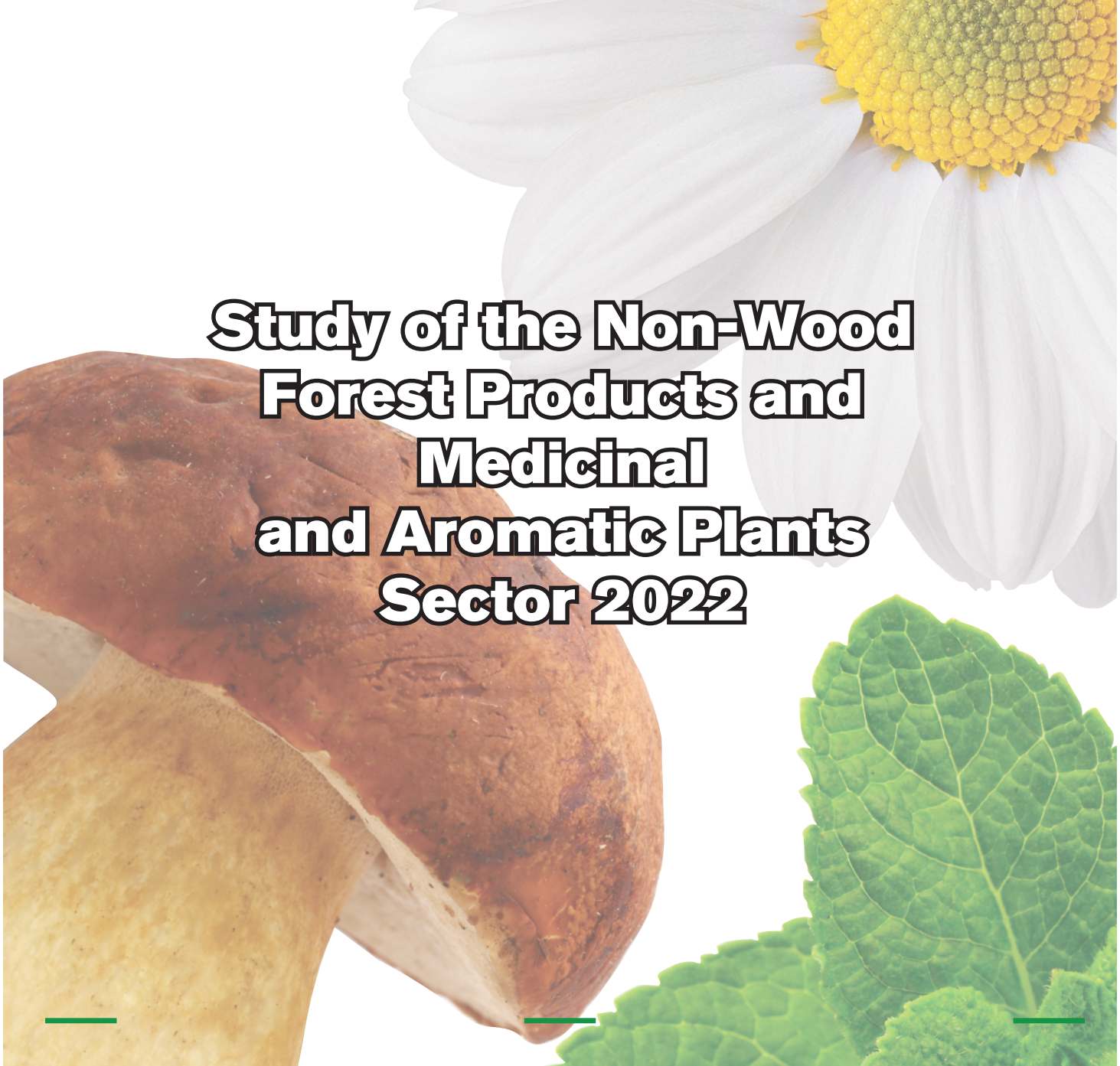




ORGANIKA

Shoqata e Përpunuesve dhe Eksportuesve Kosovar të PPJD dhe BMA
Kosovo Association of the Processors and Exporters of the NWFP and MAP

10 YEARS
ORGANIKA



Study of the Non-Wood Forest Products and Medicinal and Aromatic Plants Sector 2022

With funding from

 **Austrian
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Study of the Non-Wood FP and MAP sector 2022

April 2023

Author: Basri Hyseni

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 Centres
SIREC	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
Alb	Albanian language/gjuhë shqipe

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1. INTRODUCTION

Agriculture is an important economic sector of Kosovo; a large number of families in rural areas have primary or secondary income from the agricultural sector and also, it absorbs a large number of workforces in rural areas working in several agricultural subsectors. However, this sector is associated with some difficulties and some disadvantages: the farmers are small scale; farms fragmented, and production technologies are mainly traditional and outdated but the process of updating them is ongoing.

The Non-Wood Forest Products¹ (NWFP) and Medicinal and Aromatic Plants (MAP) sector was re-established after the war by the initiatives of private companies involved on collection of wild mushrooms with the support of several donors'/development projects mainly foreign. Later, 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.

The new development for the sector was the establishment of ORGANIKA association in 2013, by the leading companies of the sector of NWFPs and MAPs as a platform for the development of the sector through improving cooperation among stakeholders of the sector, promoting Kosovo's products in foreign export markets, and through lobbying activities².

The support of donors/development projects for the NWFP and MAP sector has been followed by MAFRD; firstly, by the provision of grants for investments in physical assets for companies involved in NWFP and MAP through Rural Development Program since 2014 as part of Measure 302 – “Farm diversification and business development”, under measure 302.2 - Processing of aromatic medicinal plants, forest fruits and collected mushrooms. Secondly, the support was provided through the Program of direct payments since 2016 for organically certified MAPs, and the eligible farmers could get subsidies in amount of 200€/ha, 2017 in amount of 200€/ha and in 2018 the subsidy reached 500€/ha. Direct payments for the years 2019, 2020, 2021 and 2022 for medicinal and aromatic plants were worth €450/ha and €50/ha for the certified organic surface. Direct payment for the year 2023 for medicinal and aromatic plants in the value of €450/ha and €0.36/L of fuel for the amount spent per ha. In addition, if the growers of medicinal and aromatic plants are in the conversion period in organic production, they benefit additional €50/ha this for first time ever; while, farmers whose cultivated area with organic medicinal plants is certified receive more additional of €100/ha comparing to 2021 that received €100/ha. MAFRD has continuously supported the MAP sector with very good supportive agricultural policies

The sector of NWFP and MAP has been growing steadily in last six years, in both terms of increasing volumes of collected or cultivated products. In 2017 total volume of sold products was 2,357 tons with exports at value of € 6.14 Million; in 2018 total volume of sold products was 2,088 tons with exports of € 7 Million, in 2019 total volume of sold products was 2,189 tons with exports of € 8.5 Million, while in 2020, the sector's volume of sold products was 3,074 tons with export at value of € 12.6 Million, while in 2021, the sector volume was 2,336 tons. It shows that the sector of NWFP and MAP is a sector export focused with positive trends that contributed to improve Kosovo's negative trade balance.

However, the COVID 19 and inflation had negative impact on the organic sector in general – from the discussions with different actors of the organic sector internationally, the consumption of organic products has decreased as consumers are taking more care about food prices.

¹MAFRD'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).

² Retrieved from <https://organika-ks.org/en/about-us/>

The main reason for positive export trends of the sector is:

- (1) the increased demand for healthy products world-wide - all products have herbal origin;
- (2) good quality of products offered on the market - also linked with implementation of quality and safety standards e.g., organic standard, by majority of companies involved;
- (3) good market linkages developed by the exporters, and
- (4) Kosovo has favourable agro-climatic conditions for both collection of NWFPs and cultivation of MAPs and it is in vicinity with EU markets.

Despite great market potential, the MAP sector struggles with common agricultural sector problems such 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 centres and lack of experienced extension services. Therefore, focus on improved quality and increased quantity presents a cluster opportunity for growth both in sales and employment. For this study of the NWFP and MAP sector 2022, the Organic Association engaged Basri Hyseni, who has written reports for several years in a row regarding the NWFP and MAP sector.

2. BACKGROUND

ORGANIKA association has been conducting studies of NWFP and MAP sector since 2017. The main objective of the study is to present data of the sector collected from the members of association and non-members with the same methodology and repeatedly (every year) and to 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 for the second time 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 have been interviewed some NWFP and MAP exporters that are not member of association, but they are important actors of the sector, with the sole purpose of having a real overview of the revenues coming from these 2 sectors, NWFP and MAP.

