

## **AN OVERVIEW OF ALBANIA’S MEDICINAL AROMATIC PLANTS AND ESSENTIAL OILS INDUSTRY**

**Marsela Laurasi**

Agricultural University of Tirana, Albania

[laurasi.marsela@gmail.com](mailto:laurasi.marsela@gmail.com)

**Co-Author: Xhevit Hysenaj**

Xherdo Ltd and Essences Producers and Cultivators Association (EPCA)

Tirana, Albania

[xhevit@albkalustyan.com](mailto:xhevit@albkalustyan.com)

### **INTRODUCTION**

Albanian territory is stretched along the Eastern Adriatic and Ionic seas. Its landscape is comprised of large mountains, forests, arable lands, pastures, lakes and rivers with high water flow. This country is very rich in natural and water resources. The strategic geographical position and the climatic conditions of Albania, favour the biodiversity and in particular the one of herbs and spices (tea, menthe, chamomile, rosemary, sage, oregano, parsley, thyme, cinnamon, etc.), which are well known for their wide and effective uses in everyday life. For example, the herbal teas have been broadly used in the past as medicines for the properties to relief cold, cough and bronchitis symptoms, to treat stomach and intestines problems, to reduce blood pressure and to stabilise diabetic problems. As such, they are still brewed and consumed today. Herbs and spices products are also known for their pureness, free of chemicals, pesticides and insecticides since they grow in the mountains and for this reason they are very required by many western foreign companies whose main objective in their business is the safety and quality.

Nowadays, safety and quality of food are becoming issues of great concerns. The consumers are noticeably more aware of the potential risk of chemicals, pesticides & herbicides, food poisoning, low nutritional values food and poor diets. Based on recent scientific studies, the trend shows a fast revolution on consumers’ behaviour. The impact of the consumers’ awareness can be noticed from their preferences to buy foods made by large producers, rather than by small ones. This report is targeted to the producers, growers, individual collectors of herbs and spices and to the processors who can assist to advice and support them, since the processors buy products from them for further processing steps. The aim is to present the basic principles of quality and safety of herbs and spices products to satisfy consumers’ and large companies’ demands. It will guide all the stakeholders in herbs and spices supply chain on how to improve the production and processing and keep up to date with the changings according to EU standards. In addition, a new management tool of Hazard Analysis and Critical Control Point systems (HACCP) - a system used to control contamination in food processing - is briefly described for the herbs and spices processing sector, in order to show how the enterprises can implement appropriate quality assurance systems at low cost.

The classical supply chain of herbs and spices starts with the small collectors continues with processors and traders and it finishes with the ending consumers of these products. The small collectors in Albania collect herbs and spices in the mountains and hillsides. After that, they need to select, clean, dry and storage them, to be ready for the next processes such as processing and packaging. Based on the previous evidences, it has been concluded that the women, in particular play an important role in maintaining the quality of these products, because they are substantially involved in harvesting, handling, processing and in packaging processes. Basically, the women in North of Albania are continuously making efforts to develop this activity according to the traditional methods and practices, but the reality shows that these methods are not sufficient with respect to the plants health and quality, due to the lack of collectors’ knowledge and technologies. In order to comply with European standards, and specifically with the sanitary and phytosanitary standards, different foreign projects have considered supporting most of the regions in Albania. The main aim has been to improve and to update the women’ knowledge and the capacity building skills in this sector, which have further increased the collectors’ financial profits if we consider this activity as new job

opportunities, and in the same time it has improved the marketing of the herbs and spices supply chain.

The companies which deal with the business of the medicinal and aromatic plants in Albania are usually specialised in the collection, selection, cleaning, processing and import-export of herbs and spices, aromatic and medicinal plants and other derivatives such as forests fruits, non-wood forest products, essential oils etc.

Companies have created different brands for its products and recently some supermarkets in Tirana are already selling their products that are made by farmers and the processing companies including herbs and spices products as well.

