



**Carrying out selected sectoral analysis as a solid ground for the preparation of
IPARD III programme and of Strategy for Agriculture, Rural Development and
Fishery 2021-2027**

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Medicinal and Aromatic Plants Sector Study Final



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LIST OF ABBREVIATIONS AND ACRONYMS

ALL	Albanian Lek
ANES	Albanian National Extension System
ARDA	Albanian Rural Development Agency
ASIG	State Authority of Geo-space Information (Albania)
ATTC	Agricultural Technology Transfer Centre
AUT	Agricultural University of Tirana
CAP	Common Agricultural Policy
CEFTA	Central European Free Trade Agreement
DCM	Council of Ministers
DPA	Drejtoria e Pergjithshme e Akreditimit (The National Accreditation Body)
DSA	Development Solutions Associates
EC	European Commission
EU	European Union
FADN	Farm Accountability Data Network
FAO	Food and Agriculture Organization
GAP	Good Agricultural Practice
GDIP	General Directorate of Industrial Property
GoA	Government of Albania
HL	Hectoliters
IDRA	Institute for Development and Research Alternatives
ILO	International Labour Organization
INSTAT	Albanian Institute of Statistics
IPARD	Instrument of Pre-Accession in Rural Development
ISARD	Inter Sectoral Agricultural and Rural Development Strategy
ISUV	Food Safety & Veterinary Institute
MARD	Ministry of Agricultura and Rural Development
MEFA	Ministry of Europe and Foreign Affairs
NFA	National Food Authority
NGO	Non-Government Organization
PDO	Protected Designation of Origin
PGI	Protected Geographical Indications
RAAE	Regional Agency of Agricultural Extension
SHBB	Association of Agricultural Collaboration (Shoqëri e Bashkëpunimit Bujqësor)
SME	Small and Medium Sized Enterprises
TSG	Traditional Specialty Guaranteed
VAT	Value Added Tax
WHO	World Health Organization

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1 INTRODUCTION

1.1 BACKGROUND

Albania is preparing the IPARD III Programme for the period 2021-2027. This study provides the analytical background for the design of the Measure 1 (Investment in physical assets of agriculture holdings) and Measure 2 (Investments in physical assets of processing and marketing of agricultural products) as well as can serve as a background for other Measures.

The objective of the sector analysis is to give a quantitative and qualitative description of the sector trends with special focus on the needs for investments and technical assistance.

This sector study analyses the Medicinal and Aromatic Plants (MAPs) sector. The document is structured in twelve chapters. Main aspects of the sector are presented from chapter two to chapter eight. A SWOT analysis is prepared to identify the potential and weak points as a base to provide guidance for the support (namely investments) in Chapter 9. Chapter 10 and 11 analyses the training and advisory needs and the contribution that sector development can provide in the process of alignment to EU Green Deal. Chapter 12, “Outcome” includes conclusions and recommendations. In addition to the recommendations in the frame of IPARD III programme the study also aims to provide other recommendations for the development of the sector. Some of the recommended actions cannot be implemented within the framework of IPARD III but are nonetheless considered as important steps for balanced development in the sector.

1.2 IMPORTANCE OF MAPS SECTOR FOR RURAL DEVELOPMENT IN ALBANIA

Albania has a long tradition in the production and export of MAPs. The main supply-side sector development driver is the abundance of wild-grown MAP. Around 15% of 3,250 species of Albania plants have medicinal, aromatic, spice, or tannin value. The industry has a long tradition spanning more than 60 years. At present, harvesting, cultivation, processing, and trade of MAPs represent major agro-forestry businesses in Albania.

Relative to other agricultural subs-sectors, MAP is predominantly export-oriented, as 95% of total MAPs are exported, contributing to around 20% of agriculture exports and income of about 80.000 households (AASF, 2019). Export of MAPs has increased three-fold since 2010, reaching more than 33 million EURO in 2019, while the export of essential oils extracted from MAPs has increased twelve-fold, reaching 4.6 million Euro (EUROSTAT, 2020). These figures should be considered as minimal ones, as some outputs of the MAP industry are classified under wider commodity codes; their quantities could be not extrapolated and added to the main items registered in the MAP specific commodity codes. According to sector associations, the volume of international trade is around 50 million Euros per year. Currently, the country ranks 16th at the world level in terms of exports (EUROSTAT, 2020).

MAPs are an important source of revenue for many rural households, particularly in mountain areas. There are no specific figures about the number of rural households involved in MAPs income earning activities. Two 2010 surveys estimated that over 25% of the households in mountain areas were involved in MAP harvesting and cultivation, with much higher figures in Malesia e Madhe (62%), Kukes (49%), Kolonje (41%) and Librazhd (39%) (IDRA, 2010); in the whole country, an estimate number of 20,000 households were engaged in MAPs collection. This figure is decreased in the last decade, due to structural changes in the socio-economic fabric of mountain areas and in the MAP sector. MAP is traditionally one of the most important.

1.3 METHODOLOGY

1.3.1 Primary data collection

The primary data collection consisted of semi structured in-depth interviews carried out with key informants, representing value chain actors and sector experts.

More specifically, there are two categories of semi-structured in-depth interviews:

- i. Interviews with value chain operators. The interviewed farmers were all commercial or semi-commercial operators. Whereas processors were of different typology (as shown in the relevant section).
- ii. Interviews with sector experts from both the public and private sectors and with leading operators at each stage in the value chain.

For semi-structured in-depth interviews, there were prepared interview guidelines, which were tested and fine-tuned before the data collection process started.

Semi-structured in-depth interviews with key informed stakeholders (alongside desk research), enabled the obtaining of up-to-date understanding about the main patterns for the key sectors, more in qualitative terms.

1.3.2 Secondary data collection

The secondary data was retrieved from MARD (Ministry of Agriculture and Rural Development), INSTAT (Albanian Institute of Statistics), UNSTAT COMTRADE (for international trade), and EUROSTAT (e.g., international trade), etc. In addition, a review of other relevant studies and reports was carried out. The constraint faced is that for some indicators (related to domestic production and trade) there are no available statistics, while for some others there are no recent statistics. However, regarding international trade, latest data are available and were analysed.

1.3.3 Data analysis

Regarding data/information analysis, secondary statistical data has been subject of standard descriptive analysis including tables and graphs depicting statistic and historical trends.

Regarding VC expert/actor interviews, notes are analysed by using simple content summarizing approach and qualitative content analysis techniques, with the aim to sum up the most relevant and interesting topics emerged from the interviews. Value chain analysis was adopted as general framework for analysis of value chain structure and flows.

1.3.4 Limitations of the available data

There are various gaps in the availability and quality of secondary data. The main gaps lies in structural statistics (farm level statistics by structure, processing capacities etc.) and lack of market information.

More specifically, several constraints were found:

- Lack of proper Market Information System in place. Since 2012, the Market Information System was closed within the Ministry of Agriculture. Thus, Albania no longer has a Market Information System related to the agriculture sector. So, it was not possible to carry out in-depth price analysis.
- Farm data are missing. In Albania, it is not implemented yet Farm Data Accountancy Network (FADN), no substantial steps have been taken to introduce this system, which is both a requirement by the European Commission before accession to the European Union and an important tool for analysing policy impacts and farm typology. Whereas the annual farm surveys carried out by MARD jointly with INSTAT are not made available.

Needs for information were addressed through field interviews, however, COVID19 deeply impaired field operations – it was often difficult to interview operators especially in case of COVID19 contraction and those who showed special caution. Some of the interviews were done online or on telephone, although most were done face to face.

1.3.5 Information retrieved from the Context Analysis

The sector study is supported by a comprehensive analysis of the external context, which provides background information to the sector analysis, specifically related to: inputs and packaging; services to the value chains; information systems, data, research; collective action and contract farming; food safety and quality infrastructure and mechanisms; EU and national policies and strategies; education and human capital development; Geographical Indications, collective marks, brands, consumer behaviour; description of the trends in the international and domestic markets; access to finance and insurance; licensing system, legal agribusiness definition, public food procurement, fiscal issues; short analysis of the consumers, domestic and international: behaviour, perceptions and preferences regarding product origin and quality.

2 PRIMARY PRODUCTION, COLLECTION OF WILD MAPs

2.1 GROWERS AND HARVESTERS

According to previous studies, there are up to 100,000 people that are directly or indirectly receiving income from the MAPs sector; about 20,000 households are engaged in MAPs collection and about 4,000 in cultivation (DSA, 2010; Imami et al., 2015). There are no reliable data concerning the current number of harvesters or growers. However, qualitative data collected via interviews with the main sector actors suggest that the number of farmers engaged in cultivation is growing, while the numbers of harvesters, at least in some areas, is shrinking.

Usually, harvesters live in mountainous areas of the country, while cultivators are located in hilly or plain regions (in some cases, in mountainous regions too).

2.1.1 MAPs harvesters

The majority of the sector primary output is still provided by wild MAPs collection, even if the share of cultivated MAPs is rapidly increasing.

MAP harvesters can be found all over the country. The more remote and rural the area, the higher the concentration of individuals and families that engage in collecting wild-grown MAPs.

MAPs collection is a part-time seasonal activity, mostly performed by silvo-pastoral communities, whose main sources of income generally consist in small-scale breeding (mostly, small ruminants' breeding), MAPs and other non-timber forestry products (NTFP) collection, especially walnuts and chestnuts.

Typically, a rural family whose main activity is traditional small ruminants' breeding brings the flocks to nearby or alpine pastures in from April on and while attending to the flock also collects wild MAPs inside and around the assigned pasture area. These MAPs are sold without further treatment to local collectors. The same breeders also collect other NTFPs until the flocks are retired to the winter stables.

There are no official data about the number of wild MAPs collectors or about the share of income they receive from MAPs collection; in a previous study (IDRA, 2010), more than 25% of rural households in mountainous areas were involved in MAPs income earning activities, either in harvesting and cultivating.

2.1.2 MAPs growers

MAPs cultivation is concentrated in Malesia e Madhe but is expanding at a fast pace in other regions of the country. Sizable cultivations are also recorded in Elbasan, Korçe, Kolonjë, Gjirokaster, Durrës and Berat. Table 2.1 below shows some partial data on the number of cultivators by region.

Table 2.1: Number of growers in three regions

Categorization by surface cultivated	Shkodër	Elbasan	Durrës
	No. of farms	No. of farms	No. of farms
Up to 0.30 hectares (ha)	1,180	103	-
0.31-0.50 ha	1,450	45	24
0.51-1.00 ha	1,660	12	4
1.01-2.00 ha	1,320	5	4
> 2.00 ha	990	-	-
TOTAL	6,600	165	32

Source: MARD (2020)

Malesia e Madhe has an overall dominant position in MAP cultivation: not only the majority of growers are located in that region, but also the quasi-totality of farms having MAPs cultivations larger than 1ha is located there, as shown in Table 2.2 below.

Table 2.2: Cultivated surface by farm size in three regions

Surface	Shkodër	Elbasan	Durrës
	No. of farms	No. of farms	No. of farms
Up to 0.30 hectares	220	130	-
0.31-0.50 ha	480	130	5
0.51-1.00 ha	930	72	6
1.01-2.00 ha	1,432	8	17
Over 2.00 hectares	1,171	-	-
TOTAL	4,233	340	28

Source: MARD (2020)

Interviews with main actors indicate increasing interest in MAPs cultivation in parts of the country where such activity was, so far, quite small-sized. In particular, there is a cluster of farmers (around 20) in Diber region¹ cultivating cornflower and cowslip; another in Kukes that cultivate sage (around 30 hectares).² Similarly, a group of farmers in Gramsh area is cultivating different varieties of flowers and lavender;³ a small group of farmers cultivating cowslip, lavender, and marshmallow in Erseka⁴ and so on.

There are just a few cases of cooperatives and farmers groups. The most notable cases are located in the region of Malesia e Madhe. The *Lujz* farmers' group (see box below) and a cooperative in Rec are among the most striking and, to a certain degree, successful cases. Another initiative to organize blueberry collectors in Kukes was developed under the guidance of a local consolidator, Mr. Destan Hallaci.

A cooperative of farmers operates in the region of Elbasan - Bio-Holta (Gramshi area), lead by a regional consolidator. An informal group of farmers is organized by Mr. Ali Laho in the region of Erseka. Despite the advantages of being part of cooperatives, interviews with different stakeholders suggest that farmers' organization into formal groups is still a rare phenomenon.

Other product associations, like the two ones established for bilberry collection and trade in Tropoje and Kukes, with support from a development project which also provided support to register a Geographic Indication for Tropoje and Kukes bilberry⁵ were not successful.

Box 2.1: Lujz group of farmers - a success story

'Lujz' Group of Farmers, established as an informal group almost ten years ago, composed of around 25 families, is one of the few initiatives to organize producers in associations or cooperatives. All members of this group of farmers live and operate in Koplík i Siperm area. They are cultivating different varieties of MAPs like sage, thyme, immortelle, and lavender.

Currently, the 'Lujz' group of farmers cultivates 25 hectares of organic MAPs out of 150 hectares cultivated. The group and his leader Mr. Xheladin Zekaj were supported by different donor programs such as of ProMali (implemented by SNV and financed by the Danish Foreign Ministry), AAC (Albanian Agriculture Competitiveness Program funded by USAID), and SARED (a program financed by the Danish and German Foreign Ministries and implemented by GIZ) and has been able to invest in the construction of warehouses, purchase, and instalment of post-harvesting tools and equipment. These programs' support succeeded in increasing the farmers group' knowhow, especially with regards to organic cultivation. The next investment in the pipeline is installing a distillatory able to process some varieties of MAP and produce essential oils.

¹ Interview with Zyber Gjoni, consolidator, Diber.

² Interview with Destan Hallaci, consolidator Diber.

³ Interview with a representative of Bio-Holta cooperative, Gramsh.

⁴ Data collected via electronic means from Ali Laho, head of a farmers group, Erseke.

⁵ The FFEM financed project "BioDivBalkans" was aimed at supporting sustainable use of biodiversity resources through market mechanisms, with a focus on GI.

The results are tangible. MAP cultivation has become a full-time activity for all farmers of this group. The surface cultivated has increased three-fold in just a couple of years. The warehouses are fully utilized, enabling the processing of at least 150-200 Mt of dried product per year. Farmers have increased their bargaining power and reduced the level of losses.

Source: Interview with Xheladin Zekaj, and other farmers

2.2 PRODUCTS

Main products and product types, characteristics

Wild-grown MAPs are present on the country's whole territory, with sage and savory being more abundant in the North, oregano, and thyme mostly come from Southern-Central Albania, mountain tea (different taxa of *Sideritis*) from the region of Korca and Gjirokaster (USAID, 2010).

Albanian farmers and harvesters cultivate and collect various products, including flowers, leaves, fruit, herbs, bark, and roots. The tables 13.1, 13.2, 13.3 and 13.4 in Annex 1 show the main MAPs exported by type (flowers, leaves etc) and species and the type of product (wild or cultivated MAP). Only a small percentage of the around 200 varieties of the main types of products exported are cultivated while the overall volume of cultivated MAPs is increasing.⁶

The collection and cultivation of MAPs for the productions of essential oils has considerably increased in the last years. Laurel leaves, immortelle, sage, and juniper berries are the main MAPs from which essential oil is extracted.⁷

Table 2.3: Main MAPs used for essential oil production

No	Name in Albanian	Name in Latin	Name in English	Wild-grown (W)/ cultivated (C)/ both (B)
1	Livande	Oleum Lavandula Angustifolia	Lavender Flowers	C
2	Makthi (Helikrisum)	Oleum Helichrysi	Immortelle	C
3	Sherebela	Folia Salvia Officinalis	Sage Leaves	B
4	Rozmarina	Folia Rosmarinus Officinalis	Rosemary Leaves	C
5	Timusi	Folia Thymus Vulgaris	Wild Thyme	B
6	Rigon i zakonshem	Folia Oreganum Vulgaris	Oregano Leaves	C
7	Dafina	Folia Laurus Nobilis	Bay Laurel Leaves	C
8	Barpezmimijëfletësh	Achillaea millefolium	Common yarrow	W
9	Dellinje e zeze	Fructus Juniperi communis	Juniper Berries	W

Source: Field survey

The main product for sector business is sage (*Salvia officinalis*) (USAID, 2010), with an estimated flow of 2,500 to 3,000 Mt per year, including wild and cultivated product. Sage is the main MAP export item in USA.⁸ This MAP is both collected in the wild and cultivated. In particular, sage is by far the most cultivated MAP. The area cultivated with sage increased steeply between 2010 and 2014, then flattened and decreased, due to the sharp reduction in prices; in 2018 the cultivated surface was approximately scoring 1,300 ha, i.e. 50% lower than in 2014 (AAFS, 2019). The cultivation of some other MAPs is sensibly growing (e.g. lavender, thyme), but sage is expected to remain the main cultivated MAPs in the next years.

Leaves of other important MAPs such as thyme, rosemary, oregano, marshmallow, and lemon balm are being also cultivated in different regions of the country due to significant demand in the foreign markets, in addition to being collected in the wild. Among the wild-grown MAPs used for their leaves, winter savoury⁹ is one of the leading products exported.¹⁰

⁶Interviews with leading exporters.

⁷Interviews with many exporters.

⁸ In the mid of the last decade, about 50% of USA sage imports were sourced from Albania. USA is still a major sage export destination, even if part of this flow is triangulated through other countries.

⁹ *Satureia Montana* is a key component of the herbal mix commonly sold with the commercial denomination "herbes de Provence")

¹⁰ Interview with leading exporters.

Mountain tea represents one of the most important products among the **flowers**. It is cultivated and collected in the wild in the southern and south-eastern parts of the country. However, the cultivation of mountain tea (*Sideritis*) has not been very successful. The loss in quality, the short lifespan of the cultivated plant in some areas (e.g., Devoll) (due to high land humidity levels), and the price drop has led farmers to abandon its cultivation. Cultivation has performed better in the mountainous areas near Prespe and Gjirokaster.¹¹ Other noteworthy cultivated products are common mallow and cornflower. A recent noteworthy trend in the Erseka, Dibra, and Kelmendi areas is the cultivation of cowslip. Interviews with representatives of state-owned agencies¹² and farmers¹³ indicate that this MAP is profitable compared to some other more common crops, especially in areas with unproductive land.

Among the **fruits** exported is noteworthy to mention wild apple, common and red juniper, bilberry and blueberry. In 2020 demand for juniper increased substantially, prompting fierce competition among Albanian exporting companies.¹⁴ As a result, prices have increased considerably. Similarly, blueberry prices increased in 2020 due to low production. Some Albanian exporters lost money since prices contracted with foreign buyers were lower than the current domestic market prices.¹⁵

Some of the MAPs are collected for their roots in addition to their leaves (e.g., cowslip, marshmallow). However, this happens only for the wild-grown MAPs. As a result, in some areas, these MAPs are being overharvested.

Product quality

Some of the main MAPs cultivated or collected and processed in Albania have a specific point of strength as compared with the MAPs produced in most other Mediterranean countries, such as the higher quantity of essential oil (e.g., sage and immortelle) or better quality (e.g., *Origanum Vulgare Viridulum*, so-called "white oregano," and thyme) (USAID, 2010). Besides, some cultivated MAP appears to have excellent quality due to the climatic condition and soil composition (e.g., immortelle).¹⁶

Despite the advantages listed above, the level of quality of the final product depends on many factors. First, quality is affected by harvesting practices. Often, some MAPs are collected before maturation resulting in low quality and a small concentration of essential oils (e.g., hawthorn and juniper).¹⁷ Second, quality depends on the type of post-harvesting processes adopted by farmers and storage conditions.¹⁸

The following table provides a general description of processes used at the farm or group of farmer's levels depending on farmers' assets.

¹¹ Interview with Riza Shaholli, consolidator, Devoll, Korca region.

¹² Interview with Arzen Rexha, specialist at ATTC of Shkoder.

¹³ Hajrije Mehmeti, farmer, Trepce, the region of Diber.

¹⁴ Interview with consolidators, Destan Hallaci, Kukes, and Riza Shaholli, Bilisht.

¹⁵ Interview with KujtimKeka, Erba M.M. Ltd, Malesia e Madhe, and Artan Koldashi, Herba Fructus, Elbasan.

¹⁶ Interview with Emiland Skora, MEIA Ltd, Shkoder.

¹⁷ Interview with Riza Shaholli, consolidator, Bilisht.

¹⁸ Interview with Arzen Rexha, specialist at ATTC of Shkoder.

Table 2.4: Process used at farm and small consolidator level

Value chain level	Processes	Impact on quality
A farmer without drying facilities	<ul style="list-style-type: none"> – Cleaning – Drying 	<ul style="list-style-type: none"> • Post-harvesting process quality depends on drying conditions such as drying facilities (drying in the shade) and type of MAP. • Usually, MAPs lose color and other properties.
Large farmers, group of farmers, or small consolidator that own drying and storage facilities	<ul style="list-style-type: none"> – Cleaning – Drying in shade – Produce aggregation – Storage 	<ul style="list-style-type: none"> • The quality of drying and storage is better than at the farm level. • The facilities are used to enable farmers to perform more operations and preserve quality. • The level of contamination and losses is smaller too.

Source: Field survey

As indicated by the table above, quality of the product depends from harvesting methods and from facilities/assets available at farm level or owned by the local, small consolidators. Usually, products are dried on the field, resulting in loss of quality and bacterial contamination.¹⁹ Warehouses, or small greenhouse-like drying facilities are seldom used. In such cases, the quality is much higher. After this first aggregation process, bulk quantities are transported to the local large consolidator or processing company. Warehousing conditions in large consolidators and processors' premises are generally much better.

Prices

Prices of MAPs depend primarily on foreign market dynamics. Low production in some competing countries (e.g., Bulgaria, Egypt, Bosnia) or higher demand for some products translate into higher prices for MAPs produced or collected in Albania.²⁰ However, prices can be determined by domestic market dynamics too. Oversupply with some products and low production can affect prices at the farm level.

The table below provides an overview of current prices at the farm level for some essential products. It shows prices of some MAPs cultivated or collected in the wild, prices (usually for dried products), prices tendencies, and whether the product is sold generally as organic or conventional.

These figures are based mostly on interviews with farmers, processing companies, and sector experts.

Table 2.5: Prices at the farm level

Name in Albanian	Name in Latin	Name in English	Price at farm level (ALL/Kg)	Price trends	Conventional or organic
Agulice	Flores Primulae	Cowslip	3,000	Increasing	Organic
Bari bletes	Folia Melissa	Lemon balm	140 ²¹	Stable	Organic
Borziloku	Folia Ocimum basilicum	Basil	140-150	Stable	Conventional
Cajmali	Flores Sideritis	Mountain tea	140-150	Decreasing	Conventional
Ciani (Kokoceli i Kaltert)	Flores Cyani	Cornflower	380	Decreasing	Conventional

¹⁹ Interview with Riza Shaholli, consolidator, Bilisht.

²⁰ Interviews with exporters.

²¹ Sold 35 ALL as a fresh product (the ratio of fresh versus dried MAP is 5 to 1)

Dafina	Folia Lauri nobilis	Bay Laurel Leaves	40 ²²	Stable	Conventional
Livande	Flores Lavandulae	Lavender flowers	240	Stable	Conventional
Makthi (Helikrisum)	Oleum Helichrysi	Immortelle	110-115	Decreasing	Conventional
Rigon i zakonshem	Folia Oreganum Vulgaris	Oregano Leaves	200-220 ²³	Stable	Organic
Rozmarina	Folia Rosmarini	Rosemary Leaves	130	Stable	Organic
Sherebela (Herbe)	Folia Salviae officinalis	Sage Leaves	120 to 140 ²⁴	Increasing	Organic
Timusi	Folia Thymus Vulgaris	Wild Thyme	200	Stable	Organic
Lule kalendule	Flores Calendulae	Marigold flowers	350	Increasing	Organic
Molle e eger	Fructus Malus Sylvestris	Wild Apple Fruits	135	Increasing	Organic
Dellinje e zeze	Fructus Juniperi communis	Juniper Berries	400	Increasing	Organic
Trendafil e eger	Fructus Rosa Canina	Rosa Hips Fruit	200	Increasing	Organic

Source: Field survey

Prices for important MAPs such as sage have stabilized after a sharp drop around seven years ago. Today, sage is traded at 120-140 ALL compared to as low as 60 ALL some years ago. Although there are different explanations for such a price drop,²⁵ the most accredited one is related to oversupply.²⁶ Today, production, especially of the cultivated sage, has stabilized. As a result, current prices stabilized, too. Other MAP prices, such as immortelle, have been adversely affected by a supply shock too.²⁷ In contrast, some fruits such as bilberry and juniper are sold at higher prices in 2020 due to supply and international supply dynamics and higher domestic demand for essential oil production.²⁸

Yields of cultivated MAPs

Depending on the land MAPs are cultivated, yields differ from region to region. Besides, large farms tend to have higher yields compared to small ones. Table 2.6 provides detailed information on minimum and maximum yields for some cultivated MAPs in Malesia e Madhe.

²² Sold as a fresh product for essential oil production.

²³ Depending on quality.

²⁴ Prices depending on quality. There are different prices for the cultivated vs. the wild-grown and sage harvested in autumn vs. the one harvested in the summer.

²⁵ A local producer of indigenous sage seedlings, Mr. Agim Rama, attributes the price drop of sage to the use of imported seed in cultivation and the resulting decline in quality.

²⁶ Interview with Rudin Beka, sales manager at Relikaj Ltd.

²⁷ Interview with Emiland Skora, MEIA Ltd, Malesia e Madhe, Preke Gjeloshaj, head of Reci prodhimtar cooperative of farmers, Malesia e Madhe.

²⁸ Interview with Emiland Skora, MEIA Ltd, Malesia e Madhe

Table 2.6: Yields per ha of main cultivated MAPs

Name in Albanian	Name in Latin	Name in English	Minimum yield per dynym ²⁹ (kg)	Maximum yield per dynym (kg)
Livande	Flores Lavundulae	Lavender flowers	100	180
Rigoni zakonshem	Folia Oreganum Vulgaris	Oregano Leaves	200	300
Sherebela (Herbe)	Folia Salviae officinalis	Sage Leaves	200	350
Timusi	Folia Thymus Vulgaris	Wild Thyme	180	300

Source: interviews with experts and farmers

Gross margins

Gross margin income³⁰ from MAPs differs between regions and varieties of MAPs cultivated. For example, gross margins for cornflower score around 10% because of the low prices, while those of cowslip is much higher (estimate of approximately 50%)³¹ since prices have increased steadily during the last year (current price at farm level is 3,000 to 3,100 ALL).³² Large farms in the region of Malesia e Madhe appear to have higher gross margins despite lower prices for some of the top products (e.g., sage, immortelle, and lavender). Case studies suggest that average gross margins for commonly cultivated MAPs are around 30%, with peaks of 40%.

Losses

Case studies of farms in Malesia e Madhe suggest that losses at farm level during harvesting are less than 5% for sage and immortelle and slightly higher for lavender.³³

Losses are higher during the drying process, ranging between 5% and 15%, depending on drying conditions (i.e., the quality of drying facilities used). Losses increase exponentially for farmers who cannot sell their produce in time due to product quality deterioration. These cases have been reported in different regions of the country (e.g., Shkoder, Elbasan, and Korca).³⁴

Competitiveness

Interviews with farmers and other relevant actors indicate that the main factor contributing to the sector's competitiveness at the farm level is the low labour cost and various other factors related to climate and soil composition. For the MAPs cultivator, small farm size and lack of mechanization represent the main obstacles to become competitive. Extensive and specialized farms appear to be much more productive and competitive.³⁵ However, increasing labour-costs is affecting even large farms' competitiveness.

For MAPs harvesters, easy access to large volumes of wild-grown MAP remains the main contributing factor that ensures a reasonable income. The collection of wild-grown MAP is still a viable activity only for individuals living in remote and underdeveloped areas rich with wild-grown MAPS (e.g., Kukes, Diber, Kolonje). In other regions (e.g., Vlore) with better opportunities, local habitants engage less and less in such activity.³⁶

²⁹ One thousand square meters of land.

³⁰ Gross Margin can be defined as the value of production from an enterprise/activity minus the variable costs incurred in achieving it.

