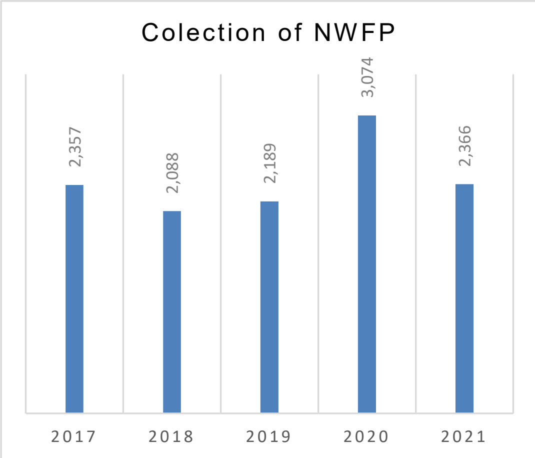
No	NWFP	Tons	No	NWFP	Tons
1	Juniper Berries	848	15	Raspberry leaves	9
2	Wild Blueberries	835	16	Breckland thyme	8
3	Mushrooms	657	17	Wormwood	7
4	Wild Blackberries	616	18	Silver Birch	6
5	Rosehips	327	19	Fish grass	6
6	Wild Strawberry	203	20	White Linden	5
7	Wild apples	129	21	Hawthorn fruits	4
8	Elder flower	80	22	Ethidium plant	4
9	Wild garlic	49	23	St. Johns worth	4
10	Cowslips	23	24	Hawthorn flowers	2
11	Blackberry leaves	11	25	Red Linden	2
12	Nettle	18	26	Mountain tea	2
13	Blackthorn	15	27	Field Horsetail	2
14	Yarrow	14	28	Hazelnuts leaves	2

In 2021, 28 NWFP species were collected compared to 29 species in 2020. During this year number of species is lower by one.

The collection of NWFP has been continuously increasing since the first report in 2017, except for 2021. The volume of products collected in 2021 compared to 2020 is much lower, only 2,336 tons vs 3,074 tons. The main reasons for this are:

(1) increased availability on mushrooms in nature during 2020.
(2) people in rural areas spent much less time collecting NWFP than previously and
(3) most importantly, very high temperatures that impacted on decreasing yield by 23%.

Figure 8: Collection of NWFPs over the period (2017-21) in tons



Comparing the 10 top NWFPs of 2021 with the 10 top NWFPs of 2020 the 7 main products are the same with the difference in their volumes. There is a movement from year to year, in the list of 2021 are added and have changed positions within 10 NWFP, 3 new products - Wild garlic, Cowslips and Blackberry leaves, while from the list of 2020 products have fallen below 10 top products: Raspberry leaves, Wild Strawberries, and Nettle. These 10 top NWFPs represent 97% of the amount of NWFP collected, so these products dominate the sector.

Table 9 – Top 10 NWFP species

	NWFP	Tons	NWFP 2021	Tons
1	Mushrooms	1,121	Juniper Berries	848
2	Juniper Berries	658	Wild Blueberries	835
3	Wild Blueberries	528	Mushrooms	657
4	Wild Blackberries	245	Wild Blackberries	616
5	Rosehips	131	Rosehips	327
6	Wild apples	130	Wild Strawberry	203
7	Elder flower	45	Wild apples	129
8	Raspberry leaves	39	Elder flower	80
9	Wild Strawberries	29	Wild garlic	49
10	Nettle	26	Cowslips	23

In 2021 a total of 4,633 contracts including 199 contracts with collection centers was reported, 2,485 contracts with farmers and 1,949 verbal agreements. If only farmers are taken into account, there were 4,434 families (because contract is signed with a family member); multiplied with 4 members on average – in collection of NWFP in 2021 over 17,736 people were involved. There is an increase of 12% of the contracted product and this shows that this sector is making moves towards contracted production every day. This will encourage the sector to develop even more in the future.