The report for year 2022 (as well for 2021), ORGANIKA has prepared with support of the project SIREN (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 the NWFPs and MAPs sector for the year 2022 including employment, processing capacities, food standards, collection of NWFP and cultivation of MAP, contracts signed, sales, challenges, investment as well as plans for the next years.

This report mainly utilizes data from primary sources. Initially, a questionnaire (Annex 1) was prepared by ORGANIKA's staff, in consultation with the engaged consultant Mr. Basri Hyseni. 44 companies/operators were interviewed using the questionnaire; however, data were collected from 42 because two companies declared that they ceased activities. Data collected were processed using Excel spreadsheets. In addition, to compare and confirm the data collected from the private sector, the secondary data were used including documents, reports, and studies from the Statistical Office of Kosovo, Ministry of Agriculture, Forestry and Rural Development, Kosovo Customs, and donor projects PPSE, GIZ, USAID, IADK etc.

Interviewed private companies/operators include collection centres, 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, during the preparation of the reports for years 2021 and 2022 - six additional companies were interviewed, mainly companies that are not member of ORGANIKA but that are important for the sector, because those companies have similarity activities with other members of the Organika, dealing with NWFP, MAP and soft fruits. There are also 2 companies that deal only with soft fruits, but they are not included in NWFP and MAP at all, they are not included in this report, because the main purpose of this report is NWFP and MAP. For this reason, the income from small fruits for years cannot reflect in real terms, regarding their income and yield.

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 for qualities and sales was collected for berries too. However, berries are not part of the scope of this document; therefore, the data collected will be provided in a separate section. In regard to the employment of these members in this report were presented only a share of employees engaged in processing NWFP and MAPs and not the number of employees engaged 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

3.2.1 Employment in the NWFP&MAP sector

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

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

**Total full-time
employment 315
and seasonal
938**

Table 1: Employment structure in NWFP& MAP 2017 – 2022

Employment	Full time			Seasonal		
	Women	Man	Total	Women	Man	Total
2022	169	146	315	681	257	938
Share ratio %	54	46		73	27	
<i>Increase/decrease %</i>	<u>3</u>	<u>-7</u>	<u>-2</u>	<u>-1</u>	<u>-20</u>	<u>-7</u>
2021	164	157	321	687	321	1,008
Share ratio %	51	49		68	32	
<i>Increase/decrease %</i>	<u>21</u>	<u>-5</u>	<u>7</u>	<u>-6</u>	<u>-5</u>	<u>-5</u>
2020	135	166	301	727	337	1,064
Share ratio %	45	55		68	32	
<i>Increase/decrease %</i>	<u>-7.53</u>	<u>-16.16</u>	<u>-12.5</u>	<u>4.91</u>	<u>-10.61</u>	<u>-0.56</u>
2019	146	198	344	693	377	1,070
Share ratio %	42	58		65	35	
<i>Increase/decrease %</i>	<u>-7.01</u>	<u>25.32</u>	<u>9.21</u>	<u>31.75</u>	<u>40.67</u>	<u>34.76</u>
2018	157	158	315	526	268	794
Share ratio %	50	50		66	34	
<i>Increase/decrease %</i>	<u>71</u>	<u>52</u>	<u>61</u>	<u>66</u>	<u>19</u>	<u>47</u>
2017	92	104	196	316	225	541

In the year 2022, the NWFP&MAP sector employed a total of 315 full-time workers; out of which 169 or 54% were women and 46% men. Seasonal workers in total were 938, including 681 women or 73% of the total number and 27% men. Full-time employees in 2022 compared to 2021 have been decreased by 6 employees or -2%, while the number of

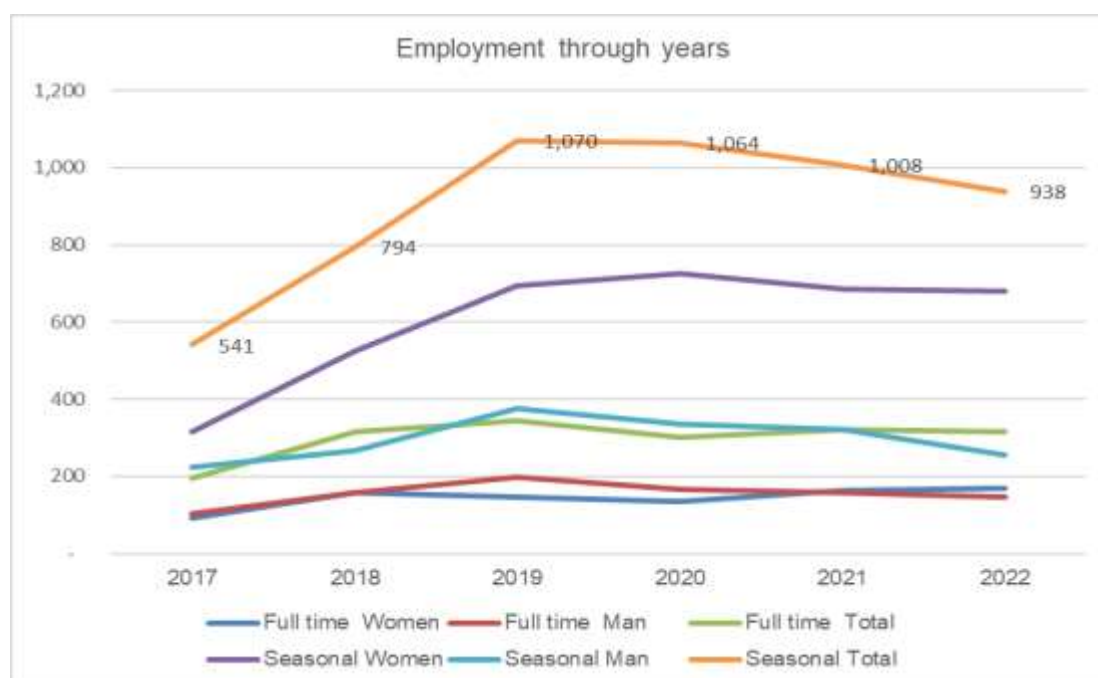
seasonal workers dropped by 70 or -7%. In regard to gender, the data show that the number of women employed is less and they dominate the workforce among seasonal workers compare with men but less for 6 employees and full time by 5 employees

Table 2 – Tendency of the employment structure in NWFP& MAP through 2017 – 2022

Year	Full time Employment			Seasonal Employment		
	Women	Man	Total	Women	Man	Total
2017	92	104	196	316	225	541
2018	157	158	315	526	268	794
2019	146	198	344	693	377	1,070
2020	135	166	301	727	337	1,064
2021	164	157	321	687	321	1,008
2022	169	146	315	681	257	938

From the employment figures for the time period 2017 - 2022, we can conclude that there was a curve that represents an increase in employment until 2019 and then we have a decrease in employment, or the continuation of the same trend. There are many reasons for these curves and based on the most interviewed conversation: the emigration of young people, which is directly related to these years. For more details, have a look to graph below who represent this table below:

Figure 1: Tendency of the employment structure in NWFP& MAP through 2017 – 2022



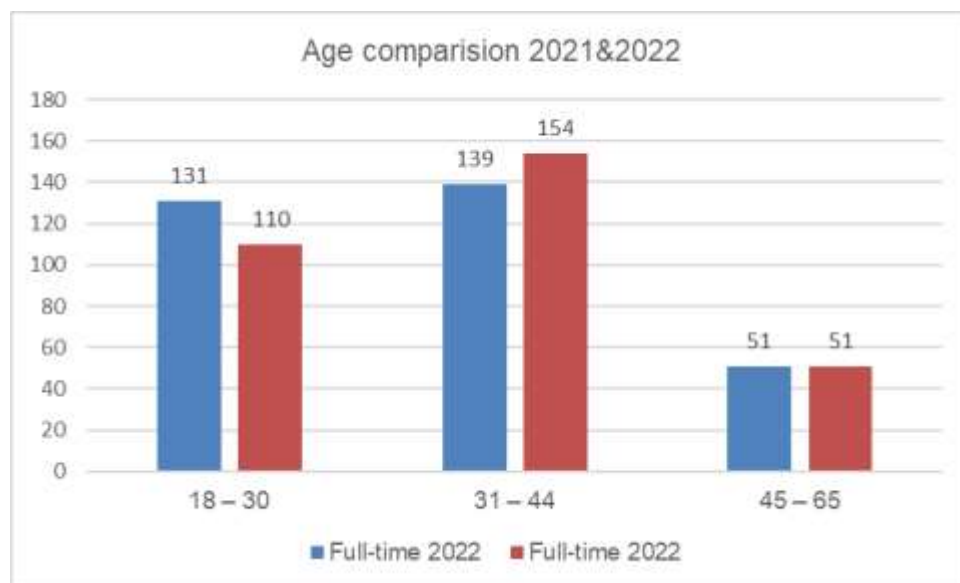
Disaggregating the employees by age, the young employees 18 – 30 dominate the employment. Out of total employees, both full-time and seasonal, 1,272, 620 or 49% were young, 482 or 38% were at the age between 31 – 44 and only 170 or 13% were between 45 – 65. These figures represent also the population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

Table 3: Age of employees 2022

Age of employees	Full-time	%	Seasonal	%
18 – 30	110	35	494	53
31 – 44	154	49	304	32
45 – 65	51	16	140	15
Total	315	100	938	100

If we compare between the different ages of the employees compared to 2022 and 2021, the situation looks like below in the table and figure. There is a decrease in the number of employees in the age category 18-30 years and an increase in the number of employees in the age category 31-44 years.

