Medicinal & Aromatic Plants (MAPs) Sector in Albania

Market Assessment

Peter Furth
FFF Associates, Inc.

June 2015

This study is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of the authors and do not necessarily reflect the views of USAID or the United States Government.
EXECUTIVE SUMMARY

BACKGROUND

Medicinal and Aromatic Plants (MAP) are the most important line item in Albania’s export that is generated domestically, currently estimated to account for between US$27-28 Million annually. The herbs and spice sector also provides income to thousands of families collecting/harvesting wild/cultivated plants, cleaning and storing them. Current estimates are that over 100,000 families are involved in the sector. And in Northern Albania, it is estimated that “medicinal and aromatic plant farming makes up close to 35 percent of household income.” As well, Albania is particularly rich in indigenous species of MAPs – a full fifteen percent of its 360 species are of medicinal, aromatic, or spice value.

The primary buyers of Albanian MAPs are found in both Europe and the United States. Currently, the US is the country that imports most of Albania’s herbs and spices. For sage, which is the largest single export item, the US is the primary user of sage and we estimate that over 90% of their supply is of Albanian origin.

Many opportunities to expend/extend the sector by tapping into export demand opportunities in international markets. Currently, most of the herbs and spices exported are only partially processed, losing the possibility for considerable value added. Key value chain actors from the private sector such as organizers of collection and purchase points, small integrated processors/exporters, and large integrated export companies require expertise to understand what investments and other next steps they should take to develop their value chain as business relationships. Additionally, public sector actors, such as the Technology Transfer Centre in Shkoder, need help in identifying their role in supporting development of MAP value chains in Albania, so that they can be active stakeholders in actions that will lead to investments in processed, value added products.

METHODOLOGY AND SECTOR ANALYSIS

Historically, MAPs have been one of the most important export sectors in Albania and the most important agricultural export sector. Unfortunately, there are no reliable or accurate statistics of collection, cultivation, harvesting, production/processing, or exports of MAPs, whether as a category as a whole or for individual items such as sage. Data for sage imports and those of some other MAPs do exist in the US. With some available statistics, knowledge of the supply chain and how it is working, and historical experience and information, we are able to make some very informed judgments as to the real situation.

SAGE

Sage (Salvia officinalis) remains the single most significant MAPs product and export from Albania, most probably representing somewhere in the range of half of Albanian MAP exports. In addition, we continue to believe that much of the sage exported from Albania to Turkey is then further processed there and shipped to the US, mostly as Albanian Sage.

Imports of sage into the United States have risen steadily over the years. Over the last five years, not only has the quantity of sage imported into the US increased steadily, but also so has the price. During this five year time period, the average quantity has increased by 23% and the average price has increased by almost 10%. Particularly for the quantity, if this trend continues,
then this decade will show a much sharper increase in usage and demand than the previous one. This should continue to be monitored and the information should be shared with the industry.

Sage cultivation has increased significantly in recent years. This has provided both benefits and obstacles for the item.

**OTHER MEDICINAL AND AROMATIC PLANTS OF INTEREST**

There are a number of other medicinal and aromatic plants that continue to be exported from Albania in significant quantity. These include lavender (*lavandula*), oregano (*origanum*), thyme (*thymus vulgaris*), juniper, helichrysum, malva sylvestris (known either a common mallow or marsh-mallow), laurel leaves, calendula (marigold), mountain tea (*sideritis*), and wild apple. With the possible exception of lavender, none of the others is of a quantity that is anywhere near that of sage. However, taken together, these items present an important part of the MAPs value chain and exports. As well, there are several “new” items, either being cultivated on a reasonable scale or being tested in trials, all of which are of great interest. These include lemon verbena and stevia.

There continues to be a reasonable essential oil production from MAPs in Albania. Xherdo/AlbKalustyan appears to continue to be the single largest producer of essential oils, and there are a number of other firms are producing essential oils.

**CULTIVATION OF MAPs**

Cultivation of MAPs has increased, particularly in the last five years, with a dramatic shift in attitudes and practices with respect to cultivation. The primary items being cultivated appear to be sage and lavender. There is also some cultivation of oregano, primarily in the south, and there are trial and experimental fields that include laurel, lemon verbena, and stevia. As well, a business has been established in the Koplik-Shkoder area that is successfully cultivating sage and other MAPs on a commercial basis.

Various business practices, governmental actions, and policies have severely hurt successful cultivation of MAPs. A significant lack of knowledge of quality, seedlings, and proper seed selection, combined with the government allowing the import of seeds (especially for sage), most of which were of an inferior quality are major contributing factors. Finally, the government has subsidized and therefore, artificially encouraged the cultivation of MAPs, which has served to disrupt and distort the free market.

The quality of MAPs produced from seeds or seedlings collected or produced from Albanian material appears to be excellent, both in terms of quality and yield. We were told that cultivation on this basis is economically viable.

The subsidies granted by the government have encouraged much more cultivation, especially of sage, than the market warranted. Especially with the poor quality cultivated sage that was cultivated, this has served to create a larger than normal stock and a significant drop in local prices, causing harm and losses in the market.

**WILD COLLECTION OF MAPs**

Wild collection of MAPs continues to be of significant importance to this sector and is likely to be the case for many decades. Despite the migration of rural labor, given the importance of the
sector to Albanian agriculture and exports along with the estimate that over 100,000 families derive significant income from MAPs, there is every reason to believe that the market forces will prevail and MAPs will continue to be collected in the wild. At the same time, the lack of organization at the rural, collector levels continues to severely impede improvements in quality control, especially with respect to post-harvest handling. Additionally, the potential for adverse environmental impact remains very real.

POST HARVEST HANDLING AND PROCESSING OF MAPs

There has been great improvement in the post harvest handling and processing of all MAPs over the last ten to fifteen years, both in terms of qualitative improvements and increased capacity. At the same time, we did not observe meaningful increases in the quality being received from the collectors. Thus, the incoming raw material is still relatively poor and often results in yield losses of forty to fifty percent. This represents a huge lost opportunity for improvement on many fronts – from generating higher incomes at the collector level in poor, rural areas to improved quality of final product as it is well known that for MAPs and especially for large, leafy items such as sage, better incoming raw materials improve the potential quality of final products.

Today, there are a number of relatively new players in the processing and export market. There has also been a very real and meaningful growth in knowledge and understanding of quality, market demands, etc. At the same time, we still observed a significant lack of market understanding, information, and market intelligence, along with only a minimal true understanding and knowledge of the legal and regulatory requirements for importing MAPs in both the US and the EU. With the passing and implementation of the Food Safety and Modernization Act (FSMA) in the US a few years ago, these requirements have become even more important. They are still being fully implemented and the pressure put on the exporters is likely to increase even further.

GOVERNMENTAL AND INSTITUTIONAL INVOLVEMENT

Numerous institutions – governmental, academic/educational, and projects – have a very real and serious interest in the MAPs sector. In the past, there had been little, if any, real support from the government to the MAPs sector. Albania also has a great interest and knowledge base about MAPs, providing an enormous asset for the future benefit of the sector.

CONCLUSIONS AND RECOMMENDATIONS

With all the progress that has been made, there is still much to be done to improve the quality, cleanliness, varieties, and incomes derived from this sector.

1. Legislation and Regulation

The Albanian government can and should take certain specific actions to address very real needs of the industry and to protect the inherently high quality of the MAPs that are indigenous to Albania.