Table 10: Collection of NWFPs and Contracting

Type of contract	Years							
	2018		2019		2020		2021	
	No. of Contracts	%	No. of Contracts	%	No. of Contracts	%	No. of Contracts	%
Collection Centers	235	8	133	3	209	5	199	4
Farmers with contracts	1,077	37	1,624	36	1,894	46	2,485	54
Farmers without contracts	1,584	55	2,773	61	1,985	49	1,949	42
Total	**2,896**	**100**	**4,530**	**100**	**4,088**	**100**	**4,633**	**100**

2.2.6 Cultivation of MAP

Medical and Aromatic plants were cultivated in 402 ha producing a total of 660 tons. It was a significant decline in 2021 compared to 2020, this decline of the cultivated area was as result of reduced planting of chamomile, because there was a lower demand in the world market.

402 ha cultivated with MAP's

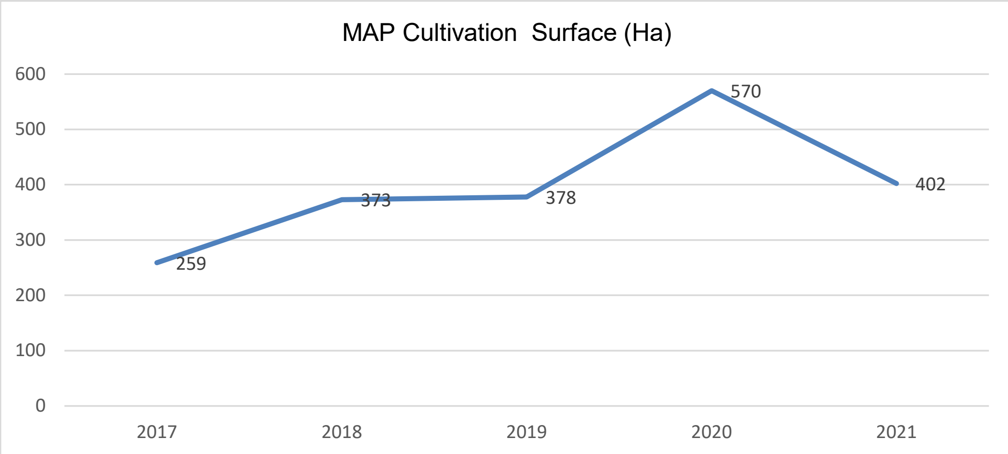
Considering that the production of chamomile is a mechanized technology, Kosovo cannot always be competitive with advanced countries. Kosovo is much more competitive with MAPs such as calendula, cornflower, which cultivation uses technologies that do not need mechanization. Related to MAPs there are negative trends; there are less ha under cultivation and a lower number of farmers but higher average yields.

Table 11. MAP cultivation

No	MAP	Total surface (Ha)	Quantity produced (tons)
1	Chamomile	251	250
2	Mentha piperita	41	213
3	Nettle's	25	41
4	Oregano Vulgaris	22	47
5	Common mallow	13	15
6	Blue Cornflower	12	19
7	Calendula	11	17
8	Multiflora	9	24
9	Melissa	8	22
10	Trifolium	7	1
11	Sage	1	8
12	Sambucus nigra	1	1
13	Red Cornflower	1	2
	Total	**402**	**660**

The table above presents MAP only those whose accumulated amount has exceeded 1 hectare.

Figure 9: MAP Cultivation – Summary figures



The table and the diagram above show that the positive trend of expansion and the cultivation of MAPs has not continued as it was in the year before; however, it is important to state that besides 44 interviewees, there are some other small-scale farmers involved in the cultivation of MAPs, but they are expected to grow and it is a sign that cultivation of MAPs will continue to grow further in future.

2.2.7 Cultivated berries managed through the value chain of NWFP and MAP

As already explained in the methodology section, data gathered on cultivated berries are part of this report only because a few NWFP & MAP companies use the same processing capacities and human resources for berry cultivation, processing, and trading. Out of 44 interviewees, 12 of them are to a certain level heavily involved in the value chains of cultivating, processing and trading berries. The total surface of cultivated berries managed through the value chain of the NWFP& MAP is 526 ha with a production of 1,894.4 tons; total exports of berries were €6.12 Million. Compared to 2020 the total surface of cultivated berries managed through the value chain of the NWFP & MAP is 239 ha with a production of 1,350 tons; total exports of berries were €2.75 Million. Since several large NWFP collection centers are also involved in this study this year and they are operating well in the raspberry sector, the results are significant in increasing the number of raspberry farmers, the amount produced, and the income. Revenues are affected by the global price of raspberries. This year it was at least 4 EUR per Kg of exported raspberries compared to the 2020 price which was 3 EUR per kg.