³¹ Interview with Dali Horeshka, sector expert, Diber.

³² Interview with different farmers

³³ Interview with Mark Rupa, a CNVP advisor. Data are based on a recent survey conducted by CNVP:

³⁴ Interviews with MAP exporters, farmers, and development agencies specialists.

³⁵ Interview with exporters and sector specialists.

³⁶ Interview with Manush Kondaj, consolidator, Vlore.

2.3 ACCESS TO MARKETS, INPUTS, AND SERVICES

Access to markets

As expected, access to markets for farmers operating in areas with a dense network of exporters and consolidators is more comfortable due to the better flow of information and market know-how. In remote areas, farmers have fewer alternatives (e.g., Gramsh, Erseke, Vlore). As a result, in mountainous, remote locations, prices are lower, sometimes significantly lower³⁷ and bargaining costs much higher. Nevertheless, even in areas with a dense network of buyers, many farmers face significant challenges in finding a market for their products. Last year, a large number of farmers in Malesia e Madhe sold immortelle at 30-50 ALL per kg (a 'normal' price would be 110-120 ALL/kg) because, as noted above, production exceeded the demand of the local exporters (MEIA Ltd being the largest one).

Access to inputs

MAP cultivation requires fewer fertilizers and plant protection products (PPP), as compared to other crops. However, pesticides and herbicides are being used in some areas and under certain circumstances. Some exporters argue that pesticide use is becoming more acute after the changes in the legislative framework regarding taxation.³⁸ PPP and fertilisers are more in use than before since VAT is no more applied on these products and products are easily available from local input traders. It should be also considered that increased plant disease risks (with consequent higher need for PPP) are widely recorded among the effects of climate change affecting Mediterranean agriculture.³⁹

Excessive use of PPP puts the entire industry at risk since European standards on PPP are becoming more stringent.⁴⁰ To avert it, in some cases, representatives of exporting companies advise farmers on inputs and dosage to be used.⁴¹

Currently, seeds and seedlings are often sourced from large processing companies or consolidators (e.g., MEIA Ltd in Shkoder, Elba Shehu Ltd in Elbasan or Gjendra Ltd in Berat, Bio Holta cooperative in Gramsh, Wita Herbs Ltd in Korca) especially for new varieties of MAP (e.g., the 'Bulgarian' and 'Chinese' variety of lavender).⁴²

The large consolidators/processors/exporters who are also directly running the largest cultivations usually directly purchase the seeds abroad from specialized suppliers or, sometimes, source them from their commercial counterparts; Exporters are also producing seedlings in their own nurseries for their needs, supplying also smaller growers, especially those ones with whom they have production contracts.

Seeds and seedlings can be also purchased from local specialized suppliers. This is the source of propagation material for smaller farmers. Many players in some areas, such as Malesia e Madhe, specialize in indigenous MAP seedling production (e.g., Mr. Agim Rama).

Access to extension services

The quality and access to extension services in different areas of the country is diverse and fragmented. In some areas with a high concentration of farms, such as Malesia e Madhe, access to such services is easier. Public extension services and specialized public agencies such as ATTC Shkoder have the required knowhow and experience to deliver training and coaching to local farmers.⁴³ Also, knowledge transfer between farmers is relatively high. Besides, a significant number of donor-funded projects play an essential role in extension service provision. Private actors also contribute to a certain degree. In other areas, where the cultivation of MAPs is not widespread, the access to extension services is more limited.

³⁷ Interview with a group of farmers in Gramsh area.

³⁸ Interview with Xhevid Hysenaj, Alb-Kalystyan Ltd, Maminas.

³⁹ "Extension service agents witness a high impact of climate change in plant decease (increased prevalence), loss of water supply, emerge of new deceases and shifted times of occurrence of a certain plant health risk. Other signs are occurring vastly which consist on an increment of length of vulnerability from rats/insects/pests, forest degradation but also pasture degradation." Zhllima et al. (2020).

⁴⁰ Interview with Sokol Kraja, Kraco Ltd, Vore.

⁴¹ Interview with many exporters.

⁴² Interview with Emiland Skora, MEIA Ltd, Malesia e Madhe.

⁴³ Interview with Arzen Rexha, ATTC MAPs specialist, Shkoder.

Nevertheless, even in areas like Malesia e Madhe, only half of the farmers have consulted an agronomist during the last year, as showed by a recent survey conducted by CNVP.⁴⁴ It appears that the role of public extension services is gradually shrinking in quality, specificity and scope. In some cases, and particularly in the organic sub-sector, this role is being played by MAP exporters.⁴⁵ However, key informants consider that the situation is more nuanced. Today, farmers use multiple channels to access information and knowhow.⁴⁶ Besides, different cultivations require different specialized knowhow, which often the public extension service cannot provide. Hence, the need for the services that the public extension services can provide is lower than it used to be some years ago.

In sum, despite the evidence being piecemeal, it can be stated with a certain degree of confidence that extension services are increasingly provided by Albanian exporting companies and development programs and less by public actors. Such changes in the provision of these services can improve value chain coordination and product quality. Public extension services are still the only structure able to deliver services in every corner of the country, but the quality of service they can provide is lagging behind the increased sophistication and range of farmers' advisory needs.

2.4 KEY FEATURES AND CHALLENGES

Decreasing share of wild-grown MAP

Collecting wild MAPs is a crucial activity and source of revenue for a large number of rural families. However, during the last decade, there has been a shift from wild-grown MAP to cultivated ones, especially in the organic sub-sector. Although the evidence is only anecdotal, there are many indications that confirm such a trend. For example, Wita Herbs Ltd, a certified organic exporting firm in the Korca region, in four years has switched from almost exclusively wild-grown products to only 40% of the total volume of produce being wild-grown.⁴⁷ The rest is cultivated MAP. Similarly, companies in Malesia e Madhe have invested in new plantations of MAP and source the rest of the raw materials from local farmers. A significant volume of important MAPs sage and thyme is cultivated. Other important MAPs such as immortelle and lavender are cultivated too.⁴⁸ According to some exporters (e.g., Kujtim Keka, Artan Koldashi), the prospect of wild-grown collection is bleak. As argued by Mr. Koldashi, the sector will face a sharp decline in the volume collected in the next ten years.

However, despite this increase in the weight of cultivated MAPs, wild MAPs are still essential for the industry. In some areas such as Kukës, Dibër, and Skrapar, the volume of MAP collected is stable, representing almost all these regions' production.⁴⁹

Representatives of exporting companies and extension services identify the following causes for such a decrease: (i) depopulation of some mountain and inner areas; (ii) the over-exploitation of some MAPs in other, more populated areas, where pressure to keep previous supply levels bring to unsustainable harvesting practices; (iii) the lack of price differentiation for better quality, wild-grown MAPs; (iv) the expansion of cultivation for some essential products such as sage.

The declining role of transhumant small ruminants' pasture emerged also as a factor in other sector studies, as wild MAPs collection is often a part-time activity connected to spring and summer transhumance.

However, in the most impoverished areas of the country, MAPs collection remains an important activity, especially during summertime.

Small-scale farming

MAP farms are usually small-scale, with few exceptions. The surface of land grown with MAPs is more extensive in the Malesia e Madhe region than other regions. This situation is due to a long experience with MAP cultivation during the communist era and the lack of alternative use of usually unproductive land. Consolidators and processors,

⁴⁴ Interview with Mark Rupa, advisor of CNVP.

⁴⁵ Interview with Kujtim Keka, ErbaM.M.ltd, Shkoder, Bio Holta, Gramsh.

⁴⁶ Interview with Arzen Rexha, specialist at ATTC of Shkodra.

⁴⁷ Interview with Hegel Strati, Wita Herbs Ltd, Korca.

⁴⁸ Interview with exporters and other key informants.

⁴⁹ Interview with exporters and local consolidators.

especially those focused on organic production, such as Albert Xhaja and Wita Herbs Ltd in Korca region, have been investing in large plantations of MAPs (respectively 120 hectares and around 10 hectares).⁵⁰ However, the expansion of large farms is constrained by land fragmentation and soil contamination. As argued by Mr. Koldashi, owner of Hebra Fructus Ltd, there are small lots of land available in his area (Elbasan), and the soil is usually contaminated with pesticides used for other crops or the industry.

Because of the small-scale farming, farmers' bargaining power is low. According to Ilir Gjolaj, owner of Immortelle Therapy Ltd, the small size of farms, the lack of MAP cultivation diversification, and the lack of coordination between processing companies and farmers are putting small farmers into a precarious situation. In contrast, large and diversified farms tend to do better in terms of productivity and bargaining power.⁵¹

Lack of mechanisation

Interviews with farmers and extension service representatives indicate that MAP farming is still labour-intensive even in areas such as Malesia e Madhe characterized by large farms. Agriculture machinery is used mainly for land preparation. Predominantly, old ploughing machines used for other crops are utilized to prepare arable land for MAPs cultivation. While this is effective for some land types, it is not the best solution for stony soil. In some regions such as Malesia e Madhe state of art machines (e.g., stone crushers) have been introduced recently by MEIA Ltd - a sizeable essential oil producer - to prepare the land and make the mechanization of other types of processes such as weeding and harvesting possible.

Small farmers are not inclined to use services offered by companies such as MEIA Ltd due to high costs (1,500 Euro for one hectare for land preparation).⁵² Harvesting - the most expensive operation in terms of labour costs - is still performed using labour-intensive methods. According to Emiland Skora, owner of MEIA Ltd, a tiny percentage of the farmers (1-2%) who supply the company with immortelle and lavender use services provided by his company. However, the number of large farmers using these services is growing due to high labour costs, especially during the harvesting season.⁵³

Lack of commodity chain coordination and diversification at farm-level: two inter-related challenges

Key players in the sector identify lack of coordination as one of the primary reasons for the recent price drop of immortelle. Despite the efforts of MEIA Ltd to discourage farmers in cultivating large surface of the land with immortelle and the introduction by the company of contract farming, many farmers continued to invest in the cultivation of this MAP because of the initial high prices.⁵⁴ The oversupply with this MAP resulted in a sharp price drop, although not as dramatic as the one with sage some years ago. Some fear that the same will happen again with sage in the coming years.⁵⁵ A similar situation occurred with mountain tea in Southern Albania.

According to field survey outcomes, the MAP cultivation decision-making process (i.e., if to cultivate and what to cultivate) is linked to the category of decision-making subject.

On one hand, exporting companies are uncertain about the long-term demand from foreign buyers⁵⁶; as a result, they directly cultivate and stipulate farming contract for those products they are prudently convinced that they will be able to sell; in doing so, they leave the production of MAPs subject to higher risks of price fluctuations to individual farmers.

On the other hand, many farmers base their decision on others farmers' decisions, on the sale prices of the last production campaign and on the preference for already known crops. This approach contributes to generate strong cyclical variations in the output of single MAPs and put individual farmers in weak bargaining position vs. their main buyers, i.e. the large consolidators/processors/exporters.

⁵⁰ Interview with company representatives.

⁵¹ Interview with Xheladin Zekaj, farmers, and consolidator in Malesia e Madhe.

⁵² Interview with Emiland Skora, MEIA Ltd, Malesia e Madhe

⁵³ Interview with Emiland Skora and Kujtim Keka, respectively MEIA Ltd and Erba M.M. Ltd, Malesia e Madhe.

⁵⁴ Interview with Emiland Skora, MEIA Ltd, Malesia e Madhe.

⁵⁵ Interview with Ilir Gjolaj, Immortelle Therapy Ltd.

⁵⁶ Interview with Kujtim Keka, Erba M.M. Ltd, Malesia e Madhe, and Artan Koldashi, Hebra Fructus Ltd, Elbasan.

In such a scenario, a need emerges for improved market intelligence and policies and advisory services that would encourage contract farming, the widening in the range of cultivated MAPs; diversification of cultivated MAPs varieties is also pursued as a strategy to reduce the risk in some large MAP cultivating farms (e.g. Sonnentor).⁵⁷

All experts and sector actors agree that there is a need for more farm diversification and regionalization based on foreign market demands, climatic and soil composition of specific areas.⁵⁸ However, such coordination is not that easy to achieve.

Contract farming

Contract farming can benefit both small-scale cultivators and processors by removing the risk of eventual shortages or oversupply, reducing price volatility, and mitigating market uncertainties. Interviews with processors and farmers indicate that contract farming is not widespread. In the essential oil sector, production MEIA Ltd has introduced contract farming with many farmers (more than 200).⁵⁹ In the organic sub-sector, companies such as Erba M.M. Ltd, and Sonnentor Ltd operate with contracts either with large farmers or consolidators that ensure the monitoring of cultivation and wild MAP collection.⁶⁰ There appears to be a strong correlation between the quality standards required and the coordination level, both downstream and upstream of the chain.

Roles among men and women

Previous studies suggested that MAPs business, both at the farming and processing level, is a male-driven business, with women working in lower positions (USAID, 2010). At a farm level, the qualitative data suggests that women are more engaged in labour-intensive activities such as weeding, harvesting, and post-harvesting processes compared to men. Interviews with all categories of sector actors, being farmers, extension services representatives, or owners of large exporting companies, suggest that the vast majority of farm operations are conducted by women, with the exceptions of farm managing activities such as sales. At the processing level, women often operate large and labour-intensive sorting and cleaning lines of MAPs.

As argued by many key experts, gender differences are to be found in the level of exposure of women to training, negotiations, and decision making, in addition to tasks in different farming operations.

3 PROCESSING INDUSTRY

3.1 STRUCTURE OF THE INDUSTRY

Industry structure

MAP processing and exporting companies are spread all over the country with a higher concentration in the region of Malesia e Madhe (Relikaj Ltd, Mucaj Ltd, MEIA Ltd, Erba M.M. Ltd), Elbasan (Elba Shehu Ltd and Herba Fructus Ltd), Korca (Cibuku Ltd, Wita Herbs Ltd) and in the Tirana-Durres area (Alb-Kalystyan Ltd, ATC Ltd, Albanian Herbs Ltd), Fier (BioBes Ltd), Lac (Filipi Ltd), Mamurras (Agroherbal Ltd) and Berat (Gjedra Ltd). According to leading players in the industry and the head of one of the industry associations (AMAP), Mr. Filip Gjoka, there are 31 exporting companies in Albania. Consolidators can be found in almost all regions of the country. Some of them (e.g., Kalemi Ltd in Corovode) have installed significant processing capacities⁶¹ while the majority aggregate production and perform some rudimentary processing only.

In terms of volumes and annual turnover, the MAPs sector comprises few large exporters (less than ten) and two dozen smaller ones coordinating an extensive network of consolidators and farmers. New players have entered the market in the last ten years (e.g., Wita Herbs in). The leading company is MEIA Ltd (Malesia e Madhe) not only because of its sizeable annual turnover and cultivation expansion, but also because its innovative business model focused exclusively

⁵⁷Interview with Endrit Kullaj, sector expert and professor at AUT.

⁵⁸ Interview with Riza Shaholli, consolidator, Bilisht, and Arzen Rexha, a specialist at ATTC of Shkoder.

⁵⁹Interview with Emiland Skora, MEIA Ltd, Malesia e Madhe.

⁶⁰Interview with Endrit Kullaj, sector expert and professor at AUT.

⁶¹ Armando Truja, Gjedra Ltd, Berat.

on producing essential oils and extensive cultivation of some varieties of MAPs. However, the traditional players exert a strong influence in the industry (Alb-Kalystyan Ltd, Filipi Ltd, ATC Ltd, Elba Shehu Ltd, Relikaj Ltd, Mucaj Ltd, and Herba Fructus Ltd). They have consolidated networks, influence, and lobbying capacities. Despite some actors' relative power, the industry is not dominated by any specific business or group of companies.

Processing capacity

The processing capacity of Albanian exports is increasing. During the last years, MAP processing and exporting companies have invested heavily in new cleaning, sorting and grinding technologies and warehousing capacity (e.g., Relikaj Ltd, Mucaj Ltd, MEIA Ltd, Erba M.M. Ltd, Herba Fructus Ltd, Wita Herbs Ltd, Alb-Kalystyan Ltd, Filipo Ltd, Gjedra Ltd). The overall capacity is relatively high, especially for experienced exporters (see Table 3.1). Since the production of MAPs, like many agricultural activities, is seasonal, capacity usage is high during the peak of production. Past investments happened in proportion to the marketing capacity of exporters, so that in peak season there is a physiological spare capacity, but not an issue of overcapacity. However, most processing companies have high levels of capacity cushion out of the peak season, which would leave space to improvement efficiency, increasing raw MAPs warehouse capacity and a smoother management of raw MAPs stock.⁶²

At present, the most frequent driving force for investment in new processing lines is the improvement of product quality. Increased standard requirements from foreign buyers and competition between Albanian exporters are the main reason that motivates so much attention to product quality. As argued by Filip Gjoka, owner of Filipi Ltd, deep cleaning of MAP is the primary concern for exporting companies since it defines the final price of the product. According to him, only 30% of the MAP exported is adequately processed. The rest is comprised of semi-processed or unprocessed products. Examples were made of companies selling common nettle at 1.5 Euro per kg while processed and cleaned product was sold at 2.6 Euro per kg.

New processing lines can have positive effects on lowering costs in addition to increasing product quality. For example, a cleaning line purchased by Herba Fructus Ltd can clean and cut 700 kg/day compared to 50 kg/day using labour-intensive methods.⁶³

The reasons for investment in warehouse capacity are many-fold. Increased variety of products sold is translated into the separation of products in different storage areas.⁶⁴ Besides, some types of product and process certification require investment in new warehouses with particular construction specifications.⁶⁵ However, in general, warehousing is needed to store larger stocks of MAP. As suggested by an exporter, Vasel Muca, owner of Mucaj Ltd, processing lines are not sufficient. 'if you want quality and increased variety, you need warehouse capacity.

Channel and intersectoral upgrading⁶⁶ is another driver for investments in processing lines, leading to the increased vertical integration of functions and to the capture of additional added value. Companies that want to bypass intermediaries and sell directly to the food industry (e.g., Relikaj Ltd, Alb-Kalystyan Ltd, Filipi Ltd, Mucaj Ltd) have invested or are planning to invest in sanitation and sterilization capacity. Such investment is cost-effective only if the volume sold as the final product is large enough to justify expensive investments.⁶⁷

This sector is characterized by a wide range of products, frequent changes in market trends of individual MAPs and to the variety and difference of processing activities that are necessary in function of the final use of the product⁶⁸.

Table 3.1 below shows the estimated volume of sales of main operators according to information provided by them.

Table 3.1: Volume of production/exports by company

Company	Dried MAP	Essential Oils
Exporters		

⁶² Armando Truja, Gjedra Ltd, Berat

⁶³ Interview with Artan Koldashi, Herba Fructus Ltd, Elbasan.

⁶⁴ Interview with Filip Gjoka, Filipi Ltd, Lac and LinditaStromi, Gjedra Ltd, Berat.

⁶⁵ Interview with Artan Koldashi, Herba Fructus Ltd, Elbasan.

⁶⁶ The entry of a firm into a completely new value chain or industry.

⁶⁷ Interview with Filip Gjoka, Filipi Ltd, Lac.

⁶⁸ Different types of sanitation treatments, different levels of grinding/cutting etc.

Relikaj Ltd	840 Mt	N/A
Erba M.M. Ltd	500 Mt	1 Ton
Wita herbs Ltd	Around 250 Mt	N/A
Alb-Kalystyan	1,500-2,000 Mt	Max 30 Ton
Herba Fructus Ltd	1,500 Mt	N/A
Filipi Ltd	1,500 Mt	6 Ton
MEIA Ltd	N/A	7.5 Ton
Gjedra Ltd	Over 2,000 Mt	N/A
Consolidators (volume of production)⁶⁹		
Hallaci Ltd	300 - 350 Mt	N/A
Immortelle Therapy	100-150 Mt	Around 5 MT
Albert Xhaja	500 Mt	N/A
Riza Shaholli	300 Mt	N/A

Source: field survey

Quantities provides a partial information on the size and solidity of enterprises. In fact, business sustainability is more related to the capacity to intercept added value and to the capacity to offer a wider range of products than to the absolute quantity of product sold. Using only volumes sold (in Mt) as a proxy to assess production capacity could be therefore misleading. Furthermore, the ratio between a company's total sales to quantity can be influenced by the product mix a company export. The complementary information provided in section 3.2 below on gross margins and profitability will provide a more comprehensive view of the industry.

Business strategies and models

Albanian exporters seek to increase competitiveness using different business strategies and business models.

Although there is evidence of multiple business strategies used by Albanian processing companies, it is possible to divide these strategies into three main categories, namely: (1) those focused on diversification (product and market), (2) those focused on product development and consequently, process development/upgrading and (3) the majority adopting a "mixed approach."

Some exporters would like to be a "one-stop-shop" for MAP (e.g., Herba Fructus, Filipi Ltd), focusing on targeting a large number of markets by offering a wide variety of products (see box below). Such a strategy appears to be very useful in a market characterized by foreign buyers' strong bargaining power.

Box 3.1: Herba Fructus Ltd, a large exporter of MAP, adopting a product and market diversification strategy

A typical example of a sizeable Albanian exporter that uses diversification as its primary strategy is Herba Fructus Ltd, located in the Elbasan region.

The annual company sales are around 5 million Euros with more than 1,500 Mt per year and a range of 150-200 different MAPs.

Most of clients are from the EU (with French and German buyers absorbing 65% of total sales) and USA (30% of total). Even if geographically concentrated, there is a relatively large number of customers, as sales are spread among 52 foreign buyers.

Large conglomerates such as Martin Bauer and Kräuter Mix are not very important clients as it happens for other Albanian exporters. These large conglomerates exercise a strong bargaining power due to their size and asymmetric information they have. Hence, they can lower prices even for small deviations from the standards and contract requirements. Therefore, Herba Fructus Ltd has opted to diversify not only its products but also its markets.

However, such a strategy comes at a cost. The stock level is relatively high (around 5 million Euro worth), equal to annual company sales. Furthermore, a large inventory means more warehousing capacity and more need for investments. The company has almost completed an investment of around 2.5 million Euros in a new warehousing capacity near Paper in the Elbasani region.

⁶⁹ Some consolidators such as Immortelle Therapy Ltd and Albert Xhaja export part of production. However, usually they sell to other exporting companies.

Source: elaborated by the author based on interview.

Other companies (e.g., Relikaj Ltd, Alb-Kalystyan Ltd) have focused on improving their product quality by investing in new facilities and state-of-the-art processing technology. These companies aim get higher prices and increase the value-added per unit. Usually, companies adopting this kind of strategy have a narrow product mix since they use dedicated assets⁷⁰ adapted to the processing requirement of specific MAPs. These dedicated lines can perform a deep cleaning of some MAPs (e.g., sage) (see box 3-2 below). As argued by Xhevid Hysenaj, CEO of Alb-Kalystyan Ltd "focusing on value-added means a narrow product mix." The company led by him has lowered the number of products processed and exported tenfold during the last years.

However, as mentioned above, most companies adopt a mixed approach, attempting to achieve both product development and diversification. Moreover, many companies are implementing market diversification strategies by targeting emerging markets such as China, India, Eastern Europe.⁷¹ or even Australia⁷².

Box 3.2: Relikaj Ltd, a business model aiming at the channel and intersectoral upgrading

Relikaj Ltd has been targeting the American market for years now. This is the largest market in the world for sage - the main product of the company. USA imports around 4000 Mt of sage per year (USDA, 2017), with Albania being the leading supplier with 50-75% of all imports. Around 2600 Mt of all the sage imported in the US is used in the food industry (USDA, 2017).

During the first two decades of the company's life, the American and European clients were large companies specialized in performing deep cleaning and sterilization of products. The company's management's ambition was to bypass these intermediaries and deal directly with the food industry. To achieve this objective, the company has been investing in different areas, not only processing technology but also human resources, certification, traceability systems.

The most important investments are focused on cleaning, cutting, and sorting processing lines. Some of these investments were financed in the framework of donor funded programs such as SARED. The second area of investment was the implementation of an on-line, app facilitated, traceability system. Every farm, production lot is traced to its origin. Third, complying with international standards and obtain internationally recognized certification such as BRC, Rainforest Alliance, Kosher, Halal, ISO 9001, and HACCP.

To complete the processing line, the company is looking to purchase a sterilization processing line using steam technology. Currently, this operation is outsourced. This way, the company will cut some of the logistics costs and improve the quality and speed of delivery to demanding clients in the food industry.

Source: Elaborated by the authors based on an interview with the company's sales manager, Mr. Rudin Beka.

In terms of business models, the strongest tendency during the last 5-6 years is Albanian exporters' new strategy to "cut out the middleman" and "control the supply," in pursuit of additional value, and sometimes, improved quality. As a result, a business model where the buyer integrates backward is becoming dominant among many large exporters (e.g., MEIA Ltd, Erba M.M. Ltd, Elba Shehu Ltd, Relikaj Ltd) and organic exporting companies (e.g., Wita herbs Ltd, Sonnentor Ltd). Most companies are cultivating large plantations of MAP.

However, very few are successful in "cutting the middlemen" downstream the value chain. Only Relikaj Ltd, Alb-Kalystyan Ltd and Filipi Ltd, and to a certain extent, Herba Fructus Ltd and Mucaj Ltd have succeeded in achieving intersectoral and channel upgrading by selling directly to food producers in the US and Europe. The "cutting the middlemen" strategy poses two challenges: i) it requires a large investment in dedicated assets to achieve higher quality and create more value and, ii) from a business model perspective, it requires the actual firm's capability to capture the potential additional added value, including improved market intelligence and increased marketing outreach i.e. convince potential customers to change their commercial partners.

⁷⁰ Investments (in our case, process technology) made to support a particular transaction have a higher value to that transaction than they would have if they were redeployed for any other purpose (e.g., processing of other MAP).

⁷¹ Interview with KujtimKeka, Erba M.M. Ltd, Malesia e Madhe.

⁷² Interview with Filip Gjoka, Filipi Ltd, Lac.

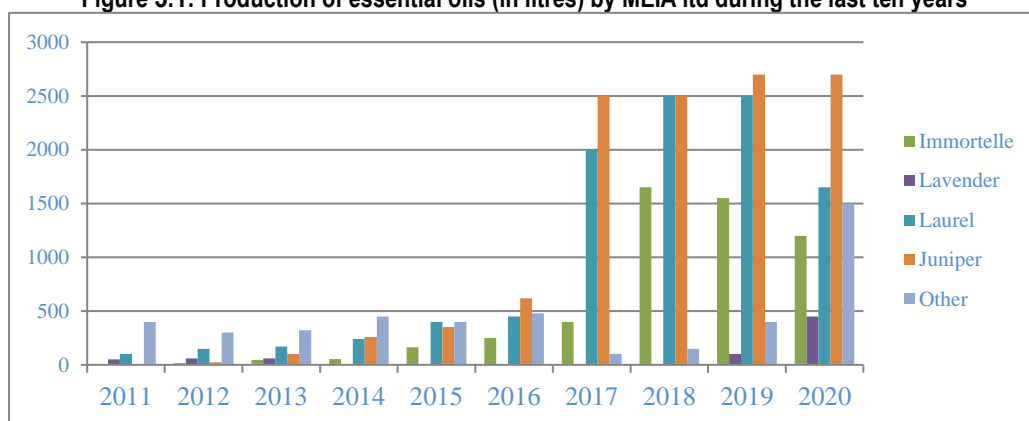
Considering the difficulty of upgrading/downstream integration, the majority of players have been focusing on backward integration (i.e. increasing control over quality and flows of raw MAPs supply, directly cultivating them) even if in their understanding the main objective to be achieved remains channel upgrading.

Essential oil producers such as MEIA Ltd represent an outlier in the sector. While many Albanian exporters produce a variety of products including dried and grinded MAPs and essential oils, this company produces essential oil only and directly controls an important share of its raw material supplies, cultivating the MAPs they need. While its business model focuses on excellent and efficient and modern distilling processing lines, it has invested heavily in farming and mechanization. Besides, the company also has a significant number of buyers who have stipulated long-term contracts.