1.1 Importation of Seeds and Seedlings

The government made a serious mistake when they allowed the importation of foreign sage seeds. Most other countries strictly regulate such actions in order to protect the
quality and purity of their domestic crops and varieties. We strongly recommend that the importation of all seeds and seedlings for indigenous MAPs and other indigenous Albanian natural resources be **strictly prohibited** as a matter of law.

There is a move going on to look at new and different items for cultivation and production in Albania. There should be strict regulation for the import of such items to make sure they are of high quality and also to be sure that no foreign pests or substances are introduced in Albania, which could harm many crops throughout the country.

### 1.2 Government Subsidies for Cultivation

There is no inherent reason to encourage the cultivation of MAPs in Albania. Most MAPs are available in more than ample quantity in the wild. As well, many Albanian rural, poor families rely on the collection of MAPs in the wild for a significant (if not total) portion of their family income. Subsidizing cultivation of MAPs – or any other crop, for that matter – does not serve the overall interest of the industry or agriculture. It is best for the markets to find their “natural” equilibrium based on supply and demand factors. We recommend that subsidies for cultivating or taxes for wild harvesting should **not** be instituted unless there is a clear and absolute policy or environmental protection reason to regulate the collection and/or market using these tools.

### 1.3 Export Standards

In order to protect the Albanian name and to allow for Albania’s reputation with respect to MAPs to flourish, establishing realistic and enforceable export standards should be considered. This is especially true for sage, where at the very least, a minimum volatile oil standard should be established for sage exports. It will also be necessary to make sure there are proper laboratory and regulatory standards set for the sampling, testing, and certification of each export.

### 2. Improvements in Wild Collection and Handling

While progress has been made in this area, there is a continual need for even more advancement and improvement. This can best be accomplished through a combination of providing basic, simple drying equipment, along with an education program.

#### 2.1 Proper drying techniques, equipment, and facilities

Contamination of product remains a significant problem for Albanian MAPs. Eliminating or reducing problems as close to the source as possible allows for the processors and exporters to achieve a higher quality with a lower cost structure. This starts with the introduction of drying equipment and the need to establish better drying facilities.

*The introduction of drying racks throughout the country is the most important, single step that would significantly improve the quality of all Albanian MAPs. Thus, we recommend that the Albanian government and donors work together to produce as many racks as possible in Albania and distribute them to the collectors throughout the country.*
2.2 Proper collection and handling and preservation of species

As important as proper drying is to the industry, so is proper collection and handling. A government and donor-sponsored program must be established and implemented to teach the collectors throughout the country on how to properly identify the plants they are picking, how to handle them after picking, how to properly dry them, and how to properly store them.

2.3 Post harvest handling

A large number of problems with contamination and poor quality occur during the post harvest handling MAPs. Providing racks will be a huge help in eliminating many of the issues. That is why the training program is critical for achieving better quality and cleanliness. As well, there is a huge lack of facilities for drying and particularly for storing herbs. The idea of establishing regional facilities for the drying and storing of MAPs should be carefully explored.

3. Exploration and Market Development to find New and Expand Existing Items

There are three areas of work and research that should be conducted for those existing and newly cultivated MAPs that show specific promise. They are:

- Conduct of Market Research and Intelligence – this should include gaining a clear understanding of the market demand and competition for the various items. This must also include contacting potential buyers who should have a strong interest in collaborating on a number of items. Examples are Coca-Cola for stevia and various tea companies in the US and possibly in Europe as well for Çaj Mali.
- Where appropriate and feasible, public-private partnerships should be entered into.
- If the potential exists, research and development for the cultivation should be conducted.

There are a number of existing as well as new items that must be specifically explored for the potential of new uses, new products, and new demand.

3.1 Stevia

Work should be continued to determine how best to cultivate and handle stevia in Albania. At the same time, work must be done to find appropriate sales channels to support the growth and development of cultivation of stevia. We strongly recommend that some market research be conducted to determine what is really happening in the stevia market. This should include a direct approach to some major food companies to see if they are interested and willing to support the development of cultivated stevia in Albania. If any of these companies are willing to collaborate and form a public-private partnership for the development of stevia production in Albania, these partnerships should be pursued immediately as the companies should be in a position to provide much needed technical and possibly even financial support.
3.2 Çaj Mali - *Sideritis*

Manufacturers of tea for retail are always looking for something “new and different.” Çaj Mali represents just such an opportunity. The following steps should be taken at the outset:

- Exploration of the market potential with various tea companies in the United States. This would include companies such as Celestial Seasonings, Bigelow Tea, Harney Tea, and Rishi Tea. Contacts should also be made with various supermarket companies in the United States, both large, medium, and small, such as Stop and Shop, Kroger, Safeway, Wegmans, Fairway, Mrs. Greens, and Jimbo’s, to determine their interest and willingness to sell Albanian Mountain Tea.
- Determination of the possible available quantities that could be wild harvested in Albania through undertaking a properly designed survey of the country.
- Determination of the viability for cultivation of the indigenous variety of *Sideritis*. This effort should be lead by the Department of Plant Sciences and Technologies at the Agricultural University of Tirana, Faculty of Agriculture and Environment. If their preliminary indication is that cultivation is viable, assistance should be provided to collaborate with a leading agricultural university in the United States.

3.3 Lavender

Currently, cultivation of an excellent quality of lavender exists, particularly in the northern part of Albania. There is an excellent market for high quality lavender, both as dried leaves and also for the essential oils. As well, lavender is growing in popularity and demand and is used in many parts of the world.

Market research and investigation should be conducted to determine the best way to grow this sector of the MAPs industry. Reviews should be done in the EU as well as the United States, with particular attention paid to developing a supply chain partnership or relationship with one or more major users that can support the further growth and development of this item.

3.4 Lemon Verbena

Preliminary indications are that cultivation of lemon verbena is economically viable in Albania and that the quality produced is high.

Further work should be done along the exact same lines as proposed for Çaj Mali. An initial market study should be conducted covering potential uses and buyers of Lemon Verbena, including the soap and fragrance industry, the tea industry, and the food industry.

3.5 Helichrysum

A number of processors have expressed that they are receiving excellent demand for Helichrysum, mostly as essential oil. We encourage the further development of this item as it seems to have excellent worldwide demand and the quality from Albania seems to be high. An initial market study for this item should be conducted, concentrating on the pharmaceutical and natural remedies segment of the market.
3.6 Rosemary

Rosemary remains a very popular herb with strong anti-oxidant properties. Its use has been growing worldwide and supplies remain tight from many origins. Albania and the region used to have very high quality rosemary. We recommend that the cultivation of rosemary be explored to see its viability in Albania.

3.7 Thyme

Albania has some thyme, although we are not fully sure of the quality and essential oil content. However, during the last year, the primary supplier – Morocco – has had a bad crop, leading to demand for higher quality thyme from other origins. Some further market research should be done to determine the quality of thyme available from Albania and to see if it is economically viable to expand production.

3.8 Oregano

Demand for Mediterranean Oregano is a large item, particularly in the United States. Albania has always had several varieties of oregano. We recommend that a survey be conducted in Albania to determine what is really available, both wild harvested and cultivated. We further recommend that work be done to determine the commercial viability of cultivating *Origanum vulgare* on a more widespread basis. Cost estimates should be done to see the profitability.