Generally, the specific objectives of Albanian companies for herbs and spices products and essential oils are:

- To ensure the domestic market for products of herbs, spices and essential oils;
- To increase the promotion of herbs, spices, essential oils products and services mainly in processing and marketing;
- To increase the building capacity of growers, processors and traders of herbs, spices and oils products to be competitive in the market; and
- To improve the infrastructure (technology and working conditions) of herbs, spices and oils processing companies.

The process flow is different for herbs and spices. The following table shows the steps for the processes on which the herbs and spices should be relied on.

<b>Steps</b>	<b>Herbs</b>	<b>Spices</b>
Step 1	Harvesting	Harvesting
Step 2	Drying	Drying
Step 3	Transport	Winnowing
Step 4	Sorting	Transport
Step 5	Cutting	Finish drying
Step 6	Separate	Grinding
Step 7	Oil Processing	Packaging
Step 8	Packaging	Storage
Step 9	Storage	Distribution
Step 10	Distribution	Distribution

Table: Process flow chart

Dried food products relatively have a lower risk in terms of causing poisoning, compare to other normal food products, since the drying process ensure an appropriate low moisture content to avoid the multiplication of micro-organisms. However, herbs and in particular spices, are an exception and commonly contain very high levels of micro-organisms, including those that cause food poisoning.

There are two key explanations for this high level of contamination. Firstly, the extensive contamination happens during the harvesting, washing and sun drying processes which are commonly done “on the farm” under primitive conditions. Secondly, the processing of herbs and spices should be regulated at low temperature during drying, grading, cleaning and grinding. They should not be treated under warm conditions because this would cause loss of flavour and the micro-organisms may thus survive during processing as well.

When dealing with the herbs and spices processes, the quality control needs to be taken into account during the following phases:

- Phase 1: Cultivation, harvesting and primary processing by cultivators.
- Phase 2: Processing techniques during the production.

- Phase 3: Packaging and storage after processing.

The growers and processors need to consider seriously each of these phases in detail. Further the processors need to establish the management tool of HACCP in order to identify the potential problems or hazards. If there is any, they need to control the critical points in order to comply with EU standards and even more important to meet the consumers' and companies' requirements with high quality products.

In most developing countries, as well as in Albania, the herbs and spices are commonly grown by individual collectors, who are in most of the cases females. A good financial return may be obtained for the people possessing a small plot of land. Others are using the public land to collect and deal with herbs and spices and further to sell them to the processors who have contact with the state to use the public land. This fact has some direct consequences for the buyers / processors such as in most of the cases the growers and the collectors are poor farmer, and their level of education may be low. Hence they must be very well informed and updated for the changes when dealing with these processes.

### IMPORTANCE OF MEDICINAL AND AROMATIC PLANTS SECTOR IN ALBANIAN ECONOMY

Medicinal and aromatic Plants (MAPs) is a major agri-forestry business in Albania, especially in terms of international trade. More in general, Balkan countries are a major source of raw material or half finished products for many EU and US industries in different fields, where Albania is the main supplier.

Exports of MAPs account for 60% of total exports of forestry products (USAID 2013). A small but increasing flow of export of essential oil is recorded due to the increase of processing capacity.

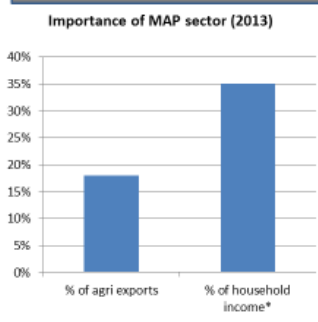
MAP sector plays a very important role in Albanian economy as a major revenue source.

As we can see from the following graph, MAPs contributes to 18% of agricultural export and 35% of household income.

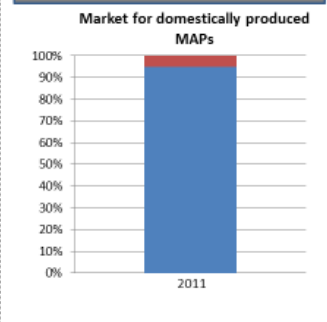
MAPs sector is export oriented. About 95% of MAPs exported is domestically produced (Ministry of Agriculture, 2011).