Box 3.3: MEIA Ltd - a company focused on the production of essential oils

Many exporters use distillation to process the waste (remaining of other processes such as cleaning, cutting, and grinding) to produce essential oils (e.g., Filipi Ltd, Alb-Kalystyan, Elba Shehu Ltd). MEIA Ltd is the only company focused exclusively on essential oil production, although it plans to diversify its activity by entering the dried MAPs processing sub-sector. The growth of the company is remarkable (see Figure 3.1 below). In 2020, the company produced almost 3.7million Euros of essential oil.

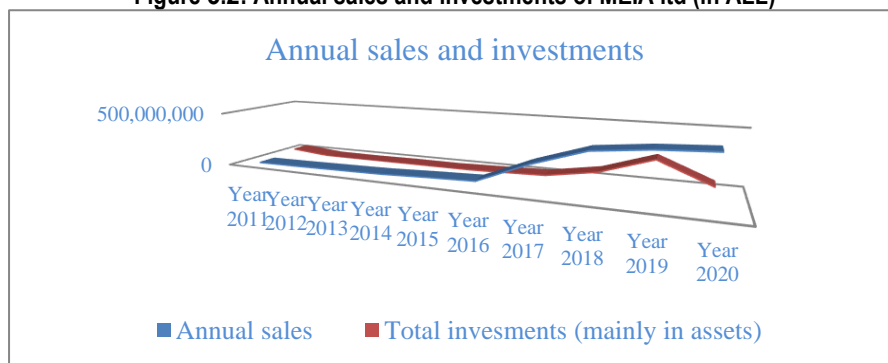
Figure 3.1: Production of essential oils (in litres) by MEIA Ltd during the last ten years



Source: MEIA Ltd.

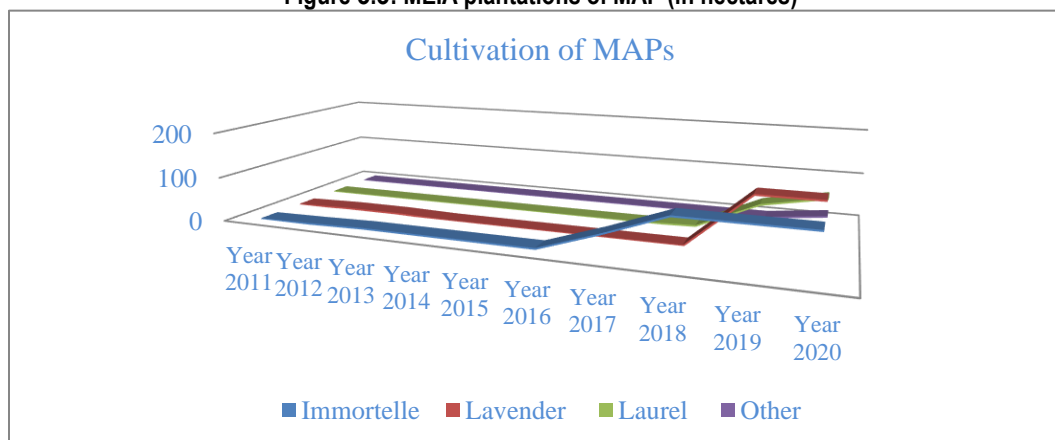
The company owns two large warehouses and distilleries, one in Petrele, Tirana, and another in Malesia e Madhe. It is planning to open a new distillery in Saranda. Investments go hand to hand with growth in sales (see Figure 3.2 below).

Figure 3.2: Annual sales and investments of MEIA Ltd (in ALL)



Source: MEIA Ltd.

MAPs are cultivated in the area of Koplík, in the region of Malesia e Madhe, Petrele, and Saranda. The main varieties of MAPs cultivated are immortelle, lavender, laurel, and chamomile (see Figure 3.3 below), while juniper berries are collected from consolidators all over the country. The company is planning to start processing other varieties of MAPs collected in different seasons to diversify production and increase the productivity of fixed assets.

Figure 3.3: MEIA plantations of MAP (in hectares)

Source: MEIA ltd

The company uses state-of-the-art farming technology for land preparation, weed removal and harvesting, and other agriculture processes. Such intensive mechanization increases efficiency and reduces labour costs. The company is planning to invest in new, more powerful agricultural pieces of machinery for land preparation.

At the processing plant, raw materials are quickly distilled, reducing holding costs. Essential oils produced are shipped via air cargo or other forms of transport to the USA. A bar coding system allows traceability of products indicating origin and supplier.

This business model adopted by the company appears to be very successful. Backward integration, the focus on higher margins products such as essential oils, the constant investment in new technologies and innovation, and a clear management structure appears to be the main success factors.

Source: MEIA ltd.

3.2 MAIN PRODUCTS AND PRODUCT TYPES /CHARACTERISTICS

Main products (plants or part of plant) and process technology used by Albanian companies

Albanian exporters' main product is dried MAPs, being flowers, leaves, herbs, or fruits. However, depending on the level of cleaning, cutting, grinding, and other processes such as sanitation and sterilization used during production, the characteristics and value of the final product and its end-markets differ significantly. Only a small quantity can be considered a processed product - the one used directly in the food industry. Hence, to understand the differences between different products, it is worthy of understanding Albanian exporters' processes and technologies (see Table 3.2 below).

Table 3.2: Main operations at the processing level

<ul style="list-style-type: none"> • In-bound transport • Quality control and weighing • Storage • Sifting, cleaning, cutting, sorting⁷³ • Grading, pressing • Sterilization⁷⁴
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⁷³A typical cleaning line would perform pre-cleaning operations, such as the removal of stalks, other grasses, dust and stones, and other physical external elements such as light and heavy metals. Subsequently, the MAPs are pressed and packaged in large sacks.

⁷⁴ Using sterilization is possible to decontaminate the herbs and make them safer for human consumption without adverse effect on the organoleptic characteristics and appearance (flavor/taste and color). However, for some MAP, the steam sterilization process (the most common one) reduces the concentration of volatile oils.

- Distillation⁷⁵
- Packaging
- Storage and distribution

The cleaning, cutting, and grinding process have an important impact on quality and the value-added that can be captured (for more information, see the section below). For example, sage is usually sold to large foreign processing companies as a cleaned and cut product. However, processors such as Relikaj Ltd Alb-Kalystyan Ltd and Filipi Ltd are not only performing deep cleaning (removal of dirt and metals) and selecting products with higher levels of volatile oils⁷⁶ but also have installed technologies that enable a type of cutting and grinding that allows the company to produce rubbed sage⁷⁷ or cracked sage that can be sold to the food industry after being sterilized. This last process is outsourced by Relikaj Ltd and Filipi Ltd and performed in-house by Alb-Kalystyan Ltd.⁷⁸ Therefore, disinfestations and sterilization of MAP have some potential only when a deep cleaning, precise cutting, and a thorough selection of MAP has been performed. Besides, its cost-effectiveness is dependent on economies of scale. As argued by Filip Gjoka, “you need a large market for the final product to invest in such a technology”.

Essential oil production

Essential oils represent an exciting market for Albanian processors and exporters. They are used in the flavour, pharmaceutical, personal care industries. Being relatively high value, low weight, and relatively easy to produce, essential oils production provides enormous potential for large and small-scale processing companies.

Production is growing at a fast pace. Large companies such as Alb-Kalystyan Ltd, MEIA Ltd, Filipi Ltd, ATC Ltd, and Elba Shehu Ltd represent the leading producers. Usually, these companies use stems or other parts of plants that have been removed during the cleaning process. In some cases, wild-grown and cultivated plants are used exclusively for essential oil production as fresh products. Smaller companies (e.g., Erba M.M., Ltd, Immortelle Therapy Ltd) are engaging in this activity too.

The sub-sectors potential is showcased by MEIA Ltd, a large company that operates mainly in the region of Malesia e Madhe and Saranda in the south and Tirana in central Albania. Production of essential oils has skyrocketed during the last five years as shown by the case study above.

Essential oil production is expected to grow in the next years. All major players in the industry are expanding or planning to increase their production capacities.

Flavour and tea infusions

The Albanian food industry that uses MAPs as raw materials is developing. Kraco Ltd and ATC Ltd are two leading companies in the productions of tea infusions and flavours. Kraco Ltd, in serves the domestic market with a wide variety of products. It is also a large exporter of tea infusions, while ATC Ltd is an exporter of semi-processed MAPs and a producer of flavors and tea infusions for the domestic market.

These two companies' development trajectory has significant implications for how they source their raw materials and manage their supply chain. Kraco Ltd produces and sells a wide variety of products to the domestic market, including infusion teas, coffee, cacao, fruit juices, chocolates, puddings, and other products using imported raw materials. Hence, the company applies the same sourcing model for the production of tea infusions. Raw materials used by Kraco are sourced from other countries such as Poland, Croatia, Sudan, Nigeria, Argentina, and other countries (around 200

⁷⁵The fastest and the most efficient distillation method with the least essential oil degradation is steam distillation one where oil is sweated out by injecting steam. Gross margins vary depending on MAPs. Usually, they are around 15-30%.

⁷⁶ Volatile oils are extracted from plants to produce essential oils.

⁷⁷ Sage leaves that have been rubbed into a fine, fluffy powder.

⁷⁸ The sterilization process uses steam at 50 degrees Celsius and some other chemicals (interview with Xhevid Hysenaj, CEO of Alb-Kalystyan). In comparison, for the production of tea infusions, the required temperature is 120 degrees Celsius (interview with Sokol Kraja, CEO of Kraco Ltd).

suppliers). Small volumes of mountain tea are purchased in Albania. In contrast, ATC Ltd has adopted a pluralistic business model. On the one hand, it is a typical MAP exporting company and, on the other, produces flavours and tea infusions for the domestic market. Thus, the company uses a different sourcing strategy; a large part of raw materials are sourced in Albania.

Interviews with sector actors and key informants show that there is still a missing link in the supply chain that would enable the food industry to exploit Albanian farmers and gatherers' significant production potential. As argued by Sokol Kraja, owner of Kraco Ltd, there are no sufficient volumes of specific raw materials needed for the industry in the country. Moreover, the processing industry lacks the capabilities and technology to process raw materials to the degree required by the food industry.

A detailed analysis of the domestic market and the implications for the entire industry is provided in the next sessions.

Level of product quality

Albanian exporters' quality of the product is improving due to large investments in new warehouses and processing lines. There are various indications for such a trend. The increased value-added is being translated into higher average price prices (see table 3.3 below). Second, the growing share of organic production vs. conventional production despite challenges in the supply chain. Third, the increasing number of companies selling directly to the food industry. However, despite positive developments, there is plenty of room for improvement. A large number of industry players are still selling semi-processed products.

Prices

Recently, there has been a slight increase in prices of some MAPs in the international market, as indicated by the table 3.3 below. Some of the price hikes are not related to the demand and supply dynamics but rather to an improvement of quality.⁷⁹ Therefore, data in the table display prices, usually for dried products (ratio between fresh and dried product has been shown) sold by companies that can carry out a 'medium' level of cleaning and processing. Moreover, as noted in the table, some of the products are sold as organic. The so-called "conventional" products have lower prices.

Table 3.3: Prices at the export level

Name in Albanian	Name in Latin	Name in English	Ratio fresh versus dried MAP	Price at export level (Euro/Kg)	Price tendency	Conventional or organic
Agulice	Flores Primulae	Cowslip	1:8-10	28-30	Increase	Organic
Bari bletes	Folia Melissa	Lemon balm	1:4-5	1.5	Stable	Organic
Borziloku	Folia Ocimum basilicum	Basil	1:4-5	1.5-1.7	Stable	Conventional
Cajmali	Flores Sideritis	Mountain tea	1:4-5	2.2-2.5	Decrease	Conventional
Ciani	Flores Cyani cum cal.	Cornflower	1:4-5	3.8-4	Decrease	Conventional
Livande	Flores Lavandulae	Lavender flowers ⁸⁰	1:4-5	2.8-3	Stable	Conventional
Rigonizakonshe m	Folia Oreganum Vulgaris	Oregano Leaves	1:4-5	2.8-3	Stable	Organic
Rozmarina	Folia Rosmarini	Rosemary Leaves	1:4-5	1.5-1.6	Stable	Organic
Sherebela (Herbe)	Folia Salviae officinalis	Sage Leaves	1:4-5	1.8-3.5	increase	Organic
Timusi	Folia Thymus Vulgaris	Wild Thyme	1:4-5	2.2-2.4	Stable	Organic
Lule kalendule (kupa e plote)	Flores Calendulae	Marigold flowers	N/A	3.8	Increase	Organic

⁷⁹ Interview with some exporters

⁸⁰ A variety that is commonly called lavandina.

Molle e eger	Fructus Malus Sylvestris	Wild Apple Fruits	N/A	1.6-1.7	Increase	Organic
Dellinje e zeze	Fructus Juniperi communis	Juniper Berries	N/A	4.5	Increase	Organic
Trendafil i eger	Fructus Rosa Canina	Rosa Hips Fruit	N/A	2.4	Increase	Organic

Source: Field survey.

As noted, some of the prices depend on MAPs quality, variety, and level of processing. A more accurate view of prices at the export level for some cultivated and wild-grown MAPs is shown in table 3.4. Prices for savoury and sage have slightly increased while prices for lavender⁸¹ and thyme has remained stable, with the price for lavender showing more volatility across years.

Table 3.4: Price (per kg) trend in the last 5 years

MAP variety	2016	2017	2018	2019	2020
Sage	2.9 USD	3.0 USD	3.1 USD	3.2 USD	3.2 USD
Savoury	2.8 USD	2.7 USD	2.8 USD	3.0 USD	3.0 USD
Lavender	5.5 USD	5.0 USD	5.5 USD	5.3 USD	5.2 USD
Thyme	2.5 USD	2.5 USD	2.5 USD	2.5 USD	2.5 USD

Source: Field survey.

A factor of market distortion is caused by the highly cyclical production of small independent MAPs farmers, concentrated in a few, most popular MAPs, which are not absorbed by large consolidators/processors/exporters and are dumped in the market. Newcomers in MAPs wholesaling buy these products, which are characterized by low quality and extremely low prices. There is no quality in this parallel supply chain, because each step of the process from harvesting to storage is made in a way to minimize investments and costs.

These wholesale operators represent a relatively small share of the market and fail in capturing any significant share of the export market but contribute to drag down the price of some MAPs, as the premium price for quality cannot exceed a certain level.

Prices and margins

As noted in previous studies and confirmed by primary research, prices and margins of MAPs vary according to the type of the product and from year to year.⁸² In general, collectors tend to charge a constant mark-up, usually 10-12%, with net profit margins of around 5%.⁸³ Processors' gross margins vary depending on the MAPs' level of processing, the business model they adopt, and the type of products they produce (i.e. whether they focus on processed plants and part of plants or/and production of essential oils). Furthermore, gross margins oscillate depending on international demand for some products and, consequently, the prices and mark-ups charge. Thus, gross margins for this category of sector actors can usually oscillate, from 10 to 20% with net profit margins of between 5 and 10%.⁸⁴

Value-added and gross margins - the case of the food industry vs. selling to intermediaries

As indicated in the section above, prices for MAP products depend on the processing level performed by exporting companies. **Error! Reference source not found.** shows the differences in gross margins for 1 kg of sage depending

⁸¹ Lavender comes in different types. Hence, the difference in prices.

⁸²USAID (2010). The medicinal aromatic plants' value chain in Albania.

⁸³ Interview with Riza Shaholli, consolidator, Bilisht.

⁸⁴ These figures are mainly based on the estimates provided by representatives of large exporters. While there is an apparent consensus on net profit margins, it cannot be excluded that there are companies with higher profit margins than these figures indicate.

on the type of processing and the end-market Albanian exporters are targeting- selling to international importers who re-process the products; only a small part of the product is directly sold to the food industry and also this achievement is the result of recent developments and investments.

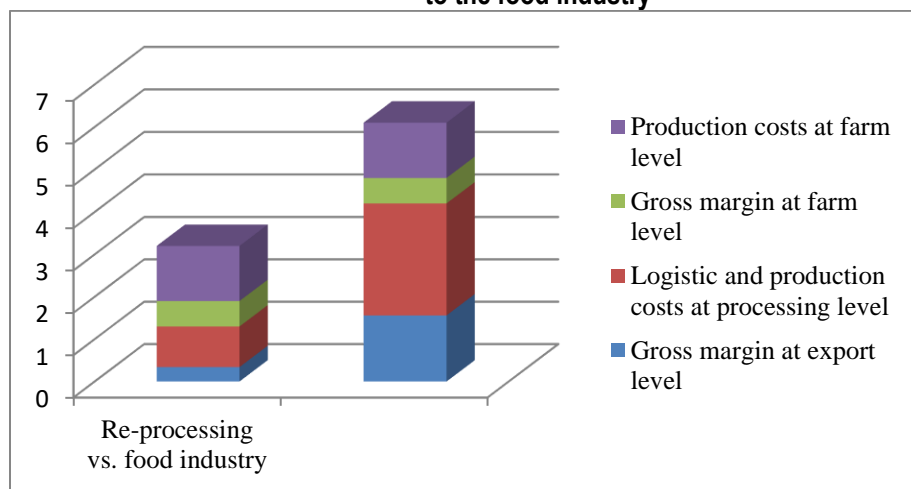
To make clear the calculations, some assumptions and explanations are needed:

- For one kg of the final product, two kilograms of dried sage are required.⁸⁵ Around 50% of the weight, sometimes more, is composed of dirt, stalk, and metals removed during processing.
- The processing and logistics costs of the first scenario - selling to international importers that re-process products - are almost three times lower than in the second scenario - selling to the food industry. Cleaning and grinding costs in the second scenario are higher, but more importantly, logistic costs and sterilization outsourced to foreign companies determine the spike in processing and logistic costs. If sterilization is performed in-house, such costs would drop.
- It is assumed in the calculations of cleaning costs (the second scenario) that the processing is performed just once. It is quite usual that such a process is performed two or three times.⁸⁶

The margins analysis shows that gross margins are 4-5 times higher in the second scenario compared to the first one.⁸⁷

While the many-fold gross margins increase indicates the economic viability of this strategy - increasing the value added by introducing state of art processing technology - the effect on Return on Investment (ROI) and Net Present Value (NPV) is not yet clear; there are not enough time series to make an informed judgement. However, current data suggest a slight increase in ROI and perhaps a better NPV but, moreover, an improved competitive position of the company compared to some other Albanian exporters.

Figure 3.4: Gross margins for sage sold to foreign importers that re-process MAPs versus the product sold to the food industry



Source: Author's estimation based on data provided by Rudin Beka, sales manager at Relikaj Ltd.

Competitiveness

⁸⁵ The radius for export is different for every product. For example, the sage radius is 50%, that of savory is 60%, lavender 65%, thyme 70%, and so on.

⁸⁶ Interview with Filip Gjoka, Filipi Ltd, Lac.

⁸⁷ However, this analysis neglects overhead differences between the two scenarios, in addition to the assumption that some processes are performed just once. When taking into consideration the above factors, a more conservative calculation would result in profit margins three times higher than now, while costs would raise less than proportionally. Considering the above, downward integration for intersectoral upgrade would give a substantial contribution to gross margin increase, but investments, running costs and working capital would also substantially increase.

The evidence collected during interviews on the competitiveness of the Albanian MAPs processing industry is piecemeal and anecdotal. Compared to other countries, the main advantage is related to the quality of some products and their characteristics such as flavour, taste, and colour. Besides, many exporters assert that the Albanian MAP sector's competitiveness has improved recently due to large investments in processing. Trade date and average prices of MAP exporter appear to confirm such a view. However, some other players, particularly tea infusion producers such as Kraco Ltd, do not entirely agree. The capacity of the sector to serve the tea infusion and food production industry, in general, are yet inadequate.⁸⁸ Special cutting machines, in addition to better sanitation and sterilization technologies, are needed. Other countries, even in the neighbourhood such as Bulgaria or Croatia, appear to be more competitive. Furthermore, cultivation is still very fragmented, resulting in small volumes of production and monoculture compared to the food sector's needs.

3.3 ACCESS TO MARKETS, INPUTS AND SERVICES

Experienced MAP exporters can access western markets quite easily. Today, many Albanian exporters have the technology, certification, logistics, networks, and know-how to access the most important markets for MAP - Europe and the USA. Their primary market comprises large US, German, French, and Turkish processing companies (for a detailed description, see below). These companies re-process the products sold by companies in emerging countries such as Albania, including deep cleaning, cutting, and sterilization. Despite the increasing demand for better quality, many Albanian exporters have been able to adjust to market requirement.⁸⁹

However, most exporters struggle much more to sell directly to some other industries (e.g., the food industry). As argued by Rudin Beka, manager at Relikaj Ltd, it is not easy to convince large food conglomerates to switch from the usual suppliers to new ones despite more favourable prices. The reasons are many-fold. Albanian exporters do not have the capacity and variety of products to supply large food companies. More importantly, they lack the processing technology to produce final products (e.g., deep cleaning and sterilization). Despite the challenges, some companies (e.g., Relikaj Ltd, Herba Fructus Ltd, Alb Kalustyan Ltd) have started exporting directly to the food industry. Therefore, the level of product upgrading determines the market segments targeted and accessed by Albanian exporting companies. The ones that have invested in technologies and have acquired market intelligence tend to target the food industry and obtain higher mark-ups.

Access to finance for processing companies is more comfortable compared to farmers and small consolidators since these companies are better capitalized. Long-term loans interest rates can be negotiated with banks,⁹⁰ while short-term loans to address the needs of large companies for working capital are still costly. Irregular cash flows characterize the sector, i.e., as a rule of thumb, farmers are paid usually immediately (not always, however) while payments from international importers are due in 60 days. Therefore, many companies need a large working capital since debt financing is quite expensive.

Access to skilled human resources is quite a challenge for companies that require particular skills, such as engineers, chemists, and mechanics.⁹¹ Considering the transformation of the education system during the last decades, many study profiles do not exist, or the number of students is relatively low (for a detailed analysis see below).

Raw MAPs are by far the main input for the consolidators/processors/exporters. The main problems are related to the *quality* of raw material as well as to the difficulty to match demand and supply. Persisting problems in these areas have been the drivers first, for initiating to shift supply from wild to cultivated MAPs and after to take direct control of cultivations shifting supply from independent growers or production contracts towards direct involvement in MAPs cultivation, at least for MAPs representing the core consolidators/processors/exporters business. This drive towards taking direct control over raw MAPs inputs is described more in detail in section 3.4 below.

⁸⁸ Interview with Sokol Kraja, CEO of Kraco Ltd, Vore.

⁸⁹ Interviews with many exporters.

⁹⁰ Interview with Artan Koldashi, Herba Fructus Ltd, Elbasan.

⁹¹ Interview with many exporters.

Access to information and know-how on technologies and market intelligence relies on the insight processing companies can collect from their business network, being international buyers or their Albanian competitors. However, during the last decade, there have been cases of sector associations' involvement in providing such services to sector actors. EPCA - an association of MAP consolidators and exporters has provided information on technologies and inputs (e.g., seeds) to be used by association members.⁹²

3.4 KEY FEATURES AND CHALLENGES

Competition among the wholesalers/exporters

Competition in the sector is fierce and unruly due to the increased number of actors in the industry and the existing ones' growth. MAP exporting companies, who are the value chain drivers, rank harsh competition as contributing factors for Albanian MAP's low prices in the international markets. As stated by almost all exporters,⁹³ with few exceptions⁹⁴ it is quite common for foreign buyers to ask for discounts because another Albanian MAP exporter has offered a better price. Arguably, foreign buyers exploit such a situation to get lower prices.

Excluding a few exceptions (e.g., MEIA Ltd, Relikaj Ltd), most Albanian exporters have short-time contracts with foreign buyers. The same trend but with opposing results can be identified when there is demand in the foreign markets for a specific MAP (e.g., cowslip or blueberries). Competition between exporting companies leads to a rise in prices paid to harvesters and often to lower quality, as it generates a rush to get quickly as much product as possible (with products not harvested before due) before other buyers (i.e. other exporters) step in, creating upward price competition.

In general, increased competition is generating instability along the chain. Many consolidated supply chain networks have been disrupted. Besides, it can lead to price volatility when significant demand and supply shifts occur. If not properly managed, high price volatility can harm both farmers and exporters, mainly because of uncertain revenue flows. Seldom, the effects at harvester level are positive (e.g., the case of higher prices for juniper berries in 2019 and 2020). However, despite the negative consequences, it has also led to an increase in investment at the exporting level with a notable positive impact on product quality and value addition. Therefore, it can be argued that while unruly competition can lead to short-term disruptions, the long-run appears to be somewhat positive by being a force for innovation.

Backward integration of exporters and wholesalers

As mentioned in the business model section, a growing tendency is the backward integration of large processing companies. This expansion in cultivation is more viable in those areas with large, available land plots such as Malesia e Madhe. In other areas, despite the growing trend of cultivation, large companies are less inclined to invest in MAP plantation due to land fragmentation and the resulting challenges to manage it.⁹⁵ Table 3.5 below shows the surface of land cultivated with MAP by some medium and large Albanian exporting companies.

Table 3.5: Surface of land cultivated by consolidators and exporters

Company	Position in the chain	The surface of land cultivated
Immortelle Therapy	Exporter and consolidator	150 hectares
Erba M.M. Ltd	Exporter	120 hectares
Albert Xhaja	Exporter and consolidator	120 hectares
MEIA Ltd	Exporter	325 hectares
Relikaj Ltd	Exporter	200 hectares

Source: Interviews with representatives of exporting companies.

This actions and investments bring benefits (better control in terms of quality and flows over the whole supply chain) and costs (increased risks, more complex business, higher capital requirement), with benefits, so far, clearly exceeding

⁹² Interview with Riza Shaholli, consolidator, Bilisht.

⁹³ Interviews with Kujtim Keka, Erba M.M. Ltd, Artan Koldashi, Herba Fructus Ltd, and representatives of Gjedra Ltd.

⁹⁴ Xhevid Hysenaj, CEO of Alb-Kaystyan Ltd, Maminas.

⁹⁵ Interview with Artan Koldashi, Herba Fructus, Elbasan.

costs. The trend toward shifting from wild MAPs to cultivated ones is therefore expected to continue, although not with the same pace of the last years due to increasing labour costs.

Increased labour costs and labour shortages

Labour costs have been increasing steadily in almost all regions of the country. It is quite common for a field worker to be paid 2500 ALL/day with peaks of 3000-3500 ALL during the harvesting season. Rising labour costs have significantly impacted productivity and profit margins, especially for consolidators (e.g., Bio-Holta) and exporting companies that have integrated backward. Some, such as MEIA Ltd, are increasingly investing in the mechanization of processes to deal with this challenge. Besides, labour costs appear to be linked to the shortage of workers due to increased migration.⁹⁶ According to many experts and players in the industry,⁹⁷ the rising labour costs will become one of the main challenges for industry development.

Organic versus 'conventional' production

Qualitative data suggest that the production of organic MAP is increasing. All leading exporters increase the share of organic products versus the so-called conventional (e.g., Erba M.M. Ltd, Herba Fructus Ltd; Filipi Ltd). For example, more than 20% of Filipi Ltd exports and 30% of Herba Fructus Ltd are organic.⁹⁸ New players such as Wita Herbs Ltd produce almost exclusively organic products. Similarly, consolidators such as Albert Xhaja and Bio-Holta have certified around 90% of their organic products. The increasing number of certified companies confirms such a trend.⁹⁹

The lack of capacity in sterilization and other specific processing technologies

Sanitation and sterilization are vital to enable MAP processing companies to target the food industry, domestic and, more importantly, international markets. Moreover, special cutting machines tailored to some varieties of MAP are needed to produce some specific products such as tea infusions.¹⁰⁰

⁹⁶ Interview with Kujtim Keka, Erba M.M. Malesia e Madhe.

⁹⁷ Interview with Endrit Kullaj, AUT, Tirana, Albana Cule, CNVP advisor, Korce.

⁹⁸ Interview with Filip Gjoka, owner of Filipi Ltd and Artan Koldashi, owner of Herba Fructus Ltd.

⁹⁹ Interview with Edona Bilali, AZ Consulting, Tirane.

¹⁰⁰ Interview with Sokol Kraja, Kraco Ltd, Vore.