3.9 Chamomile

We understand that there are good qualities of chamomile available in Albania. We recommend that a survey be conducted in Albania to determine the actual availability of chamomile, paying particular attention to differences in quality or varieties. As well, the commercial production of chamomile should be explored. Once this study is completed and information is obtained, a corresponding market survey should be conducted to determine the feasibility and advisability of expanding collection and/or production of chamomile in Albania.

4. Cultivation

There is a serious role for cultivation of MAPs now and in the future. It appears that cultivating MAPs is also economically viable for many items, such as sage, lavender, laurel, oregano, and lemon verbena.

Currently, cultivation of most MAPs is not done on a scientific basis, with little real knowledge of varieties and cultivars; cropping methods; and harvesting methods. Thus, we strongly recommend that a research and development program be developed for cultivating MAPs – those inherently found in Albania as well as new items.

This research should be financed and conducted principally by the Department of Plant Sciences and Technologies in the Faculty of Agriculture and Environment at the Agricultural University of Tirana (AUT). Additionally, the US has some of the world’s finest agricultural universities, many of which have done leading research in agronomy, cultivation, cultivars, and production. The University of California – Davis, Purdue University, Cornell University’s College of
Agriculture and Life Science, and Rutgers University should all be contacted to determine their specific expertise, interest, and availability to work together with AUT on this research.

5. **Market Information and Intelligence**

There are very few, if any, good sources of market information and intelligence available to growers, harvesters, collectors, processors, and exporters, all of whom would be well served by having more and better information at their disposal.

The processors and exporters particularly need to gain a better understanding of their target markets and how to develop long-term relationships with their customers, which will lead to a more stable, long-term growth at greater profitability throughout the supply chain. There is also a very clear need to better understand trends and developments in the global marketplace for MAPs. By getting this information, better and more sound decisions can be made regarding what cultivation to invest in and what to stay away from.

Finally, we observed a continuing lack of understanding and comprehension of food safety laws and regulations in consuming countries, such as the recently passed Food Safety and Modernization Act (FSMA) in the United States, which is having a transformative effect on imports of food products. Without this knowledge, it will become much harder to meet the customer’s needs in the coming years.

We recommend the following in the near term (the next two to three years):

- A regular program of participation in various trade fairs in the United States and Europe. These trade fairs serve as a great vehicle for understanding the trends and needs in the market, seeing what the competition is doing, and meeting prospective customers.
- A mechanism for regularly conveying market information and trend information back to the Albanian MAPs sector at large.
- A training program for the entire MAPs sector regarding food safety laws and regulations as well as quality assurance systems, all of which are required in order to be successful now and in the future.

6. **Laboratory Capacity and Testing**

Processors and exporters must have specific knowledge of the qualitative and safety aspects of their products in order to meet their customer’s standards and regulatory import requirements.

Albania has a critically severe lack of adequate and high quality laboratory facilities at all levels that can properly test MAPs for both qualitative and cleanliness parameters. At the same time, there are no independent, accredited laboratories capable of performing the needed testing on MAPs in Albania. Without the ability to properly test raw materials, the processors and exporters are certain to be harmed. As well, without the ability to conduct independent, reliable testing through an outside accredited laboratory, the need and demand for certificates will go unmet, causing further problems for the entire sector.

A number of steps must be taken as soon as possible. These include:

- Development of a comprehensive program to guide companies that are interested to establish an in-house laboratory. This includes specifying the equipment needed, the
tests to be run, the personnel needed to staff the laboratory, and training in the use of the equipment.

- Development of a means for accrediting and certifying independent laboratories that will be accepted by the Albanian government, the US government, the EU, and the buyers. Based on our experience in Albania over the last fifteen years, we strongly recommend that the government not be the owners or managers of the laboratories.

7. New Technologies

In order for the industry to grow and develop to the greatest extent possible, there will be an ongoing need for the understanding and knowledge of new technologies throughout the food and agriculture industry. Much of this knowledge and information already exists elsewhere in the world.

Albania would greatly benefit from a research and development program specifically aimed at improving cultivation techniques, cultivars, harvesting techniques, and post harvest handling techniques that are specific to the MAPs of greatest interest and concern. At the same time, there are also on-going developments in testing and equipment for measuring both qualitative and sanitary characteristics of MAPs. Albania needs to create a mechanism whereby the appropriate academic, governmental, and industry parties are able to keep up to date with new developments in this area.

Finally, there have been specific concerns and issues with the sanitation of many Albanian MAPs, particularly the presence of microbiological contaminants such as salmonella in sage and other items. We firmly believe that this contamination often occurs in the growing areas and, especially with the wild collected items, is beyond the control of anybody in Albania. Thus, a program for testing must be initiated in order to gain a much better understanding of how and where the contamination is occurring. Once this has been accomplished, a plan of action can be created to best address the problem. As well, the government and industry together should consider how they could set up a sterilization facility in Albania in order to assure the importing countries, such as the US, that the problem has been fully controlled.
BACKGROUND

Medicinal and Aromatic Plants (MAP) are the most important line item in Albania’s export that is generated domestically, currently estimated to account for between US$27-28 Million annually\(^1\). The herbs and spice sector also provides income to thousands of families collecting/harvesting wild/cultivated plants, cleaning and storing them. Current estimates are that over 100,000 families are involved in the sector.\(^2\) And in Northern Albania, it is estimated that “medicinal and aromatic plant farming makes up close to 35 percent of household income.”\(^3\)

Albania is particularly rich in indigenous species of MAPs – a full fifteen percent of its 360 species are of medicinal, aromatic, or spice value. “Albania is a small but highly diverse Mediterranean country comprised of over 28 thousand square kilometers of alpine meadows, montane forests, rock outcrops, rolling grasslands, and coastal plains. As a result, the flora is very rich, especially in medicinal, aromatic and spice plants. Thirty percent of all European plant species are found here, and 27 species and 15 sub-species are endemic.”\(^4\) It is also critical to note that Albania is not a significant domestic user of MAPs, with approximately 95% of them being exported.\(^5\)

The primary buyers of Albanian MAPs are found in both Europe and the United States. Currently, the US is the country that imports most of Albania’s herbs and spices. For sage, which is the largest single export item, the US is the primary user of sage and we estimate that over 90% of their supply is of Albanian origin. Historically, the former Yugoslavia provided the highest quality and cleanliness and Albania was a lower quality and cleanliness producer of sage

---

\(^1\) Per data from the Albanian Agriculture Competitiveness Lushnja Project, June 2015 and discussions with Alban Zusi, the Deputy Minister of Agriculture, Rural Development and Water Administration

\(^2\) Per data from the Albanian Agriculture Competitiveness Lushnja Project, June 2015 and “The Medicinal and Aromatic Plants Value Chain in Albania,” USAID Albania Competitiveness Program, June 2009


\(^5\) Assessing the Medicinal and Aromatic Plants in Albania, Center for International Development at Harvard University, 2014
and other MAPs. However, in the last 20-25 years, little is collected in the former Yugoslavia and most sage (if not all) comes from Albania.