Figure 2 - Age of employee's comparison 2021/2022



The engagement of seasonal workers on average was for a period of 6 months, which is in line with the critical harvesting period of NWFP and cultivation of MPA. i.e., includes the peak months of this sector starting from May to September. But there is also a similarity in terms of months engaged in seasonal months with previous years. This extended period of engagement of seasonal workers of 1 month compared to previous years shows that we also have a significant increase in the harvested yield of NWFP during the year 2022, which expressed in ours is 3,666 Tons

Table 4. Seasonal workers, number of months engaged during 2022

Yearly monthly engagement			
2019	2020	2021	2022
4	5	5	6

Comparing employment over six years (2017 – 2022), the employment, both full-time and seasonal, constantly has increased following the development of the sector, however, in 2021 the number increased for full-time employees by 7% and decreased for seasonal employees for -5% and as well full-time employees in 2022 compared to 2021 have been decreased by 6 employees or -2%, while the number of seasonal workers dropped by 70 or -7%.

Increase on 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 had a slight decrease in 2021 for seasonal workers, and for a decreasing for both seasonal and full time during 202 as has been mentioned above.

3.2.2 The structure of businesses

The main type of businesses involved in the sector is Limited Liability Company (L.L.C.). Out of 42 interviewed companies, 36 are L.L.C., 3 as individual business and 3 agricultures cooperative. So, there is a very small difference between years 2022 and 2021, a B.I. and a L.L.C. have stopped their activity, while an NGO has now been transformed into a cooperative.

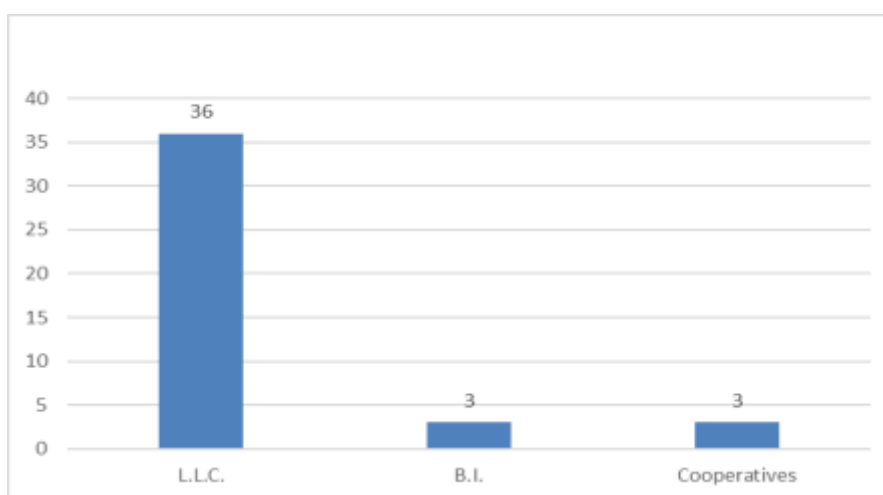
The business structure is dominated by L.L.C. - 36 out of 42 interviewed businesses

Initially most of the companies were registered as individual businesses, however, due to the better business funding possibilities mainly grants from donors, especially EU donors, most of the companies have switched their statute to L.L.C. and all new businesses were registered as an L.L.C.

Table 5: The structure of businesses

Legal Statute	
L.L.C.	36
B.I.	3
Cooperatives	3
Total	42

Figure 3 – The structure of businesses



3.2.3. Food quality and safety standards

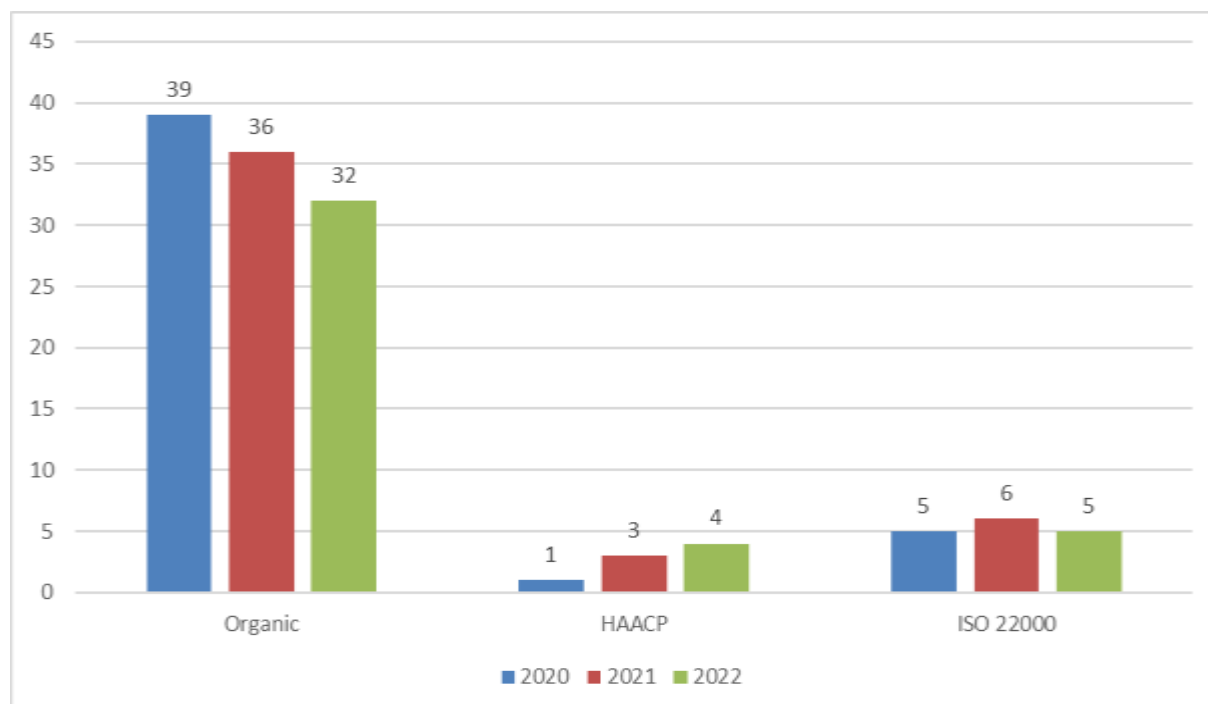
Quality and safety standards are important for the NWFP and MAP sector as the main targeted market is export. Following the demand of the buyers in export markets, the organic standard is the most implemented standard among the interviewed companies; out of 42 interviewees, 32 companies were certified with organic standards during 2022. Two companies were certified additionally with BioSuisse and two NOP, standards that are similar to organic but are required for selling organic products in Switzerland and USA. Regarding HACCP standards, four companies were certified, while for other standards, one company is certified with IFS (the highest quality standard), 5 companies with ISO 22,000 and no company with UTZ (social aspects). For standards in regard to the cultivation, 1 company is certified with Global GAP. For more information, have a look to table below.

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 and comparison through years. There is no significant change or progress in implementing the standards compared to previous years. A few companies implement a few standards.