Table 12: Export of cultivated berries

Berries	(Ha)	QTY produced (ton)	Exports (€)
Raspberry	453	1,535	5,901,900
Strawberry	53	315	257,000
Blueberry	9	19	58,000
Aronia	11	25	
Total	**526**	**1,894**	**6,216,900**

2.2.8 Sales

The most important indicator of the situation of the sector for a year is sales of the products both exports and sales in domestic market. It also presents the sector's contribution to the overall country's trade balance and participation in total export sales. The total sales of NWFP and MAP sector for 2021 were € 14 Million, compared to the total sales of NWFP and MAP sector for 2020 were € 12.5 Million.

The total sales NWFP and MAP's 14 Million

There are two main reasons for the increase of the sales:

(1) Global prices in 2021 were higher compared to the 2020, and

(2) In this study, only actors working with NWFP and MAP were interviewed, (Organic members who are involved in organic production dealing with cereals, vegetables (pumpkin, cigars not interviewed). But finally, the main indicator for such high revenues are the very high global prices in 2021 for NWFP and MAP.

Table 13: Total sales NWFP & MAP in 2021

Total sales NWFP & MAP		
	Sales (€)	Percentage
Total	**€ 13,998,607**	**100**
Export	€ 13,280,927	95
Local market	€ 717,680	5

Sales of the NWFP and MAP sector have been increasing continuously, with exports taking over 95% of the total sales. Sales in 2021 increased by 11% compared to 2020 from € 11.84 Million to € 13.3 Million. Sales of the last five years presented below:

Table 14: Total sales NWFP & MAP during 2017 - 2021

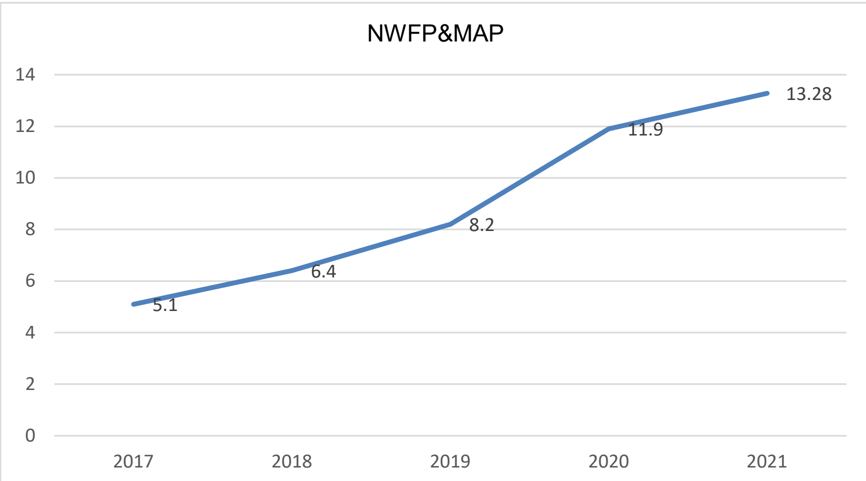
Year	Exports	Domestic Sales	Total Sales	Increase
2021	13,280,927	717,680	13,998,607	11%
2020	11,845,933	715,000	12,560,933	48%
2019	8,157,072	336,711	8,493,783	21%
2018	6,394,108	638,650	7,032,758	14%
2017	5,810,890	335,000	6,145,890	

On export sales, NWFP takes the main share; in 2021, 90% of the total sales were from NWFP and 10% from MAPs. This shows that NWFP are by far more important than MAP for the sector; the main reason for it is the availability of NWFP in the Kosovo Mountains, the tradition of collectors in rural areas as well as long-lasting linkages of exporters with buyers in export countries. On the other hand, the cultivation of MAPs is a new activity that has started to be introduced to Kosovo farmers in the last 10 years.