There have been many and significant efforts on the part of donor projects (USAID, EU, GIZ, and others) and the industry itself to support improvements at all levels of the MAPs value chain. From our first project work in 2000 through this assessment we have seen Albania make great strides in many areas of MAPs production. Fifteen years ago, most MAPs were cleaned and processed by hand, there was little, if any, cultivation of MAPs, and the exporters had a very scant knowledge of the needs of importers in the United States and Europe. As a result, quality was relatively low, performance was often lacking, and the prices obtained were at minimum levels. Over the last fifteen years, we have seen significant improvement in many of these areas – particularly with respect to cleaning and processing, technical and regulatory knowledge, and the understanding of the demands from the US and European markets and buyers. Today, Albania has more than a handful of well-educated, serious exporters, almost all of whom have invested significant amounts of time, effort, and money in their facilities and machinery. As well, there have been efforts to successfully cultivate both indigenous species of MAPs, such as sage, oregano, and laurel, as well as trials to introduce and cultivate new items, such as lemon verbena and stevia.

Despite this success, there are still many opportunities to expend/extend the sector by tapping into export demand opportunities in international markets. Currently, most of the herbs and spices exported are only partially processed, losing the possibility for considerable value added. Key value chain actors from the private sector such as organizers of collection and purchase points, small integrated processors/exporters, and large integrated export companies require expertise to understand what investments and other next steps they should take to develop their value chain as business relationships. Additionally, public sector actors, such as the Technology Transfer Centre in Shkoder, need help in identifying their role in supporting development of MAP value chains in Albania, so that they can be active stakeholders in actions that will lead to investments in processed, value added products.
METHODOLOGY AND SECTOR ANALYSIS

Historically, MAPs have been one of the most important export sectors in Albania and the most important agricultural export sector. And, clearly Sage has always been the primary and most important item, representing at least half of the MAPs exports.

Unfortunately, there are no reliable or accurate statistics of collection, cultivation, harvesting, production/processing, or exports of MAPs, whether as a category as a whole or for individual items such as sage. As well, the EU does not capture sage as a separate item (the US does and import data is available) and lavender does not have its own code as a leaf (though there is a separate harmonized code for the essential oil of lavender or lavendin). This makes analysis of the true data very difficult. However, with some available statistics, knowledge of the supply chain and how it is working, and historical experience and information, we are able to make some very informed judgments as to the real situation.

SAGE

We continue to believe that Sage (Salvia officinalis) remains the single most significant MAPs product and export from Albania. There is evidence that the cultivation and export of lavender is growing and becoming as important or perhaps even more important than sage. However, the evidence we have seen is all anecdotal and based on exporters “guesses.” We maintain that sage represents somewhere in the range of half of Albanian exports. In addition, we continue to believe that much of the sage exported from Albania to Turkey is then further processed there and shipped to the US, mostly as Albanian Sage. The primary reason for this is the difference in varieties found in Albania and Turkey. Sage from Albania is Salvia officinalis, whereas sage from Turkey is primarily Salvia triloba. The US market has a clear and strong preference for the Albanian officinalis variety, whereas Europe has a clear preference for the triloba variety from Turkey and other sources.

There used to be a large quantity of sage collected in the former Yugoslavia – this stands to reason as most of the sage grows in the Dalmatian mountains, one side of which is in the former Yugoslavia and the other is in Albania. It is really the same sage from each side of the mountain. Unfortunately, due to the wars, conflicts, and other difficulties in much of the former Yugoslavia, there is very little sage collected there anymore. Furthermore, much of what is collected – primarily in Montenegro – is now purchased by Albanian traders and processors and brought to Albania, where it is usually sold as Albanian Sage.
Imports of sage into the United States have risen steadily over the years. However, the total change in the last 15 years has been only 22%, which represents slightly more than the growth in the population during that time (approximately 15%). Thus the demand and consumption of sage grows slightly more than the per capita growth in population. While this is not a tremendous growth, the reality is that the consumption of sage is steady and will continue to increase for the foreseeable future, even in the absence of any significant change in food trends, development of new products or uses for sage, or specific promotion of its use in food recipes and products.

As well, over the last five years, not only has the quantity of sage imported into the US increased steadily, but also so has the price.
During this five year time period, the average quantity has increased by 23% and the average price has increased by almost 10%. Particularly for the quantity, if this trend continues, then this decade will show a much sharper increase in usage and demand than the previous one. This should continue to be monitored and the information should be shared with the industry.

Sage cultivation has increased significantly in recent years. This will be reviewed and discussed in a later section of our report.

OTHER MEDICINAL AND AROMATIC PLANTS OF INTEREST

There are a number of other medicinal and aromatic plants that continue to be exported from Albania in significant quantity. These include lavender (*lavandula*), oregano (*origanum*), thyme (*thymus vulgaris*), juniper, helichrysum, malva sylvestris (known either a common mallow or marsh-mallow), laurel leaves, calendula (marigold), mountain tea (*sideritis*), and wild apple. With the possible exception of lavender, none of the others is of a quantity that is anywhere near that of sage. However, taken together, these items present an important part of the MAPs value chain and exports. As well, there are several “new” items, either being cultivated on a reasonable scale or being tested in trials, all of which are of great interest. These include lemon verbena and stevia.

In the case of lavender, there has been a significant increase in the cultivation of lavender. Unfortunately, we observed that some of the varieties planted are not of the highest value or quality. However, there are some very good qualities being grown and, if properly handled, there should be a strong demand for them, whether for use as flowers or oil, and at a good price.

There continues to be a reasonable essential oil production from MAPs in Albania. While Xherdo/AlbKalustyan appears to continue to be the single largest producer of essential oils, we noted that a number of other firms are doing some essential oils as part of their MAPs production process. As well, we were introduced to a relatively new and small producer just south of Tirana, who is producing small, high quality oils, which he is exporting to the United States – primarily to smaller customers on the West Coast.
CULTIVATION OF MAPs

We were extremely surprised and pleased to see the extent to which cultivation of MAPs has increased, particularly in the last five years. It seems that there has been a dramatic shift in attitudes and practices with respect to cultivation. Ten to fifteen years ago, we observed many players in the MAPs sector who believed that cultivation was never going to be feasible – either for economic, technical, or practical reasons. The reality is that with the migration of labor away from the rural, poor areas, along with the loss of interest and knowledge for collection certain medicinal plants, as well as for quality assurance reasons, cultivation is likely to be a mainstay of the future for this sector.

We observed the cultivation of many items, some which are indigenous to Albania and some that are being brought in for either commercial or experimental production. The primary items being cultivated appear to be sage and lavender. We believe there is also some cultivation of oregano, primarily in the south. However, we did not travel to those areas during this consultancy. We also saw trial and experimental fields that included laurel, lemon verbena, and stevia.

As well, a business has been established in the Koplik-Shkoder area – Salvia Nord – where Agim Rama is successfully cultivating sage and other MAPs on a commercial basis.

Unfortunately, various business practices, governmental actions, and policies have severely hurt successful cultivation of MAPs. First and foremost, many of those who have been planting MAPs have little, if any, knowledge of quality, seedlings, and proper seed selection. As well, the government allowed the import of seeds (especially for sage), most of which were of an inferior quality. Finally, the government has subsidized and therefore, artificially encouraged the cultivation of MAPs, which has served to disrupt and distort the free market.

When seeds and seedlings of MAPs that have been collected or produced from Albanian material – particularly for sage from the mountains – occurs, the results appear to be excellent,
both in terms of quality and yield. However, many of the cultivators used seeds that were imported from Holland and elsewhere, which resulted in an extremely low oil (we believe under 1.5% Steam Volatile Oil or SVO). Most specifications from the users of sage require a minimum of 2.0% SVO, which can easily be obtained from wild collected sage or sage that is cultivated from Albanian material. The presence of this low quality has been a huge drag on the market as well having a potential harmful effect on the reputation of Albania as a high quality sage producer.

