



**Analysis on the needs and barriers for
Mountain Tea (*Sideritis raeseri* Boiss. and Heldr.) plantations
in Prespa area of North Macedonia**

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Building a Greener Economic Environment

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Table of Content

Table of Content	4
1. Introduction	5
2. Methodology	6
3. Actors in the Mountain Tea market in the WPA of North Macedonia	8
3.1. Companies and individuals that are present in the WPA of North Macedonia.	8
3.2. Companies that are not present in the WPA of North Macedonia	9
4. Current market trends of Mountain Tea with focus on the WPA of North Macedonia	11
4.1. Wholesale and Exports	11
4.2. Fresh Produce Market	12
4.3. Retail Market	15
4.4. Online market	19
5. Harvesting and Production of Mountain Tea in the WPA in North Macedonia	20
6. Costs related to Mountain Tea cultivation	21
6.1. Mountain Tea Cultivation Procedure	21
6.1.1. Seed Acquisition	21
6.1.2. Production of Planting Material	21
6.1.3. Selection of Planting Location	22
6.1.4. Tillage	23
6.1.5. Planting the Field	23
6.1.6. Weed and Pest Management	23
6.1.7. Picking of the Tea	23
6.1.8. Drying	23
6.1.9. Plantation Management	24
6.2. Mountain Tea Cultivation Timeframe	24
6.3. Mountain Tea Cultivation Costs	24
7. Farmers' Needs and Barriers to Mountain Tea Cultivation	26
7.1. Cropping	26
7.2. Market	26
8. State Support for Cropping MAPs	27
9. Conclusions and Recommendations	29
10. References	31
List of Annexes	33

1. Introduction

Sideritis raeseri Boiss. and Heldr. or the commonly known Mountain Tea is an important plant in the Wider Prespa Area (WPA¹). It is important for its economical aspect of being a plant for personal consumption as a home made tea of preference by many people in North Macedonia and Albania. Yet it is being endangered, mainly due to overexploitation and uncontrolled collection for which reason a Conservation Action Plan was prepared in 2012 (Bojadzi, et al., 2012). *Sideritis raeseri* Boiss. and Heldr. is in the Red List of floral species in Albania, it is a conservation target for Galicica National Park as an Important Plant Area, and is listed in the List of protected wild species of Republic of North Macedonia (MOEPP, 2011).

According to the Mountain Tea Conservation Action Plan, on the Macedonian side of the Prespa Park, in the areas where collection is allowed, the possible annual quantity that will maintain sustainable use of Mountain Tea - *Sideritis raeseri* Boiss. and Heldr. is 807,4 kg (Bojadzi, et al., 2012, p.29). Yet, there is an estimation that 7500 kg of *Sideritis raeseri* Boiss. and Heldr. are being collected annually, and primarily by people that collect it for personal consumption (Bojadzi, et al., 2012, p.41).

According to the Mountain Tea Conservation Action Plan (Bojadzi, et al., 2012, p.55-56), one of the methods to deal with overharvesting and inappropriate harvesting is through 'Objective 1.6 On-farm conservation', where the activities: 'Promotion of cultivation of mountain tea' and 'Conduct pilot projects for cultivation' are of top priority.

However cultivation of Mountain Tea has almost diminished in the WPA in North Macedonia. Though it had some great period since 1970 when the people from Konjsko, Resen started cultivating it, and it lasted till the beginning of this millenium. A challenge lies to restore this cultivation, and to spread it among other villages of Prespa and all at a time when the wholesale price of the Mountain Tea has dropped in half. Despite scientific evidence that cultivated plants of the Mountain Tea used as tea have the same quality as the extract of Mountain Tea collected in the wild (Kostadinova et al. 2008), the local people consider that the Mountain Tea from the wild is better than the cultivated one.

The question that this analysis tries to answer is what are the needs and barriers for farming of the Mountain Tea in the WPA in North Macedonia. The approach of this Study was to take a look at four challenges that planting of Mountain Tea has: market challenges, financial challenges, knowledge challenges and resource challenges.

¹ Area including the Lake Prespa watershed (in all three countries: AL, NMK, GR) and the entire territory of Galicica and Pelister National Parks.