Table 15: Export of NWFP and MAP 2017 – 2021

Year	NWFP	MAP	Total
2021	11,923,514	1,3574,13	**13,280,927**
	90%	10%	
2020	10,277,289	1,299,644	**11,845,933**
	87%	11%	
2019	6,765,331	1,125,741	**8,157,072**
	83%	14%	
2018	5,109,475	1,179,633	**6,394,108**
	80%	18%	
2017	4,679,690	376,000	**5,055,690**
	93%	7%	

Figure 10: Export of NWFP and MAP 2017 – 2021 (,000,000)



Top five leading NWFP and top five MAP products were for export sales as in the table below

Table 16: Top 5 NWFP and MAP

NWFP			MAP		
	Products	**Value (€)**		**Products**	**Value (€)**
1	Wild Blueberries	2,940,100	1	Chamomile	236,730
2	Mushrooms	2,110,613	2	Common follow	204,330
3	Juniper	2,123,175	3	Nettle's	203,999
4	Elder flowers	1,031,233	4	Blue Cornflake	192,635
5	Wild blackberry	783,000	5	Mentha	152,483

4. CURRENT AND FUTURE INVESTMENTS

Besides the increase in collection, cultivation and sales, the NWFP and MAP sector is known as a sector with high investments. 44 interviewees have reported to invest nearly €1.7 Million in 2021 with the highest share on investment by purchasing machinery. Again, machinery add value to products, improve quality based on buyers' requirements.

For investment in 2022 – 2024, 44 interviewees reported that they are planning to invest nearly €4.9 Million, with €2.2 Million or 38% of investment planned for 'other investment' in majority investment on processing facilities.

Table 17: Investments in 2021 and plans for next three years (€)

Year	Total investment (€)	Dryers (€)	Machinery (€)	Staff qualification (€)	Cooling and freezing space (€)	Other investments (€)
2021	**1,701,050**	345,000	570,000	19,200	326,000	440,850
	100%	20%	34%	1%	19%	26%
2022 – 2024	**4,900,030**	589,000	1,235,030	79,000	802,000	2,190,000
	100%	12%	25%	2%	16%	45%

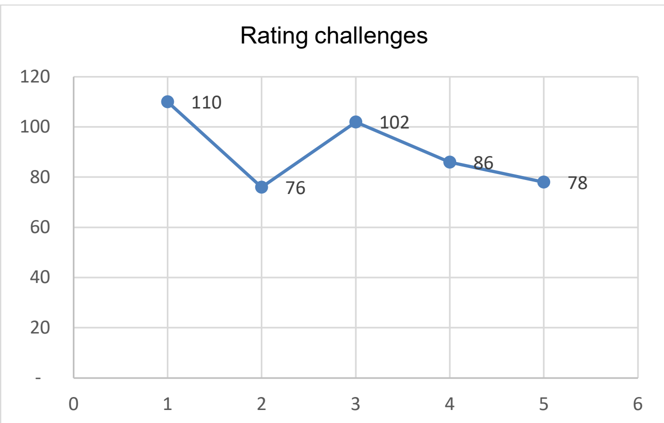
5. CHALLENGES OF THE SECTOR

Interviewees were also asked about the main challenges they face in doing business in the sector. Five challenges were presented and the interviewees rated the challenge they face the most with five and the challenge that they face least with one.

Table 18: List of sector's challenges

Rating (1-5)	List of sector's challenges	Evaluation
1	Insufficient supply with raw material	2.5
2	Difficulties with finding market	1.7
3	Lack of processing/storage capacities	2.3
4	lack of adequate/suitable technologies	2.0
5	Lack of organized marketing	1.8

Figure 11: List of sector's challenges



The challenge that the companies face the most is "Insufficient supply with raw material" followed by "lack of processing and storage capacities" and followed by "lack of adequate technologies". This is also in line with investments needed for machinery and advanced technology in order to add value to products, meet the requirements of the buyers and increase exports, thus, increasing turnover over and profits of the companies.