In addition, the subsidies granted by the government have encouraged much more cultivation, especially of sage, than the market warranted. Especially with the poor quality cultivated sage that was cultivated, this has served to create a larger than normal stock and a significant drop in local prices, causing harm and losses in the market.

It is our understanding that the government no longer allows the import of seeds and has also discontinued the subsidizing of cultivations.

We also found a significant lack of scientific and agronomic information, data, and knowledge about the cultivation of MAPs. We were very pleased to meet with experts in this area from the university community. We believe that they have significant knowledge of Albanian MAPs and also about cultivation and harvesting. However, as no extension system exists for agriculture of this sort in Albania, the transmission of this knowledge is severely lacking.

**WILD COLLECTION OF MAPs**

Wild collection of MAPs continues to be of significant importance to this sector and we believe this will continue for many decades. Even though rural labor continues to migrate away from this activity, given the importance of the sector to Albanian agriculture and exports along with the estimate that over 100,000 families derive significant income from MAPs, there is every reason to believe that the market forces will prevail and MAPs will continue to be collected in the wild.

We remain very concerned about the lack of organization in this sector at the rural, collector levels. This continues to severely impede improvements in quality control, especially with respect to post-harvest handling. Additionally, the potential for adverse environmental impact remains very real.

**POST HARVEST HANDLING AND PROCESSING OF MAPs**
We have observed great improvement in the post harvest handling and processing of all MAPs over the last ten to fifteen years, both in terms of qualitative improvements and increased capacity. When we first worked in this sector in the early 2000’s, few processors and exporters had machinery to clean MAPs (especially sage) and much of the equipment and technology was either primitive or minimal. Today, we observe that there are many more processors who have invested significant amounts of time, energy, and money to install state of the art cleaning machinery and systems. As well, a number of them also have laboratories. In some cases, the kind of and amount of testing is relatively minimal, but this still represents a huge advance in the last decade.

At the same time, we did not observe meaningful increases in the quality being received from the collectors. Thus, the incoming raw material is still relatively poor and often results in yield losses of forty to fifty percent. The fact remains that this represents a huge lost opportunity for improvement on many fronts – from generating higher incomes at the collector level in poor, rural areas to improved quality of final product as it is well known that for MAPs and especially for large, leafy items such as sage, better incoming raw materials improve the potential quality of final products. We also maintain that starting with a cleaner raw material for which a higher price is paid can result in lower end product costs for the processor and exporter.

Many, if not most, of the processors are also exporters in their own name. While some of them have long histories in this sector, we were pleased to meet a number of newer players in the market. We see very few exporters who are not processing their own material for export. This is a change from the past, where there were more exporters who served only as traders and who tended to exploit those in the value chain before them. As well, there has been a very real and meaningful growth in knowledge and understanding of quality, market demands, etc.

However, while there has been tremendous improvement in this sector, we still observed a significant lack of market understanding, information, and market intelligence. As well, there remains only a minimal true understanding and knowledge of the legal and regulatory requirements for importing MAPs in both the US and the EU. With the passing and implementation of the Food Safety and Modernization Act (FSMA) in the US a few years ago, these requirements have become even more important. They are still being fully implemented and the pressure put on the exporters is likely to increase even further.

**ORGANIC AND BIO CERTIFICATION**

We were very pleased to observe that more and more processors and exporters in Albania have obtained either EU Bio Certification or US NOP organic certification or both for some or all of their products.

While we maintain that this is not a necessity for the growth and development of the sector, it is, however, a very meaningful part of today’s buyer’s demands. Thus, we encourage the continued expansion of these certifications as they are bound to help sales in this sector.

**GOVERNMENTAL AND INSTITUTIONAL INVOLVEMENT**

During our consultancy, we had occasion to meet with a number of institutions – governmental, educational, and projects – all of whom have a very real and serious interest in the MAPs sector. These included Deputy Minister of the Ministry of Agriculture, Rural Development and Water
Administration, the Faculty of Agriculture and Environment at the Agricultural University of Tirana, the Albanian Agricultural Competitiveness Lushnja Project, and the AgroCapital Project.

During our visit with Deputy Minister Zusi at the MOA, we were impressed by his interest in this sector. He acknowledged that in the past, there had been little, if any, real support from the government to the MAPs sector. He expressed the concern that there is a real lack of laboratory services to support the needs of the industry.

The Deputy Minister spoke about a review of the sector that had been done by a Harvard University’s Center for International Development. This review was prepared by a team of Harvard students (we believe about a year ago). While it contains a reasonable overall evaluation of the industry, it contains many generalizations and is not truly reflective of how the industry operates in the real world. Thus, the Deputy Minister also saw a need for a two to three year concrete strategic plan for assistance to the MAPs industry and requested the support and help of the project to create a meaningful one. He believes there is economic support available through EU monies, as well as political and governmental support for the sector, given its overall importance to the agricultural and export economy of Albania.

We were also very pleased to learn of the great interest and knowledge base about MAPs – both in general and specifically in Albania – from the members of the faculty at the Agricultural University of Tirana. We met with one of the senior faculty at the University who had served previously in the MOA. We later met Dr. Alban Ibrailiu, who is a real expert in this area and has a great knowledge and understand of MAPs. There is an enormous potential for collaboration and support from these experts, something that has not been done enough in the past.

Finally, we believe there is a strong on-going interest, understanding, and support for the needs of the MAPs sector from USAID and their various projects. The potential for long-term improvements and gains given their help and support should never be underestimated.

MEETINGS AND VISITS

During our time in Albania, we traveled throughout the country and met with numerous individuals and companies having a direct interest in the MAPs sector. Our meetings included the following companies, projects, and institutions:

- Agricultural Technology Transfer Center – Shkoder
- Agricultural University of Tirana, Faculty of Agriculture and Environment, Department of Plant Sciences and Technologies
- AgroCapital Project
- Albanian Agricultural Competitiveness Lushnja Project
- Albanian Trading Company
- AlbFruit
- AlbKalustyan
- Bilisht collector/processor
- BioBes
- Cibiku
- Cultivator of lavender and other herbs near Koplik
- Elba Shehu
- Erba
• Filipi Company
• Gjedra
• Herba Fructus Natyrore
• Ministry of Agriculture, Rural Development and Water Administration
• Mucaj Herbs
• Natural Alba
• Neranxi
• Relikaj
• Salvia Nord
• Zagora
CONCLUSIONS AND RECOMMENDATIONS

The Medicinal and Aromatic Plants (MAPs) Sector has played an important role in Albanian agriculture and exports for many, many decades. This continues to be true today, where in Northern Albania alone, it is estimated that “medicinal and aromatic plant farming makes up close to 35 percent of household income.” Furthermore, it is believed that over 100,000 families derive a significant portion of their household income from MAPs.

Much progress has been made over the last fifteen years. Today, there are more than half a dozen companies that have serious processing capability with equipment, technical expertise, and good internal knowledge about the merchandise, the market demand, and how to meet that demand. There is a level and knowledge of cultivation of MAPs today that did not exist ten years ago and there is a reasonable experience in doing so on a commercial basis.