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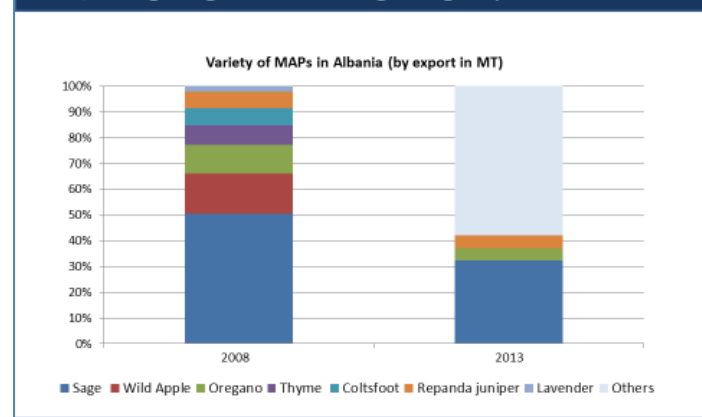
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About 95% of MAPs is exported



It has over the last few years diversified into other varieties of MAPs, though sage is still the single largest produced MAP

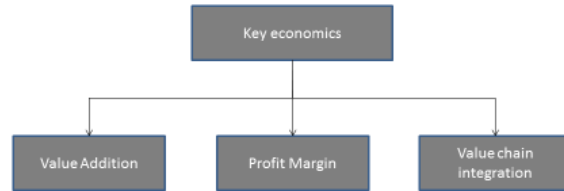


Even the varieties of MAPs are diversified the last few years, the sage and lavender remain still the largest MAP produced, respectively about 58% of lavender and 32% of sage (DSA 2010).

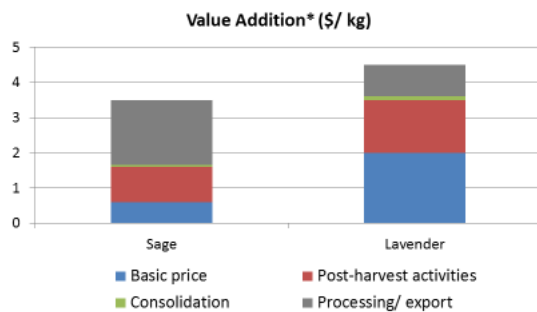
## Domestic Value Chain

Regarding to the domestic value chain, the main economic pillars are:

- Value addition;
- Profit margin; and
- Value chain integration.



While post-harvest practices are high VA activities for sage and lavender, processing/ export is a large VA activity for sage



Value addition is equal to the difference between sale price and cost price, expressed in US\$/kg.

From the interviews with the stakeholders of this sector, the post-harvest practices are high value addition activities for sage and lavender with a basic price of 1.5 US\$/kg, while processing / exporting is even a larger value addition activity for sage with a price of 3.5 US\$/kg. In the meanwhile, the basic price for lavender is 3.5 US\$/kg, which after the value addition becomes US\$/ kg.

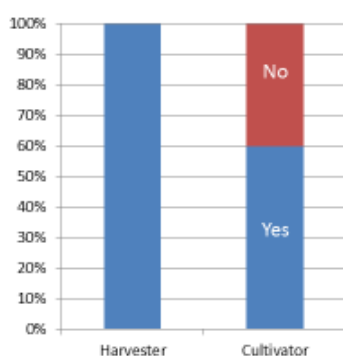
This report shows that the harvesters and the cultivators get the highest profits across whole value chain of MAPs primarily due to lower costs.

The gross margin for the harvesters is 80% and the net margin is just 10%.

There is a good level of value chain integration as each person largely sells to the same person in the next value chain segment

Harvester/ cultivators mostly prefer selling to the same person

Do you sell to the same buyer every year?



Consolidators and exporters sell to same people but also look out for others

"I sell to the same person every year as he provides transport. I only work as a middle man in between him and the harvesters."

Consolidator

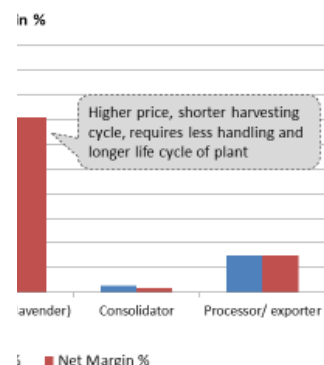
"I sell to the same person in Germany. I tried selling in the US 10 years ago but there were issues with payments so stopped selling there."