6. CONCLUSIONS

- Even though that pandemic COVID 19 was a real challenge the NWFP and MAP in 2021 has had a growth
- Restrictions of movement due to pandemic COVID 19 imposed by the Government (during March – April 2021) brought instability and insecurity for the collectors to collect NWFP and farmers to cultivate MAPs; but later all actors of the sector found ways to operate and results in end 2021 were positive.
- The total number of full-time employees in 2021 compared to 2020 increased by 21 or 7%, while number of seasonal workers dropped by 54 or 1%. In relation to seasonal workers there has been an impact that due to extremely high temperatures, yields have been very low in NWFP and MAP.
- Out 44 interviewees 36 companies are certified with the organic standard. So, the number has decreased because previous studies were taken into account for the study of some producers of pumpkin seeds, where production was organic. Now in this study they were not included.
- There is a significant increase in dryers. This difference between the years 2021/2020 is 840m^2 or 32% more compared to the drying capacities in 2020.
- The volume of NWFP collected in 2021 compared was 2,336 tons compared to 2020 was 3,074 tons, i.e 738 tons less or 24% in 2021 and prices of NWFP were higher in 2021 as well.
- MAPs were cultivated in the area of 402 Ha; compared to 2020 there was a significant decline than 2020 which was over 570 ha, out of which 91% were organically certified.
- The total sales of NWFP and MAP sector for 2021 were € 13 Million, compare to total sales of NWFP and MAP sector for 2020 were € 12.5 Million.
- Even though that interviewed companies during 2021 have invested € 1.7 Mio, they have plans to further invest in processing and storage capacities for 3 years at a value of nearly € 4.9 million.

7. RECOMMENDATIONS:

- NWFP takes over 90% of the export share, compared to local sales; Kosovo is rich (availability in mountains) with these products (NWFP), subsequently, can always compete in export markets. Therefore, MAFRD and all other actors should make more affords to develop further collection and processing of NWFP, both for increasing the volumes and value addition of these products.
- NWFP and MAP sector is smaller than milk or fruit and vegetable sector, but it is entirely export-focused and potential for further expansion exists, but the MAFRD's Agriculture and Rural Development Program does not consider it as a sector. It was supported under the chapter "farm diversification" and support was very low. The sector should be considered as a sector and support should be increased which will result in the collection of higher quantities and prevent the migration of people from rural areas.
- Organic certification has started to be developed since 2017. 36 interviewees are certified in 2021; however, the capacities of smaller operators of collectors/farmers for the organic certification process should be further improved and other ways of certification e.g. group certification should be developed in order to convince buyers that actors of the sector are working for further improve quality of products. For this, the support of donors and MAFRD should be continued.

8. REFERENCES:

1. Green Report, MAFRD, 2021
2. MAFRD, Program of Direct Payments 2020, Retrieved from https://www.mbpzhr-ks.net/repository/docs/495_Programi_per_Pagesa_Direkte_per_vitin_2018_21.pdf
3. ORGANIKA, about, Retrieved from https://organika-ks.org/en/about-us/
4. NWFP and MAP Sector reports for 2017, 2018 and 2020

Annex 1: Questioner for 2021

SIRED Sustainable and Inclusive Rural Economic Development

ORGANIKA

CARITAS Schweiz Suisse Svizzera Svizra

With funding from Austrian Development Cooperation

Questionnaire for the basic analysis of the sector NWFP's and cultivated MAPs	
1. General Information	
Company:	
E-mail:	
Contact Person:	
Phone:	
Year of establishment of the company:	
Legal status:	

2. Number of Employees 2021

Total number of employees

Full time	Women	Men	Young 18-30	30 - 44	45 - 65	Minorities
Number						
Seasonal	**Women**	**Men**	**Young 18-30**	**30 - 44**	**45 - 65**	**Minorities**
Number						