With all the progress that has been made, there is still much to be done to improve the quality, cleanliness, varieties, and incomes derived from this sector. We have separated our recommendations into six basic areas.

- Legislation and Regulation
- Improvements in Wild Collection and Handling
- Research and Development of Cultivation
- Exploration and Market development to find New Items and Expand Existing Items
- Market Information and Intelligence
- Laboratory Capacity and Testing
- New Technologies

1. Legislation and Regulation

The role of government in supporting the further growth and development of the MAPs sector should not be underestimated. Additionally, the need for government to protect the best interests of the sector for the long-term through legislative and regulatory actions must be recognized.

The Albanian government can and should take certain specific actions to address very real needs of the industry and to protect the inherently high quality of the MAPs that are indigenous to Albania.

We have not attempted to address certain concerns and inequities in the tax structure that governs trade in the industry, nor have we looked at the structure for harvesting and collecting wild MAPs, which clearly affect both the cost structure for the sector as well as environmental sustainability issues. These can and should be reviewed at another time.

Based on our discussions with numerous parties in the private sector, in academia, and in the government, we have highlighted three areas of immediate concern, which we believe should be addressed as soon as possible through the legislative and regulatory process.

1.1 Importation of Seeds and Seedlings
We conclude that the government made a serious mistake when they allowed the importation of foreign sage seeds. Most other countries strictly regulate such actions in order to protect the quality and purity of their domestic crops and varieties. For instance, in the United States, the Plant Protection and Quarantine (PPQ) section of the Department of Agriculture’s Animal and Plant Health Inspection Service regulates the importation of plants and plant products under the authority of the Plant Protection Act. This is done “to safeguard U.S. agriculture and natural resources from the risks associated with the entry, establishment, or spread of animal and plant pests and noxious weeds.”¹⁶ By doing so, the United States is able to protect the quality and purity of its plants.

Albanian Sage, as well as a number of other Albanian MAPs are of a very high quality. Often, the variety and quality of those MAPs found naturally in Albania are superior to those from other origins. In order to preserve and protect this status, it is critical that the Albanian government strictly controls the import of seeds or seedlings for any of these items.

The experience of recent years, where sage seeds from Holland and other countries of inferior quality were permitted to be imported, is a case in point. These seeds produced sage of very poor quality, which has served as a drag on the market and, perhaps more importantly, has the potential to harm Albania’s reputation as the supplier of the highest quality _salvia officinalis_ in the world. If this reputation is harmed, it will require a lot of hard work, effort, and expenditures to rebuild Albania’s good name.

We strongly recommend that the importation of all seeds and seedlings for indigenous MAPs and other indigenous Albanian natural resources be **strictly prohibited** as a matter of law.

As well, there is a move going on to look at new and different items for cultivation and production in Albania. We wholeheartedly support such a move. However, there should be strict regulation for the import of such items to make sure they are of high quality and also to be sure that no foreign pests or substances are introduced in Albania, which could harm many crops throughout the country. Here, too, the US Department of Agriculture’s Animal and Plant Health Inspection Service can serve as a model for Albania to follow.

### 1.2 Government Subsidies for Cultivation

It is our understanding that the Albanian government provided subsidies a few years ago for the cultivation of MAPs. This seemed to spur a lot of interest and activity in cultivation. However, it has also caused dislocations and disruption in the market. We maintain that there is no inherent reason to encourage the cultivation of MAPs in Albania. Most MAPs are available in more than ample quantity in the wild. As well, many Albanian rural, poor families rely on the collection of MAPs in the wild for a significant (if not total) portion of their family income. Subsidizing cultivation of MAPs – or any other crop, for that matter – does not serve the overall interest of the industry or agriculture. We also understand that the subsidies have been discontinued. However, this was only done after there was harm to the industry. By subsidizing cultivation and not in any way controlling the importation of poor quality seeds, we have seen a

¹⁶ US Department of Agriculture website - http://www.aphis.usda.gov/wps/portal/aphis/ourfocus/planthealth?1dmy&url=wc%3apath%3a%2FAPHIS_Content_Library%2FSA_Our_Focus%2FSA_Plant_Health%2FSA_Import
significant drop in the local price of sage – from the mid 150’s or higher in Lek/Kilo down to something below 100 Lek/Kilo. This has definitely hurt the market, hurt overall incomes, and is likely to have an effect on collection of the upcoming crop.

Just as subsidies for cultivation have caused dislocations in the market, so, too, would subsidies for the wild collection of MAPs. We strongly believe that it is best for the markets to find their “natural” equilibrium based on supply and demand factors.

Thus, we recommend that subsidies for cultivating or taxes for wild harvesting should not be instituted unless there is a clear and absolute policy or environmental protection reason to regulate the collection and/or market using these tools.

1.3 Export Standards

We believe that Albania needs to take all possible steps to build its reputation for supplying the highest quality MAPs. Many of the medicinal and aromatic plants found in Albania are of excellent quality. However, over the years, we also know that there have been cases of adulteration, mixing of poor qualities, and cultivation of inferior seeds.

In order to protect the Albanian name and to allow for Albania’s reputation to flourish, establishing realistic and enforceable export standards should be considered. We believe this is especially true for sage. To begin with a minimum volatile oil standard should be established for sage exports. Ideally, this standard would be set a 2.0% Steam Volatile Oil (SVO). One could make a case for establishing the standard at 1.9% or even perhaps 1.8%, but it should be no lower than that.

At the same time, it will be necessary to make sure there are proper laboratory and regulatory standards set for the sampling, testing, and certification of each export. Work should be done to get such a scheme in place. Once the scheme is established, the government should establish the necessary laws and regulations for proper enforcement of the standards. We urge that this be accomplished through a program for certification of private laboratories rather than through a government owned or sponsored laboratory.

2. Improvements in Wild Collection and Handling

While progress has been made in this area, there is a continual need for even more advancement and improvement. This can best be accomplished through a combination of providing basic, simple drying equipment, along with an education program.

2.1 Proper drying techniques, equipment, and facilities

Contamination of product remains a significant problem for Albanian MAPs. It is well known throughout the industry that the end product quality is directly dependent on the raw material quality. Eliminating or reducing problems as close to the source as possible allows for the processors and exporters to achieve a higher quality with a lower cost structure. This starts with the introduction of drying equipment and the need to establish better drying facilities.

We were delighted to see drying racks at the training/demonstration site in the north. We believe that the introduction of drying racks like those being used at the site
throughout the country is the most important, single step that would significantly improve the quality of all Albanian MAPs. Thus, we recommend that the Albanian government and donors work together to produce as many racks as possible in Albania and distribute them to the collectors throughout the country. We do not think they are expensive to produce and we also believe that a program could be established whereby the collectors should pay a nominal amount for their racks, along with the requirement that they attend corresponding training programs.

2.2 Proper collection and handling and preservation of species

As important as proper drying is to the industry, so is proper collection and handling. At the same time that drying racks and drying techniques are being worked on, a program must be established and implemented to teach the collectors how to properly identify the plants they are picking, how to handle them after picking, how to properly dry them, and how to properly store them. In the case of cultivated MAPs, the cultivators must be trained in proper harvesting techniques, as well as the other issues with drying and storage.

Work has been done in this area over the years through various projects and by various processors as well. This must be continued if the industry is to continue to improve. Providing drying racks is only one step – albeit a very important one – for the improvement of the industry to continue. Knowing how to properly identify and harvest MAPs is critical for both high quality production as well as proper environmental protection, both of the plants and also of the forests.