2. Methodology

The methodology used to derive to the points identified and analysed in this report included two main tools:

1. Collection of available data using internet search and data from participating institutions, such as the National Parks, and the Ministry of Environment and Physical Planning of the Republic of North Macedonia; and
2. Interviews with stakeholders; that were later analysed accordingly.

The interviews with the identified stakeholders were done throughout the month of February where stakeholders were contacted, met and interviewed for their views, knowledge and experience. There were five types of stakeholders that were contacted:

1. Companies that do buyout and processing of NTFPs;
2. Collectors of Mountain Tea;
3. Farmers that plant Mountain Tea;
4. Women farmers from the Macedonian part of the WPA; and
5. Green market sellers of Mountain Tea.

The full list of people and persons met and/or interviewed for the purpose of this report is in Annex 1. Notes from the interviews made are at availability to check upon request, and are not included in this report in order to keep it short and concise.

The interviews made were partly structured, with different basic sets of questions of interests for each group of stakeholders:

- Questions for companies that do buyout and/or processing of Mountain Tea:
 - Quantities of bought tea in the last 3 years?
 - How much would you buy in future?
 - Is there a stable demand?
 - What is the buyout price of Tea in the last 3 years?
 - Is the price stable?
 - What would be the optimal price?
 - Would you be interested in cooperating with a business oriented agriculture cooperative scheme of farmers?
- Questions for harvesters of wild Mountain Tea:
 - Average quantities of collected Tea?
 - What are the buyout prices in the last 3 years?
 - What are the channels of selling it?
 - Have you cultivated Mountain Tea, and if not, would you cultivate Mountain Tea or why not?
 - Do you have land to plant?
 - Do you have the knowledge to plant Mountain Tea?
 - Do you have the money to invest in the plantation of Mountain Tea?
 - Do you sell it directly to final consumers?
 - Do you sell it to companies?
 - Would you prefer to sell it directly to final consumers or to a company?
- Questions to farmers that do planting of Mountain Tea:

- Quantities of produced Tea?
- What are the buyout prices in the last 3 years?
- What are the channels of selling it?
- Problems in Mountain Tea cultivation?
- What is the procedure for Mountain Tea cultivation?
- What are the costs related to planting and cultivation of Mountain Tea?
- Do you sell it directly to final consumers?
- Do you sell it to companies?
- Would you prefer to sell it directly to final consumers or to a company?
- Questions for women farmers from Prespa region:
 - Would you plant Mountain Tea?
 - Do you have land to plant it?
 - Why didn't you cultivate Mountain Tea up to now?
 - Do you have the knowledge to plant Tea?
 - Do you have the money to invest in the plantation of Tea?
 - Would you prefer to sell it directly to final consumers or to a company?
- Questions for green market sellers of Mountain Tea:
 - How much do you sell a year in the last 3 years?
 - Where do you get the Mountain Tea from?
 - What are the retail prices of Mountain Tea in the last 3 years?
 - What are the buyout prices for Mountain Tea in the last 3 years?

Though most stakeholders were eager to meet and discuss, the companies, especially the big ones, were not interested in communicating or participating in this analysis. However, their lack of interest to participate was compensated with the data obtained from the Ministry of Environment and Physical Planning.

3. Actors in the Mountain Tea market in the WPA of North Macedonia

The Mountain Tea market in the WPA of North Macedonia is composed of several actors: processing companies, buyout companies, green market sellers, collectors, and farmers that plant the Mountain Tea. In the course of preparing this report several companies, individuals and groups of individuals were identified that are of significance for the Mountain Tea market. Most of the actors identified are from the WPA, but there are also actors that are worth mentioning and are outside of the WPA.

It is also good to explain that the Mountain Tea market of the WPA of North Macedonia is of cross-border nature and connected through legal and illegal channels with the market in Albania. Namely, individuals - farmers and collectors from the WPA of Albania cross the border to harvest Mountain Tea and/or to sell it on the streets (Najdovski, 2020; n.n., 2020d; Rantasa, Panajotova and Cule, 2019). Most of these activities are done uncontrolled, untaxed or simply said - illegal. However it does have a serious impact on the market prices in North Macedonia. The spill-over of the surplus crops of Mountain Tea from Albania into the Macedonian market in 2019, made a serious drop of the buyout price at the level like in Albania - down to 150 MKD per kg of dry herb, and the Macedonian farmers could not sell their crop at a fair price. Also buyout middlemen from Albania come and purchase Mountain Tea from North Macedonia and import it to Albania.