Number specific number of workers working with raspberries

Full time	Women	Men	Young 18-30	30 - 44	45 - 65	Minorities
Number						
Seasonal	**Women**	**Men**	**Young 18-30**	**30 - 44**	**45 - 65**	**Minorities**
Number						

3. International standards by which your company is certified 2021

Standard	Certified year	Certificate validity up to / month / year
Organic		
HAACP		
ISO 22.000		
IFS		
BioSuisse		
Other		

4. Current processing capacities – 2021

	Surface (m2)	Capacity (tons/24 hours)	Yearly Capacity (day/year)
Dryer:			
Shock Tunnel (-40):	Surface	Capacity	Yearly Capacity

	(m2)	(tons/24 hours)	(day /year)
Cooling storage (-20):	Surface (m2)	Capacity (tons/24 hours)	Yearly Capacity (day /year)
Processing facility:	Surface (m2)	Capacity (tons/24 hours)	Yearly Capacity (day /year)

Other processing capacities
Describe machines and other equipment

5. Current collection capacities for NWFP 2021

	Types of NWFP's	Quantity (Tons)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

5.1 Contracts with wild plant collectors of NWFP 2021

Supplier contract			
Number of contracts with CC		Quant. (tons)	
Number of contracts with Farmer		Quant. (tons)	
Number of farmers without contracts		Quant. (tons)	

Contracts with market (for exporters)

Number of contracts with buyers		Country		
QTY contracted (tons)				

Cultivation of MAPs and berries in 2021								
.	Types of MAP and berries	Total surface (Ha)	Areas owned by the enterprise	Number of contracts cultivating farmers		Quantity in tons	Organic tons	conventional tons
				With contract	Without Contracts			
				No.	No.			
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

Do you need to increase the area for expansion of the above-mentioned plants Yes _____ No _____

If yes, please specify the crops and areas you want to expand

Products	Surface (Ha)	Qty	Organic	Conventional

6. Total investment value of (Please enter an approximate value of the investment in euros) ______________________________

Investment value 2021 (Please enter an approximate investment value in euros)				
Dryers	Machinery	Qualification of staff	Cooling and freezing facilities	Other investments (specify in what)
€	€	€	€	€

Planned investments for the next three years 2022-2024 (Please enter an approximate investment value in euros)				
Dryers	Machinery	Qualification of staff	Cooling and freezing facilities	Other investments (specify in what)
€	€	€	€	€

7. Market 2021

Total sales value €		____________€
Total value of sales from Export €		________________€
Total value of local sales €		________________€
Export	%	
Local	%	
Organic	%	
Conventional	%	

Types of products and quantity exported

Products:	Quantity 2021 (tons)	Country	(EUR)	NWFP (write -x)	MAP (write -x)

Types of products and quantity sold in the Kosovo market.
Please specify buyers (traders, markets, final consumer, or other) 3 companies if there are sales

Products:	Quantity 2021 (ton)	EUR	The buyer	NWFP (write -x)	MAP (write -x)

8. Plan of growth of activities and potentials for the next five years?

If yes, please provide additional information on how you plan to achieve these increases?

Increasing the quantities of productivity	
Development of new products	
Penetration into New Markets	
Processing and increasing the value of products - production of final products for the market	
Promotion of your products at international fairs	

9. Your Export Expectations over the next 5 years	
	Percentage -%
1. Increase	
2. Discounts	
3. I do not expect change	

10. Specify your forecasts in% for the next 5 years that your company plans to focus on (based on market demands)	
Organic Products%	
Conventional products%	

11. Do you expect this increase in exports as a result? (circle all applicable options):	
1	Increasing demand for products in international markets
2	Better access to export markets
3	Productivity increase (e.g. through cultivation / production methods or more advanced machinery / equipment)
4	Improving the quality of products
5	Improving quality through product certification
6	Other (specify) ____

12. Challenges that your company faced 2021 (evaluate 1-5 – 1 minor challenge up 5 major challenge)				
Insufficient supply with raw material	Difficulties with finding market	Lack of processing/storage capacities	lack of adequate/suitable technologies	Lack of organized marketing

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