Therefore, we recommend a government and donor-sponsored program to train harvesters and collectors throughout the rural areas of the country in proper harvesting and handling techniques.

2.3 Post harvest handling

We know from our experience that a large number of problems with contamination and poor quality occur during the post harvest handling MAPs. Many rural harvesters and collectors dry the goods on the ground, where they are subject to numerous possible
contaminations. Providing racks will be a huge help in eliminating many of the issues. That is why the training program is critical for achieving better quality and cleanliness.

Finally, there is a huge lack of facilities for drying and particularly for storing herbs. Solving this issue is likely to prove more difficult. However, the idea of establishing regional facilities for the drying and storing of MAPs should be carefully explored.

3. Exploration and Market Development to find New and Expand Existing Items

We were very pleased to learn that a number of companies and projects have supported the expansion of collection and cultivation of a different MAPs based on market demand. We were also excited to see new companies entering the field, including some doing organic cultivation and one doing extraction of oils. These efforts should be fully assisted and supported, as without growth and change, the industry is likely to stagnate.

Generally speaking, there are three areas of work and research that should be conducted for those MAPs that show specific promise. They are:

- Conduct of Market Research and Intelligence – this should include gaining a clear understanding of the market demand and competition for the various items. This must also include contacting potential buyers who should have a strong interest in collaborating on a number of items. Examples are Coca-Cola for stevia and various tea companies in the US and possibly in Europe as well for Çaj Mali.
- Where appropriate and feasible, public-private partnerships should be entered into.
- If the potential exists, research and development for the cultivation should be conducted.

We believe there are a number of existing as well as new items that must be specifically explored for the potential of new uses, new products, and new demand.

3.1 Stevia

There has been work done in Albania to bring in seedlings or seeds of a high quality stevia. Preliminary work at the Agricultural Technology Transfer Center in Shkoder shows that stevia production in Albania is likely to be viable.

Work should be continued to determine how best to cultivate and handle stevia in Albania. At the same time, work must be done to find appropriate sales channels to support the growth and development of cultivation of stevia. We strongly recommend
that some market research be conducted to determine what is really happening in the stevia market. This should include a direct approach to some major food companies to see if they are interested and willing to support the development of cultivated stevia in Albania. Specific inquiries should be conducted with Coca-Cola (where we have high level contacts and may be of assistance) and other soft drink and RTD (ready to drink) iced tea bottlers, as well as Mars Candy (where we also have high level contacts and may be of assistance). If any of these companies are willing to collaborate and form a public-private partnership for the development of stevia production in Albania, these partnerships should be pursued immediately as the companies should be in a position to provide much needed technical and possibly even financial support.

3.2 Çaj Mali - Sideritis

For many years, Albania has had a very pleasant Mountain Tea made from the unique variety of *Sideritis* commonly found in the Albanian mountains and villages. The dried leaves are normally sold in bunches on the side of the road or in local stores. There has also been a limited production of Mountain Tea in tea bags, mostly in Albania, and loose tea sold outside of Albania (see, for example, [http://www.lemon-poppy.com](http://www.lemon-poppy.com)).

Manufacturers of tea for retail are always looking for something “new and different.” We believe that Çaj Mali represents just such an opportunity. However, there is a Catch 22 for the development of this item. Buyers, particularly given the size of the US market – want to be assured that if the new product takes off, there will be adequate supplies. Collectors, processors, and sellers in Albania won’t harvest more or develop a cultivated variety unless they have good reason to believe that they will be able to sell the additional material. This is exactly where government and project support could prove invaluable.

We strongly recommend a number of steps to be taken at the outset. These include:

- Exploration of the market potential with various tea companies in the United States. This would include companies such as Celestial Seasonings, Bigelow Tea, Harney Tea, and Rishi Tea. It should also include contacts with various supermarket companies in the United States, both large, medium, and small, such as Stop and Shop, Kroger, Safeway, Wegmans, Fairway, Mrs. Greens, and Jimbo’s, to determine their interest and willingness to sell Albanian Mountain Tea. We have contacts at most of these companies (and more) to do some preliminary market research and development work.
- Determination of the possible available quantities that could be wild harvested in Albania. This would require undertaking a properly designed survey of the country.
- Determination of the viability for cultivation of the indigenous variety of *Sideritis*. This effort should be lead by the Department of Plant Sciences and Technologies at the Agricultural University of Tirana, Faculty of Agriculture and Environment. If their preliminary indication is that cultivation is viable, we strongly recommend that
assistance be provided to collaborate with a leading agricultural university in the United States (see recommendations under 4. Cultivation below).

3.3 Lavender

Currently, cultivation of an excellent quality of lavender exists, particularly in the northern part of Albania. There is an excellent market for high quality lavender, both as dried leaves and also for the essential oils. As well, lavender is growing in popularity and demand and is used in many parts of the world.

Market research and investigation should be conducted to determine the best way to grow this sector of the MAPs industry. Reviews should be done in the EU as well as the United States, with particular attention paid to developing a supply chain partnership or relationship with one or more major users that can support the further growth and development of this item. As quality is paramount with lavender, the partner should also be able to provide much needed technical support.

3.4 Lemon Verbena

At least one firm (BioBes) has brought in high quality lemon verbena for cultivation. Their reason for doing this was based on some preliminary market research, which showed that there would be a good demand for the item if it could be cultivated successfully. Preliminary indications are that cultivation of lemon verbena is economically viable in Albania and that the quality produced is high.

Further work should be done along the exact same lines as proposed for Çaj Mali. Lemon Verbena is currently used in many soaps and cosmetics (see http://usa.loccitane.com as an example). It also has applications for teas (see http://www.englishtostore.com/tea-bags/harney-sons-lemon-verbena-tea.html as an example) and for seasoning foods.
We recommend an initial market study be done covering potential uses and buyers of Lemon Verbena, including the soap and fragrance industry, the tea industry, and the food industry. As with Çaj Mali, the same Catch 22 potential exists. However, since we already know that cultivation of high quality lemon verbena seems possible, wider scale cultivation to meet potential market demand should be feasible, particularly if there is specific interest and support from potential buyers.

3.5 Helichrysum

A number of processors have expressed that they are receiving excellent demand for Helichrysum. As far as we can tell, almost all of the use is as essential oil.

We encourage the further development of this item as it seems to have excellent worldwide demand and the quality from Albania seems to be high. An initial market study for this item should be conducted, concentrating on the pharmaceutical and natural remedies segment of the market.

3.6 Rosemary

Rosemary remains a very popular herb with strong anti-oxidant properties. Its use has been growing worldwide and supplies remain tight from many origins. Albania and the region used to have very high quality rosemary. However, it appears that the growth and collection of rosemary has virtually disappeared over time.

We recommend that the cultivation of rosemary be explored to see its viability in Albania. If it is economically viable, then there should be a strong market demand for this item.

3.7 Thyme

Albania has some thyme, although we are not fully sure of the quality and essential oil content. However, during the last year, the primary supplier – Morocco – has had a bad crop, leading to demand for higher quality thyme from other origins. Some further market research should be done to determine the quality of thyme available from Albania and to see if it is economically viable to expand production.

3.8 Oregano

Demand for Mediterranean Oregano is a large item, particularly in the United States. In the last two years, the United States has imported over 4,500 Metric Tons of Oregano from Turkey each year. Prices have been strong and demand remains steady.