3.1. Companies and individuals that are present in the WPA of North Macedonia.

Natnas 2019, Ohrid (Друштво за производство трговија и услуги НАТНАС 2019 ДООЕЛ Охрид)

Zeleznicka str. No.114, Ohrid, +389 46 260800, +389 78 217188

The company packs Mountain Tea and is selling it in Stokomak markets, and is hoping to expand. This is their first year, and they hope to sell about 200 to 300 kg of Mountain Tea in 2020.

Alpojo, Ohrid (Заштитно друштво за производство, трговија и услуги Александар Попоски АЛПОЈО Охрид ДООЕЛ)

Stiv Naumov n.n., Ohrid, +389 46 260489, <http://alpojo.com.mk/>

The company packs Mountain Tea and is selling it in several supermarkets across the country: Tamaro and Zito.

Rosa Kanina, Resen (Друштво за производство и трговија на големо и мало РОЗА КАНИНА ДООЕЛ Петковски Томе увоз-извоз Ресен)

Nikola Karev No..55, Resen, +389 47 452843, +389 70 393966,

<http://www.rozakanina.bizland.com/> <https://www.alternativnamedicina.com.mk/>

Uses the Mountain Tea only as an aromatic spice in some of their products, but collects the tea directly and only from Galicica Mountain. The quantities are negligible.

Zive Stojkovski, Resen

Farmer from the village of Pokrvenik in the area of Resen. He started planting Mountain Tea in 2017 following the farmers from Albania. But because he can not find a gross market to sell the tea at a price that he calculates as fair - 400 MKD/kg he is planning to stop the production.

Zivko Najdovski, Bitola

+389 70 614014, +389 47 238605

<https://bilki-lekoviti.blogspot.com/>

Herbalist from Bitola that collects and sells medicinal plants. He is only doing trade of Mountain Tea, purchasing it from the farmers from North Macedonia (Najdovski, 2020), but lately from farmers from Albania (Najdovski, 2020). He would have collected it on his own, but there is no Mountain Tea on Baba Mountain above Bitola.

Women farmers of Prespa

A group of women farmers from the Prespa area in North Macedonia are being organized and are preparing to plant Mountain Tea in the frame of a PONT founded project. Their production is still unknown, but is expected to have first yields in 2021.

Green market sellers in WPA from North Macedonia

The sellers at the green markets in North Macedonia are traders and very rarely actual farmers that sell their own products. Due to the flooding of the market with cheap Mountain Tea from Albania, while the retail price of the Mountain Tea remained the same, many sellers that would normally only sell tomatoes and cucumbers, are now also selling Mountain Tea.

Harvesters from WPA from Albania

An unknown number of harvesters are crossing the border and collecting Mountain Tea from Galicica National Park in North Macedonia, and then that Mountain Tea is being either sold in North Macedonia in bulk or taken in Albania to be sold in bulk. It has been noted that this activity has not been occurring in 2019, because of the low buyout price of the Mountain Tea.

Farmers from WPA from Albania

An unknown number of farmers from Albania cross the border carrying cropped Mountain Tea and sell it from house to house throughout WPA in North Macedonia (n.n., 2020e). They also supply many of the traders that sell on the Green Markets in WPA in North Macedonia (Najdovski, 2020). Due to the sudden drop of the buyout price of the Mountain Tea, they are changing the crop to something else (n.n., 2020d).

Buyout middlemen from Albania

At least one buyout middleman from Albania is purchasing the production of the farmers that plant Mountain Tea in North Macedonia. Unfortunately he is known for not paying the farmers, as an example to a farmer from Prilep (Stojkovski, 2020).