4 GOVERNMENT POLICY FOR THE SECTOR

4.1 RELEVANT FISCAL AND TRADE POLICIES

One relevant policy that has affected the sector is noteworthy: changes in the VAT system. The benefits from VAT reimbursement have been reduced to from 20% to 6%. As a rule of thumb, all losses were transferred to farmers and collectors by reducing raw materials prices. However, despite its adverse effects, the policy appears to have had some positive consequences. As argued by one of the interviewed stakeholders, before the change in the VAT, some industry players were able to offer lower prices with their foreign buyers, thanks to their capacity to obtain VAT reimbursement faster and in larger amounts than other Albanian exporting companies, thus creating market distortions. This price dumping is not occurring any more since VAT reimbursement currently accounts for one-third of its original level.

There are no particular trade or fiscal barriers to export of MAPs, once relevant legislation of importing country is complied with. A notable exception are the MAPs included in the red list compiled and updated from time to time by Albanian government agencies.

4.2 ROLE OF IPARD, AND MARD AND BILATERAL SUPPORT PROGRAMMES

According to ISARD 2014-2020, priorities for the MAP sector are considered export promotion and sustainable development, including improving facilities and processing technology, post-harvest facilities, particularly to drying facilities at different chain stages, upgrading dried MAPs processing technology, and improving essential oil distillation industry.

In all documents, strategies and development programmes, MAP is considered as a strategic sub-sector for the whole Albanian agri-food sector; as such, it has been supported by several international development projects, mostly financed by bilateral funding implemented by ODAs and reference agencies (USAID¹⁰¹, SNV, GIZ/DANIDA). MAPs have been also considered a key sector in development initiatives related to credit and financing agri-food sector (EBRD, Italian Cooperation).

Notwithstanding its recognized importance, the sector received a limited share of the support provided by IPARD and National schemes; and, more important, was not acknowledged until IPARD III as a key sub-sector. MAPs were not explicitly considered among eligible sectors in IPARD-like programming period 2007-13 and was included in Measure 7 (Diversification) in IPARD II. At the same time, primary production only was eligible for national schemes support, but such support was sizeable only in 2013 and 2014.

Some support to small investments was also provided through bilateral development projects.

Considering all facilities, the amount of investments which received capital investment support scored about 4 M Euro in the period 2013-2020, i.e. in the programming period 2012-20 and in the last year of the previous programming period.

IPARD-like and IPARD II support

Under IPARD-like programming period (2007-13) MAP sector as such was not included among the supported sectors; however, some consolidators/processors/exporters were considered eligible under Measure 1 and Measure 3¹⁰² as part of investments in Fruit and Vegetables production and processing. In particular, three application (one primary producer and two collectors/processors/exporters) were financed, for a total value of approximately 1 m Euro.

Table 4.1: MAP investments supported by IPARD-like¹⁰³

Application	Region	Measure	Investment amount
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¹⁰¹ USAID supported the MAP sector through three subsequent projects over a ten-year timeframe: SBCA, EDEM and AAC.

¹⁰² Classified as "Measure 2" in ARDA documents

¹⁰³ The investments are referred to the programming period 2017-13, but financing was actually disbursed in 2014-15.

			ALL	Eur*
#1	Shkoder	1	3,872,914	27,642
#2	Durres	3	62,379,028	445,215
#3	Berat	3	63,609,603	453,998

* EUR/ALL exchange rate calculated on the base of average yearly exchange rates.
Source: ARDA.

MAPs sector has been considered eligible in IPARD II under Measure 7 (as part of support to organic farming) and in particular: A) Sub-Measure 7.1 - Provision and production of medicinal and aromatic plants, fungi, honey, snails, and materials for the production of essential oils; and B) Sub-Measure 7.3 - Processing and marketing of wild or cultivated medicinal and aromatic plants, fungi, olive oil, honey, fish and fish products, production and marketing of essential oils.

Expenditure categories eligible for Measure 7.1 - Production of medicinal and aromatic herbs, mushrooms, honey, ornamental plants, snails, by categories were:

MAPs and ornamental plants

- production facilities, greenhouses (glazed and/or plastic tunnels with a minimum of 5 years warranty), including ventilation facilities and equipment, air conditioning and heating, alarm systems with electric generators, water tanks, and irrigation systems.
- specialized equipment for horticultural production and nursery farms, including tractors up to 70 hp.
- post-harvest facilities and equipment for collection/ventilation, drying, and storage.

In IPARD II, there have been five successful applications for MAP, for a total 1.1 M. Euro investment value,¹⁰⁴ The list of investments is provided in table 4.2 below. As it is possible to remark when considering the investments financed in IPARD-like (programming period 2007-13) and IPARD II (programming period 2014-20) the supported investments can be classified in two size classes: i) investments ranging around 30,000 to 60,000 Euro (3 investments) and, ii) investments ranging around 280,000 to 450,000 Euro (5 investments).¹⁰⁵

The supported investments have been mainly addressed to improve warehouses and drying facilities. In one case, financing has been used for purchasing agriculture machines.

Table 4.2: Investment from IPARD in Euro in the period 2019-2020

Application	Region	Type	Scope	Investment amount	
				ALL	Eur
#1	Shkoder	Second level consolidation	Extension of the storehouse building and one drying equipment	35,120,520	289,630
#2	Shkoder	Second level consolidation	Investment in construction of a warehouse	40,995,234	338,077
#3	Shkoder	Second level consolidation	Storehouse reconstruction	4,984,979	41,110
#4	Fier	Primary production	Agriculture mechanics	8,357,999	66,118
#5	Tiranë	Primary production	Collection point	48,010,492	379,800

Source: ARDA.

Support absorption has been focused more at the consolidator level. Interviews with the main actors in the industry confirm such a trend. Many exporters lament the adoption of the maximum yearly turnover threshold (of around 2 million Euros) as a mandatory criterion for a grant application under measure 7. Since most exporting companies

¹⁰⁴ The amount is referred to the first two calls only; a third call was closed in March 2020. However, all the available resources for Measure 7 have been allocated within the second call.

¹⁰⁵ In IPARD II the maximum threshold for investments under Measure 7 was set at 400,000 Euro.

exceed the amount of 2 million Euros of turnover, many cannot apply. Such constraints are related to the inclusion of MAP in Measure 7 - diversification.

According to Xhevit Hysenaj, general manager of Alb-Kalystyan, Maminas, and Filip Gjoka, owner of Filipi Ltd, Lac, this decision excluded the real players in the industry. This policy appears to be counter-productive to sector development in a typically buyer-driven value chain with a remarkable positive trade balance. Large exporting companies are the only players that can increase value-added. Classifying grant support under measure 3 appears to be a viable, simple solution to solve a peculiar, problematic situation.

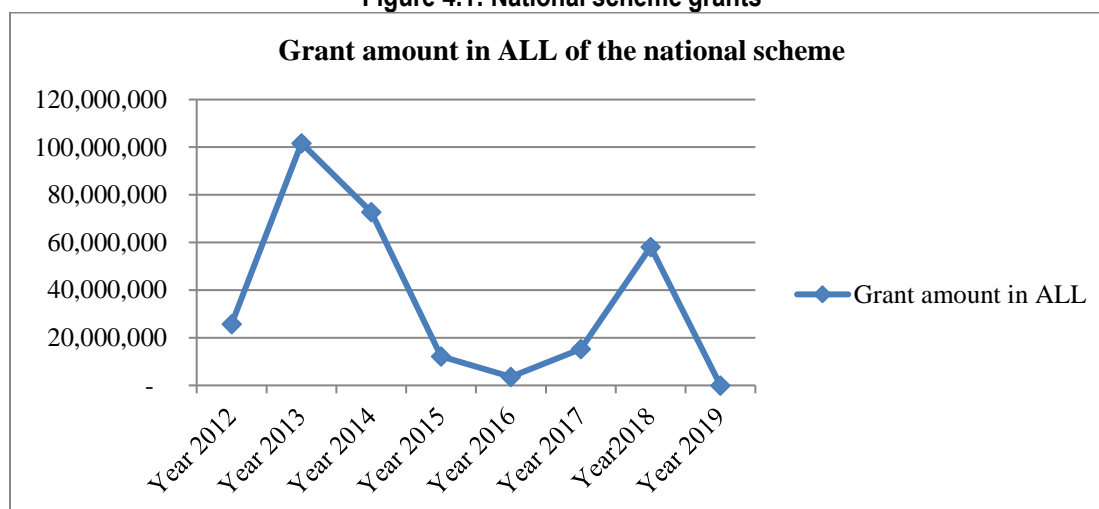
National support schemes

The national support scheme is being run since 2012 and is mainly addressed to support increase of MAP primary production with several limitations related to MAP type (sage, oregano, lavender), structure of cultivation (cultivation blocks) and cap to support (50% of expenses up to 200,000 ALL/ha). The absorption of funds has been quite variable, in relation to the cycles of primary production development¹⁰⁶, ranging between 102 M ALL per year (2013) and 3.54 M ALL per year (2016). As a whole, the national scheme grants financed about 2 M Euro investments since 2012.

The two national support schemes consisted in the following: 1) Coverage of plantation costs: 50% with an overall amount up to 200 thousand ALL per hectare. 2) 50% of the production costs for transition to organic production regime and 50% of certification costs for export-oriented productions.

Support for the MAP industry was provided appears to be weaker during the last years. The national scheme data see Figure 4.1 and Table 4.3) show the evolution of funding in the period 2012-19 by year and type of supported scheme.

Figure 4.1: National scheme grants



Source: ARDA.

Table 4.3. Overall amount of support for the primary level in the MAP sector (M. ALL)

Category	2013	2014	2015	2016	2017	2018	2019
Cultivation of sage, thymus, Lavendula, and oregano on block, in predefined areas for cultivation, for 50% of the cost up to 200,000 ALL / ha	101.79	72.85	12.20	3.54	15.16	58.08	NA

¹⁰⁶ The spike in funds absorption in 2013-14 corresponds to the boom in the cultivation of sage, followed by the collapse in the sage price; also, the 2017-18 increase of grants awarded duly reflect another primary production expansion; see also section 2.2 above.

Production of organic agricultural products from grown plants: i) For the domestic market till 2010 was covering 50% of the production costs up to 20,000 ALL/farm/year	0.08	0.08	1.20	3.30		0.28	-
ii) For the export is covered 50% of the certification costs up to 70,000 ALL/farm/year.							

Source: ARDA.

Table 4.4 below provides the criteria for eligibility to support by year.

Support for MAPs	Specific requirement	2013	2014	2015	2016	2017	2018	2019
Cultivation/improvement of cultivation technology of MAPS	Min. planted area (ha)	in blocks and chosen areas	0.2	0.2	0.2	0.2	Variable *	
	Max. planted area (ha)		10	10	10	5	20	

* 0.5 for individual farmers; 1 for a group of farmers and 5 for ACS/ SHBB.

Source: Respective DCM for support measures.

After 2018, support to organic MAP farming was shifted to IPARD II Measure 7.1

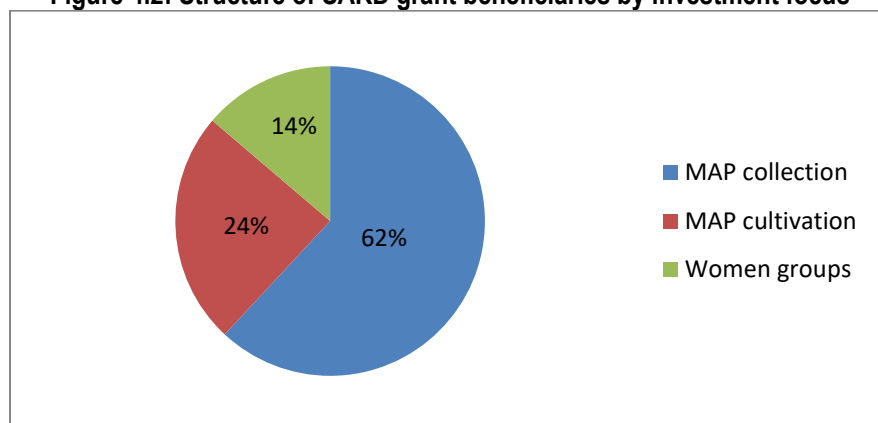
4.3 OTHER AGRICULTURE DIRECT AND INDIRECT SUPPORT MEASURES AND FACILITIES

Many programs funded or implemented by international development agencies, such as USAID, SIDA, FAO, and GIZ supported this sector during the last ten years. Many large processors have benefited from grants provided by different programs implemented by USAID, GIZ, SDC, SIDA, and SNV. One of the programs that specifically targeted the MAP sector was Promali, a program funded by Danida and implemented by SNV (focused on three value chains:(i) small ruminants, (ii) fruit, and (iii) MAPs). The most recent extensive program was Support to Agriculture and Rural Economic Development (SARED), financed by GIZ. The program provided support to selected value chains: (i) medicinal and aromatic plants, (ii) fruits and nuts, (iii) small ruminants, and (iv) rural tourism.

In particular, SARED grants were released with grant intensity and rules similar to IPARD-like and were mostly addressed to finance small investments (average size around 25,000 Euro); support to MAPs was focused on Shkoder and was devoted in most cases to farm machinery and equipment for MAPs collection or cultivation however, there are also cases of successful applications submitted by larger collectors/wholesalers/exporters, such as Albkalustyan shpk and Herba Fructus Natureore, which received support for relatively small investments.¹⁰⁷

As a whole, SARED supported 218 subjects in the MAP sector (19% of total number of supported subjects), the majority of which for activities related to MAP collection. Figure 4.2 below depicts the structure of beneficiaries of SARED grants in the MAP sector.

¹⁰⁷ All SARED supported investments were under 10 M ALL. The average supported investment scored 3.2 M ALL.

Figure 4.2: Structure of SARD grant beneficiaries by investment focus

Source: MARD, GIZ.

The disaggregation of data provided by MARD and GIZ did not allow calculate the amount devoted to MAP grants.

Another program focused exclusively on the development of the MAPs value chain is Local Economic Development (LED), financed by the Swedish International Development Cooperation Agency (SIDA) and implemented by Connecting Natural Values and People (CNVP). After a piloting stage, the program is in the early stages of implementation.

Donor-funded programs other than the IPARD that support VC development with grants or other forms of support are welcomed by all actors interviewed. However, many exporters point out the need to better allocate such funds by supporting farmers and buyers' networks, not just individual farmers or processing firms.¹⁰⁸ In this way, it is possible to match supply and demand better and avoid the overproduction of some MAP and significant price drop (e.g., sage).

Other instruments and mechanisms, such as loans and guarantee schemes, have not been very successful.¹⁰⁹

4.4 OTHER POLICY ISSUES AFFECTING SECTOR PERFORMANCE

The still unsolved issue of land property rights, especially in mountain areas represents a fundamental challenge for all the MAPs sector actors. Land rights remain an essential factor in hindering sector development. Land ownership and registration of non-distributed land (taken by force or based on customary laws) in various areas of Albania, especially in the north, is very problematic. Investments both at the farm and processing levels are held back because of the inability to provide legal proof of land ownership.¹¹⁰ However, some changes in the legislative framework allow the renting of uncultivated land to plant MAP by local municipalities. Furthermore, recently, there is a renewed attention to land registration even in regions with inherited problems related to land ownership documentation.

Another area that requires regulation is the import of PPP. The lower taxation for agricultural inputs introduced recently by the government has resulted in increased use of these products.¹¹¹ Furthermore, despite the government's recent efforts to regulate this sector, there is a need for a stringent enforcement. Since most of the MAPs production is exported, it is critical to adopt international standards in this area.

¹⁰⁸ Interview with VeselMucaj, Mucaj Ltd, Koplik, Malesia e Madhe and Riza Shaholli, consolidator in Bilisht, Korce.

¹⁰⁹ Interviews with key informants and exporters.

¹¹⁰ Interviews with farmers and exporters.

¹¹¹ Interview with Xhevid Hysenaj, general manager of Alb-Kalystyan, Mamurras.

Better coordination between different government bodies and municipalities is needed on the issue of permits to exploit wild-grown MAPs or use abandoned land for MAP cultivation.¹¹² The process appears to lack transparency leading to informality in this sector and unfair competition.¹¹³

A major issue is related to the issue of the environmental sustainability of wild MAPs collection and to the connected system of licenses, limitations and controls. As a principle, wild MAPs collection is linked to a system of licenses and quotas released by Municipalities and there are limitations on the collection of endangered MAPs, which are included in the MAP Red List.

The main critical factor affecting the effectiveness of the system is related to the lack of traceability of harvested wild MAPs in all the levels of the planning/licensing/controlling system, with the final consequence that in some areas specific MAP are overharvested and/or improperly harvested. Moreover, it has created a vicious cycle for exporting companies that are asked by tax officials to provide the proper documentation about the product's origins. Because much of the volume of MAP collected is not accounted for at the collector or consolidator level, exporting companies cannot avoid fines and continuous inspections.

The issue starts from the lack of proper planning documents and lack of connection between harvesting licenses and actual collection; each municipality should have and keep up-to-date a Forestry and Pasture management plan where, among other information, the sustainable amount of natural resources uptake (pasture resources and grazing pressure, wood, MAPs and other NTFP) should be indicated. At present, only six municipalities have such plans, all prepared with support from a WB project. Without planning, licenses are released with few or no connection to the amount of sustainable MAP harvesting; in any case, licenses are released to consolidators, who are different subjects from those ones who actually collect wild MAPs, so it is practically impossible to control what is harvested, where, by whom and according to which practices.

Finally, there have been several cases when Albanian custom require a new certificate of origin for Albanian products rejected from the buyer, in addition to the certificate of origin released by the Albanian authorities when the product was initially exported¹¹⁴. This certificate should have been released from the authorities of the buyer's country and should confirm that the product sent back is actually from Albanian origin. These certificates are not released, as the product is considered as non-exported rather than temporarily imported. The situation creates complex and cumbersome paperwork and is a significant problem for MAP exporting companies since returned products represent 5-10% of total production.¹¹⁵

5 MARKET AND TRADE

5.1 GENERAL ASPECTS

The Albanian market of MAPs is primarily addressed to export: there are no precise figures, but it is calculated that about 95% of product is exported. Exports consist in dried MAPs and, increasingly, in essential oils, which now represent 12% of total export.

An expanding segment is represented by herbal infusions. This segment generated an increasing flow of imports of finished, branded products for the domestic market and an export outflow of infusions processed and packaged for final consumers' use (tea bags), with a single company taking a clear leadership for in-country production of herbal tea infusions in tea bags, mainly addressed to export.

The next sections analyse the different market segments.

¹¹² Interview with EmilandSkora,

¹¹³ Consolidators in Kukes, Gramshi, Korca region

¹¹⁴ Interview with Armando Truja, sales manager at Gjedra ltd, Berat.

¹¹⁵ Interview with many exporters.

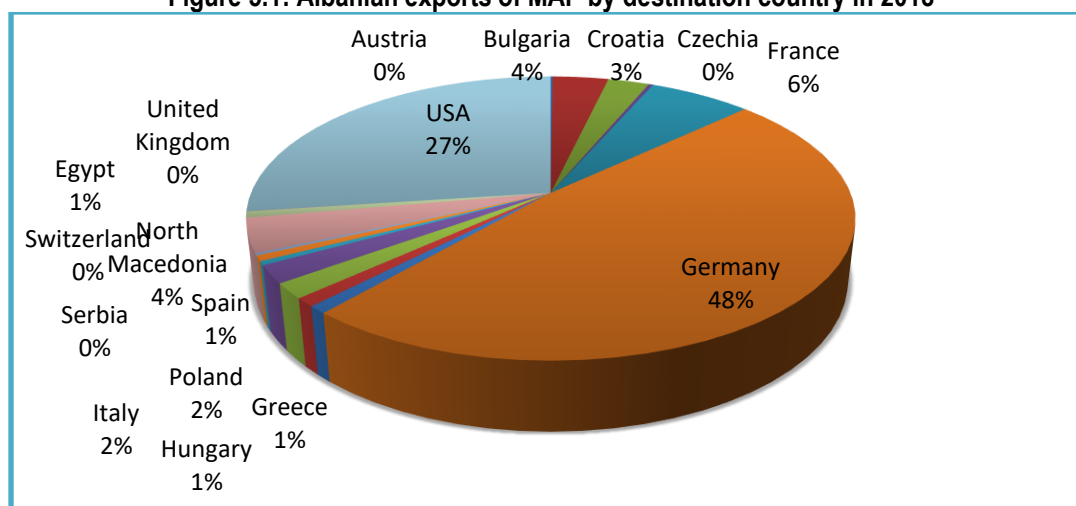
5.2 INTERNATIONAL MARKETS

5.2.1 Albanian exports of MAP

Different market segmentation analyses were used to describe the market in which MAP processing and exporting companies operate: (i) by country, (ii) by size of the company, (iii) type of industry they operate.

MAP exporters are usually consistent in the primary market segments they target, although, recently, there is a tendency to diversify and increase the number of markets and clients. Generally, large US, German, Turkish, and French processing companies are Albanian exporters' primary buyers. However, there is an increasing market diversification tendency. Albanian exporters are increasingly targeting eastern European markets (e.g., Hungary, Slovenia, Serbia, Romania, and other countries) or emerging markets (e.g., China and India) and even far away countries such as Australia. Figure 5.1 depicts the structure of Albanian MAPs exports by country in 2018. The main markets are clearly Germany and USA, which account for 75% of exports.

Figure 5.1: Albanian exports of MAP by destination country in 2018



Source: UNSTAT (2020).

The leading trading partner is Germany both in terms of exports and imports (see table 5.1 below). Albania exports mostly semi-processed MAP and imports fully processed products, usually for the tea infusion industry (e.g., Kraco Ltd, a renowned Albanian food company) or spices (e.g., pepper, cinnamon). In terms of exports, the USA represents the second trading partner, followed by Turkey and other European countries. There is an increasing trend to import some products and re-export to USA and Western European countries.¹¹⁶ In case there is not enough supply for one specific product, Albanian exporters purchase it in other eastern European or Mediterranean countries (e.g., Montenegro, Ukraine, Egypt)¹¹⁷.

Table 5.1: Exports and imports of plants and part of plants by country in 2019

Country	Export		Country	Import	
	Export amount (in Mt)	Share of export (in %)		Import amount (in Mt)	Share in import (in %)
Germany	3,648	31%	Germany	237	46%
USA	2,656	23%	Bulgaria	96	19%
Turkey	1,060	9%	Croatia	48	9%
France	549	5%	Montenegro	31	6%

¹¹⁶ Interview with Artan Koldashi, owner of Herba Fructus Ltd, Elbasan.

¹¹⁷ Interview with some exporters.

North Macedonia	497	4%	Other	106	20%
Other	3,261	28%			
Total	11,671	100%	Total	518	100%

Source: EUROSTAT (2020).

In the essential oil sub-sector, the picture is slightly different. Although Europe represents the leading market for exports and imports of essential oils, some European (e.g., Spain) and North American countries (e.g., Canada) enter the primary exporting countries list. In terms of imports, the most important trading partners are neighbouring countries such as Italy and Greece (see Table 5.2 below).

Table 5.2: Exports and imports of essential oil by country in 2019

Country	Exports			Country	Imports		
	Export (tons)	amount	Share of exports (% of value)		Import (tons)	amount	Share in import (% of value)
Spain	8.2		24%	Italy	1.8		36%
US	7.5		22%	Turkey	0.7		14%
Canada	5.5		16%	Greece	0.7		13%
Hungary	3.2		9%	France	0.6		12%
Austria	3.1		9%	Other	1.2		25%
Germany	2.9		8%				
Other	3.6		12%				
Total	34		100%	Total	5		100%

Source: EUROSTAT (2020).

5.2.2 Profile of main international buyers

In terms of buyer size, Albanian exporting companies target large processors such as Martin Bauer Group, Krauter Mix GMBH in Germany, Elite Spice, A. A. Sayia, Advanced Spice & Trading in the USA, which complete the processing cycle producing higher value-added MAPs compared to processors in developing countries. These companies make final products that meet several industries' needs in these countries, namely, the food processing, cosmetics, and pharmaceutical industries. Interviews with large processing companies show that these large processors represent around 70-80% of the Albanian exporters' buyers; the rests are smaller processing companies or end-users of MAP processed by Albanian exporters.

According to Kujtim Keka, Artan Koldashi, and other Albanian exporters, this smaller and specialised buyers segment demand small quantities of processed MAP, the cumulative sales to these customers are steadily increasing. This tendency is welcomed by Albanian exporters who want to reduce the bargaining power of large foreign buyers. Today, there are more than 300 companies around the world that buy MAPs produced in Albania.¹¹⁸

As noted above, Albanian exporters usually target companies that complete the processing cycle in function of their final customers' demand. In other words, even if Albanian exporters made significant progress in adding processing steps and quality-oriented processing functions, they are still providing in most cases half-finished products which are further processed by their customers. However, Albanian exporters are increasingly targeting the food industry (but also specialized companies in cosmetic and pharmaceutical sectors) such as Griffith Foods, Illes Seasoning & Flavors, McCormick, ConAgra Foods, K.H.L Flavors Inc, Life Spice Ingredients, Wixon, and others. Similarly, essential oil producers are targeting specialized companies in the food and pharmaceutical sectors to sell their products.

¹¹⁸Interview with Artan Koldashi, Herba Fructus Ltd, Elbasan.

5.2.3 International trade flows and evolution over time

Supply balance and trends

As shown by Eurostat data, Albania has a positive trade balance in the MAP sector (specifically in the plants and part of plants sub-sector) (see table 5.3 below). Although the ratio between exports and imports has been declining in the last decade, it is still above 2000% in terms of value (Euro) and volume (Mt). This decline is caused by the development of the domestic tea infusion industry and the increasing demand for some spices, which are mostly imported.

Table 5.3: MAP international trade of plants and part of plants - export and import (HS code 1211)

Year	Export			Import			Export/import	
	(000 EUR)	Ton	Price	(000 EUR)	Ton	Price	(000 EUR)	Ton
2010	10,169	5,380	1.89	144	35	4.17	7,047%	15,550%
2014	21,024	9,429	2.23	851	421	2.02	2,471%	2,239%
2015	26,542	12,457	2.13	898	463	1.94	2,957%	2,693%
2016	26,555	12,789	2.08	825	368	2.24	3,219%	3,477%
2017	24,189	11,875	2.04	1,209	592	2.04	2,001%	2,005%
2018	29,873	12,250	2.44	1,100	422	2.61	2,717%	2,903%
2019	33,328	11,671	2.86	1,482	518	2.86	2,248%	2,251%

Source: EUROSTAT (2020).

In contrast, the ratio between exports and imports in the essential oil sub-sector has an incremental trend. In the last year, it was 3849%, demonstrating the excellent potential of the sub-sector (see table 5.4 below).

Table 5.4: Albanian International trade of Essential oils (HS code 3301)

Year	Export			Import			Export/import	
	(000 EUR)	Ton	Price	(000 EUR)	Ton	Price	(000 EUR)	Ton
2010	389	4	91.03	27	3	9.35	1450%	149%
2014	245	4	67.98	59	7	8.26	413%	50%
2015	196	2	123.27	100	8	12.72	196%	20%
2016	701	6	110.06	118	7	17.10	596%	93%
2017	2,075	11	185.76	89	6	15.37	2341%	194%
2018	4,723	57	83.11	105	8	13.23	4509%	718%
2019	4,584	34	133.05	119	5	24.04	3849%	696%

Source: EUROSTAT (2020).

Tea infusion exports

The food industry that uses MAPs as raw materials is developing thanks to one business, Kraco Ltd, a food producer that exports, among other products, herbs, roots, and fruit infusions. The company employs more than 200 workers and has a turnover of around 10 million Euros. Its primary markets are European countries such as Spain (3-4 million Euros of export), France, Holland, Italy, and neighbouring Western Balkans countries (e.g., in Kosovo where Kraco Ltd is the leading company in tea infusions). It uses its brand or private labels, depending on specific arrangements with its buyers. For example, in Spain sells with the brand of Mercator, a Slovenian multinational supermarket chain.