Table 6 Comparison through years for Food quality and safety standards

Year	Organic	HACCP	ISO 22000	IFS	UTZ	Global GAP
2020	39	1	5	1	1	1
2021	36	3	6	3	1	1
2022	32	4	5	1	0	1

Figure 4 – Number of companies implementing Food quality and safety standards



From the figure above, it can be seen that there is a decrease in organic certifications, but this is because we have 2 interviews less, the companies with implemented HACCP standards have increased, and that ISO 22000 fluctuates in the same figures for years. Up to a very small movement regarding the implementation of standards because there are no new actors/businesses that have been included in the last 4-5 years.

3.2.4. 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.

3.2.4.1 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 harvest in order to preserve their quality. Dryers have shown to be, also, the most important tool to initiate aggregation of NWFP and MAPs in a certain area; operators (e.g., collection centres) involved need a drier, also, to convince a buyer (e.g., exporter) that they are able to supply good quality products.

The total dryer surface in 2022 is 3,393 m²

Following this logic, international development agencies and MAFRD have provided financial support to businesses to install driers. In 2022, the surface of dryers has decreased to a total of 3,383 m² or -2.5% less compared to the drying surface in 2021. As can be seen in the table below, in the surface area of dryers from 2018 to 2021 has increased with an average per year of 36.1%. But from year in 2021 to 2022 there is a decreasing of dryers of -2.5%. This decreasing in this sector is seen as a sector is very dependent on grants, and in 2021 and 2022 there was not even a grant scheme for the NWFP and MAP sector (nor from USAID, EU, Helvetas, MAFRD, etc. (except for the Swiss Caritas). Also, a MAP grower and a MAP collection centre have given up their entire activity to this sector. The aggregate capacity of dryers is decreasing within 24 hours by 28% because the number of days in use

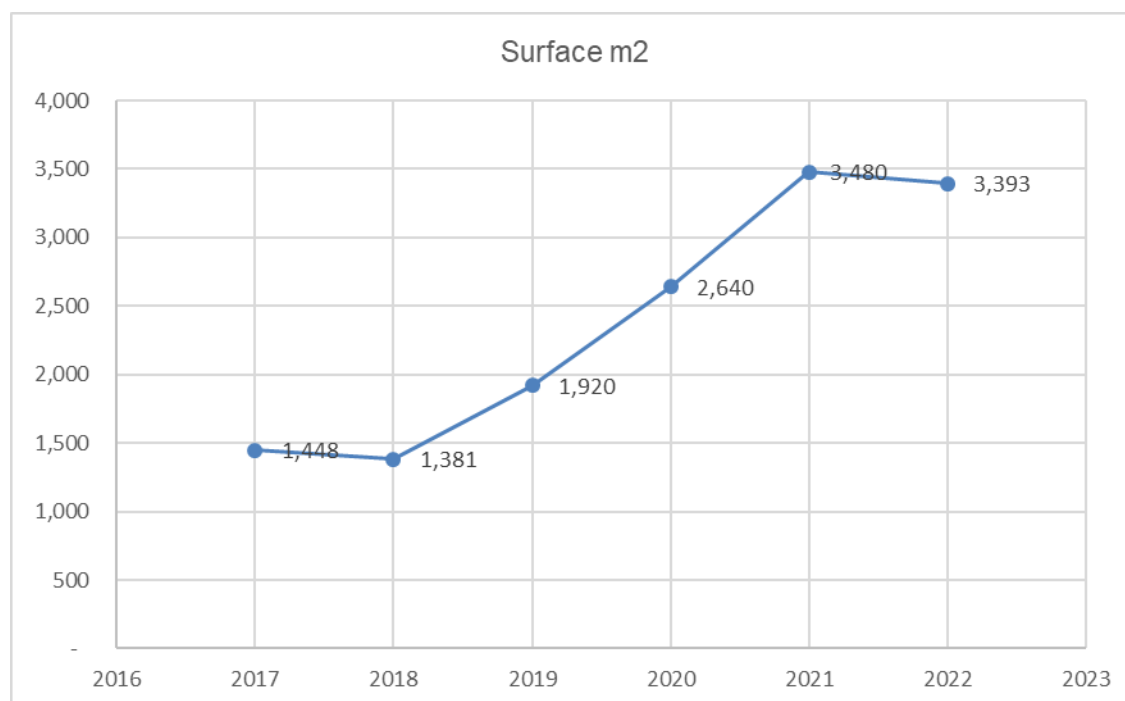
for dryers has increased by 8.3%. The daily capacity of all dryers was an average of 2.8 tons/day; however, the daily capacity depends on the water content of the products. Regarding the usage of the driers, the average use was 117 days/year.

Table 7: Processing capacities – Dryers

Years	Surface m ²	Capacity tons/24 hours	Used Capacity days/year
2022	3,393	103.0	117.0
Increase/decrease %	(2.50)	(28.0)	8.3
2021	3,480	143.0	108.0
Increase/decrease %	31.82	(27.97)	8.33
2020	2,640	143	108
Increase/decrease %	37.5	62.50	(7.69)
2019	1,920	88	117
Increase/decrease %	39.03	22.22	6.36
2018	1,381	72	110
Increase/decrease %	(4.63)		
2017	1,448		

This decreasing surface area of dryers is best illustrated in the figure below

Figure 5: Processing capacities - Dryers



3.2.4.2 Shock tunnels (blast freezers)

Out of 42 companies, only 18 have reported possessing the shock tunnels (blast freezers). Two companies, as we explained above, have left the activities in the MAP sector, but they did not even have a tunnel shock available. Those either are companies dealing with NWFP (wild mushrooms, wild blueberries, or blackberries) or cultivated soft fruits (blueberries, raspberries, blackberries) and mushrooms (champions). The total surface of shock tunnels (-40°C) installed is 680m² with the capacity to process 186 tons of goods per day, but yearly usage is relatively low - only 106 days/year.

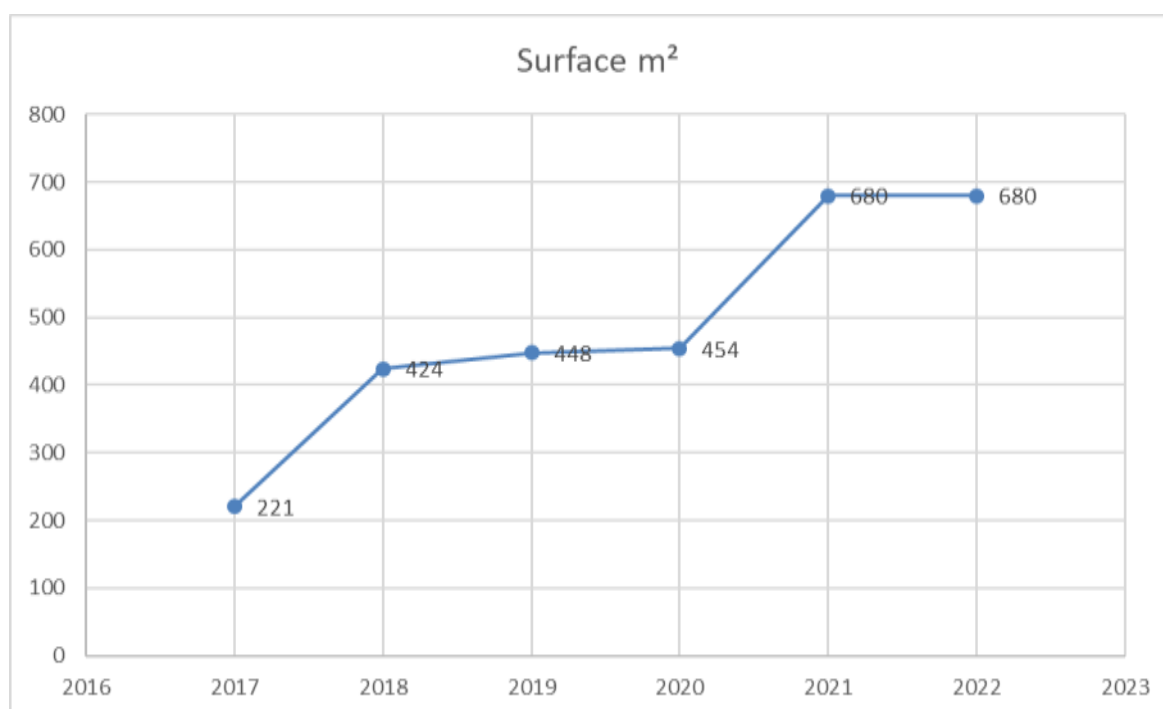
The total surface of shock tunnels in 2022 is equal with 2021 (680 m²)

Compared 2022, there isn't increase in the area regarding the shock tunnels, so the surface remains the same as it was during 2021. After the interviews with the owners of shock tunnels, the reason why they have not expanded the capacities with shock tunnels, they point out that they see a lack of labour power for farmers due to the large emigration of young people to western countries. Then they emphasize that storage capacities and cooling capacities are in harmony within their companies accept production. But during the conversation take into consideration that during the year 2021 - 2022 there were no grant schemes, and surely that also had an impact on not increasing or expanding the cooling capacities. Actors in this sector are still thinking to be supported by the grant system, which is not very promising.