3.2. Companies that are not present in the WPA of North Macedonia

Though not present with a buyout station or any other kind of activity directly in the WPA, these companies have an impact on the market of the Mountain Tea since they are making buyout and export of the Mountain Tea in North Macedonia. The companies presented here are Macedonian, and no foreign companies have been identified in the course of preparation of this report. If foreign companies are present, then they may be present through one of the local companies.

Konimeks, Skopje (Друштво за производство, трговија и услуги КОНИМЕКС ХОЛДИНГ КОМПАНИЈА ДОО експорт-импорт Скопје)

Boris Trajkovski 9/10, Skopje, +389 2 2461218, +389 2 2465954, koro@unet.com.mk, www.konimex.com.mk

Focuses on NTFPs buyout, production, processing, packaging and export originally from Demir Hisar, now with a centre in Skopje. Has its own production line of herbal infusions, readily available on the market, known as Koro Tea, but no Mountain Tea in the line of products.

Flores, Skopje (Друштво за производство и промет со земјоделски производи, лековити билки-шумски плодови ФЛОРЕС ДОО Радовиш)

Partizanski Odredi No.21, Porta Bunjakovec A 2/III, mezanin lok 11, 12, 1000, Skopje, +389 2 3119771, +389 2 3227708, <http://www.flores.com.mk/>

Focuses on NTFPs buyout, production and export, originally from Radovish, now with a centre in Skopje.

4. Current market trends of Mountain Tea with focus on the WPA of North Macedonia

The market trend of the Mountain Tea is undergoing an interesting period of an opportunity crisis. The wholesale prices dropped in 2019 by half, resulting in dissatisfaction among farmers and harvesters from the wild in North Macedonia. Many of the farmers in North Macedonia have decided to abandon production of Mountain Tea, and to change the crop to something else. On the other hand, the retail prices have not changed in a decade, and even though wholesale prices dropped, the prices at fresh produce markets are not changing.

A similar situation is undergoing in Albania, where prices have dropped to as low as less than 2 EUR for 1 kilo of dry herb. Farmers from the WPA in Albania are also dissatisfied, they are also abandoning the Mountain Tea fields, and are also changing the crop to something else. But some refuse to sell it at extremely low prices and take the Mountain Tea (illegally) to the fresh produce markets of the WPA in North Macedonia in order to get slightly higher prices of 120 to 150 MKD for 1 kilo of dry herb. As a result, the Macedonian market of Mountain Tea is disturbed.

In the midst of this dissatisfaction and low wholesale prices, companies in North Macedonia decide to embark into packaging the Mountain Tea. Though they are not providing clear information on the origin of the Mountain Tea, they mention that they get it from various sources, including from Albania and that the buyout price they have is 100 MKD for 1 kilo of dry herb (Natnas, 2020). It seems that the company is taking an opportunity of the current low prices in the WPA.

However, an even more interesting process is what lies ahead. The open questions at hand are: How will these endeavours of the Macedonian companies end, once the stock of Mountain Tea is depleted? And finally, what will be the future price of the Mountain Tea when the current stock that is flooding the markets will end?

4.1. Wholesale and Exports

The wholesale market in North Macedonia is organized around farmed production of Mountain Tea, in particular of *Sideritis scardica* Griseb., and a couple of companies that make the buyout. The farmed production mainly takes place in three areas in North Macedonia (known to date of making this report): village Drzilovo, Skopje; village Sermenin, Gevgelija; and village Krapa, Prilep. This farmed production started several years ago, when the buyout prices for the Mountain Tea were 300 MKD for dry herbs (n.n., 2020a). At this point the villagers simply followed the example and the good price and switched to planting Mountain Tea. However as the price suddenly dropped to half - 150 MKD for 1 kg of dry herbs, the farmers have decided to abandon Mountain Tea production for 2020. This kind of activity has also been noted across the WPA - including Albania where farming Mountain Tea was done on a larger scale.