Albania has always had several varieties of oregano. The US prefers Origanum vulgaris and we believe this variety has been successfully cultivated in Albania over the years. As well, the wild varieties, much of which is referred to as “white oregano” are acceptable in the marketplace.

We recommend that a survey be conducted in Albania to determine what is really available, both wild harvested and cultivated. We further recommend that work be done to determine the commercial viability of cultivating Origanum vulgaris on a more widespread basis. Cost estimates should be done to see the profitability.
3.9 Chamomile

We understand that there are good qualities of chamomile available in Albania. This MAP is used extensively in herbal teas throughout the world. As such, there is always a good demand for high quality chamomile. However, most of the information and knowledge about chamomile in Albania is anecdotal.

Therefore, we recommend that a survey be conducted in Albania to determine the actual availability of chamomile, paying particular attention to differences in quality or varieties. As well, the commercial production of chamomile should be explored. Once this study is completed and information is obtained, a corresponding market survey should be conducted to determine the feasibility and advisability of expanding collection and/or production of chamomile in Albania.

4. Cultivation

Based on what we have observed, we believe that there is a serious role for cultivation of MAPs now and in the future. What also seems to have changed in recent years is the ability of cultivators to buy or lease reasonably sized parcels of land for cultivation. As well, the continued migration of labor away from rural, poor areas either to the cities or to other countries means that cultivating is likely to have advantages over wild collection for some items in the coming years.

During our discussions with cultivators as well as processors in different regions of the country, it seems that cultivating MAPs is also economically viable for many items, such as sage, lavender, laurel, oregano, and lemon verbena.

We further observed that currently, cultivation of most MAPs is not done on a scientific basis, with little real knowledge of:

- Varieties and cultivars
- Cropping methods
- Harvesting methods

Thus, we strongly recommend that a research and development program be developed for cultivating MAPs – those inherently found in Albania as well as new items.
We further recommend that this research should be financed and conducted principally by the Department of Plant Sciences and Technologies in the Faculty of Agriculture and Environment at the Agricultural University of Tirana (AUT). Additionally, the US has some of the world’s finest agricultural universities, many of which have done leading research in agronomy, cultivation, cultivars, and production. The University of California – Davis, Purdue University, Cornell University’s College of Agriculture and Life Science, and Rutgers University should all be contacted to determine their specific expertise, interest, and availability to work together with AUT on this research.

5. Market Information and Intelligence

The Albanian processors and exporters have made great progress in the last fifteen years in terms of market understanding, market information, and the knowledge of how to export. At the same time, there are still very few, if any, good sources of market information and intelligence available to growers, harvesters, collectors, processors, and exporters, all of whom would be well served by having more and better information at their disposal.

The processors and exporters particularly need to gain a better understanding of their target markets and how to develop long-term relationships with their customers. This will lead to a more stable, long-term growth at greater profitability throughout the supply chain. If the processors and exporters can better understand the specific quality needs and demands of their buyers, then their investments in equipment and laboratories will be tailored to the needs of the marketplace. As well, their knowledge of what they truly require from their domestic suppliers will put appropriate pressure on the internal market to create a more stable, more profitable, long-term environment.

There is also a very clear need to better understand trends and developments in the global marketplace for MAPs. By getting this information, better and more sound decisions can be made regarding what cultivation to invest in and what to stay away from.

We also observed a continuing lack of understanding and comprehension of food safety laws and regulations in consuming countries. A good example of this is the lack of knowledge about the recently passed Food Safety and Modernization Act (FSMA) in the United States, which is having a transformative effect on imports of food products. Without this knowledge, it will become much harder to meet the customer’s needs in the coming years.

Therefore, we recommend the following in the near term (the next two to three years):

- A regular program of participation in various trade fairs in the United States and Europe. These trade fairs serve as a great vehicle for understanding the trends and needs in the market, seeing what the competition is doing, and meeting prospective customers.
- A mechanism for regularly conveying market information and trend information back to the Albanian MAPs sector at large.
- A training program for the entire MAPs sector regarding food safety laws and regulations as well as quality assurance systems, all of which are required in order to be successful now and in the future.

6. Laboratory Capacity and Testing

It is much more important than ever before that processors and exporters have specific knowledge of the qualitative and safety aspects of their products. There are currently no
definitive export standards for MAPs from Albania. However, the buyer’s standards continue to get more and more stringent. As well, regulations governing the imports of MAPs and other food products continue to get stricter in the United States and elsewhere. With the passage of the Food Safety and Modernization Act (FSMA) in the United States, buyers are already placing greater demands for testing, certification, and analysis on their foreign suppliers.

Albania has a critically severe lack of adequate and high quality laboratory facilities that can properly test MAPs for both qualitative and cleanliness parameters. This is true at all levels – throughout the industry, whether at the harvester or grower level, at the processing level, and at the export level. At the same time, there are no independent, accredited laboratories capable of performing the needed testing on MAPs in Albania. Without the ability to properly test raw materials, the processors and exporters are certain to be harmed. As well, without the ability to conduct independent, reliable testing through an outside accredited laboratory, the need and demand for certificates will go unmet, causing further problems for the entire sector.

We believe that a number of steps must be taken as soon as possible. These include:

- Development of a comprehensive program to guide companies that are interested to establish an in-house laboratory. This includes specifying the equipment needed, the tests to be run, the personnel needed to staff the laboratory, and training in the use of the equipment.
- Development of a means for accrediting and certifying independent laboratories that will be accepted by the Albanian government, the US government, the EU, and the buyers. Based on our experience in Albania over the last fifteen years, we strongly recommend that the government not be the owners or managers of the laboratories.

7. New Technologies

In order for the industry to grow and develop to the greatest extent possible, there will be an ongoing need for the understanding and knowledge of new technologies throughout the food and agriculture industry. Much of this knowledge and information already exists elsewhere in the world – whether in the United States where huge research and developments are on-going or in other producing countries such as Turkey or India, where there has been a lot of work done to improve the growing, harvesting, processing, and handling of all MAPs and spices.

Albania can and must benefit from improvements in the harvesting and post harvest handling of MAPs. At the same time, Albania would greatly benefit from a research and development program specifically aimed at improving cultivation techniques, cultivars, harvesting techniques, and post harvest handling techniques that are specific to the MAPs of greatest interest and
concern. Most of these issues have been cited earlier in this report with corresponding recommendations.

At the same time, there are also on-going developments in testing and equipment for measuring both qualitative and sanitary characteristics of MAPs. Albania needs to create a mechanism whereby the appropriate academic, governmental, and industry parties are able to keep up to date with new developments in this area.

Finally, there have been specific concerns and issues with the sanitation of many Albanian MAPs. Of particular concern is the presence of microbiological contaminants such as salmonella in sage and other items. We firmly believe that this contamination often occurs in the growing areas and, especially with the wild collected items, is beyond the control of anybody in Albania. Thus, a program for testing must be initiated in order to gain a much better understanding of how and where the contamination is occurring. Once this has been accomplished, a plan of action can be created to best address the problem.

If we are correct that it is most likely that the contamination is occurring at the source of the raw material and that it is beyond control at that point, then the advent of a full testing and control program should be designed and implemented. As well, the government and industry together should consider how they could set up a sterilization facility in Albania in order to assure the importing countries, such as the US, that the problem has been fully controlled.