Table 8: Processing capacities - Shock tunnel capacities

Years	Surface m ²	Capacity tons/24 hours	Usage in days/year
2022	680	186.2	120
Increase/decrease %	0	-2	0
2021	680	190	120
Increase/decrease %	50	170	0
2020	454	70.5	120
Increase/decrease %	1	5	20
2019	448	67	100
Increase/decrease %	6	12	5
2018	424	60	95
Increase/decrease %	92		
2017	221		

Figure 6 - Processing capacities – shock tunnel capacities



3.2.4.3 Storage for frozen products

On the contrary, as for shock tunnels (blast freezers), the storage capacities for frozen products have changed with an increase but only by 12.4%, less if compared to the change in 2020 and 2021 that was 26%. The total surface with storage of frozen products in 2022 was 8,926 m², which represents more for 12.4% compared to 2021; however, the capacity declared has increased by 24.90%, but again it isn't linked with the surface but with the products that were stored during 2022 (different product were store compared with 2021).

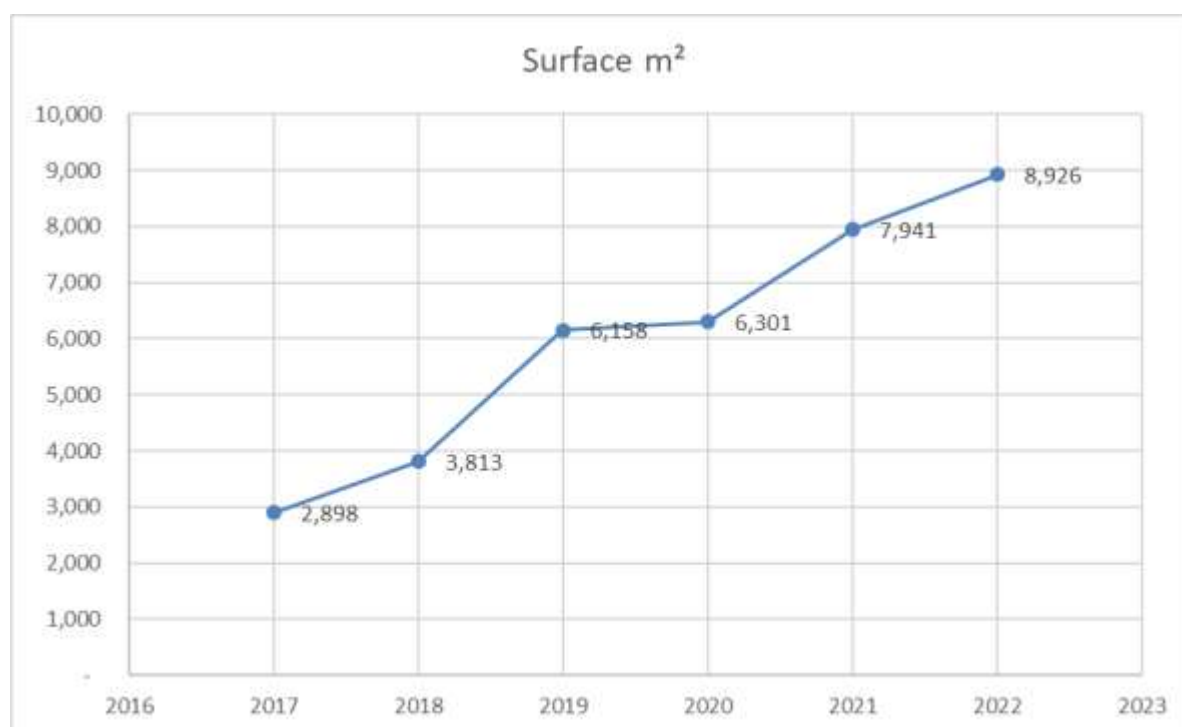
The total surface of the cooling freeze is 8,926m² or 12.4 % more compared with 2021

In addition, the number of days those storages were used has increased to 260 days/year – the main reason is that due to the low request from buyers, sales were slowly sold than in previous years 2021.

Table 9 Processing capacities - Cooling freezer - 20 C

Years	Surface m ²	Capacity tons/24 hours	Used Capacity days/year
2022	8,926	3,088	260
Increase/decrease %	12.40	24.90	8.33
2021	7,941	2,472	240
Increase/decrease %	26	128	(20)
2020	6,301	1,084	300
Increase/decrease %	0.02	0.17	0.79
2019	6,158	788	195
Increase/decrease %	61.50		
2018	3,813		
Increase/decrease %	31.57		
2017	2,898		

Figure 7 - Processing capacities - Cooling freezer - 20 C



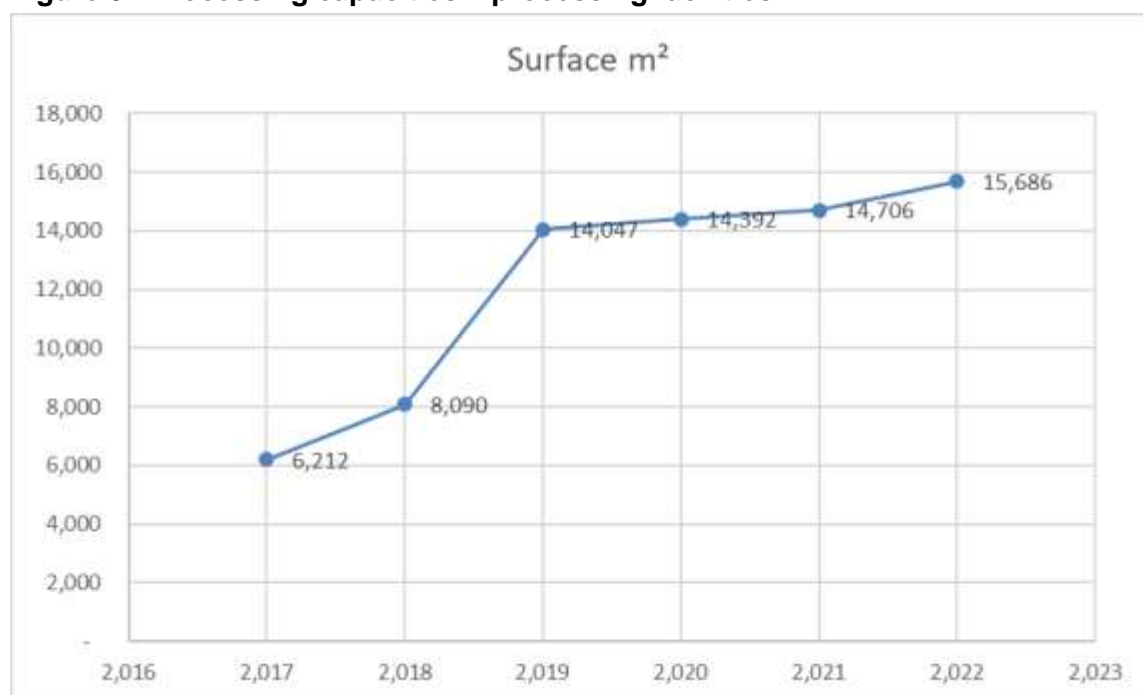
3.2.4.4 Processing facilities

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 2022, have an additional surface of 980 m², a 6.66% increase compared to 2021. Regarding the average usage, the facilities were used 213 days during 2022 or -5.33 %. We have a decline in the use of processing facilities due to low demand for products because as has been explained in the text the demand was not high and still many companies show huge stocks due to low demand by buyers.