Year	2016	2017	2018	2019
Buyout price of <i>Sideritis</i> spp. for 1 kg of dry plant.	300 MKD	300 MKD	250 MKD	150 MKD

Table 1. Buyout prices of Mountain Tea (aggregated information from interviews)

However there are also more resourceful farmers of Mountain Tea that managed to get better prices than the regular buyout prices. A farmer from Pokrvenik, Resen started production of Mountain Tea in 2017, and he sold his first crop in 2018 at a price of 400 MKD to a herbalist from Bitola that sells on the fresh produce market (Stojkovski, 2020). However after the influx of cheap Mountain Tea from Albania in 2019, he too lost his channel because the herbalist from Bitola started to supply cheap Mountain Tea from the Albanians that brought it on the market (Stojkovski, 2020). Another example are

the people from Sermenin, Gevgelija that supply their Mountain Tea already prepared for selling in tied bunches of 25 grams and trimmed of the excess branches (Najdovski, 2020). This way they get a buyout price from the sellers on the market of 600 MKD for kilo (Najdovski, 2020).

It is worth observing the wholesale market of Mountain Tea, because though the buyout price dropped in 2019 to 150 MKD, there may be a change, because nowadays many farmers abandoned Mountain Tea production so the expectation is that there simply would be a lack of supply by 2021 (Stojkovski, 2020; n.n., 2020a; n.n., 2020d).

The latest data regarding the exports of Mountain Tea is up until 2018, since the data for 2019 have not been processed. What we can notice from the available data, is that the export quantities of Mountain Tea are not stable. Though in 2016 and 2018 there were about five tons exported, in 2017 the export quantities were only one ton (Panajotova, 2020; MOEPP, 2019). Therefore we can not talk about a stable export demand. In addition to that, the maximum value of this business is low, it does not exceed 25.000 EUR, calculating the highest prices reached on the market for wholesale.

Year	2016	2017	2018
Quantity of export permits for Mountain Tea	4.886 kg	926 kg	5.002 kg

Table 2. Quantities of plant material of issued permits for export of Mountain Tea for 2016, 2017 and 2018 (Panajotova, 2020; MOEPP, 2019)

4.2. Fresh Produce Market

The Mountain Tea has been available for purchase at the fresh produce markets throughout North Macedonia for more than half a century. Local people have been picking it, or planting it and selling it at the fresh produce market directly or via an intermediary. Lately, on the fresh produce markets only traders are being present, and no farmers, while farmers focus on farming and production, and not having time to spend the whole day and sometimes every day at the marketplace. And though it is rare to find farmers, there are some sellers at the fresh produce markets that sell Mountain Tea that have been picked by them or by their family. Those that grow Mountain Tea only sell it via intermediaries. Sometimes the Albanian farmers come to North Macedonia and sell it to the local market sellers and immediately leave back home.

The retail price of the Mountain Tea sold on the fresh produce markets throughout North Macedonia is fairly stable. It is found to be between 20 and 30 MKD, but most commonly found is for 25 MKD for a bunch, and for 50 MKD for a plastic bag. But after careful examination (measuring the packages) I can conclude that the price is not varying at all, but only the weight of the dry herb is different. Bunches that are sold for 25 MKD have 25 g of weight, bunches sold for 30 MKD have 30 g of weight, and plastic bags sold for 50 MKD have 50 g of weight, etc. The stable retail price on the fresh produce market is 1 MKD for 1 g of dry herb, or 1000 MKD for 1 kg of dry herb. I say stable because the buyout price - the price that the fresh produce market sellers (traders) are acquiring the herbs has been dropping in the past two years, and is currently at its lowest 120 MKD per kilo, but the retail price has always been the same.

Year	2016	2017	2018	2019
Retail price at	25	25	25	25

green markets. For 1 bunch of Mountain Tea, about 25g.	(ranges from 20 to 30) MKD	(ranges from 20 to 30) MKD	(ranges from 20 to 30) MKD	(ranges from 20 to 30) MKD
Retail price at green markets in North Macedonia. For 1 kg of dry Mountain Tea.	1000 MKD	1000 MKD	1000 MKD	1000 MKD

Table 3. Retail prices of Mountain Tea (aggregated information from interviews)