The company is expanding its business. Currently, it is investing in a new plant that will increase tea infusion production significantly. Besides, it is planning to invest in contemporary cutting, sterilization, and packaging types of machinery. Such investments may enable the company to increase capacity and improve product quality and increase the possibility of source raw materials in Albania. Import substitution can lead to increased demand for Albanian MAPs considering that food producers such as Kraco Ltd are expanding in large markets.

5.3 DOMESTIC MARKET

Compared to the overall production of the sector, demand for MAPs in the domestic market is limited. Although there are no reliable disaggregated data, some estimates suggest that the domestic market accounts for 5% of total

production in terms of volume.¹¹⁹ However, this specific market is developing at a faster pace than some years ago. Anecdotal evidence suggests that the growth is correlated to supermarket chains' expansion and the improved processing, packaging, and labeling of these products.

The leading company in the herbs, roots, and fruit infusions (commonly called teas¹²⁰) market is Kraco Ltd (90% of the market¹²¹) followed by ATC Ltd. The latter appears to lead the market in flavors, and it is both a wholesaler and exporter of MAPs¹²² and food producer of herbs, spices, essential oils, and tea infusions. Kraco Ltd produces and sells a wide variety of products to the domestic market, including infusion teas, coffee, cacao, fruit juices, chocolates, puddings, and other products.¹²³ In contrast, ATC is focused more on the tea infusions and herbs used as flavors. It produces and sells in the domestic market more than 20 varieties of bio teas, 50 varieties of herbal teas, more than 20 types of spices, and other products such as blueberry juice, garlic, and onion pâté, and other products in different packaging.¹²⁴ These two companies enjoyed a remarkable success in increasing their market share. In some supermarket chains they occupy almost all the shelf space (e.g., Big Market, Eco Market).

A smaller competitor of Kraco Ltd and ATC Ltd is GBE Ltd (former TeAlb) and some small MAP processors.¹²⁵ Some other exporting companies are entering the domestic market with special teas sold in bars and restaurants. However, their market share is much smaller.

While there is some potential to develop the domestic market of MAPS, primarily through product diversification, this market is not sizable enough. The potential for expanding the food industry lies mainly in the international markets currently successfully targeted by Kraco Ltd.

5.4 KEY FEATURES AND CHALLENGES

As argued by exporters and experts of the sector, on the one hand, trade of semi-processed MAPs is not constrained by tariffs, quotas, or other non-trade barriers.¹²⁶ In contrast, the tea infusion industry faces more challenges with non-tariff barriers such as unjustified sanitary and phytosanitary conditions, lengthy customs procedures, and additional documentation.¹²⁷ On the other hand, the sector is not subsidized, either at a farm level or the export level. Some players have advanced the idea to introduce some form of subsidies at the farm/gatherer level but without any success.¹²⁸ Furthermore, many exporters complain about the lack of, or insufficient export subsidies even for marketing and freight costs for which emerging countries are entitled to provide under trade agreements. For example, many demand the government to step in and finance participation in important industry fairs in Germany and the USA (although as confirmed by MARD representatives, the government is providing some support during the last years).¹²⁹ Thus, according to important players in the industry, the government's more incisive role is required to increase exports of MAP.

The main barrier to trade is related to the application of strict sanitary and phytosanitary measures and technical requirements for food safety and quality. The majority of detentions and rejections of products are related to microbiological contamination.¹³⁰ The costs of one container returned scores around 6,000 Euros and, more important, being 'blacklisted' and continuously checked by certification companies.¹³¹

¹¹⁹ AASF (2019). MAPs Sector Study.

¹²⁰ Infusion' refers to the process of steeping herbs or fruits in hot water but doesn't come from the traditional tea plant.

¹²¹ Interview with Sokol Kraja, Kraco Ltd, Vore.

¹²² AASF (2019). MAPs Sector Study

¹²³ For more, see <http://www.kraco.al/EN/home/>.

¹²⁴ <https://natyral-atc.com/>

¹²⁵ Interview with Endrit Kullaj, sector expert.

¹²⁶ Interviews with leading exporters.

¹²⁷ Interview with Sokol Kraja, Kraco Ltd, Vore.

¹²⁸ Interview with Riza Shaholli, consolidator, Bilisht.

¹²⁹ Interview with Artan Koldashi, Herba Fructus Ltd, Elbasan.

¹³⁰ Interview with Filip Gjoka, Filipi Ltd, Lac.

¹³¹ Interview with Artan Koldashi, Herba Fructus Ltd, Elbasan.

The solutions regarding food safety and quality are multifaceted and complex, that can be summarized as follows:

- It involves increased investment in logistics and production technologies.
- Better chain coordination and product traceability is required.
- At policy level, an accredited laboratory should be established (ISUV or ATTC Shkoder being the most natural candidates). Currently, the costs of a full-range laboratory test for one sample are around 900 Euro. Usually, these tests are performed in Italy, Germany, or France.¹³² Hence, an accredited laboratory in Albania would lower the costs and reduce the risks of deception by foreign buyers that sometimes complain about the quality, referring to test results from their labs. Finally, as mentioned, contamination from PPP needs to be reduced by adopting different policies and industry levels.

The development of the food industry that uses MAPs as raw materials is a more challenging endeavour. Competition from large foreign conglomerates in the food industry is fierce¹³³. These companies have the experience, know-how, and can exploit economies of scope and scale.

Investments in modern processing and packaging lines (including capacities for sterilization) and improved knowhow on product development (e.g., tea infusions) are key factors to increase the export of products with higher added value for food industry or final consumers. With particular reference to products for final consumers (not only herbal infusions, but also other relatively simple personal care products), traditional MAP processors appear to be still reluctant to enter this specific market, but players such as ATC Ltd and especially Kraco Ltd are more equipped to deal with these challenges.

¹³²Interviews with many exporters.

¹³³Interview with ArtanKoldashi, Herba Fructus, Elbasan and Filip Gjoka, Filipi Ltd, Lac.

6 LEVEL OF ATTAINMENT OF RELEVANT NATIONAL AND EU STANDARDS

6.1 HYGIENE AND FOOD SAFETY

6.1.1 Food safety and quality standards at the farm and small consolidator level vs. processing level

While there is a constant focus of processing companies on food safety and quality standards, farmers and collectors have little resources and motivation to keep up. Similarly, despite their best efforts, small consolidators located in remote areas cannot adopt high standards of storage. As noted in other studies,¹³⁴ lack of proper warehousing and drying technology is the main reason why products are contaminated or lose some properties (e.g., colour). These value chain upstream players are aware of the deficiencies and are more than willing to address them but lack the financial resources. In contrast, large consolidators and exporters are better equipped to implement the required quality standards. Thus, there is an urgent need to invest upstream in the value chain in terms of food safety and quality standards.

This situation also helps to explain why some consolidators/processors/exporters are also investing to take a direct control of the production of the MAPs they use, starting large-scale cultivations of MAPs they need most.

There have been different initiatives to address quality standards, such as training and small investments at the farm and consolidator level (e.g., development programs such as, Risi Albania, LED, Promali, and SARED). However, considering the supply chains' length and breadth, there is a need to continue these efforts. Support through small grants needed to be tailored to the context, both in terms of criteria and magnitude (i.e., more straightforward procedures for grant applications depending on the grant's size).

6.1.2 Specific regulatory framework, level of compliance

Regarding the regulatory framework and approximation to Acquis, like all other businesses that store, process, and trade food, MAP processing companies are obliged to adapt to the requirements included in the Law n.9863, date 28.1.2008 on "Food." The inspection is carried out by the Food National Authority (FNA) as per law n. 10 433, date 16.6.2011 on "Inspection in the Republic of Albania." However, as mentioned above, all exporting companies contacted argue that the certification requirements are more stringent than what is usually demanded during such inspections (from the FNA). Hence, according to exporters, there have been few or no problems during the examination of FNA.¹³⁵ In general, there is evidence of an alignment between law and some of the certification requirements. Moreover, the level of inspection is adequate since exporting companies are controlled annually by certification bodies and receive random controls by FNA, too.

6.1.3 Organic cultivation, use of inputs, PPP

Despite the importance of the organic sub-sector and the awareness campaign launched by many MAPs processors, farmers engaged in cultivation appear to be less informed about organic cultivation techniques and the type of inputs used. There is a widespread belief among exporters¹³⁶ that farmers sometimes use an excessive quantity of fertilizers, herbicides, and pesticides in MAPs cultivation. More importantly, there is evidence of soil contamination from pesticides used for other crops, some of which are prohibited in developed countries.¹³⁷ Interviews with key informants suggest that farmers tend to downplay or conceal the use of such products.

¹³⁴ USAID (2010). MAPs Value Chain study; FAO (2014) MAPs Value Chain Study; CID (2014). MAPs value chain analysis; AASF (2019). MAPs Sector Study.

¹³⁵ Interviews with exporters.

¹³⁶ Interview with exporters.

¹³⁷ Interview with Riza Shaholli, consolidator, Bilisht.

6.2 CERTIFICATION

As an export-oriented sector, the adoption of voluntary standards and certification is widespread among Albanian MAP exporters. Although part of the volume exported is 'conventional,' meaning without stringent standards (e.g., certification and traceability), an increasing portion of the quantity sold abroad is certified and traced.¹³⁸ All exporters state that certification: i) minimizes impediments to trade ii) increases added value (e.g., some organic products are priced 30%-100% more).¹³⁹

The most common certification is the organic one. This certificate is given to those operators that ensure that products have grown without pesticides, synthetic fertilizers, and various other chemicals. Farmers, consolidators, and processors have been issued this certificate. According to Kujtim Keka, it is becoming complicated to enter in many markets without this certification, better if provided from a reputable and international certifier (in his case CERES, a world-renown company).

Another commonly acquired certificate is HACCP (Hazard Analysis Critical Control Point), internationally accepted standards, rules, and procedures for preventing microbiological, chemical, and physical contamination from raw material production to processing and distribution.¹⁴⁰

Large companies have been issued other product and process certification. For example, Relikaj Ltd has BRC (a product and process certification standard), Rainforest Alliance, Kosher, Halal, ISO 9001, and others. Similarly, some of the other MAP exporters (e.g., Filipi Ltd, Alb-Kalystean, Gjedra Ltd, Herba Fructus Ltd) hold also other certificates (ISO, Kosher, NOPE, HACCP, Organic, and IMO).

Depending on the scale of cultivation, size and type of processing, and other aspects of a firm's activity, the company's reputation issuing certificates, and other factors, certification may cost from 1,500 – 3,000 Euro annual fee. Some companies pay 12,000-15,000 Euros per year for certification.¹⁴¹ The cost of preparing the plants to comply with certification requirements and inspections can be very high and, in some cases, can require suspending the activity for a complete overhaul of the process and in-depth cleaning of the plant.

Despite the costs, all representatives of exporting companies agree on the value for money of having a certification issued by a reputed certifier. However, the investment and set up costs to start the process for some types of certification are very high (e.g., BRC).¹⁴²

Certificates are usually issued by international bodies that collaborate with national actors (e.g., Alb-Inspect, AZ Consulting).

6.3 OCCUPATIONAL SAFETY

There is an increasing pressure on Albanian exporters from foreign clients to apply standards regarding occupational safety and health. The more common certification is ISO 45001 (occupational health and safety management system),¹⁴³ and SA8000. Sometimes, auditing from certification bodies includes inspection on occupational safety and health.

However, since the expenses for other types of certification are relatively high, many exporters are reluctant to apply for such accreditation despite the increasing efforts to create a safer and healthier environment for their workers.

¹³⁸Interviews with exporters.

¹³⁹Interview with Filip Gjoka, Filipi Ltd, Lac.

¹⁴⁰ The Albanian legislation require to comply with HACCP, but not to be certified for compliance.

¹⁴¹ Interview with Artan Koldashi, Herba Fructus Ltd, Elbasan.

¹⁴² Interview with Rudin Beka, sales manager of Relikaj Ltd.

¹⁴³ Usually, there is a tendency among companies to obtain ISO 9001 (quality management), ISO 14001 (environment management systems), and ISO 45001 (occupational health and safety management system) to lower the costs.

Objectively, compared to a decade ago, the conditions of workers have improved considerably in many large processing facilities.¹⁴⁴

6.4 ENVIRONMENTAL ASPECTS

Endangered MAPs

There is a legal framework in place to protect endangered species. The Strategic Policy for biodiversity Protection is a document that outlines specific actions to protect, among others, some indigenous MAPs (sage, mountain tea). Also, several MAPs are included in the 'red list'¹⁴⁵. Since the sector is export-oriented, it is easy to enforce such restrictions, although sometimes, it is quite challenging to verify the validity of certificates of origin. However, there are cases of collection of endangered species (e.g., *Gentiana lutea*) in some areas of the country to produce traditional handicraft food products such as raki¹⁴⁶ with roots of *Gentiana lutea*. Nonetheless, these cases are sporadic, and the market for these products is very limited.

Wild-grown MAP collection

The negative impact of depopulation on the wild-grown MAP collection has been highlighted in previous studies.¹⁴⁷ Today, after a decade, the problem is more acute than ever. Many inner and mountain areas have been almost wholly abandoned, including areas with tourism potential (e.g., Kelmend, Dugagjin, Diber, Tropoje, Gjirokaster). Harvesting MAPs is not as popular work as it used to be despite the income generated; this is also related to the decline of traditional transhumant small ruminants' breeding, as transhumant breeders also used to play an important role in MAP collection in mountain pastures and highlands. The number of harvesters is declining steadily, and so is the volume of MAP sold to processing companies.¹⁴⁸ While the depopulation undermines the sector's sustainability, it contributes to the conservation of endangered MAP species, at least low-priced ones.

However, as noted above, high-value MAPs are being overexploited. During 2020, the problem re-emerged preponderantly since many farmers could not go to North Macedonia, Greece, or other neighboring countries as seasonal workers.¹⁴⁹ As a result, some MAPs were overharvested (e.g., Hawthorn fruits and Juniper berries). Therefore, despite the depopulation of some areas, and the resulting reduced pressure on bio-diversity, the problem of over-exploitation (in some areas) continues to be a sensitive issue for the industry's sustainability.

¹⁴⁴ Interview with Filip Gjoka, Filipi Ltd, Lac, and head of AMAP, an industry organization.

¹⁴⁵ The full red list is available at

<http://www.nationalredlist.org/files/2015/06/Red-list-of-Albanian-flora-and-fauna-2013-MO-1280-20-11-2013.pdf>

¹⁴⁶ Alcoholic drink popular in the Balkans.

¹⁴⁷ USAID (2010). The medicinal aromatic plants' value chain in Albania.

¹⁴⁸ Interview with exporters and other key informants.

¹⁴⁹ Interview with Riza Shaholli, consolidator, Bilisht.

7 PAST TRENDS AND FUTURE DEVELOPMENTS IN TERMS OF INVESTMENTS

7.1 PAST TRENDS AND INVESTMENT CLIMATE

7.1.1 Primary production

Before 2012, MAPs farming was quite limited. since then investments were made in the following areas: 1) new plantation of MAP (especially supported by National Schemes) , and more rarely, on 2) farm machinery (especially supported through SARED), 3) irrigation systems, 4) simple drying equipment of facilities. Due to the lack of product diversification, and price volatility, returns on investment are lower than they used to be.

Primary production investments followed specific crop-related cycles, with independent farmers rushing to increase plantations of a specific MAP, attracted by high prices (first sage and after, less extensively immortelle and mountain tea); the output surge causes a sharp price drop, which in turn leads to reduction of the cultivated area with that specific map. This cycle was particularly sharp for sage (with investments in 2012-13, followed by a sudden drop) and, at a lower level was also detected in 2017-18. In absence of good value chain coordination and market intelligence, it is quite possible that such investment cycles will occur again in the future, even if some lessons have been learnt and it is expected that these boom-and-bust cycles will be milder.

In parallel and in relation with these investment cycles made by independent primary producers (having or not a production contract with exporters), larger investments in primary production were more recently made by large collectors/processors/exporters, as some of them considered cost/effective to start to directly control the primary production of the MAPs they are sure to sell; the drive for these investments is primarily better-quality control than profitability.

7.1.2 Processing and international trade

At the processor/exporting level, relatively large investments ¹⁵⁰ have been done in the last decade, especially in warehouses and processing technology. The main drivers of these investments were: i) competition between Albanian exporting companies and with other processors in other Balkan countries¹⁵¹ ii), increased quality requirement from foreign buyers, iii) previously made large investments in specific assets that bear full benefit only continuing to invest.

During the last decade, the main investments were made by large processing and exporting companies (less than a dozen) were mostly focused in increasing fixed assets such as:

- Processing lines such as cleaning, sorting and grinding technologies.
- Distillation units.
- Warehousing.
- Drying equipment and facilities, v) sanitation, disinfestations¹⁵² and sterilization¹⁵³ machinery.

Important investments were also made in the following areas.

- Increasing the range of products offered, which translates in larger warehouses and increased working capital needs¹⁵⁴,
- Taking control of cultivated MAPs primary production, with need for in investment in large MAP plantations (see also chapter 2 above) and relevant farm machinery and,
- ICT. to increase visibility, improve communication with their buyers, and digitalize the traceability systems. For example, Relikaj Ltd has uploaded the entire crop monitoring operations on Cropin Software and integrated it into a mobile platform¹⁵⁵. Every farmer can access it and can load specific data, thus, ensuring better farm management

¹⁵⁰ in the range of several M Euro, of which almost 2 M were co-financed through IPARD-like and IPARD II

¹⁵¹ With Bulgaria and Bosnia being most often mentioned

¹⁵² For example, disinfection through CO2-highpressure.

¹⁵³ Although not entirely adequate for use in the food industry, especially tea infusions.

¹⁵⁴ At least in one case, the value of MAPs kept in the stock is broadly equivalent to the yearly turnover

¹⁵⁵ Interview with Rudin Beka, sales manager of Relikaj Ltd, Malesia e Madhe.

but also traceability. Almost all large companies have their own websites that serve as platforms to promote their products.

A particular focus has been placed on the development of human resources, which translates in higher running costs or indirect investments in human resources qualification. Some exporters have employed managers and other specialized staff such as engineers and chemists (e.g., Kraco Ltd, Alb-Kalystyan Ltd, Relikaj Ltd). A new generation is also emerging as managers their parents' businesses (after major investment in high education), although the founders/owners still keep the overall control of the business.

Smaller-size exporting companies and regional consolidators have been mostly investing in fixed assets, including i) warehouses, ii) drying facilities and equipment, iii) simple sorting and cleaning equipment, v) plantation of MAP, and vi) distillation. Despite similarities, the technology acquired is less modern, sometimes second hand. Small collectors have been investing mainly in: i) warehousing and ii) simple drying and cleaning equipment.

7.1.3 Types of investments supported by different financial support facilities

The investments supported by the main facilities available to the sector (IPARD-like, IPARD II, SARED, National Schemes) witnessed a different sharing between primary production or processing, depending on thresholds and conditions. Data from different facilities are not directly comparable, so the supported investments are often broadly indicated. Table 7.1 below summarize the main information on supported investments. Investments are referred to the period 2013-2020 only.

Table 7.1:Types of investments supported by different financial support facilities

Support facility	Primary production	Processing
National schemes 2012-19	<ul style="list-style-type: none"> • New plantations: 264 M ALL (approx 2 M Euro) • Organic farming: 4.9 M ALL (approx.38 ths Euro) 	Not eligible
IPARD-like 2000-13	27,642 Euro (1 project) farm machinery	899,212 Euro (2 projects) (dried MAPs lines/equipment)
IPARD II 2014-20	66,118 Euro (1 project) Farm machinery	1,048,616 Euro (4 projects) (dried MAP warehouses and proc. Lines)
SARED 2015-19	Incomplete data. Estimate 0.57 M Euro for 200 ¹⁵⁶ projects, most for farm machinery	0.53 M Euro (8 projects) ^{157 158} Identified, most for warehouses and dry MAP lines, 1 distiller

Source: Elaboration on ARDA and MARD data.

The analysis of information shows a substantial difference in the average size of investments between primary and secondary production (1:15 or more in IPARD), while sharing of investments was more balanced when the facility had low thresholds (like in SARED), where the maximum threshold (5 M ALL) made the facility not particularly interesting for larger consolidators/exporters/processors.

¹⁵⁶ The project documentation reports 218 SARED supported projects in MAP sector, but there is no reference to the sector in the list of beneficiaries, so it was not possible to calculate precisely the amount awarded to each sector.

¹⁵⁷ These are the surely identified projects, as the beneficiaries were among the established MAP consolidators/processors/exporters.

¹⁵⁸ We use the term "project" as a beneficiary could apply for and obtain more than one grant, after completing the implementation of the previous project.

7.2 EXPECTED FUTURE TRENDS

Recent investment trends in the industry, the emergence of innovative business models by some important processing companies and, the growing demand for high-quality products by foreign markets provide a road map for future investment.

Farm-level expected investment

Dynamics of MAPs cultivation calls for a coordinated public support policy that should involve government agencies, the major players in the industry, and donor organisations. At the farm level, grants and the provision of extension services to farmers need to be tailored to the type of network and sub-sector to avoid some products' oversupply and the resulting price shock.

In general, despite the increasing investments in MAP cultivation, there is a little appetite by farmers to invest heavily in MAP cultivation. The recent price shock of immortelle that followed the one of sage has corroded trust, making farmers more fearful about the future.¹⁵⁹ Besides, there is considerable uncertainty among farmers on the varieties of MAP to cultivate. However, for many farmers who have been engaged in this activity for a long time, further investments in mechanization and new plantations remain a reasonable alternative compared to switching to other crops.

There is considerable need for support for grant financing in three primary directions: (1) new plantations, (2) mechanisation, and (3) post-harvest/drying at the farm level.

On MAPs farming, priority should be given to:

- a) Testing and introducing new varieties of MAP based on an indication of specialized agencies such as the ATTC of Shkodra and local Albanian exporters.
- b) Support the cultivation of indigenous, more valuable MAP varieties to avoid, to the extent possible, the introduction of alien species.
- c) Support the cultivation of organic MAP since the sub-sector appears to be resilient to market shocks, its increase in size, and has a higher adoption of contract farming practices.
- d) Efficient drip irrigation or fertigation systems might be considered.

The introduction of grants supporting mechanization targeting MAPs cultivators should become a priority due to the increasing shortage and labour costs. Land preparation, weeding, and harvesting agriculture machinery are among the suggested type of machines needed in the sector.

Based on efficiency considerations and previous experiences from donor programs, large farmers and collectors, groups of farmers and cooperatives need to be supported with grant financing that targets the need for post-harvest and drying facilities. From a technical perspective, large warehouses and small greenhouse-like structures can represent suitable investments for respectively, groups of farmers and individual farmers.

Consolidator level expected investments

Suitable investments at this level should include (1) warehouses (storage capacity); (2) drying equipment; (3) cleaning, sorting, and calibrating equipment, (4) distillation machinery.

Priority for grant support should be given to investment in storage facilities. There is still a lack of storage capacities in many regions of the country. These grants should target especially those consolidators the operate in mountainous areas, therefore supporting the organic sub-sector. By processing and storing products near the harvesting area (mainly cleaning and drying) and shortening the supply chain, there is evident potential to increase value-added.

Investment in technologies such selection, calibration, and elementary natural drying equipment (racks or similar equipment), and electric "tunnel" driers (equipment used to dry in few hours large quantities of MAP) are another area of interest for consolidators. Finally, the production of essential oils has resulted in consolidators entering international markets (e.g., Immortelle Therapy), increasing the number of exporting companies. Therefore, investment in distillation is to be considered even at a consolidator level.

¹⁵⁹ Interview with Ilir Gjolaj, owner of Immortelle Therapy Ltd, Malesia e Madhe.

Small and medium consolidators appear to be more inclined to invest primarily in new warehouses, drying facilities, and processing equipment. Evidence collected suggests that warehousing remains the primary focus for future investments. Large consolidators located in more remote areas (e.g., Kukes, Diber, Erseke, Skrapar) that trade wild-grown MAPs have more incentives to invest since net profit margins appear to have improved during the last years due to high demand for wild-grown products.¹⁶⁰

Processing and exporting level

Investments should include: i) warehouses; ii) drying equipment; iii) high-capacity cleaning, cutting, sorting, grinding machines; iv) disinfestations, sterilization; v) distillation units.

As for consolidators, there is still a need for warehousing and industrial drying equipment for large processing and exporting companies. New investments near to production areas and to Albanian exporting companies' main operational units require the construction of large storage and drying areas. For leaves and fruits, industrial drying equipment is needed.

Substantial investments are needed to modernize and upgrade the MAPs processing industry. Typical investments in MAP processing include cleaning, cutting, and grinding types of machinery. These processing lines are usually purchased in Serbia, Poland, Germany, and other northern European countries and represent the exporting firm's operations' backbone. Despite the large investments in these processing lines, there is still need for more.

As noted above, just a few companies are prepared to focus exclusively on the food industry as their primary market (e.g., Relikaj Ltd, Alb-Kalustyan; Filipi Ltd). However, many have attempted and succeeded in selling small quantities to this market segment. Investment in deep cleaning (removal of heavy metals such as zinc, copper, iron, manganese, and chromium), grinding, and sterilization lines are paramount for these initiatives' success. As argued by Xhevid Hysenaj, general manager of Alb-Kalustyan, the investment in dedicated processing lines for specific or selected varieties of MAPs can create substantial market opportunities.

Essential oil distilleries (units or complete processing lines) have been installed almost in every processing facility. Even consolidators and a group of farmers are planning to invest in small distilling units. Hence, it is expected that this trend will continue in the future. Following the lead of MEIA Ltd, Alb-Kalustyan Ltd, Filipi Ltd, and other companies and the increasing demand for some essential oils, many exporting companies plan to increase essential oil production capacity.

As noted above, some processing companies have invested in cultivation. Supporting the mechanization of MAP cultivation by introducing modern agriculture machinery can have a positive effect in reducing labour costs and eventually offering such services to local farmers. Considering the costs of these pieces of machinery, it can be expected that the only ones to afford such investments are large MAP processing companies or large farmers.

Finally, in the food production sector (e.g., tea infusions and herbs), specialized machinery such as filling, extracting, sorting, cutting, and packaging can contribute to the development of Albanian's MAPs domestic market. More importantly, it can support the export of final products such as tea infusions. The potential of this sub-sector appears to be considerable.

8 VALUE CHAIN ORGANISATION AND ENABLING ENVIRONMENT

8.1 VALUE CHAIN MAP AND ACTORS

During the Communist era, despite the substantial differences in terms of ownership (the state-owned, i.e., every link of the chain) and coordination, the MAP commodity chain had an overall structure similar to the present one. Local farmers all over the country, organized in cooperatives, supplied regional collection centers and warehouses. The product was then processed (sorted and cleaned) in these facilities or in factories (e.g., the tobacco factory in Shkoder) and exported to Western Europe on a monopolist base. After the fall of the regime, collection centers were privatized

¹⁶⁰ Interview with Destan Hallaci, consolidator, Kukes.

usually by the management of these centers (e.g., case of Herba Fructus Ltd, Gjedra Ltd).¹⁶¹ After a first disruption, the collection of the wild-grown MAP continued, while cultivation re-started in Malesia e Madhe and other areas.