Exporter of dry MAPs

"I usually sell to the same set of persons but I am also meeting others to expand by business and customer base."

Exporter of essential oils

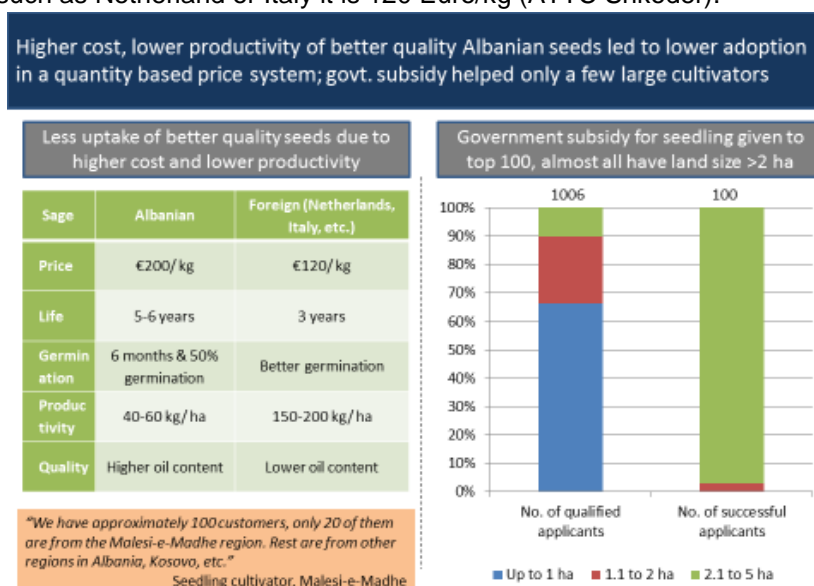
Best profits across whole value



In addition, there is a good level of value chain integration as each person largely sells to the same person in the next value chain segment.

Consolidators and exporters sell to same people but also look out for others.

The following figure shows that the high cost is the reason for low productivity (quantity) of good quality seeds in Albania. For example the price of seed of safe in Albania is 200 Euro/kg, while in other countries such as Netherland or Italy it is 120 Euro/kg (ATTC Shkoder).



Source: ATTC Shkoder, Silvia Nord interview

In Albania, there is a big problem with incorrect harvesting practices.

Many harvesters undertake improper practices for harvesting wild sage, thereby threatening the long term sustainability of wild harvested plants. This includes:

- Uprooting whole plants to increase weight of final produce
- Use of sickles to save time and in the process cutting the whole plants

Sometimes harvesters and cultivators undertook drying in the sun instead of doing so in the shade. This led to loss of essential oil and active principles. In the

case of sage, due to improper drying facilities in the 2nd cycle of harvesting (autumn), prices fall by ~25%. Produce was either casually stored in their own house or in a room near their house and packing was done in sack cloth that was not fumigated each time it was reused. It may happen that

**Incorrect harvesting practices, improper post-harvest facilities (drying & storage) lead to quality degradation at harvester/ cultivator level**

**Improper harvesting practices by harvesters hampering long terms sustainability**

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**Improper drying and storage facility leads to a fall in price received for produce**

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Exporters mix good and lower quality produce to meet minimum market requirements. Many of them have also started diversify away from sage due to unsustainable practices

Source: Interviews; literature search

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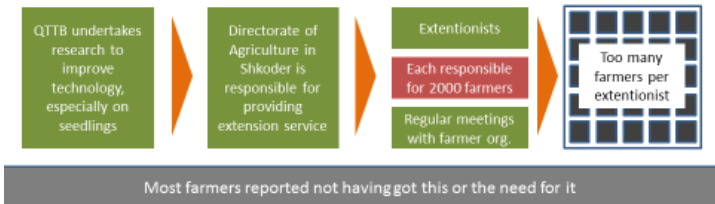
The most emphasised are ISO 9001:2008, American spice trade association (ASTA), NOP organic, Kosher etc.