An interesting aspect of the fresh produce market is the demand. One aspect is the demand of the species. There are two species of herbs found. One is the *Sideritis scardica Griseb.* and the other one is *Sideritis raeseri Boiss. and Heldr.* *Sideritis scardica Griseb.* is found on the fresh produce markets in Skopje, while on the fresh produce markets in the WPA in North Macedonia is dominating *Sideritis raeseri Boiss. and Heldr.* Though, on the fresh produce markets in Bitola one can find both species. Those that sell both of the species say that *Sideritis scardica Griseb.* sells better because the flowers are more compact (Najdovski, 2020). The other point is the demand on quantity. When talking with individual sellers, they complain that in the past - about two years ago, they could sell as much as 1 ton of dry herbs on the market. Nowadays they sell only a few hundred kilos of dry herbs. But the actual demand has not diminished. Because many Mountain Tea farmers from Albania cross the border and bring large quantities of the tea at a low price, they sell it then to sellers at the fresh produce markets that traditionally would sell only vegetables, or fruits, and now they also sell Mountain Tea. Therefore, on the fresh produce markets, instead of having just a couple of herb specialized sellers that sell Mountain Tea, from 2019, one can purchase Mountain Tea from almost every second stand on the fresh produce market. In this relation, demand is increased, since everyone is actually selling about 100 to 200 kg of dry Mountain Tea a year, and the offer from just 2-3 points has increased to 20-30 points of sale.



Image 1. Mountain Tea Sideritis scardica Griseb. from cultivated origin from village Drzilovo at the Green Market in Skopje. Photo Bojan Rantasa



Image 2. Mountain Tea Sideritis raeseri Boiss. and Heldr. from wild origin from Galicica Mountain in Albania at the Green Market in Resen. Photo Bojan Rantasa



Image 3. Mountain Tea from cultivated origin from Albania at the Green Market in Ohrid. Photo Bojan Rantasa

4.3. Retail Market

The Mountain Tea has been present at the Macedonian supermarkets in the last two years. At VERO, a Greek supermarket chain, it has been on the shelves since 2019. And as of September 2019, two companies from Ohrid started packaging Mountain Tea and selling it in local and country wide supermarket chains. The Macedonian companies are not specific on the origin of the herb, say that they acquire the herbs from many sources, including from Albania (Natnas, 2020). All companies pack the herb as branches, with different designs and solutions to the packaging. The prices vary from as low as 25 MKD per packaging to as high as 185 MKD per packaging, making a variation of the average price from 1.250 MKD to as high as 6.167 MKD for 1 kg of dry herb. The prices greatly differ due to the type of packaging, and to the origin of the product - domestic or imported.

Alpojo, a company from Ohrid, North Macedonia, offers the Mountain Tea in whole length of the tea stems, packed in a paper box where the stems are broken in half. The package contains 40g of tea and is sold for a retail price of 65 MKD, making it 1.625 MKD for 1 g of dry herb. The mountain Tea can be found also in the proprietary shop of Alpojo for a lower price of 58 MKD.



Image 4. Mountain Tea packed for retail at a supermarket in Ohrid. Photo Bojan Rantasa



Image 5. Mountain Tea packed for retail at Alpojo proprietary shop in Ohrid. Photo Bojan Rantasa

Natnas 2019, also a company from Ohrid, North Macedonia, offers Mountain Tea in a small bouquet of 20 g of dry herb that is packed in a simple plastic bag. It is sold currently only in Stokomak supermarkets for 25 MKD, but the company hopes to increase its reach. The price of these packages is comparably lower - 1.25 MKD per gram of dry herb, and it is appropriate due to the cheaper packaging. The company claims that they have their own production and that they purchase the herb for a price of 100 MKD per 1 kg of dry herb from local suppliers as well as from Albania (Natnas, 2020). Since they have just started the sale, in 2020, they expect to sell about 200 to 300 kg of Mountain Tea by the end of the year.



Image 6. Mountain Tea packed for retail at a Stokomak in Ohrid. Photo Bojan Rantasa

Both Alpojo and Natnas 2019 have one major fault in the production - the herbs are not completely dry, and water condensation is seen on the inside of the plastic packaging. This may lead to the creation of mould, and shortens the shelf life of the tea.

Mountain Tea is also present as an imported product from Greece in Vero supermarkets. It comes in two types of packaging, one in glass jars for the price of 185 MKD, and second one in plastic wrapping for 127 MKD. Both of these packages are from the same producer - Captain's, and both of them contain 30 g of dry herb. The product has been on the market only in Vero supermarkets, and is present for over 1 year.