Table 10 Processing capacities - Processing Facilities

Years	Surface m ²	Capacity tons/24 hours	Used Capacity days/year
2022	15,686	446	213
Increase/decrease %	6.66	(24.79)	(5.33)
2021	14,706	593	225
Increase/decrease %	2	0.65	(0.11)
2020	14,392	359	253
Increase/decrease %	2.46	25.09	83.33
2019	14,047	287	138
Increase/decrease %	73.63		
2018	8,090		
Increase/decrease %	30.23		
2017	6,212		

Figure 8 - Processing capacities – processing facilities



3.2.4.5 Processing machines

This year interviewed continued as in other years the companies were asked to present the capacities of only on processing machines 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 done on processing machinery and processing lines for the value adding of the products. The machines that company owns are diverse, starting with cutting machines valued to approximately €700 up to advanced processing line with 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 out of 42 companies interviewed do not possess any processing machines. These companies are mainly companies engaged in the cultivation of MAPs that are either smaller companies that recently started with cultivation or those that are specialized only in the cultivation of MAP.
2. Companies with basic processing machines – 5 out 42 companies interviewed mainly small-scale collection centres own machines for basic processing – cutting machines for slicing mushrooms and wild apples.
3. Companies with processing lines – 27 out 42 companies interviewed owns several processing machines including cutting machines e.g., for mushrooms, and wild apples as well as machines for cleaning (air blowers and inspection belts) and wild fruits e.g., bilberries and juniper berries.
4. Companies with processing lines – 9 out 42 companies interviewed 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.

3.2.5 Collection of NWFP

In 2022, 17 NWFP species were collected at volumes of 3,666 tons. The volume compared to 2021, that was 2,336 tons, is much higher for one third. In 2022, mushrooms – boletus have dominated due to suitable climatic conditions (for germination itself), the same situation was in 2021 regarding collection of mushrooms, that means two years in the row. In the table below are presented NWFP species all those who's collected during 2022.

**3,666 tons
NWFP collected**

Table 11: Quantity Collected of the NWFP's species in 2022

No.	NWFP	NWFP (Albanian)	Fresh/Dried	Tons
1	Mushrooms – Boletus	Kërpudha - Boletus	Fresh	1,053
2	Wild Blueberries	Boronice Egër	Fresh	831.5
3	Juniper Berries	Dëllinja	Fresh	632
4	Rosehips	Kaqa	Fresh	500.7
5	Wild Blackberries	Manafëra Egër	Fresh	238
6	Wild Apple	Mollë e egër	Fresh	200
7	Elder flower	Shtogu	Dried	63.5
8	Wild strawberries	Dredhëza e egër	Fresh	49.8
9	Cowslips	Aguliqe	Dried	32.3
10	Red Linden	Bliri I kuq	Dried	20
11	Blackthorn	Kulumria	Fresh	14
12	Yarrow (Achillea)	Bar pezmi	Dried	10
13	Common Wormwood	Pelimi	Dried	7

14	White Linden	Bliri I bardhë	Dried	5
15	Wild garlic	Hudra Egër/Qepë Ariu	Dried	4
16	Dandelion	Luleshurdha	Dried	3.6
17	Nettle	Hirthrat	Dried	2
Total				3,666

In 2022 – 17 NWFP species were collected compare with 2021 that 28 NWFP species were collected and compared to 29 species collected in 2020. During this year number of species is less by 11 species compare with year 2021.

The collection of NWFP has been continuously increasing since the first report in 2017, except for the year 2021, and then continuing with a significant increase in 2022 expressed in the 55%.

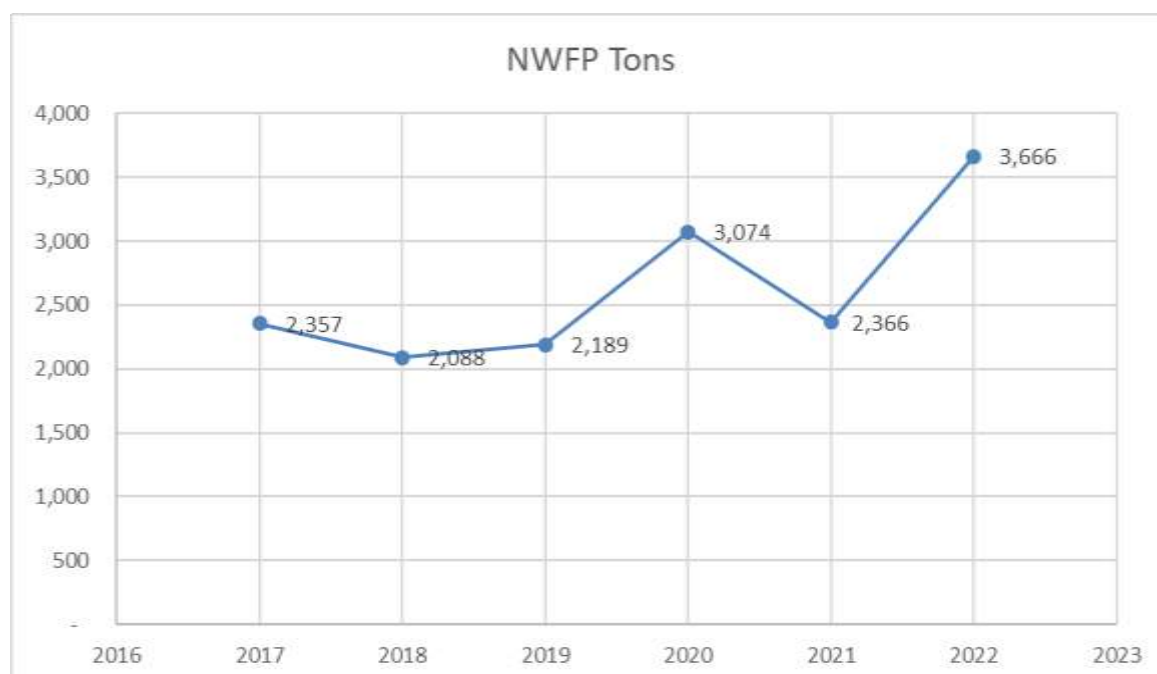
The main reasons for it are:

- (1) increased availability on mushrooms in nature (germination itself) during 2022.
- (2) people in rural areas spent much less time collection of NWFP than previously due to huge present of the mushrooms and
- (3) the most important very good climate conditions for NWFP during 2022 (wild blueberries, mushrooms, rosehips, cowslip etc.).

Table 12. Collection of the NWFP through years

Years	NWFP Tons	Increase/decrease %
2022	3,666	55
2021	2,366	-23
2020	3,074	40
2019	2,189	5
2018	2,088	-11.41
2017	2,357	

Figure 9: Collection of NWFPs over the period (2017-22) in tons



3.2.5.1 Collection of NWFPs & MAP and Contracting

During 2022 was reported a total of 4,633 contracts including 199 contracts with collection centres, 2,485 contracts with farmers and 1,949 verbal agreements. If only farmers are taken in 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 2022 were involved over 17,736 people. There is an increase of 14% of the contracted product and this shows that this sector every day more and more is making moves towards contracted production that will stimulate this sector to develop even more, in the future.

Table 13 - the contracting production NWFP and MAP

Type of contract	Years					
	2020		2021		2022	
	No. of Contr.	Incr./Decr. %	No. of Contr.	Incr./Decr. %	No. of Contr.	Incr./Decr. %
Collection Centres	209	5	199	4	153	77
Farmers with contracts	1,894	46	2,485	54	3,223	130
Farmers without contracts	1,985	49	1,949	42	2,123	109
Total	4,088	100	4,633	100	5,499	100

3.2.6. Cultivation of MAP

Medical and Aromatic Plants (MAP) were cultivated in over 400 ha producing a total of 678 tons. It was a significant decline in 2022 compared to 2021, only for 2 ha. Consider that the production of chamomile is e mechanized technology, so, Kosovo can't always be competitive with developed countries, that means where approximately 50% of the total production of MAP is represented by chamomile. Kosovo is much more competitive with MAPs such as calendula, cornflower, common mallow for which cultivation are applied technologies that do not need mechanization. Related to MAPs there are negative trends; there are less ha under cultivation (less 2 ha) and lower number of farmers but higher average yields. But even though there is a decrease in the area planted with MAP, there is still an increase in the yield of 28 tons in the total area. This increase is due to the fact that there are a limited number of farmers in MAP who are commercial and have gained experience in MAP cultivation.