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While the knowledge exists, the structure for delivery doesn't

For example, all except a few farmers reported not having received any advisory service. Few who reported receiving advisory service showed no remarkable difference in agricultural practices. None of the farmers expressed a need for any form of advisory service:



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Key exporters in spite of having many years of experience use basic technology to undertake basic processing of MAPs; some also produce essential oils.

Quality testing universe in Albania lacking in certified component testing capability; leads to a higher cost as they are conducted abroad

Type of quality testing requirements	Details of quality	Whether is done in Albania or not	Procedure certified or not	Export markets*
Phytosanitary testing	Organic	✓	✓	USA, EU
	Safety	✓	✓	
Component testing	% of essential oil	✓	X	USA, EU
	% of thuyon (basic α,β) for sage	✓	X	
	% of thuyon (42 component) for sage	X	X	
	Active principles for lavender	X	X	
	Nitrite content	✓	X	

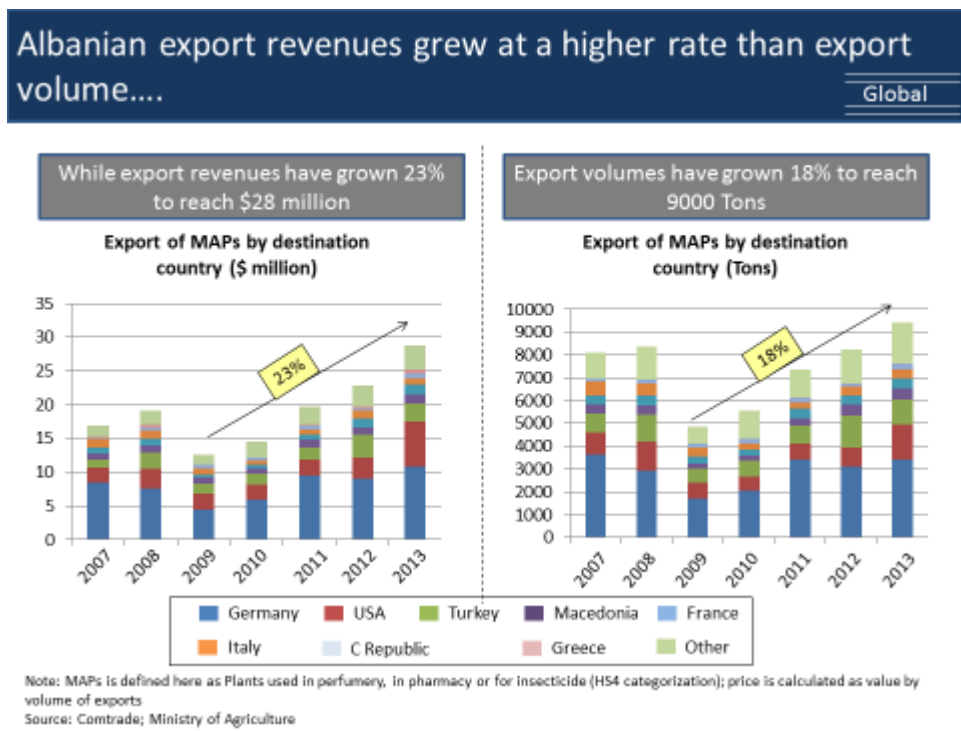
\*Cost of doing component testing in Albania is ~\$100 at Faculty of Natural Sciences or here at ATTC, whereas it is ~\$320 when done abroad. This can be a heavy burden on exporters from Albania.  
ATTC Shkoder



Component testing quality in Albania is missing.