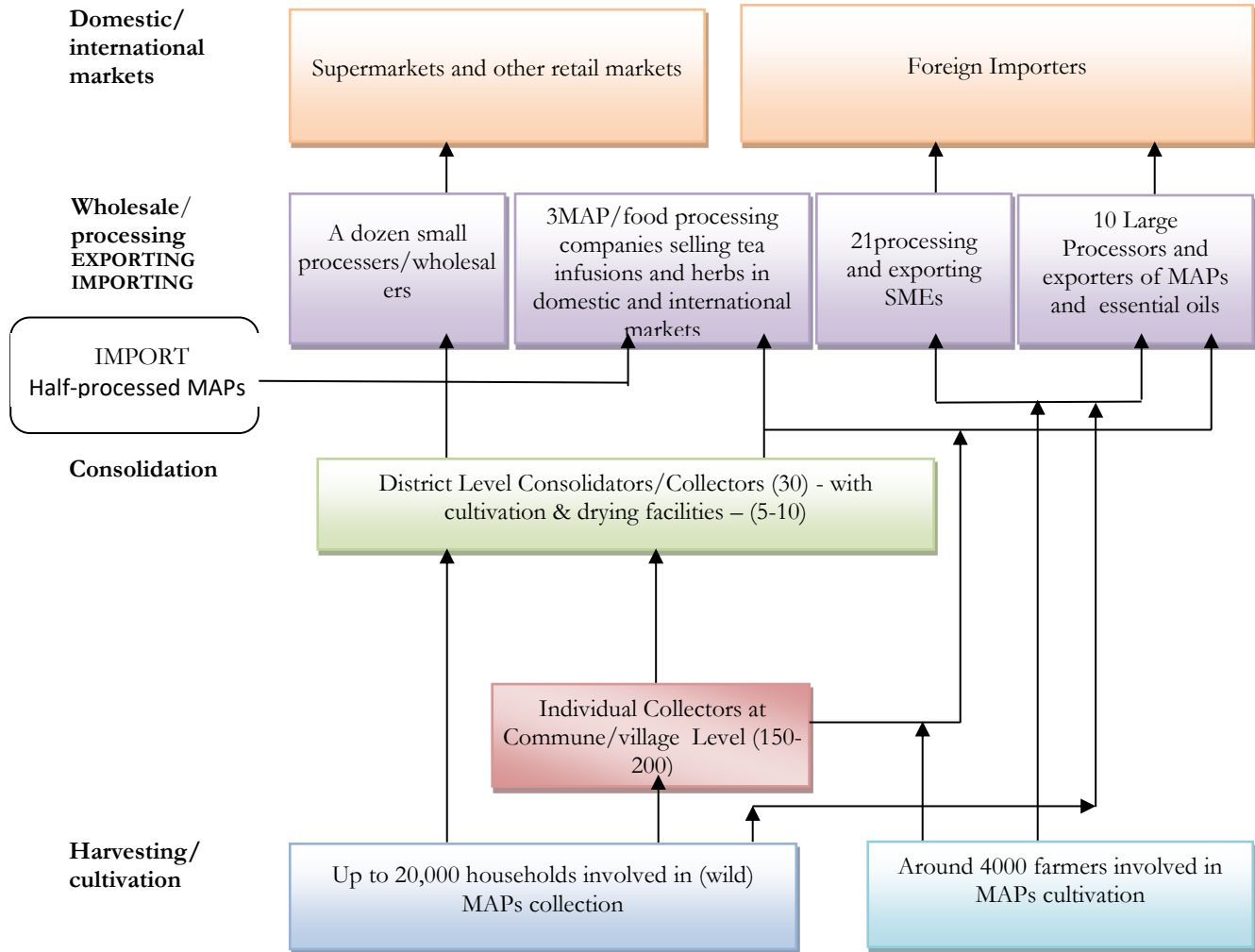
Nowadays, the structure of the value chain is more fragmented. Farmers are not organized in cooperatives; the number of smaller consolidators or collectors is higher, while processing and exporting is performed by 31 exporting companies. The value chain structure is relatively simple: mostly harvesters and certain extend farmers are selling to consolidators and the latter to wholesalers/exporters. Many exporters are processing MAPs to produce essential oils.

As noted in other studies¹⁶², the main actors in the MAPs value chain are harvesters and producers of cultivated MAPs, collectors/consolidators, and processors and exporters (see Figure 8.1). Collectors/consolidators are divided into two sub-categories - district or regional collectors and individual collectors. Processors and exporters can be divided into two main categories based on firms size - medium and large.

¹⁶¹interviews with exporters

¹⁶²USAID (2010). The medicinal aromatic plants' value chain in Albania, and AASF (2019). MAPs Sector Study.

Figure 8.1: Medicinal and Aromatic Plants Value Chain Map



Source: Adopted by authors based on DSA (2010), USAID (2019), and field interviews.

Input suppliers

Except for few MAPs (e.g., sage) being partly based on local populations using propagules collected in the wild,¹⁶³ expansion of cultivated plots is mostly based on imported seed (primarily Dutch, German, and Bulgarian companies).¹⁶⁴ Sometimes, seeds have been distributed by processors for free or at lower prices to farmers to increase the production of selected MAPs (e.g., Sonnentor, Elba Shehu Ltd, Gjedra Ltd, MEIA Ltd, MEIA Ltd).

Nevertheless, there is increasing attention to producing certified indigenous seeds from local genotypes or commercial production of MAPs seedlings from certified local seeds (e.g., Agim Rama in Koplík i Siperme area). Besides, experimentation has been carried out by the ATTC of Shkoder, which is the only government agency capable of boosting indigenous seedling production and to test the introduction of new varieties of MAPs.

PPP are imported and sourced from local input suppliers.

¹⁶³Interview with Xheladin Zekaj, farmer and consolidator Malesia e Madhe and Arzen Rexha, ATTC specialist, Shkoder.

¹⁶⁴Interview with exporters

Harvesters and cultivators

Although there are no complete databases about the number of harvesters and cultivators, some estimations suggest around 20,000 households engaged in the wild-grown collection and 4,000 farmers involved in the cultivation of MAPs.¹⁶⁵ is usually sold to local collectors or consolidators. In some cases, in areas with dense networks of processing companies (e.g., Malesia e Madhe), cultivators sell directly to exporters.

Individual collectors at the commune or village level.

There is a large number of individual collectors at the commune and the village level. Some estimations suggest a figure around 150-200.¹⁶⁶ However, as suggested by many consolidators¹⁶⁷, there are newcomers in this specific level of the value chain. Individual collectors usually collect wild-grown MAPs from local harvesters and sell them to district-level consolidators or even processing companies.

District level consolidators

There are around 30 local regional/district level collectors/consolidators. They serve as intermediaries between farmers and small individual collectors and processing companies. Although they do not have any significant processing capacity, they perform some simple but rather essential operations such as drying, cleaning, and sorting. Some of them use old buildings as storage facilities. Usually, the quantity of plants collected varies between 20-150 MT per year. However, there is a smaller group of consolidators (e.g., Riza Shaholli, Ilirian Hyseni, Ferit Koxhaj, Destan Hallaci, Zyber Gjoni, Edomod Kalemi, and others) operating in peripheral regions of the country such as Dibra, Kukes, Skrapar and Erseke, Gjirokaster process more than 250 Mt of MAPs per year). Some groups/cooperatives of farmers engaged in MAP cultivation have invested in drying and storage facilities. The most successful cases are located in Malësia e Madhe (e.g., Reçi and Lujz cooperatives).

Processors/exporters

Processing and exporting companies represent the last link of the value chain. Processors, depending on their operations' scale, trade on average between 150 and around 2000 tons of MAPs a year, with Gjendra Ltd exceeding this threshold. Small processors' capacity varies between 150 to 500 tons of MAPs annually, and their turnover is below Euro 1 million. Processing capacity at this level is limited, storage capacity, inadequate processing technology, and most importantly, lack of working capital.¹⁶⁸ Most export their whole production while a few players sell to larger exporters in addition to exporting part of their production. There are around 21-23 companies classified as small processors/exporters operating in the MAPs sector in Albania.

There is a group of a dozen large companies including Gjendra Ltd, Filipi Ltd, Xherdo Ltd, Mucaj Ltd, Elba-Shehu Ltd, Albanian Herb Ltd, Herba-Fruktus Ltd, Relikaj Ltd, MEIA Ltd, Cibuku Ltd, and ATC Ltd. These companies have established strong commercial ties with foreign buyers and export dried herbs, fruits, and essential oils regularly. They are supplied by regional consolidators, small processing and exporting companies from all over the country, and go to harvesters' villages with their trucks supplied directly by smaller collectors. Many of these companies, such as Elba Shehu Ltd, Relikaj Ltd, Mucaj Ltd, Çibuku Ltd and others are engaged directly or indirectly through their support to local farmers in cultivation. Large processing and exporting companies capacity varies between 500 to more than 200 Mt of MAPs annually, and their turnover is from 3 to 6 million Euros, with two or three companies already exceeding this threshold or expected to do so at the end of 2020.¹⁶⁹

Food processors

Medium size processors and exporters of dried MAPs and forest fruits such as ATC Ltd have developed a complementary business model by processing final products such as tea, herbs, and juices using local raw materials.¹⁷⁰

¹⁶⁵AASF (2019). MAPs Sector Study.

¹⁶⁶AASF (2019). MAPs Sector Study.

¹⁶⁷NdocBashota, consolidator, owner of the Bashota Ltd, Bradhaj, Shkoder.

¹⁶⁸Interview with some exporters.

¹⁶⁹Interviews with exporters.

¹⁷⁰AASF (2019). MAPs Sector Study.

Others such as Kraco Ltd, a large producer of a wide range of products, including tea infusions, are consolidating their market position in the domestic and international markets. The main distribution channels for these food processors are grocery shops, supermarkets, drug stores, and specialized shops (e.g., Neranxi chain of dried fruit, herbs, and spices), and bars.¹⁷¹

There are three important companies in the tea infusions and herbs industry (Kraco Ltd, ATC Ltd, GBE Ltd), with two of them selling MAPs used as flavors (ATC Ltd, GBE Ltd). However, the entire industry is composed of a dozen smaller players, tiny processors of MAPs. Recently, the market is becoming much more consolidated than it used to be during the last decade.

Retailers

Processed or fresh MAPs, used mainly as tea infusions and flavoring agents, are sold in different outlets. As the retail sector is consolidating, supermarket chains are becoming an important outlet for these products. Several supermarkets sell herbs and spices supplied by the local processors (e.g., Big market, Eco market). However, groceries, drug stores, restaurants, and specialized shops are still essential retailers for food processing companies. It is noteworthy to mention Neranxi specialized shop chain, a prominent spice, and dried fruit importer. Some varieties of MAPs are sold in fresh fruit and vegetable markets. The main products traded in the domestic market as medicines for healing.

8.2 VALUE CHAIN VERTICAL GOVERNANCE

The MAPs sector is a buyer-driven chain with large international importers exercising much power in the value chain. Some of the largest importers buy large volumes of MAPs from Albanian exporter who are “locked-in” a dependency relationship with their key buyers; aware of their power, many international importers stipulate short-term contracts with Albanian exporting companies,¹⁷² therefore affecting good planning, coordination of the supply chain, and forecasting of processing capacities’ needs. The commercial transactions for conventional products are almost entirely a spot market exchange,¹⁷³ leading many Albanian exporters to adopt an opportunistic approach (i.e., adopting their pricing strategies to market changes).¹⁷⁴

The Albanian exporters' continued effort for market diversification is leading to a certain degree of independence from a few large buyers. There are also exceptions to short-term commercial agreements. Many exporters argue that with an increasing number of successful transactions and long-term relationships, parties can trust more each-other and engage in more sustainable relationships¹⁷⁵. Notwithstanding the above, the lack of contracts has repercussions all along the chain.

While the lack of contractual governance is an important feature of the relationship between Albanian exporters and international importers, the fierce competition between large Albanian exporting companies and, sometimes, between consolidators, undermines the relational type of governance based on trust and reputation prevalent among value chain actors.¹⁷⁶ High volumes contracted by exporting companies using short term contracts influence their decision to cultivate strong relations with selected suppliers, usually large consolidators,¹⁷⁷ while engaging in spot market exchanges when needed. Therefore, while there is some coordination between value chain actors, supply chain disruptions happen frequently. As a whole the level of coordination is still scarce, especially upstream the chain at the farm or harvester level; this situation occurs in spite of the efforts produced by sector trade associations, by some large exporting companies, and by international development cooperation initiatives.¹⁷⁸

¹⁷¹ Interview with Endrit Kullaj, sector expert.

¹⁷² Interview with Kujtim Keka, Erba M.M. Ltd, Shkoder.

¹⁷³ In a spot market, payments are exchanged for the immediate delivery of commodities.

¹⁷⁴ Interview with Artan Koldashi, Herba Fructus Ltd, Elbasan.

¹⁷⁵ Interview with some exporters.

¹⁷⁶ Gerdoçi, Panariti and Skreli 2015

¹⁷⁷ Interview with Armando Truja, Gjedra Ltd, Berat.

¹⁷⁸ USAID projects devoted efforts to establish and strengthen a MAP processors sector association, while SNV ProMali and GIZ/DANIDA SARED rather worked on value chain coordination and contracts

Usually, relational/contractual ties between exporters/consolidators on the one hand and harvesters and farmers on the other provide an excellent mechanism to ensure sustainable relationships. However, such mechanisms seem to have partially failed because of the price drop of some cultivated MAP and the constant loss of bargaining power of farmers resulted from the backward integration of many exporting companies.

In contrast, coordination with farmers is stronger among companies operating in the organic sub-sector. These companies' network is composed by a smaller number of suppliers compared to those of conventional or essential oil producers. In this sub-sector, contract farming is more common. A good example is Sonnentor Ltd., a joint venture specialized in the cultivation, collection, and exporting of organic MAPs to Austria from a network of small suppliers. Since the beginning of its activity Sonnentor Ltd has implemented contract farming with stable prices to ensure high quality, traceability, and long-term partnership.¹⁷⁹

8.3 COLLECTIVE ACTION

Sector associations

There have been various effort from USAID and Promali programme to support the creation and strengthening of sector associations. Albanian Essence Producers and Cultivators Association (EPCA) was registered as an umbrella organization that aimed to defend the interests of all players in the industry. However, the association internal dynamics led to the split of a large group of sector actors. Currently, there are two MAP processor associations, namely i) Association of Medicinal and Aromatic plants (AMAP) and, ii) Albanian Essence Producers and Cultivators Association (EPCA) are engaged more in lobbying, although not with a unified voice, rather than provide governance to the sector. Therefore, even lobbying does not have the same grit as some years ago.

Cooperatives and farmers' groups

Collective action in this value chain is still weak. Cases of cooperation between farmers can be found mostly in those regions where the cultivation of MAPs is developing, such as Malesia e Madhe. Cooperative or informal groups are being created elsewhere also (e.g., Kolonje area).

Those few cases of cooperatives seem to function well. Although every farmer cultivates his or her land, post-harvesting and selling are the activities conducted jointly. They have together applied for grants for drying equipment, seedlings, and other forms of support in some cases.¹⁸⁰

9 IDENTIFICATION OF POTENTIALS AND NEEDS OF THE SECTOR

9.1 KEY SECTOR TRENDS

The major developing factors and trends that represent both opportunities and risks for the industry can be ranked as follows:

Growing international market demand. As noted in previous studies, the World market of MAPs has a positive growth outlook¹⁸¹ and the global market for MAPs is expected to further increase.¹⁸² Demand for wild and cultivated MAPs and essential oils from main markets such as the USA, Germany, France, and emerging ones such as China and India are sustained and increasing.

A growing and gradually consolidating industry. Compared to one decade ago, Albanian leading exporting companies are better capitalized, more innovative, and managerially more sophisticated enterprises. The experience acquired during the years led to better leverage of new technologies, new marketing channels, and innovation. The emergence or transformation of some companies into highly specialized firms indicates the sector consolidation (i.e., companies

¹⁷⁹ Interview with Endrit Kullaj, sector expert.

¹⁸⁰ Interview with Preke Gjeloshaj and Xheladin Zekaj, respectively head of Reci prodhimtar and Lujz cooperatives.

¹⁸¹ AASF (2019). MAPs Sector Study.

¹⁸² <https://www.intracen.org/itc/sectors/medicinal-plants/>

focused on the food industry with a relatively narrow product range). Also, the joint-ventures between Albanian and foreign companies (e.g., Alb-Kalystyan Ltd) show some companies' tendency to introduce and exploit economies of scale.

Competition among the exporting companies. Large firms are usually, although not always, first movers in bringing change to the industry. Smaller firms or even larger competitors usually mimic the behaviour of the more successful ones. This tendency has had positive effects on the industry, leading to the adoption of best practices and increased product quality. However, it also contributed to the disruption of some supply chains, growing difficulties in maintaining the current supply flow and struggling small businesses (forced to keep up).

Product specialization and product diversification in the processing industry - two opposing yet, successful trends. A few companies in the industry are becoming highly specialized by focusing on a few products, while others remain more generalist, continuously increasing the product range. The first group of companies benefit from economies of scale, i.e., cost advantage that arises when there is a higher level of deep processing of a small number of MAPs. In contrast, the second group benefits from economies of scope, i.e., the low average total cost of processing a large variety of MAPs.

The growing importance of MAPs cultivation and the tightening supply of wild-grown MAPs. Depopulation, overharvesting of some MAPs is increasingly tightening the supply of wild-grown MAPs. Thus, there is a growing interest in the cultivation of some important MAPs. However, the lack of planning has resulted in an oversupply of cultivated MAPs and significant price drops.

Backward integration of large processing companies. Large exporting companies, especially in the north, are investing heavily in new plantations of MAPs. Such a strategy ensures better traceability, lowers volume uncertainty, and improves quality. However, it reduces the bargaining power of local farmers, marginalizing the role played in the industry by small farms.

Organic production and an increased focus on quality standards. During the last five years, leading Albanian exporters have increased their focus on quality standards by improving traceability systems, investing in new technologies, and building quality control mechanisms. The number of certifications obtained by exporters is increasing steadily. Besides, volumes of certified organic products are continually growing despite challenges from soil pollution and pesticides.

Constant support for the sector from development agencies. Many development projects and programs have provided support to the sustainable development of the industry. Provision of training to farmers, grant financing to consolidators, exporters, farmers, sector governance, and facilitation of international trade are areas these projects focused on. Despite criticism from some actors,¹⁸³ the support from development agencies is more than welcomed by the majority of industry players.

9.2 SWOT ANALYSIS AND POTENTIAL NEEDS OF THE SECTOR

The following "SWOT" analysis based on the sector's assessment outlines the primary sector and sub-sectors' strengths, weaknesses, opportunities, and threats.

Strengths

Long experience/expertise in MAPs collection, cultivation, and trade. Albanian leading processing and exporting companies are experienced and continuously developing their business model. Entrepreneurs in the MAPs sector built up know-how, capital, and trade connections. These companies are located in the country's most significant MAP production areas, leading local and national supply chains. Some of these companies have developed a long-term vision for their business, while others take a more reactive approach.

Cultivators of MAP and gatherers of wild-grown MAP, despite challenges, are becoming more experienced, always looking for new opportunities.

¹⁸³ Especially from some exporters.

Recognition of the high quality of Albanian MAPs and consolidated presence of Albanian MAPs on the international market. Albanian MAPs are well known for their quality, with sage being one of the world's best. Even cultivated MAPs (e.g., immortelle) are being valued for the high concentration of essential oils. For some products and in some countries, Albanian MAPs are the World market leaders (e.g., sage). However, the final product quality depends on harvesting and drying techniques and post-harvesting treatment techniques, which are sometimes not in line with international standards that lower prices for Albanian MAP.

Suitable soil and climate conditions for MAPs sector development. There are large areas of the country that offer the right climatic and soil conditions for MAP cultivation (e.g., Malesia e Madhe and Kolonje). Furthermore, some of these areas are suitable for organic production since lands are sometimes unproductive and have not been cultivated with other crops.

Considerable investment in the processing industry and the willingness of leading operators to invest more. Recent, large investment made by leading operators of the industry, sometimes exceeding 3 million Euros each,¹⁸⁴ show confidence in sector development. However, the sector needs additional investments along the value chain.

Considerable investments in the food industry. The increased presence of “Made in Albania” products such as teas, herbs, and spices in supermarket chains is a clear indicator of this sub-sector development. Some companies have improved production technologies and packaging (e.g., ATC) while others export very good products such as tea infusions (e.g., Kraco). This sub-sector, for a long underdeveloped, is showing clear signs of its potential.

Weaknesses

Poor or inadequate harvesting and post-harvesting practices and techniques. The raw material quality is often spoiled due to the early harvesting of wild-grown MAPs, especially post-harvesting techniques such as drying and sorting. Quality losses are so severe that an estimate 10% to 15% of collected wild MAPs are lost. This problem is much more accentuated in remote areas where there is a lack of warehouses to store the product.

Insufficient investments upstream the chain. While the processing and exporting level of the value chain has developed considerably during the last decade due to large investments, the small collector and consolidator level lack investment. Therefore, most quality problems related to poor post-harvesting techniques occur at this value chain level.

Insufficient investment in sterilization. Sterilization remains the last step to process MAPs at the level required by the food industry. There have been some investments in sterilization lines, usually with technological solutions (a type of sterilization) suitable for a narrow group of MAPs. However, as noted above, the capacities installed are not yet sufficient, and technologies not always adequate to other industries (e.g., the food industry). Although very expensive (estimated around half a million Euro), investment in these processing lines can boost the production of the food industry (e.g., tea) for both the domestic and international markets.

Insufficient capacity for essential oil distillation and no processing lines for essential oil refinement. As suggested by trade data, the export of essential oils has been growing steadily. However, there is quite some unexploited potential in this sub-sector. Besides, there are no essential oil refinement plants (using technologies such as vacuum distillation and crystallization) that might add additional value to final products. The low distillation capacity and the lack of essential oil refinement are a weakness of the sector and represent a significant opportunity.

Lack of in-country accredited laboratory for quality controls. While many Albanian exporting companies have invested in small laboratories, this effort is insufficient to address the need for complex testing required by foreign buyers. The absence of accredited laboratories for quality control of MAPs and essential oils compel exporters to rely on analyses made by foreign importers or pay for services provided by accredited laboratories abroad. Establishing an accredited public laboratory can lower testing costs and help the industry improve quality control.

Limited MAPs market research and market intelligence. Market research and intelligence on international competitive environment, information on changes in regulation in many exporting markets, innovation in the essential oil industry (e.g., the substitution of essential oils with synthetic chemicals) is not sufficiently available or not available at all. Lack

¹⁸⁴ Interview with Xhevid Hysenaj, Alb-Kalystyan Ltd, Maminas, and Artan Koldashi, Herba Fructus Ltd, Elbasan.

of information exposes businesses to significant risk. While some exporters are aware of some of the developments in international markets, they cannot respond to such challenges without specialised support. A joint effort from Albanian exporting companies, associations, government bodies, universities, and development programs is needed to ensure access to market intelligence and strategies to respond to potential risks.

Poor multi-level governance. Responsibilities and competencies in the MAPs sector are divided between the Ministry of Environment and Tourism (wild MAPs), Ministry of Agriculture, and municipalities in issuing permits and controlling the application of quotas for wild-grown MAPs harvesting. One of the results of this poor governance is the heated competition in securing the supply of raw materials, with damaging consequences for the sector's sustainability. While more comprehensive policies have been put in place for the industry, there is a need to develop coherent and effective mechanisms to address environmental sustainability, industry, and rural development.

The two MAP processors' associations (AMAP and APCA) did not prove so far very effective in advocating for a more concrete support to the sector are not succeeding in providing effective governance to the sector. The industry's complexity requires a joint effort from all actors to address the multi-dimensional challenges that the industry is facing.

Lack of contractual governance

Most exporting companies have short term contracts with international importers. Covid-19 pandemic appears to have exacerbated the problem further. Such contractual arrangements create uncertainty affecting all the value chain.

Opportunities

Growing demand for wild and cultivated MAPs and essential oils. As noted above, all market analyses, even though there is no comprehensive and exhaustive listing of harmonized tariff codes for MAPs and their extracts, show that the demand for MAPs and essential oils extracted from MAPs is growing in most essential segments of the market.¹⁸⁵ Besides, emerging market demand is also growing.

The growing domestic market demand for tea, herbs, and spices. Although there are no quantitative data at the national level, key informant interviews suggest an increasing demand for final products such as tea infusions, herbs, and spices. However, despite the availability of MAPs in Albania, raw materials for tea infusions production are sometimes imported due to a lack of special cutting and sterilization processing lines. The opportunities to increase the domestic market share and, more importantly, to grow exports are considerable.

Areas available for cultivation expansion. Large areas are available for the cultivation of MAPs. There are different regions of the country with sizable areas with un-productive land or land suitable for MAP cultivation. Therefore, there are significant opportunities to expand cultivation.

EU and donor support policy for the sector. Government strategies and policies, the availability of financial tools provided by EU programs such as IPARD, and the support from donor agencies (e.g., GIZ, SIDA, SNV) have contributed to the sustainable development of the MAPs sector.

In addition, several national and EU policies are intended to provide support and incentives in the direction where industry is already moving (replacement of wild MAPs with cultivated ones, increased use of essential oils to replace chemical components in food industry and cosmetics).

Threats

The depopulation of some inner, mountainous areas is reducing the number of harvesters. As a result, the quantity of MAP collected in the wild has decreased. Moreover, the remaining rural inhabitants, especially men, migrate to neighbouring countries during the summer season. 2019 increase in the wild-grown collection is a significant indicator of the impact of seasonal employment in North Macedonia, Greece, and Montenegro. Due to travel restrictions, many Albanians were not able to travel.

¹⁸⁵<https://www.intracen.org/itc/sectors/medicinal-plants/>

Overharvesting of wild-grown MAPs in some areas. The migration of the population in some areas of the country has put the local ecosystem under enormous pressure. While in some places there is almost nobody left to collect wild MAPs, in other areas, local farmers are over-harvesting high-priced MAPs.

Growing labour costs and increased labour shortage in MAP cultivation. Large farmers and processing companies are worried about the increasing labour shortages in many areas of the country. While small farm outsourced labour is not a significant challenge, large backward integrated processing companies struggle to find workers with wages increasing considerably.

Competition between Albanian processing and exporting companies. While competition between processing companies has led to large investments in the sector, it has also contributed to the disruption of supply chains. As noted in other studies,¹⁸⁶ an indicator of such supply chain dynamics is the emergence of improvised collectors and consolidators who serve as local agents for different large processing and exporting companies. They often have little knowledge of the product and lack the necessary resources to operate in this sector. As a result, product quality suffers, prices become more volatile and the overall market is depressed.

Market price shocks for cultivated MAPs. The recent price drop of sage and immortelle produced by oversupply has lowered return on investment at the farm level, increasing farmers' reluctance to engage in MAP cultivation.

International market dynamics impose further substantial investments and increasing business complexity. Ongoing, changes in international markets are leading to the delocalization of several processing activities requiring substantial investments and knowhow; competition from emerging markets is increasing as well as market opportunities, with consequent need to target more numerous and different markets. In this condition, stay put is not an option; the consolidators/processors/exporters have already implemented substantial investments, but are now required to continue and even accelerate investments, just to maintain their position in international markets, while getting acceptable returns on investments.

Table 9.1: MAPs sector: SWOT analysis strategy

STRENGTHS (+)	WEAKNESSES (-)
Long experience/expertise in MAPs collection, cultivation, and trade	Poor or inadequate harvesting and post-harvesting practices and techniques
Large investments at processing level by leading sector operators	Insufficient investments upstream the chain, especially drying and storing facilities.
Considerable investments in the food industry (tea, herbs, and spices)	Insufficient capacity in sterilization
An emerging export-oriented tea infusions production industry.	Insufficient capacity for essential oil distillation and no processing lines for essential oil refinement.
Recognition of the high quality of Albanian wild MAPs	Lack of in-country laboratory for quality controls
	Poor multi-level governance
	Limited capacity in market intelligence.
	Lack of contractual governance
	The disruption of supply chains due to competition between Albanian processing and exporting companies.
OPPORTUNITIES (+)	THREATS (-)
Growing international demand for wild and cultivated MAPs and essential oils	Depopulation of some inner, mountainous areas.
Growing domestic market demand for tea, herbs, and spices	Damaged wild MAPs population puts at risk both sector sustainability and biodiversity.
Large areas available for cultivation of MAPs	Growing labour costs and increased labour shortage in MAP cultivation

¹⁸⁶USAID (2010). The medicinal aromatic plants' value chain in Albania.

Favourable donor support policy for the sector	International market dynamics impose to accelerate and widen investments
Suitable soil and climate conditions for MAPs sector development	Limitations in access to qualified human resources
	Cultivated MAPs market price cyclical shocks
	Insufficient provision and difficult access to qualified technical and marketing advisory services

10 IDENTIFICATION OF TRAINING AND ADVISORY NEEDS FOR THE SECTOR

10.1 TRAINING AND ADVISORY NEEDS

Training and advisory needs vary depending on many factors such as value chain level, type of sub-sector, type of production (organic vs. conventional), supply chain or network dynamics, and other factors. A 'one fits all solution' can result in ineffective use of resources.