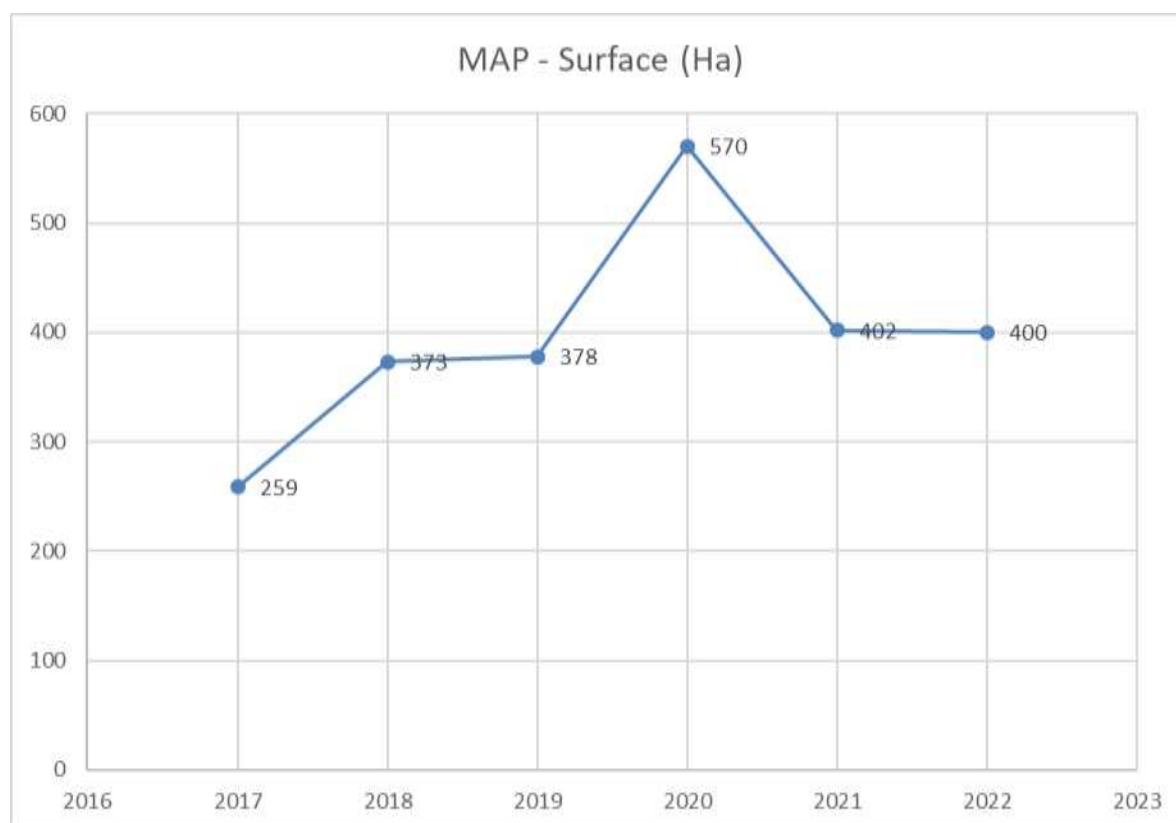
400 ha cultivated with MAP's producing 678 tons

Table 14. MAP cultivation

MAP (English)	MAP (Albanian)	Surface (Ha)	Production (Tons)
Chamomile	Kamomila	184.09	260.40
Mentha	Menta	55.87	90.10
Nettle	Hithi	36.10	94.80
Common wheat	Gruri	34.50	59.00
Oregano	Rigoni bardh	24.01	54.54
Organic Rye	Theker organike	10.00	40.00
Blue Cornflower	Cian I kaltërt	11.95	20.70
Sage	Shërbele	14.50	19.00
Fennel	Finoku	13.83	11.50
Common mallow	Mullage e zezë	10.70	13.47
Lavandula	Lavanda	2.00	3.50
Sunflower	Lule dielli	1.80	0.50
Elder flower	Lule shtogu	1.00	11.00
Total		400.35	678.51

In the table above are presented MAP only those whose accumulated amount has exceeded 1 hectare.

Figure 10 - MAP Cultivation – Summary figures



As could be seen from the table above and figure the positive trend of expanding the cultivation of MAPs has been not continuing as it was in the years before; however, it is important to state that besides 42 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. But in the conversation with the interviewees, it is observed that the yield is not very satisfactory in MAP, therefore it is still necessary to continue to introduce new plants and new technologies. But MAP species more than 98% of the volume is exported and mostly exported by one exporter. There is a certain trend the last 2-3 years that 4-5 more companies are seriously involved in the foreign market, so the export share will soon look different. This movement is very promising for this sector in Kosovo.

3.2.7. Cultivated berries managed by the actors of NWFP and MAP value chain

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 the 42 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 524 ha with a production of 2,266 tons; total exports of berries were €7.74 Million. Compare with 2021 the total surface of cultivated berries managed through the value chain of the NWFP& MAP is 526 ha with a production of 1,389.4 tons; total exports of berries were €6.12 Million. Since several large NWFP collection centres 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, less surface area, but a very small difference in the surface between the two comparative years. Revenues are affected by the global price of

raspberries this year has been at least 4.5 EUR per Kg of exported raspberries compared to the 2021 price which was 3 EUR per kg. Take into consideration the raspberry export price has changed since the beginning of the harvest season. According to the statements of the owners of the collection centers, the prices at the beginning of the harvest were high 4.5 €/kg, offered by buyers in Western countries as well, but as the harvest continued, the price was reduced by 50% by buyers and the export centres have decided to drop down collection prices. Also, due to the high price, many buyers from West countries have bought in much more limited quantities. As a result, we have stocks to a few of the exporters, but in this study, stocks are also treated as income. The purchases at the beginning of the season from the collection centres with a high price and then from the middle of the harvest period due to the small demand in the raspberry market, has caused a shock to the collectors and it can be concluded that most of them have had financial problems. Just thanking mushrooms - Boletus they have had stable incomes.

Table 15: Export of cultivated berries

Soft Fruits	Soft fruits (Alb)	Surface Ha	QTY Tons	Value €
Raspberry	Mjedra	442	1,841	6,796,579
Blueberry	Boronice	9	100	400,000
Strawberry	Dredheza	55	295	496,000
Blackberry	Manaferra	18	30	55,000
Total		524	2,266	7,747,579

3.2.8. 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 2022 were € 16 Million, compare with total sales of NWFP and MAP sector for 2021 were € 14 Million.

**Total sales
NWFP and MAP's
€ 16 Million**

For more information, have a look to tables below including NWFP and MAP during 2022 exports in the separate tables. The order of the products in the table is based on the sales value, starting from the largest to the smallest.

Table 16 – Quantity and Value of the MAP exported

MAP	MAP (Albanian)	Qty (ton)	Value (€)
Chamomile	Kamomila	200	801,940
Blue Cornflower	Ciani kaltër	17	298,000
Nettle	Hithri	47	215,141
Common mallow	Mëllaga zezë	11	197,500
Calendula	Kalendula	16	183,000
Mentha	Menta	48	158,702
Oregano	Rigon	28	138,000
Sage	Shërbelja	16	80,000
Melissa	Bar blete	12	60,000
Sunflower	Luledielli	1	3,100
Lavandula	Levanda	4	17,500
Total		397	2,152,883

Table 17 – Quantity and Value of the NWFP 2022 exported

NWFP	NWFP (Alb)	Qty (ton)	Value (€)
Mushrooms – Boletus	Kerpudha - Boletus	1,178	6,264,035
Juniper	Dëllinja	515	2,140,000
Blueberries wild	Boronicë Egër	646	1,835,300
Elder flower	Lule Shtogu	73	926,000
Cowslip	Aguliqe	30	700,000
Wild blackberry	Manaferra mali	240	560,000
Rosehips	Kaçka	350	549,000
Wild strawberry	Dredhëza e egër	195	429,100
Linden	Bliri	20	241,740
Wild garlic	Qepë ariu	15	150,000
Yarrow	Bar pezmi	10	25,000
Elderberry	Fryte shtogu	2	18,000
Blackthorn	Kulumria	14	16,800
Wild Apples	Molla e egër	5	10,000
St. John's wort	Kantarion	1	3,500
Silver birch	Gjethë Meshtekne	1	3,500
Blackberry leafs	Gjethë Manaferra	1	3,000
Total		1,602	13,874,975

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

- (1) Global prices in 2022 were slightly higher compared to the 2021,
- (2) Mushrooms - Boletus had a natural production of this type of mushroom, which is not remembered in Kosovo.
- (3) 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) were not interviewed. But finally, the main indicator for such high revenues are the very high global prices in 2022 for NWFP, and MAP, which are similar to the prices of 2021