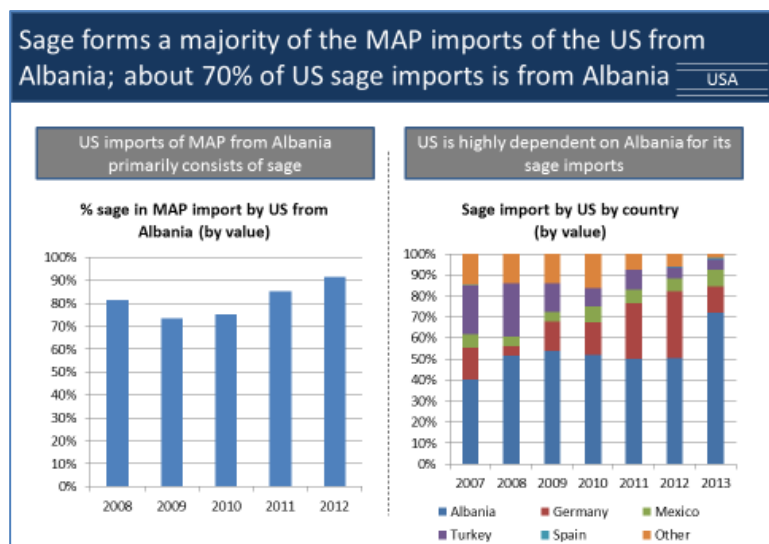
For this reason it has high cost since it is usually done abroad.

Albanian export revenues grew at a higher rate than export volume. While export revenues have grown 23% to reach \$28 million, export volumes have grown 18% to reach 9000 Tons (Comtrade; Ministry of Agriculture 2013)

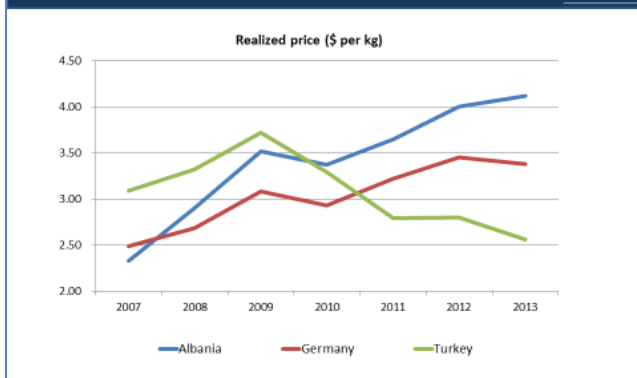


Sage forms a majority of the MAP imports of the US from Albania; about 70% of US sage imports is from Albania.

US imports of MAP from Albania primarily consist of sage. US is highly dependent on Albania for its sage imports. In 2012, about 90% of sage in MAP was imported by US from Albania.

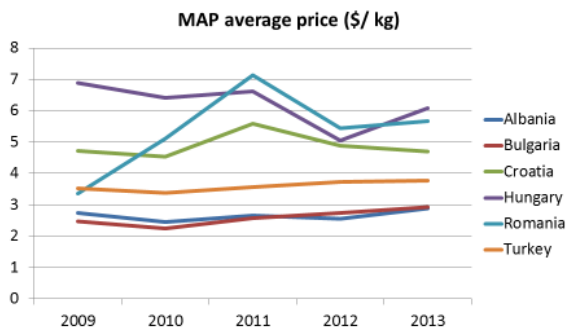


At the same time, Albanian sage commands a high price in the US market



According to Comtrade, Ministry of Agriculture and USITC, Albanian sage commands a high price in the US market (export price 4.3 US\$/ kg in 2013)

....competitive pricing is likely one of the reasons for Bulgaria and Albania leading in the market



Competitive pricing is likely one of the reasons for Bulgaria and Albania leading in the market.

Albania is at short end of whole value chain from production to end-market. According to the Ministry of Agriculture, for a price of 1.6 US\$/kg, the profit would be 60%-80%. For a price of 3.5 US\$/kg, the profit would be 15%-20%. For a price of 4.35 US\$/28 grams, the profit would be 40% (gross) and 14% (net)

Albania is at short end of whole value chain from production to end-market





### Kutas, Kalustyan, Krauter Mix, AA Sayia, Elite Spice and Kutas biggest buyers of sage, importing sage leaves to further process for B2B customers