Wild MAPs collection

At harvesters' level, there is need for training and technical assistance effort to improve harvesting and drying practices (e.g., time of harvesting, and post-harvesting techniques). The application of appropriate and sustainable harvesting practices is the only solution to early harvesting and overharvesting of some high-priced MAPs.

Since the traceability of MAPs is one of the solutions at industry level to reduce over-exploitation of wild-grown MAPs, there is need to provide technical assistance to collectors and consolidators on easy-to-use traceability systems. These systems can enable the monitoring and enforcement of existing quotas designed to reduce the present rush to supplies.

MAPs cultivation

At farm level, there is need for specific training and more importantly, technical assistance on cultivation techniques concerning new varieties of MAPs, use of PPPs, and tested, low-cost post harvesting techniques (e.g., drying). In the organic sub-sector there is need to develop training and technical assistance tools that are tailored to the needs of downstream actors (i.e., exporters of organic MAPs). Therefore, soil contamination, use of PPPs, bacterial contamination and other crucial aspects of organic production need to be highlighted. Moreover, training and technical assistance should avoid generalist approaches used in the past, since the vast majority of experienced farmers are already familiar with, and in some cases, also practice, many of the simple techniques and procedures concerning well-known MAPs such as sage.

MAPs Processing

Large MAPs processing companies and some essential oil producers, are facing huge challenges with supply chain and logistics management mainly, due to the fragmentation of their supply base. There is urgent need to provide innovative ICT solutions to deal with these challenges. Thus, specialized technical assistance is needed. Moreover, few companies use warehouse management software. There is need to assist these companies to transform the way they keep track of large inventories by using ICT tools.

Many MAPs processing companies lack access to information on some new processing technology solutions and international market trends. Moreover, the management structure of these companies is not usually equipped to provide the necessary inputs on technology solutions and perform market analysis. Hence, there is need to address problems related to market intelligence and engineering.

Present demand for external consulting and advisory services is focused on technical advisory services. Management functions are usually performed by owner family members. So far, there are a few cases of high and middle management functions given to an external professional manager. More in general, demand for management services is still scarce.

10.2 TECHNICAL AND VOCATIONAL TRAINING

Employment and quality of the labor force have been a central concern for Albania's Government; therefore, Vocational Education and Training (VET) is considered a priority. ISARD 2014-2020 highlights the importance of skills development in support of the agriculture and agro-processing sector. The focus is clearly on up-skilling and re-skilling

the labor force, creating local training capacities, and facilitate/financially support continuous on-job training of persons already employed in the sector in addition to knowledge transfer through technical support.¹⁸⁷

Vocational education (VE)

There are eight schools offering agriculture qualifications: Tirana, Durres, Shkoder, Elbasan, Korce, Pogradec, Fier, and Berat.¹⁸⁸ Only the Shkoder vocational school, offers forestry qualifications. Source: Ministry of Finance and Economy (MFE) (2020).

11% of VE students are enrolled in agriculture-related qualifications (including food processing). In these tracks, the schools find it very difficult to attract students. Compared with 2016, 8% fewer students chose these tracks, 17% if food processing is not considered.

Vocational training (VT)

Short term training courses are offered by public and private (licensed) training centers. Public training providers offer courses up to 5 months. The 10 public training centers distributed all over Albania (including one mobile center serving mostly to north-east Albania) trained 15,143 trainees during 2019. Short term courses serving the agriculture sector are not popular. However, new curricula have been developed lately in "Dairy processing," "mountain fruits collection, cultivation and processing," "MAPs collection, cultivation, and processing" (financed by "Fuqi Punëto e Shkathët për Integrim Ekonomik – SWEI). Public training centers can offer unified courses as per curricula designed by the National Agency for VET and Qualifications or develop their courses as per local needs. Despite this flexibility and trainings provided, the capacities to establish classes are somewhat limited and donor supported.

Private, licensed training providers are mostly situated in Tirana (115 subjects out of 136) and 21 in other regions in 2019. A total of 6,814 attended courses mostly in services, ICT, foreign languages.¹⁸⁹

VET collaboration with the private sector

VET sector lacks systemic private sector engagement. Despite formal representation in the VET and labor council, the sector offer is still not demand-driven. Private sector needs are documented whenever curricula are updated or enriched, but the process is either donor-driven or comes by national agencies who revise the curricula approximately every five years. However, it should be noted that sector associations are relatively passive in this regard.¹⁹⁰ Sector skills committees are expected to close this gap. The first sectors to be piloted will be Tourism and ICT.

At the school level, the situation is more promising. Functional ecosystems are being built around VET providers. Private sector representatives lead the governing board. The primary and more productive collaboration is through apprenticeship/internship. 33-55% of curricula are practical training hours in vocational education (70% in training courses). Schools are flexible in delivering 50% of practical training in the school workshops or in a real working environment. Providers have created a private company network where students are placed for their practical training as per individual contracts and learning plans. Company mentors regularly assess the students and participate in the final exam committee. There are some initiatives (S4J) to train in-company mentors.¹⁹¹

In sum, it can be argued that there little evidence of any concrete steps of the VET sector to address the needs of the MAP industry and the agro-processing and agriculture in general. However, considering the number of schools and vocational training centers, there is enough capacity to start planning concrete initiatives in this direction.

10.3 EXTENSION, ADVISORY SERVICES AND TRAINING TO VALUE CHAIN ACTORS

The provision of extension services in the MAP sector is more pluralistic than it used to be, although challenges remain significant. Extension services are provided by NGOs, individual consultants (usually financed by donor organizations)

¹⁸⁷Inter-sectoral Rural Development Strategy of Albania (ISRDSA)

¹⁸⁸Currently, no students are enrolled in the agriculture track in these schools.

¹⁸⁹National Employment Service (2019). Annual report.

¹⁹⁰ Interview with Sidita Dibra, sector expert, component manager at the Skills for Jobs(S4J) program.

¹⁹¹ Annett Hilpert (2020). Review of the Albanian VET System – commissioned by UNDP (SD4E project).

and national. Public (State, and municipal) extension services, exporting companies, and certification companies are also providing extension, training and advisory services, especially in the organic sub-sector. However, the majority of actors, especially farmers, cannot access such services. A recent survey of CNVP shows that half of the farmers interviewed have not consulted an agronomist during the last year. In general, farmers are more informed about cultivation techniques but still not clear on inputs.¹⁹²

Consolidators and processing companies are the primary sources of information for farmers in matter of standards, harvesting and post-harvesting techniques, and other knowledge related to farming technologies.

Individual consultants, certification companies, and some NGOs are other important service providers.¹⁹³ These actors are usually supported by development agencies in the framework of different programs. The ATTCs of Shkoder is quite crucial in transferring farming technology (e.g., MAPs cultivation techniques) to local farmers.¹⁹⁴ However, despite the long experience and notable reputation, this institution is understaffed for years now and lacks the necessary resources to engage more intensively in experimentation, lab analysis, and other activities to support value chain development. Similarly, and for similar reasons, extension services appear to be weak with few exceptions (e.g., some agronomists in the area of Malesia e Madhe and Kolonja). Hence, the provision of services from the public sector is weak.

There are some excellent models of extension services provision build in the framework of different programs (e.g., GIZ SARED program, RISI Albania, and LED program funded by SIDA) that have succeeded in developing entire networks (groups of farmers that supply processors of organic MAP) by designing traceability systems, upgrading production from conventional to organic, consulting exporters and technologies and processing methods, increasing awareness on international standards, and many other actions.¹⁹⁵ Such models appear to have succeeded but are not always sustainable since donor organizations heavily fund them.

For consolidators and processing companies, there is limited support. Services provided by extension specialists are negligible. Other sources of technical assistance and information (individual consultants and specialized NGOs) are often more reliable. However, even the support by donor-funded programs “lacks depth” in addressing financial, operational, and market issues.¹⁹⁶ This clearly indicates an opportunity to improve the methods and approaches used in service provision that address bottlenecks related to technologies, equipment, and capacity planning. Many entrepreneurs confirm that international importers and their business network are a much better source to identify cost-effective technology solutions. Consolidators and exporters argue that exchanging information on price, technology, or inputs is a common practice.¹⁹⁷

10.4 IMPROVING ADVISORY AND TECHNICAL SERVICES

The MAP sector is quite challenging due to differences at the sub-sector and network level. Therefore, advisory, technical services, and capacity development initiatives targeting farmers, exporters, and consolidators need to be tailored to these specific realities. A “one fits all solution” can result in ineffective use of resources. For example, in the essential oil production sub-sector, supply chain management is the main challenge faced by some exporters¹⁹⁸ due to the fragmentation of its supply base. Under these circumstances, service providers should focus on an innovative solution for companies to manage such a large number of suppliers (e.g., ICT solutions). In contrast, organic sub-sector can develop when there is active cooperation between upstream and downstream actors. Thus, the focus should be more on farming practices and standards, i.e., build public-private extension services models that ensure close collaboration between exporters and farmers and close attention to organic standards.

¹⁹² Interview with Mark Rupa, CNVP advisor, Shkoder.

¹⁹³ Interview with many actors and key informants.

¹⁹⁴ Interview with Naim Lacej, director of the ATTC of Shkoder.

¹⁹⁵ Interview with Endrit Kullaj, sector expert, and AUT professor.

¹⁹⁶ Interview with Rudin Beka, sales manager at Relikaj Ltd.

¹⁹⁷ Interview with many representatives of exporting companies.

¹⁹⁸ Interview with Emiland Skora, MEIA Ltd, Malesia e Madhe.

Considering the characteristics of the sector, advisory and technical services need to engage with local processing companies and consolidators, who often have a better understanding of the needs at each level of the value chain and know better specific geographical realities. The adoption of innovative models for extension service provision should be viewed as a network of interlinked actors, including local and national private service providers, MAP processing companies, individual experts, local public extension staff, and certification companies. Anecdotal evidence suggests that in this way, it is possible to increase the quality, sustainability, and cost-effectiveness of advisory and technical services provision.¹⁹⁹

Another direction for improving advisory and technical services is strengthening the capacities of ATTC of Shkodra, the only institution that has MAPs as its primary focus. Considering the stage of development of the sector, there is a need for specialized technical services. Investment in human resources, laboratory capacities, and experimentation (i.e., new varieties of MAP) are some of the areas that require more attention from policy-makers. Furthermore, training public extension staff, in some areas of the country with high concentration of farmers and harvesters, can result in an increased quality of services provided to this category of value chain actors.

Most processing companies lament the lack of skilled labour. Therefore, there is need to engage with Vocational Education and Training (VET) providers and find sustainable solutions that can mitigate skilled labour shortages. While solutions vary, up-skilling the current employees of these processing companies can be a short-term solution.

11 ALIGNING TO THE EU GREEN DEAL

11.1 GENERAL ASPECTS

MAPs sector is not ranking high among those ones posing environmental threats: it does not generate harmful waste and the waste can be easily used for composting or to produce biomass fuel; it does not consume many natural resources per unit of value and is not a major producer of greenhouses gas emissions nor an important cause of water pollution.

There are four environmental issues to be considered: i) importance of wild MAPs for the sector, with some endangered MAPs in high demand, ii) production practices, especially in small farms, make excessive use of PPP. Considering the above, it is possible to identify the actions that contribute to minimise the environmental impact of the sector and, iii) industry development requires energy-intensive processing processes, iv) The characteristics of international demand induce an overall adoption of the *Farm to Fork* approach.

Key issues are related to: i) overexploitation of some endangered MAPs (a biodiversity preservation issue), ii) the expected, sizable increase in energy needs of the processing industry and the options to produce/obtain it (an affordable and clean energy issue) and, iii) the increase of value-added recovering valuable products from what is waste for other processing steps (circular economy). This chapter deals only with actions and investments that IAPRD III can contribute to address within the existing context. Major systemic actions required to make feasible and sustainable additional flows of investments are considered in chapter 12 below.

With reference to the contribution of the sector to the alignment to the EU Green Deal in Albania, MAPs are mainly relevant to the components “Farm to Fork”, “Energy” (“Supplying clean, affordable and secure energy”) and “Biodiversity” (“Preserving and restoring ecosystems and biodiversity”). **Table 11.1** below shows the sector trends and issues which will have a direct impact in relation to alignment to the EU Green Deal components. The column “impact” shows the expected impact **in absence** of interventions (i.e. impact of spontaneous trend).

¹⁹⁹ Interview with Endrit Kullaj, sector specialist and professor at AUT.

Table 11.1: Sector trends and impact on EU green Deal components

Ongoing trends by commodity chain segments	Green Deal relevant components	
	Impact	Component
Wild MAPs collection		
Market pressure and inner areas depopulation causes uneven and not sustainable exploitation of wild MAPs resources in some areas, with particular reference to MAPs in the Red List	-	Biodiversity
High losses due to improper MAP harvesting, drying, cleaning and sorting	-	Farm to Fork
MAPs cultivation		
Replacing wild MAPs with cultivated ones	+	Biodiversity
Increasing share of organic production	+	Farm to Fork
Increasing use of PPP, especially in small farms	-	Farm to Fork
MAP Processing		
Drive to more complex, energy intensive processing activities	-	Greenhouse emissions
	-	Clean affordable energy
International markets pressure for increasing food safety and quality standards and lower residues	+	Farm to fork
Increased production of waste and exhausted MAPs (after essential oils extraction)	-	Circular economy

Note: * 35% of energy consumed in Albania from renewable resources; 95% of electricity production from hydroelectric.

Source: Authors' elaborations.

Most of the above listed impacts (both positive or negative) are relatively limited, as compared with the impact of other agri-food sectors.

The identification of issues relevant to the Green Deal and the assessment of potential impact in absence of intervention provide a guidance to identify actions and investments reinforcing the positive impact or mitigating/upturning the negative impact.

11.2 ACTIONS AND INVESTMENTS CONTRIBUTING TO ALIGNMENT TO EU GREEN DEAL

Providing incentives to replace endangered wild MAPs with cultivated ones.

The sector has been initially shaped around an industry model based on export-oriented production of dried wild MAPs, sourced from an extensive network of collection points. This system is gradually changing towards a diversification of products and a replacement of wild MAPs with cultivated MAPs, at least the most demanded ones.

Ongoing socio-economic trends (decline of eco-pastoral socio-economic system, ineffective licensing and MAPs traceability system, uneven concentration of population) create uneven pressure on endangered MAPs included in the Red List: in some depopulated areas overharvesting pressure is increased, while it is increased in areas near to the remaining settlements. Such pressure translates not only on not excessive quantities of wild MAPs collected in specific areas and in worse harvesting practices (the more the wild resource is scarce the more pressure to get it anyhow and as fast as possible increases), but also on increasing the range of endangered MAPs, as additional MAPs risk to become endangered.

Widening the range of cultivated MAPs, reforming the licensing system, establishing a traceability and providing training and advisory services to harvesters would contribute to mitigate the impact of wild MAPs harvesting.

Another important aspect is related to the high level of losses in quality and quantity which occurs at local (village) collection level. The actions that could be supported through IPARD III are summarized below.

Issue: not sustainable exploitation of wild MAPs resources in some areas, with particular reference to MAPs in the Red List	EU GD relevant topics: Biodiversity
Proposed actions:	
1. <i>Measure 1:</i> Premiality for cultivations and seedlings production of MAPs included in the Red List	

2. *Measure 4*: Eligibility for cultivations and seedlings production of MAPs included in the Red List
3. *Measure 10*: Primality for counselling and advisory services for endangered vegetal and animal species, including wild MAPs harvesting, and cultivation techniques of endangered MAPs

Reducing losses in post-harvest and first processing wild MAPs stages

A major factor affecting the performance of the whole MAPs sector is the inadequacy of wild MAPs post-harvest and first processing facilities. This situation generates high losses in quality and quantity of already scarce resources, increases the unequal distribution of added value along the value chain and reduces total efficiency and added value of the sector.

Reducing losses in the supply chain while improving quality and equitability in the commodity chain are issues related to the GD Farm to Fork component. Improving post-harvest facilities and practices will require additional energy needs and more efficient use of it., which is an issue related to Clean and Affordable Energy GD component.

The actions that could be supported through IPARD III are summarized below.

<p>Issue: reducing losses, increasing quality and improving equitable distribution of value added in MAPs collection points at village and district level</p>	<p>EU GD relevant topics: Farm to Fork; Clean and Affordable Energy</p>
<p>Proposed actions:</p> <ol style="list-style-type: none"> 1. <i>Measure 1</i>: Eligibility and premiality for improved post-harvest facilities, drying and sorting/cleaning equipment in village-level collection points (MAPs cultivators/harvesters) 2. <i>Measure 3</i>: Eligibility and premiality for improved post-harvest facilities, drying and sorting/cleaning equipment in village and district-level collection points (MAPs collectors/processors) 3. <i>Measure 10</i>: Premiality for counselling and advisory services for MAPs cleaning/sorting good practices and drying techniques, including food safety aspects and traceability systems. 	

Reduce use of PPP use, especially in small farms; support transition to organic farming; accompanying drive of international markets for stricter food safety and environmental standards and full traceability of products.

Changes in PPP fiscal regime, scarce small farmers' specific knowhow and inadequate extension and advisory facilities are leading to increased and improper use of PPP in MAPs cultivation, a trend also registered for other crops. At the same time, there is strong pressure from international demand for respect of stricter standards in terms of residues, food safety and traceability.

This situation contributes to the increased involvement of MAPs large collectors/processors/exporters in starting large-scale MAPs cultivation, in an effort to ensure such more stringent standards. The required standards are such that it is often easier or more convenient to directly start new cultivations applying a certified organic production regime.

As in all sectors, attribute additional support or premialities to farmers that optimize the use of PPP and fertilisers in a conventional production regime is difficult to implement in IPARD under Measure 1, as it would be necessary to introduce effective and manageable control systems on the actual use of PPP and fertilisers. For this reason, proposed actions do not include premialities under Measure 1, as they would be too complicate to control and enforce.

It is possible to introduce a premiality for advisory and counselling services aimed at optimising the use of PPP and fertilisers. However, this premiality would translate into indirectly introducing a kind of incentive to input dealers, which are the main subject who is now providing advisory services for the use of PPP and inputs, with consequent conflict of interest risk.

Transition to organic production regime is already supported under Measure 4 and it is proposed to include MAPs among crops eligible for support. The actions that could be supported through IPARD III are summarized below.

<p>Issue: optimising the use of PPP, supporting transition to organic farming</p>	<p>EU GD relevant topics: Farm to Fork</p>
<p>Proposed actions:</p> <ol style="list-style-type: none"> 1. <i>Measure 3</i>: Investments for implementation of traceability systems and improved control of residues 	

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| <ol style="list-style-type: none"> 2. <i>Measure 4</i>: Eligibility of cultivated MAPs among cultivations eligible for support to transition to organic production regime 3. <i>Measure 10</i>: Primality for counselling and advisory services for MAPs aimed at optimising use of PPP inputs and for transition to organic farming |
|--|

Drive to more complex, energy intensive processing activities

MAPs processing requires multiple and diverse steps, which are related to the range of products that the processing company offers, to the target markets and, to the optimization of the business model (level of integration, outsourcing, quantity of captured added value, ROI, management complexity etc.).

The development path of the Albanian processing industry will require increasing quality and complexity of processing activities. Most of the expected and more needed investments are relatively energy intensive and, in most cases, will require a substantial increase in the use of energy for health generation (drying equipment, boilers, steam sanitation etc.). There is also important scope for investments in energy saving measures, equipment with higher energy efficiency, heat recovery and pre-heating systems.

Providing affordable and clean energy matches the relevant EU Green Deal component (Clean and Affordable Energy). Energy saving measures and investments contributes to EU Climate Change Ambition component.

It is worthy to notice that different investments to increase self-production of renewable energy in this as well as in other sectors have a different impact on different EU Green Deal Components; in particular, self-production of wind and solar (thermal and photovoltaic) energy contributes to Clean and Affordable Energy and EU Climate ambition component, while producing energy from waste and exhausted MAPs contributes to Clean and Affordable Energy and Circular Economy components, **but not** to EU Climate ambition component, as burning biomass generates greenhouses gases.

Using waste and exhausted MAPs to produce compost instead of using them as biomass energy contributes to Circular Economy Component, but not to Clean and Affordable Energy and EU Climate ambition components.

The actions that could be supported through IPARD III are summarized below.

Issue: Optimising the use and sourcing of energy in MAPs processing, in view of expected increase of energy demand from MAPs processing	EU GD relevant topics: Clean and affordable energy; EU climate change ambitions (some actions); Circular Economy (some actions)
Proposed actions:	
<ol style="list-style-type: none"> 1. <i>Measure 3</i>: Premiality for investments (equipment and installations) for self-production of energy from wind, solar (thermal and photovoltaic) and biomass (MAPs waste and exhausted MAPs) sources; equipment, processing systems and lines with higher energy efficiency, including equipment and systems for heat recovery and pre-heating. ICT systems for control and optimisation of energy use 2. <i>Measure 10</i>: Eligibility and premiality for counselling and advisory services for energy saving and self-production of energy using renewable sources 	

Making use of increasing flows of MAPs waste and exhausted MAPs.

The development trends and the growth of MAPs processing industry is leading to increased processed quantities and to increased production of MAPs waste (remaining parts of plants after cleaning/sorting/cutting process) and exhausted MAPs, which in Albanian industry are MAPs from which essential oils have been extracted.

The characteristics of this biomass (cut or grinded, cleaned from non-vegetal component such as stones etc) makes it a good product for biomass energy production or compost.

The use of biomass for energy production has been already considered in the section above on energy self-production.

Issue: Optimising the use of MAPs processing waste and exhausted MAPs for added-value production; minimising MAPs processing waste	EU GD relevant topics: Circular Economy, Farm to Fork, Clean and affordable energy (energy production only)
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Proposed actions:

1. *Measure 3*: Eligibility **and** premiality for investments (equipment and installations) for production of compost from MAPs processing biomass waste.
Eligibility of investments for energy self-production from biomass *
2. *Measure 10*: Eligibility **and** premiality for counselling and advisory services for compost production

*Note: * the use for energy self-production of biomass from MAPs is discussed in the previous section, dealing with energy in MPAs processing.*

12 OUTCOME

The outcome is based on trends, SWOT, training/advisory needs, present sector policies and considers the EU Green Deal and EU accession challenge; the outcome is structured as a coordinated set of recommendations for the strategy and the measures.

12.1 KEY FEATURES FOR SECTOR DEVELOPMENT

Two main factors are shaping the whole commodity chain and its dynamics:

1. The 10 to 15 largest processors/exporters drive the sector development and are conditioning the behaviour and choices of the other value chain actors. Their process of growth and adaptation and their strategies represent shaping the whole commodity chain structure and its dynamics.
2. Far-reaching changes in rural socio-economic patterns caused structural changes in the supply of wild MAPs, inducing, as a consequence, a change in the role and behaviour of value chain actors. Increasing difficulties in wild MAP supply spurred higher prices volatility, provided incentives to MAP cultivation and eventually induced the main actors to invest part of limited resources in upstream integration.

The combined impact of the two above mentioned factors and trends generates the key features to be addressed for sector development, as described below.

Improving quality standards and reducing quantitative losses for wild-grown MAPs

A combination of factors (inner areas depopulation trend, lack of investments in forestry sector, inadequate organisation and management of NTFP collection licensing system) led to overexploitation of scarce wild MAPs resources; moreover, inadequate harvesting and post-harvesting practices are source of sizable losses in terms of quantity (10-to15% according to processors/exporters) of already scarce resources and low quality of highly valuable wild products. Making a better use of scarce and valuable wild MAPs resources is of paramount importance for the industry, since wild-grown MAPs remain the present and future core business. So far, the upstream part of the chain has received very little attention and investments.

The main entry points are: i) the improvement of infrastructure and equipment in the 150 to 200 collection points at village level, ii) increased training to harvesters/collectors and improved access to counselling and advisory services, including market information and, iii) the introduction of a functional and effective traceability system, improving also controls performed by municipalities to limit MAPs over-harvesting and early harvesting.

The improvement of district-level collection points and the reform of NTFP licensing system would also contribute to address this issue.

A widespread introduction of basic technology and increased knowhow at village level processing would provide a major contribution in improving quality and reduce losses in the first stages of processing. This will provide a larger flow of better quality raw or semi-processed MAPs to the large collectors/processors/exporters, without need for expanding the production base (including wild and cultivated MAPs).

Supporting diversification of cultivated MAPs varieties. At present, most of cultivations consist in sage (*salvia officinalis*) and in a few lavender varieties. Diversification of cultivations contributes to reduce the risk of market shocks and price volatility. Public agencies should undertake experimentation with new varieties suggested by Albanian exporting

companies in addition to donor-supported programs and private companies. Furthermore, the support should revitalize small farms that are increasingly struggling to profit in the light of the growing dominance of backward integrated processing companies and large farms.

Need to support MAPs farming mechanization. Replacing wild MAPs harvesting with small farmers' micro-cultivations proved a partial and transitional solution to the long-term issues of: i) depopulation in inner and mountain areas, ii) increasing demand for main MAPs and ever-increasing drive for quality and traceability and, iii) increasing labour shortage and costs.

In the last years the large plantations (hundred ha each) established by processors/exporters have been a necessary step forward to address the above problems. The new plantations are established in appropriate soils, which require more difficult and expensive soil preparation (stone crushing, deep ploughing etc.), which in turn require more expensive and specialized farm machinery. More in general, large MAPs farms are much less labour-intensive than small farms.

This drive is expected to continue in the next years, with increasing demand for farm machinery specialized for MAPs cultivation.

Need to invest in increasingly complex technologies and processing systems to increase value-added in processors/exporters. Strong competition and reduced margins push processors/exporters to sustain a steady flow of investments in increasing complex technologies. The application of development strategies followed by the main processors/exporters require major investment into sophisticated equipment and facilities such as: i) larger and better warehouses, also using computerized and partially automated stock control systems, ii) larger and more efficient cleaning/grading/cutting lines, integrated with sanitation lines, iii) increasingly complex systems for essential oils extraction.

All these investments require a substantial increase in management capacity and technical knowhow, as well as major financial means. Priority should be given to those investments that enable channel and intersectoral upgrading without neglecting investment in processing lines contributing to product upgrading. Other areas where support is needed are certification and the introduction of GMPs (good manufacturing practices).

Increasing role of the essential oils processing industry. The core business of the majority of processors/exporters remains the sales of dried MAPs. However, production of essential oils plays an increasing role; for the first time, in recent years, a newcomer in the group of 10-15 larger exporters is exclusively focused on production of essential oils (i.e. does not produce dried MAPs). The production of essential oils increased demand for some MAPs, which on turn led to a substantial increase in the cultivation of these MAPs and to the decision of larger processors/exporters to get directly control of MAPs cultivation. This trend and its impact on the commodity change is a good example of the way in which the joint effect of market trends (a new market opportunity) and supply chain changes induced by long term socio-economic patterns (reduction of wild MAPs supply, increase knowhow and investments in MAPs cultivation) lead to structural change in the commodity chain, with core business gradual shift of main operators, large specialized newcomers, large-scale upstream integration.

Need for better commodity chain governance and information. The impact of insufficient commodity governance and market information flows became evident when the National Schemes incentives to MAPs cultivation contributed to create boom-and-bust cycles in cultivated MAPs output and prices, with rapid surge of cultivations in response to high prices, followed to price collapse due to overproduction, leading to lower productions and start of a new cycle. This situation occurred for sage and later for immortelle. Better commodity governance and market information would have prevented or mitigated such cycles.

At production level, especially among small producers, insufficient knowhow and provision of extensive services led to limit cultivation to the few MAPs for which agronomic practices are more widely known (with farmers copying each other) and specific inputs are available.

Improving quality controls and introducing traceability systems. International markets require ever-increasing quality and food safety standards and additional standards (as environmental ones) are increasingly required as well. Increasing resources are devoted and will be devoted to different types of quality certifications. The need for a functional

traceability system is also becoming an increasingly important key factor the competitiveness and sustainability of the whole business, especially for a sustainable use of wild MAPs resources.

The non-availability of an accredited laboratory in Albania for analyses on MAPs residues and quality leads to MAPs exporters cost increase, (see also chapter 5.4 above), thus affecting exporters' performance.