Table 18 NWFP&MAP quantity and Value exported

Product	Qty (ton)	Value (€)
Total NWFP	3,294	13,874,975
Total MAP	397	2,152,883
Total NWFP&MAP	3,691	16,027,858

Table 19 – Quantity and Value of the NWFP 2022 local sells

No	NWFP	NWFP (Alb)	Qty (ton)	Value (€)
1	Mushrooms - Boletus	Kerpudha - Boletus	3.00	4,500
2	Elder Flower	Lule Shtogu	0.30	460
3	Linden	Bliri	1.00	11,600
4	Wild Marjoram	Caj mali	0.10	400
5	Wild Nettle	Hithri	0.15	3,000
6	Rosehip	Kaqa	2.50	2,500
7	Wild Apples	Molla e eger	40.00	5,200
8	Yarrow	Bar pezmi	0.05	1,000
9	St. John's wort,	Kantarion	0.15	3,000
10	Witethorn	Murrizi frut thare	0.70	1,000
	Total		47.95	32,660

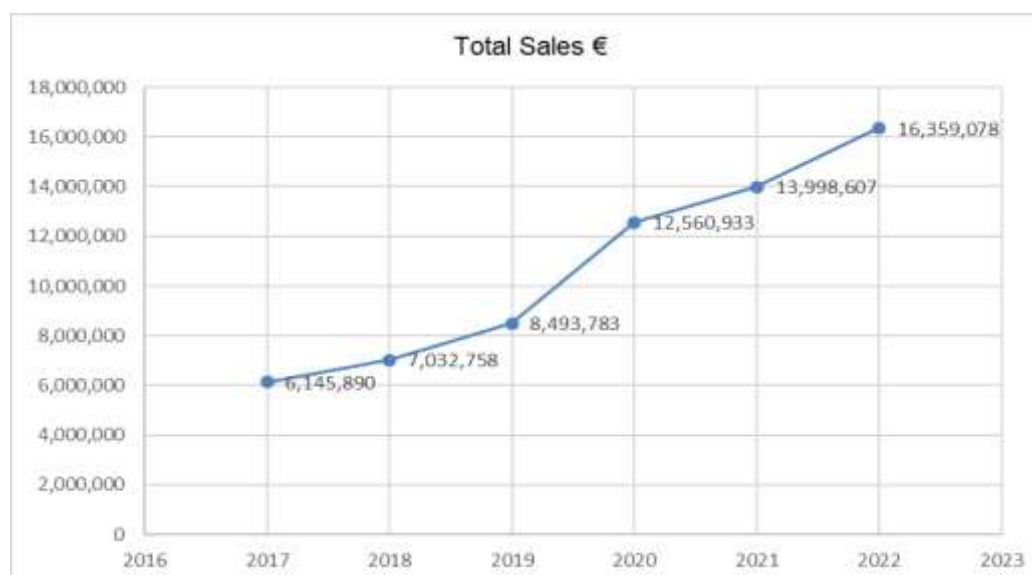
Table 20 – Quantity and Value of the MAP 2022 local sells

	MAP	MAP (Alb)	Qty (ton)	Value (€)
1	Oregano	Oregano	3.50	7,000
2	Mentha	Menta	0.70	1,400
3	The final tea	Cajra finale	5.00	250,500
4	Apple vinegar	Uthull molle	5.00	7,000
	Total		14.20	265,900

Table 21: Total sales NWFP & MAP in 2022

Total sales NWFP & MAP 2022		
	Sales (€)	Percentage
Export	€ 16,027,858	98
Local market	€ 331,220	2
Total	€ 16,359,078	100

Sales of the NWFP and MAP sector have been increasing continuously, with exports taking over 98% of the total sales. Sales in 2022 increased by 17% compared to 2021 from € 14 Million to € 16.3 Million. Sales of the last six years presented below:

Figure 11: Total sales NWFP & MAP during 2017 – 2022

In the export sales, from the figure above it can be seen that the combined sales of NWFP and MAP has a significant increase over the years, with an average increase of 22%. The main reason for this is the availability of NWFP in the mountains of Kosovo, the tradition of collectors in rural areas as well as the long ties of exporters with buyers in export countries. On the other hand, the cultivation of MAP is a new activity that has started to be introduced to Kosovar farmers in the last 10 years and has been well received by a limited number of commercial farmers. If we look at the sales for 6 years since the analysis of this sector began, 2017 and until 2022, we have an increase of over 165% in revenues. This increase was also influenced by the very high demand in the Western countries and due to the high demand also the increase in prices.

Besides the increase in collection, cultivation, and sales, the NWFP and MAP sector is known as sector with high investments in the past but during 2021 with a significant drop on the investment.

Interviewees were also asked about the main challenges they face in doing business in the sector. Five challenges were presented, and the interviewees rate the challenge they face the most with five and the challenge that they face least with one. 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. But the main challenge for all actors in the value chain of NWFP and MAP is the emigration of young people. Even in the analysis of full-time and part-time employees, there is a slight shift in the age of employees from the new categories in the direction of the middle generations.

4. CONCLUSIONS

- Even though that pandemic COVID 19 and Russian and Ukraine war was the real challenge, the NWFP and MAP in 2022 has had a significant growth. In the increase in volume and income, have influenced favourable climatic conditions and price increases of these products in western countries.
- The total number of full-time employees in 2022 compared with 2021 decreased by 6 or -2%, while number of seasonal workers dropped by 70 or -7%. This has come as a result of the emigration of young people, almost massively. The harvest yield of NWFP was much higher this year, but this was influenced because this year the harvest of mushrooms - boletus was exceptionally high (one harvester could harvest per day 200kg). Precisely the mushrooms mentioned above have influenced the increasing of the quantity and income of the companies.
- Out 42 interviewees 32 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 and as well two members stopped activity, two MAP farmers have merged activity.
- There is a small decrease in dryers. This difference between the years 2022/2021 is for 2.5%. This decrease has come because in 2022 there were no grant schemes from any donor, this sector seems to be still dependent on different grant schemes, and also 2 MAP cultivators have been withdrawn.
- The volume of NWFP of collected in 2022 was 3,666 tons compare to 2021 was 2,336 tons, expressed 1,330 tons more or 57% in 2022 and prices of NWFP were higher in 2022 as well. The main reason in 2022, mushrooms have dominated due to suitable climatic conditions.
- MAPs were cultivated in the area of 400 Ha; during 2022 there was a very limited decline than 2021 which was over 402 ha, out of which 91% were organically certified.

- The total sales of NWFP and MAP sector for 2022 were € 16.4 Million, and two main NWFP have impacted highly: mushrooms and blueberry.
- During the year 2022, there were limited investments, as seen from the interviews, but this was influenced by the fact that no grant scheme worked in Kosovo for year 2022, but it is also disappointing that the actors in this value chain still depend on grants.
- The mass emigration of young people is desperate for developed countries including Kosovo, this will raise doubts in the perspective of the sector and has also influenced investment restrictions.
- There is an increase of 14% of the contracted product and this shows that this sector every day more and more is making moves towards contracted production than ad hock sells.

5. RECOMMENDATIONS:

- NWFP takes over 98% of the export share, compared with local sales of their; Kosovo is rich (availability in mountains) with these products (NWFP), subsequently, can compete always 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 on the “Agriculture and Rural Development Program” of the MAFRD is not considered as a sector, it was (supported under the chapter “farm diversification” and support was very low.
- Organic certification has started to be developed since 2017. 32 interviewees are certified in 2022; 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.

6. REFERENCES:

1. Green Report, MAFRD, 2022
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, 2019, 2020, and 2021

Annex 1: Questioner for 2022



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 2022						
<i>Total number of employees</i>						
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						
<i>Number specific number of workers working with raspberries</i>						
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 2022						
Standard	Certified year			Certificate validity up to / month / year		
Organic						
HAACP						
ISO 22000						
IFS						
BioSuisse						
Other						
4. Current processing capacities – 2022						
Dryer:	Surface (m2)	Capacity (tons/24 hours)	Yearly Capacity (day/year)			
Shock Tunnel (-40):	Surface (m2)	Capacity (tons/24 hours)	Yearly Capacity (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 2022				
	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 2022				
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 2023-2025 (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			%		
<i>Types of products and quantity exported</i>					
Products:	Quantity 2022 (tons)	Country	(EUR)	NWFP (write -x)	MAP (write -x)
<i>Types of products and quantity sold in the Kosovo market.</i>					
Please specify buyers (traders, markets, final consumer, or other) 3 companies if there are sales					
Products:	Quantity 2022 (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 2022

(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