Country	Company	Import form	Processing undertaken	Quality certifications	Buyer/ price
	Krauter Mix (1919)	70% sage leaves	Cleaning, cutting, rubbing, grinding, sterilization	GMP, HACCP, Quality Management System acc. to DIN-EN-ISO 9001:2008, etc.	Exports to about 70 countries; mostly B2B
	A A Sayia (1917)	99% sage leaves	None, resale	NA; Identifies products by country of origin (Albanian sage)	B2B (wholesalers, processors & traders)
	Kalustyan (1948)	90% sage leaves	Cryo-milling (\$14k for upto 50ml capacity)	ASTA and HPCL testing; GMA Safe & Intertek audits; FSMA compliant, FDA & USDA Accredited facility (organic)	B2B (wholesale/ industrial foodservice)
	Elite Spice (1988)	70% sage leaves	Microbial reduction, cleaning, milling, blending (R&D team for innovation)	HACCP, GMP, GAP, Traceability, Allergen control, etc.	B2B & B2C
	Kutas (1980)	NA	NA	GMP, HACCP, ISO 9001:2000, ISO 22000 standards and traceability; tests using European Spice Association & ASTA/ FDA guidelines	B2B (McCormick) 35% of US sage imports from AL is through Kutas

Kutas, Kalustyan, Krauter Mix, AA Sayia, Elite Spice and Kutas are the biggest buyers of sage, importing sage leaves to further process for “B2B” customers.

Sage exports are expected to grow between 8%-18% (million dollars) depending on its success to implement changes in value chain & post-harvest drying/ storage (USITC, Albania Customs Data, Comtrade).

The report suggest that Albanian Brands have a great perspective for building international market knowledge and links to enhance long term growth of the industry.

Albania Association of Marketing (AAM) should collaborate with existing MAP industry associations (EPCA and ACPEMP) to build/promote a brand for Albania’s MAPs industry via demand driven export promotion strategy:

- Prepare a comprehensive “Albania” branding strategy for MAPs and ensure marketing documents used by companies follows the branding requirements;
- One stop website with relevant information regarding available Albanian MAPs, involved players and contacts; and

**Encourage GA certified facilities**

**Establishing Good Value**

- Lack of good agricultural value of produce
- At the same time international market
- Quality linked price

**In-house certification will save cost and time**

- Conduct demand equipment for Alt
- Saves cost, time
- Certification of law of Economy

Sage exports expected to implement changes in

— TOTAL sage (Direct + Through)

**Create Brand Albania and build international market knowledge and links to enhance long term growth of the industry**

**Create Brand Albania for MAPs** 1

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  - Prepare a **comprehensive “Albania” branding strategy** for MAPs and ensure marketing documents used by companies follows the branding requirements
  - **One stop website** with relevant information regarding available Albanian MAPs, involved players and contacts
  - Albania **representation in trade shows and trade missions** to build relationships with businesses and government

**International Marketing Knowledge and Links** 2

- Albanian exporters do not move to new buyers and markets even though they don't have long term contracts with importers abroad. Hence, the market is heavily importer oriented
- MAPs is a niche market with data aggregated, which makes it difficult to understand the size of the market and trends
- **Building market knowledge is necessary:** Links with trade associations working with MAPs; disaggregated data collection at national level to start with, analysis and dissemination of findings. (**European Herb Growers Association**, for example, is an important body in Europe for MAPs)

- Albania representation in trade shows and trade missions to build relationships with businesses and government.



*Ms. Marsela Luarasi lectures in Business Administration at the Agricultural University of Tirana, and is currently studying for an Economics PhD at the University of Milan, Italy. She holds an MSc from the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM), Bari, Italy. Previously she worked at the Ministry of Agriculture, Food and Consumer Protection, Tirana, Albania.*



*Mr. Xhevit Hysenaj received his BSc degree in Economics from the University of Tirana in 1986. He entered the herb and spice industry in 1993, when he founded the Xherdo Company in Tirana, Albania. He has developed this company to become Albania's leading producer and exporter of essential oils. Mr. Hysenaj is the Chairman of the Essences Producers and Cultivators Association of Albania, and a member of several international organisations including IFEAT, IFOAM and AMAPSEEC. Mr. Hysenaj is an expert of FAO for Medicinal and Aromatic Plants and lecture at the Agricultural University of Tirana, Albania.*