12.2 PRIORITY INVESTMENTS FOR SECTOR DEVELOPMENT

12.2.1 MAPs cultivation

Types of eligible investments

The following investments should be supported under IPARD at the level of agricultural holdings:

Type of eligible investment	Proposed measure
<ul style="list-style-type: none"> • New perennial MAP plantations or rehabilitation of existing ones, limited to cultivations with a commercial lifecycle of 7 years or more. • Purchase of specialised machinery and equipment such as specialised tractors and cultivators, stone crushers, sprayers, harrows, trailers, harvesters or other specialised equipment. • Farm machinery and equipment barns and sheds • Tools and machines to improve irrigation and fertigation, drip irrigation. • Nurseries for MAP producing seedlings and MAP seedlings production facilities. • Post-harvest facilities: storage and drying facilities and basic sorting/cleaning equipment and machinery. • Equipment and installations for on-farm renewable energy production; installed power must be limited to self-consumption needs related to farming, irrigation and post-harvest equipment and machinery. • Internal road network and parking places within a farm holding. 	Measure 1
<ul style="list-style-type: none"> • Transition to organic production. • Plots for semi-commercial cultivation of endangered MAPs (<1.00 ha). 	Measure 4 (agro-environmental)
<ul style="list-style-type: none"> • Advisory and knowledge transfer on technical aspects. • Market research and marketing services (for groups or associative bodies only). 	Measure 10 (counselling)

Proposed eligibility criteria and size thresholds

Minimum size of the MAP cultivated area at the beginning of investment.

Not applied

Minimum size of the MAP cultivated area at the end of investment.

By the end of the investment, the farm must be cultivated with 1.50 ha of perennial MAPs.

In order to support economic viable farms and foster change towards farm specialisation, the minimum size of MAP cultivated area by the end of the investment is set in relation to the viability of a farm specialized in MAPs cultivation.

Standard gross margin data are not available for MAPs cultivation. Gross margins are highly variable according to the type of MAP, with flowers being more valuable than other product categories, such as leaves. Most common MAPs are provided smaller margins, as abundant supplies keep the prices low.

Based on average yields and price of most common MAPs (see chapter 2 above), it is possible to estimate that the minimal size for a commercial (i.e. specialized) MAP farm cultivated with lavender is 2.00 ha; however, the size for a commercial MAP farm specialised in a rare and difficult to cultivate product could be smaller.²⁰⁰

At present, the average size of MAPs farm is 0.70 ha.

Other eligibility criteria

It is advisable to make eligible for IPARD financing the *establishment* of cultivations with a lifecycle of three years or more, considering plantation costs (seeds and seedlings, soil preparation etc.) of annual and bi-annual MAPs assimilable to running costs, not eligible for IPARD financing.

Farming machines and post-harvest equipment and facilities would remain eligible for any kind of MAPs cultivation.

Preferential criteria

- Farms with documented commercial relationships with MAPs wholesalers, collectors and processors.
- Cultivations of MAPs with a commercial lifecycle equal or higher than 5 years.
- Associated farmers (registered cooperatives, associations and other associative bodies).
- Women farm-holders
- Farm holders under 40 years age at the moment of application.
- Cultivation of endangered MAPs varieties, included in Red List (EU Green Deal premiality).
- New cultivation directly set up under certified organic production regime (EU Green Deal premiality).

Minimum threshold for eligible expenses

The proposed minimum investment threshold limits for eligible investments per project is set to Euro 5,000.

Estimate absorption level

It is expected the majority of investments' absorption in primary production will be related to new large plantations established by MAPs exporters and to the establishment/refurbishment of post-harvest facilities. Small producers have been hit by two boom-and-bust cycles and are now being marginalized by the drive of MAPs exporter to take direct control of production, establishing large-scale plantations.

The total cultivated area remained stable in the period 2014-2018,²⁰¹ but its composition is deeply changed, as well as the structure of MAPs farms. In the programming period 2021-27, it is possible to expect the renovation of most of the existing production base (4,600.00 ha according to MARD), due to completion of production lifecycle and a moderate expansion of cultivation of a wider MAPs variety. The process of replacement of wild MAPs with cultivated ones will continue, so the cultivated area should increase.

The main costs for establishing a new MAPs cultivation are related to seedlings and farm machinery. *Considering expectations of main value chain actors, it is possible to expect a flow of investments in primary production ranging around 1m Euro per year, all included.*

12.2.2 Wild-grown and cultivated MAPs processing

The range of investment in MAPs processing is very wide and variable in size, ranging from the few thousand Euro necessary to improve the village level dryers operated by local collectors to the millions of Euro required for complex cleaning/cutting/grinding lines for final consumption, MAPs sanitation lines and hi-tech large storage facilities. The energy saving measures and equipment and installation to produce energy for self-consumption are expensive, too.

²⁰⁰ To calculate the viability of a specialized farming activity, the conventional reference value adopted in previous IPARD studies in Albania is the equivalent of 2 AWU remunerated at minimal wage, or 720,000 ALL

²⁰¹ EBRD AAFS (2019)

A particular minimum threshold issue is related to the refurbishment/improvement of storage facilities, driers and basic cleaning/sorting equipment at village level. Improving these infrastructures has paramount importance to improve the whole efficiency and increase added value in the whole commodity chain, but turnover and level of investment requirement in each facility is often hardly reaching the minimal threshold commonly adopted for Measure 3. At the same time, these are not facilities connected to MAPs cultivation so applicants could be not included in Measure 1; since these operators sometimes deal also with other non-timber forestry products (NTFP) such as berries, smaller facilities could probably be eligible under Measure 7.

Proposed measure	Type of eligible investment
Measure 3 Processing	<ul style="list-style-type: none"> • Construction, refurbishment and reconstruction of storage facilities, including adoption of infrastructural solutions for passive drying processes. • Equipment and processing lines for MAPs drying processes, including lyophilisation. • Equipment and processing lines for MAPs cleaning, sorting, grinding, cutting and MAPs sanitation and sterilisation. • Equipment and processing lines for mixing, drying. • Equipment and processing lines for wholesale and retail MAPs packaging, including lines for preparation of herbal infusions packaging. • Equipment and processing lines for essential oils extraction. • Equipment for internal handling and loading, unloading and loads moving. • Equipment for production of compost from MAPs biomass (non recoverable waste and exhausted MAPs). • Equipment and ICT systems for control of storage conditions, internal handling control and automation, processing processes control, energy use control, administration. • Equipment and solutions, including infrastructural solutions, for energy efficiency, heat recovery, thermal stabilisation, passive and active control and conditioning of air flows. • Equipment and installations for renewable energy for self-consumption only, from solar (thermal and photovoltaic), wind and biomass source. • Investments for implementation of traceability systems and improved control of residues. • In-factory transport and administrative facilities, including internal roads and parking, administrative facilities.
Measure 4 Agro-environmental	<ul style="list-style-type: none"> • Cultivation of MAPs included in the Red List
Measure 7 Diversification	<ul style="list-style-type: none"> • Refurbishment of MAPs storage facilities with a capacity lower than 100 tons and larger than 20 tons, including adoption of infrastructural solutions for passive drying processes. • Cultivation of MAPs with a surface >0.50 ha and <1.50 ha. • Equipment for internal handling and wholesale packaging. • Equipment and facilities for MAPs cleaning and sorting. • Equipment and installations for MAPs drying. • Equipment and installations for renewable energy for self-consumption only, from solar (thermal and photovoltaic), wind and biomass source.
Measure 10 (counselling)	<ul style="list-style-type: none"> • Advisory and knowledge transfer on technical aspects. • Advisory and consulting services for improvement of energy management, environmental and waste management and occupational safety. • Advisory and consulting services to achieve compliance with quality schemes required for MAPs export, including advisory services to prepare to certification in the fields of food safety, quality, management, occupational safety, energy, environment. • Management advisory and consulting services. • Market research and marketing services, including market intelligence services, but excluding advertising and other kinds of promotion activities and participation to fairs and events.

Proposed eligibility criteria and size thresholds

Preferential criteria

- Women entrepreneurs
- Entrepreneurs under 40 years age at the moment of application.
- Over 50% of investments for investment for introduction/improvement of drying technologies with no greenhouses gases emissions, such as passive systems linked to building technologies and technical design, use of solar – thermal and photovoltaic - and wind self-produced energy (EU Green Deal premiality).
- Over 50% of investments related to EU Green Deal premialities,²⁰² including increased energy efficiency, equipment and installations renewable energy for self-consumption, compost production from MAPs waste.

Minimum threshold for eligible expenses

The proposed minimum investment threshold limits for eligible investments per project is set to Euro 25,000.²⁰³

Estimate absorption level

Fund absorption capacity is relatively high. Most of the largest MAPs processing companies made substantial investments in the last programming period, in the range of 1 or more million Euro each. Even larger investments are required in the next years and all larger actors in MAPs processing sub-sector are planning new investments.

The investments supported in the past by different facilities (IPARD-like, IPARD II, SARED) cannot be used as a reference to estimate future absorption under Measure III, due to the limitations and thresholds of these facilities (eligible investments limited to the list of eligible equipment for Fruit & Vegetable sector in IPARD-like, eligibility of MAPs only in Measure 7 in IPARD II, limited thresholds for SARED). However, supported investments under IPARD-like scored in average 450,000 Euro, while in IPARD II the average supported investment scored 330,000 Euro.

Considering the number of actors and the recent trends to invest in machinery and warehouses, including the magnitude of such investments, it can be expected that the sector can absorb around 5 to 10 million Euros per year, including all stages of MAPs processing and expenditures related to different Measures (Measure 3 for most MAPs processing units, Measure 7 for small post-harvest dryers at village level, Measure 10, counselling).

12.3 INVESTMENTS THAT REQUIRE PRIOR INITIATIVES ON THE EXTERNAL CONTEXT TO BE FEASIBLE

The food industry has a substantial development potential considering the easy access to raw materials (MAPs being leaves or fruits). Furthermore, the sector of shampoos, creams, and cosmetics can develop based on the same premises. However, these sectors can further develop only under sufficient economies of scale and scope. Therefore, local producers of tea infusions or similar products can improve their production technology when exporting becomes feasible. Under these circumstances, MAP processing companies could invest in specific cutting and sterilization technologies to supply tea infusions producers. The same can be done by the latter by performing in-house processes that usually are performed by large producers of MAP.

One operator in the industry recently started exporting tea infusions, so it can be expected sector operators to invest in such technologies. Only access to international markets for final food products justifies such investments, as the domestic market is too small to justify it.

The current intersectoral upgrading of some Albanian exporting companies demonstrates the importance of firms' capabilities to access international markets as a precondition for investment in deep cleaning and cutting technologies and sterilization. As noted above, these types of assets can be viable solutions under the condition of economies of

²⁰² As described in chapter 11

²⁰³ Confirmation of minimum threshold Measure 3 in programming period 2014-20

scale; thus, access to the international market and increased company's know-how appear to be a precondition for such investments.

12.4 RECOMMENDATIONS FOR COMPLEMENTARY INTERVENTIONS

Recommended complementary interventions can be divided in two groups: i) recommendations related to the way in which the MAPs sector could be supported through IPARD and other ongoing development cooperation initiatives and, ii) institutional support actions and investments that could enhance the sector performance.

12.4.1 Embedding MAPs support in IPARD III and other ongoing development cooperation initiatives

Relevant topics can be summarized as follows:

- *Setting support to MAP sector within IPARD III in accordance to sector role in Albanian agribusiness.* Under IPARD III MAPs are expected to be included among the main agri-food sectors in the country; as such, they will be recognized as fully eligible for support under Measure 1 and Measure 3.²⁰⁴ However, some small-scale investments should be also considered for eligibility under Measure 4 (agro-environmental, to preserve endangered MAPs through cultivation) and Measure 7 (diversification, for small investment related to NTFP, whose operators also deal with MAPs).
In MAPs, as in other sectors (meat, fishery), modifying criteria for eligibility would be also an appropriate step. In fact, the leading enterprises in the MAPs sector, as in other sectors, exceed the maximum turnover (2 M. Euro) which was set under IPARD II as eligibility criterion. This criterion was in related to the definition of SME in Albanian legislation (only SME are eligible for IPARD financing), which is much more restrictive than the definition given in EU legislation.
- *Making use of other development cooperation initiatives for inclusion of marginal operators and support to eco-pastoral communities involved in wild MAPs harvesting.* Many sector actors living in the country's inner and mountainous areas struggle to meet all the criteria required for IPARD or national scheme grant application. Development programs are usually more lenient on such requirements and, in general, more flexible and tailored concerning support. Therefore, government agencies should coordinate with development programs to focus on the country's remote and inner areas.

12.4.2 Institutional support actions

Relevant topics can be summarized as follows:

- *Reforming the system of wild MAPs collection licenses and establishing a functional traceability system.* There is a need for improving transparency in mechanisms and procedures for the issue of permits to harvest wild-grown MAPs. The establishment of a centralised system of quotas and a traceability system could create some conflict of competences between municipalities and the central government; however the present system does not allow to protect the core resource base of the sector, that for many years will remain the wild MAPs. Such an action can protect biodiversity as suggested in the European Green Deal, mitigate sector informality, and increase transparency.
- *Increasing controls over use of PPP.* The adoption of a Plant Protection Products Application Management System (PPPAMS) and the approval of the list of pesticides similar to the EU Pesticides Database can increase MAP products' compliance with international standards and reduce soil pollution.
- *Providing in-country capability for MAPs quality controls - the need for an accredited laboratory.* As already noted in MAPs Value Chain study conducted by USAID a decade ago, the availability of an independent, accredited

²⁰⁴ In programming period 2007-13 some investments for the MAP sector were supported as part of the fruit and vegetable sector; in programming period 2014-20, MAP was recognized as an eligible sector, but only for Measure 7 – diversification.

laboratory for quality controls of MAPs and essential oil represents a necessity for the development of the industry. It can prevent easy fraud against Albanian exporters by international importers, support the value chain coordination, and map polluted areas.

The laboratories that are in a better starting position for the accreditation process are the Institute of Food Safety and Veterinary (ISUV) Food Laboratory or the technical facilities of ATTC Shkoder, whose focus is on the MAP sector.

- *Increasing institutional support to improve sector market outreach.* Improving access to the market and increasing market know-how by Albanian exporters require frequent participation to promotional events (fairs, exhibitions, and other events). Therefore, government agencies should support the participation of important sector players in such events.
- *Streamlining customs certifications system,* A peculiar situation occurs when a lot of exported MAPs is rejected by the buyers and returned to the exporter (usually for non-compliance with some standards). As any exported item, these rejected lot of MAPs were exported with a certificate of origin released by the Albanian authorities. On some occasions, the Albanian customs did not recognize as valid the Albanian certificate initially used to export the goods, requiring a new certificate of origin, to be released by the country where the product was controlled for compliance and rejected; the authorities of the country where the product was refused would be expected to release a certificate stating that the product sent back is actually of Albanian origin. In fact, such certificates are not provided or not required by the Albanian exporter. As a result, lengthy and cumbersome administrative processes are necessary to solve the situation.

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14 ANNEXES

ANNEX 1. LIST OF MAIN EXPORTED MAPS

Table 14.1: Main wild flowers exported

No.	Name in Albanian	Name in Latin	Name in English	Wild-grown (W)/ cultivated (C)/ both (B)
1	Lulerozmarine e eger	Flores Tanaceti	Tansy flowers	W
2	Agulice	Flores Primula	Cowslip	W, C
3	Akacie	Flores Acaciae	N/A	W
4	Barpezmimijëfletësh	Flores Millefolii	Common yarrow	W
5	Bliri	Flores Tilia argentea	Small-leaved Linden	W
6	Bliri	Flores Tilia Officinalis	N/A	W
7	Cajmali	Flores Sideritis	Mountain tea	C, W
8	Ciani (Kokoceli i Kaltert) (lule me kupe)	Flores Cyani cum cal.	Cornflower	C
9	Ciani (Kokoceli i Kaltert) (petal)	Flores Cyani sine cal.	Cornflower (petals)	C
10	Geshtenja e eger (e kalit)	Flores Hipocastani	Horse chestnut flowers	W
11	Kamomili	Flores Chamomillae	Chamomile flowers	W, C
12	Kulumbri	Flores Prunispinosae	Blackthorn flowers	W
13	Livande	Flores Lavandulae	Lavender flowers	C
14	Lulekalendule	Flores Calendulae	Marigold flowers	C
15	Lulebasani	Flores Hyperici	St John's wort	W
16	Luledielli	Flores Helianthi	Sunflower petals	C
17	Lulekuqe	Flores Papaveris	Common poppy	W
18	Luleshqerrëshumëvjeçare	Flores Bellis perennis	Daisy	W
19	Luleshurdhëmjekësore	Flores Taraxi	Common dandelion flowers	W
20	Mëllagëpyjesh	Flores Malvaesilv.	Common mallow flowers	C, W
21	Murrizi	Flores Crataegi Cum Cal.	Hawthorn flowers	W
22	Shafrani	Crocus sativus	Saffron	C
23	Shtogu	Flores Sambuci ger.	Elderflowers	W
24	Sythapishe	Pinus Sylvestris	Pine Buds	W
25	Terfilikuq	Flores Rubri Trifolium	Red Clover flowers	W
26	Thundërmushkë	Flores Farfarae	Coltsfoot flower	W
27	Trifil i bardhe	Flores Trifolialbi	White clover flowers	W
28	Trifil i kuq	Flores Trifoliirubri	Red clover flowers	W
29	Vjollca	Flores Viola odorata	Violet flower	W

Source: Field survey.

Table 14.2: Main leaves exported

No	Name in Albanian	Name in Latin	Name in English	Wild-grown (W)/ cultivated (C)/ both (B)
1	Sherebela	Folia Salviae officinalis	Sage Leaves	C, W
2	Rozmarina	Folia Rosmarini	Rosemary Leaves	C
3	Sherebele e eger	Folia Salvia Triloba	Wild Sage Leaves	W
4	Qershigla	Folia VaccinumMyrtilli	Bilberry Leaves	W
5	Cistus	Folia Cistus Incanus	Hairy Rockrose Leaves	W
6	Timusi	Folia Thymus Vulgaris	Thyme	C, W
7	Eukalipti	Folia Eucaliptus Globulus	Sweetgum tree Leaves	W
8	Ulliri	Folia Oleae	Olive Leaves	C
9	Manaferra	Folia Rubi fruticosi	Blackberry, Brambles	W
10	Mjedra	Folia Rubi ideae	Raspberry Leaves	W
11	Arra	Folia Juglandis	Walnut Leaves	W
12	Rigonizakonshem	Folia Oreganum Vulgaris	Oregano Leaves	C
13	Dafina	Folia Lauri nobilis	Bay Laurel Leaves	C
14	Frasherizi	Folia Fraxini	Commun Ash Leaves	W
15	Urthi	Folia Hederaehelicis	Commun Ivy Leaves	W
16	Thundermushka	Folia Farfarae	Coltsfoot Leaves	W
17	Trumeza	Folia Satureia Montana	Winter savory	W
18	Mendrapipere	Folia Mentha piperita	Peppermint	C
19	Bari bletes	Folia Melissa	Lemon balm	C
20	Meshtekna	Folia Betulae	Birch Leaves Leaves	W
21	Qumeshtore	Folia Taraxi	Dandelion	W
22	Mellaga e bardhe	Folia Althaeae	Marshmallow Leaves	C
23	Bliiri	Folia Tiliae	Linden Leaves	W
24	Borziloku	Folia Ocimumbasilicum	Basil	C
25	Lajthia	Folia Coryli	Hazelnut Leaves	W
26	Zhumbrica	Folia TymusSerpilli	Small-leaved Thyme	W
27	Shelgubardhe	Folia Salix Alba	White Willow Leaves	W
28	Rrushariut	Folia UvaeUrsi	Bearberry Leaves	W
29	Luleshtrydhe	Folia Fragariae	Wild strawberry	W
30	FleteHithre	Folia Urticae	Stinging nettle	W, C
31	Arrs,Dushk i vogël	Folia Teuchri	Wall germander	W
32	Veshull	Folia Viscialbi	Mistletoe	W
33	Vjollce	Folia Violaedorate	Violet leaves	W
34	Majdanoz	Folia Petroselinum crispum	Parsley	C
35	Netulla	Folia Verbascum Thapsus	Mullein Leaves	W

Source: Field survey.

Table 14.3: Main wild fruits exported

No	Name in Albanian	Name in Latin	Name in English	Wild-grown (W)/ cultivated (C)/ both (B)
1	Molle e eger	Fructus Malus Sylvestris	Wild Apple Fruits	W
2	Dellinje e zeze	Fructus Juniperi communis	Juniper Berries	W
3	Trendafiliteeger	Fructus Rosa Canina	Rosa Hips Fruit	W
4	Dellinje e kuqe	Fructus Juniperioxycedrus	Red Juniper Berries	W
5	Shtogu	Fructus Sambuci Nigra	Elderberries	W
6	Kulumbri	Fructus Pruni Spinosa	Blackthorn Berries	W
7	Konopice	Fructus Agni casti	Chaste Tree Seeds	W
8	N/A	Fructus Syllibum Marianum	Milk Thistle	W
9	Qershigla	Fructus Vaccinium Myrtilli	Bilberry	W
10	Murrizi	Fructus Crataegi	Hawthorn Fruits	W
11	Xhrrokullvjeshstor	Semen Cholchici	Meadow Saffron	W
12	Gjembaci		Thistle Seed	W

Source: Field survey.

Table 14.4: Main herbs, bark, and roots exported

N o.	Name in Albanian	Name in Latin	Name in English	Wild-grown (W)/ cultivated (C)/ both (B)
Herbs				
1	Pelin i rëmdomtë	HerbaArtemisiae vulgaris	Mugwort Herb	W
2	Mellage e bardhe	Herba Althea Officinalis Powder	Marshmallow Powder	C, W
3	Lulebasani	HerbaHyperici	Perforate St. Johns wort	W
4	Barpezmimijëfletësh	HerbaMillefoli	Common yarrow	W
5		HerbaSylibum Marianum	Blessed Thistle Herb	W
6	Vjeshtulla	HerbaVisceralbi	Mistow Herb	W
7	Barshpretkëmjekësore	HerbaVerbenae	Vervain Herb	W
8	Bari bletes	HerbaMelisae total	Lemon balm	C
9	Pelin	HerbaAbsinthi	Common Wormwood Herb	W
1	Këputjearash	HerbaEquiseti Arvensis	Field Horsetail	W
0				
1	Shtrapëri	Herba Bursa pastoris	Shepherd's purse	W
1				
1	Timusi	HerbaSerpilli ger	Wild Thyme Herb & Leaves	W
2				
1	Borzilok	HerbaBasilicigerebelt	Basilic	C
3				
1	Luleshtrydhe e eger	Herba Fragaria Vesca	Wild Strawberry	W
4				
1	Konopicë	Vitex agnus castus	Chaste tree	W
5				
Bark				
1	Shelgutebardhe	Cortex Salix Alba	White Willow Bark	W
2	Dushku	Cortex Quercus Alba	Oak Bark	W
3	Arra	Cortex Juglandis	Walnut berry bark	C
4	?	Cortex Rhamnus frangula	Alder Buckthorn Bark	W
5	Pisha	Cortex Pinus Nigri	Pine Bark	W
6	Frasheri	Cortex Fraxinus ornus	Commun Ash Bark	W
Roots				
1	Rushkullgjembor	Radix RuscusAcuelatus	Butcher's Broom Roots	W
2	Agulice	Radix Primulae	Cowslip Roots	W, C
3	Cikore	Radix Chicorii	Chicory Roots	W
4	Qumeshtore	Radix Taraxaci	Dandelion Roots	W, C
5		Radix Iridis mund.	Orris Roots	W
6	Shpatore e zbehtë	Radix Iridis nat.	Pale Iris	W
7	Mellage e bardhe	Radix Althaea officinalis	Marshmallow Roots	C
8	Hithra	Radix Urtica Dioica	Nettle Roots	C, W
9	Xhrokullvjeshtor	Colchicum autumnale	Meadow Saffron	W

Source: Field survey.

Some of the MAPs are collected for their roots in addition to their leaves (e.g., cowslip, marshmallow). However, this happens only for the wild-grown MAPs. As a result, in some areas, these MAPs are being overharvested.

Table 14.5: Main MAPs used for essential oil production

No	Name in Albanian	Name in Latin	Name in English	Wild-grown (W)/cultivated (C)/both (B)
1	Livande	Oleum Lavandula Angustifolia	Lavender Flowers	C
2	Makthi (Helikrisum)	Oleum Helichrysi	Immortelle	C
3	Sherebela	Folia Salvia Officinalis	Sage Leaves	C, W
4	Rozmarina	Folia Rosmarinus Officinalis	Rosemary Leaves	C
5	Timusi	Folia Thymus Vulgaris	Wild Thyme	C, W
6	Rigonizakonshe m	Folia Oreganum Vulgaris	Oregano Leaves	C
7	Dafina	Folia Laurus Nobilis	Bay Laurel Leaves	C
8	Barpezmimijëflet ësh	Achillaea millefolium	Common yarrow	W
9	Dellinje e zeze	Fructus Juniperi communis	Juniper Berries	W

Source: Field survey.

ANNEX 2: LIST OF INTERVIEWED VALUE CHAIN OPERATORS²⁰⁵

Name surname	Company	Role in the value chain	Role within the company	Region
Illir Gjolaj	Immortelle Therapy ltd	Cultivator and Processor	Owner and CEO	Malesia e Madhe
Emiland Skora	MEIA ltd	Cultivator and processor of essential oils	Shareholder and CEO	Malesia e Madhe
Kujtim Keka	Erba M.M. ltd	Cultivator and processors and exporter of MAPs essential oils	Owner and CEO	Malesia e Madhe
Rudin Beka	Relikaj ltd	Processor and exporter	Sales manager	Malesia e Madhe
Artan Koldashi	Herba Fructus ltd	Processor and exporter	Owner and CEO	Elbasan
Riza Shaholli	Shaholli ltd	Consolidator	Owner and CEO	Devoll, Korce
Filip Gjoka	Filipi ltd	Processors and exporter of MAPs essential oils	Owner and CEO	Lac, Kurbin
Xhevid Hysenaj	Alb-Kalystyan ltd	Processor and exporter of MAPs and essential oils	Shareholder and CEO	Maminas, Durres
Sokol Kraja	Kraco ltd	Food producer	Owner and CEO	Vore
Lindita Stromi	Gjedra ltd	Processor and exporter of MAPs	Financial Manager	Berat
Armando Truja	Gjedra ltd	Processor and exporter of MAPs	Sales Manager	Berat
Destan Hallaci	Hallaci ltd	Consolidator	Owner and CEO	Kukes
Zyber Gjoni	Gjoni ltd	Consolidator	Owner and CEO	Peshkopi
Preke Gjeshaj	Reciprodhimtar	Cultivator and collector of MAPs	Head of farmers cooperative/consolidator	Rec, Malesia e Madhe
Xheladin Zekaj	Lujzgroop of farmers	Cultivator and collector of MAPs	Head of farmers cooperative/consolidator	Malesia e Madhe
Hajrije Mehmeti	N/A	Farmer	N/A	Diber
Ali Laho	N/A	Farmer	N/A	Erseke
Edona Bilali	AZ Consulting	Certification company	Manager	Tirane
Endrit Kullaj	AUT	University professor	Sector expert	Tirane
Albana Cule	CNVP	Development organization	Advisor	Korce
Mark Rupa	CNVP	Development organization	Advisor	Shkoder
Arzen Rexha	ATTC	Specialized institute	Head of department, sector specialist	Shkoder
Dali Horeshka	GIZ program	Development agency	Local advisor	Peshkopi

²⁰⁵ The commodity chain actors included in this list were interviewed in person. Some of the information were obtained by actors not included in this list. This information was collected during previous recent interviews (2019 - 2020), and validated during this study, or via phone calls and other forms of electronic communication. In other cases, relevant information was obtained and/or validated within the framework of interviews made for other sector analyses. These stakeholders are not included in this list, as they are specified in the stakeholders' list attached to the sector analysis they are most relevant to.