Image 7. Mountain Tea packed in a jar for retail at Vero in Skopje. Photo Bojan Rantasa



Image 8. Mountain Tea packed in a plastic wrapper for retail at Vero in Skopje. Photo Bojan Rantasa

	Direct price	Retail price at supermarket, per packaging	Retail price at supermarket, for 1 kg dry herb
Alpojo, 40g in a paper box	58 MKD	65 MKD	1.625 MKD
Natnas, 20g in plastic bag	/	25 MKD	1.250 MKD
Captain's, 30g in plastic bag	/	129 MKD	4.300 MKD
Captain's, 30g in glass jar	/	185 MKD	6.167 MKD

Table 4. Retail prices of packed Mountain Tea in shops (aggregated information from field research)

4.4. Online market

A seldom neglected market is the online direct market. The possibility for the Mountain Tea to be sold on the various online platforms or even on a dedicated online shop are not only present, but they are already out there. Though covering this market is an advanced level of direct sell, purely because of the global competition, it is a market that should be taken into consideration, and to aspire to as an option. Unfortunately, to this date, an online Mountain Tea seller from North Macedonia or the WPA is not known.

Online, the Mountain Tea is mainly marketed as Greek Mountain Tea, Mountain Tea, Olymp Tea and/or as Ironworth. Its price varies, and depends whether it is with or without shipping, as well as of the quantity. At 100g, a package of Mountain tea can be ordered from 10,9 (Aspermuhle, n.d.) to 12 EUR (Biene, n.d) without shipping costs for the European market; from 1,9 GBP (Amazon, n.d.) to 16.38 GBP (Tea and Coffee, n.d.) without shipping for the UK market; and from 12,19 USD (Etsy, n.d.a) to 13,31 USD (Etsy, n.d.b) with included shipping for the US market.

	Europe	US	UK
Retail price for 100 g of dry herb	10,90 - 12 EUR	12,19 – 13,31 USD	1,9 – 16,38 GBP
Retail price for 1 kg of dry herb in MKD	6.710 – 7.390 MKD ²	6.920 – 7.560 MKD ³	1.400 – 12.120 MKD ⁴

Table 5. Comparison of retail prices of packed Mountain Tea sold online (aggregated information from desk research)

² Calculated at a rate of 61,60 MKD for 1 EUR

³ Calculated at a rate of 56,78 MKD for 1 USD

⁴ Calculated at a rate of 73,99 MKD for 1 GBP

5. Harvesting and Production of Mountain Tea in the WPA in North Macedonia

Mountain Tea farmers and Mountain Tea harvesters from Albania freely cross the border with North Macedonia, smuggling Mountain Tea in both ways (n.n., 2020). Mountain Tea farmers from Albania grow it and then take it to North Macedonia to sell it at a lower price than what the locals would like to sell it (Stojkovski, 2020). At the same time, Mountain Tea harvesters from Albania sometimes come to North Macedonia to harvest from Galicica Mountain. In the WPA in North Macedonia there is no Mountain Tea buyout company (Goce, 2020). Only in this last year, two companies started to pack Mountain Tea and distribute it in supermarkets, however, they are reluctant to provide clear information on the origin and quantities of the Mountain Tea they pack. All of this contributes to a difficult task to clearly assess the situation with harvesting and cropping of the Mountain Tea in the WPA in North Macedonia.

From the interviews in the field, a general conclusion is that there is no harvesting in the wild being done by people from North Macedonia for commercial purposes. Harvesting by people from North Macedonia in the wild is done solely for personal consumption. Most families from Resen Municipality (from the Galicica side of Prespa Lake) harvest about 2 kg of Mountain Tea a year (Lence, 2020). Considering that this is done by a great number of people, it may be considered that it is done in quantities that are comparable to commercial harvesting. There are about 3000 families in the West part of Resen Municipality (Resen Municipality, n.d.) that most probably harvest about 6 t of Mountain Tea a year for personal consumption. This current field conclusion is in line with the conclusions from the Mountain Tea Conservation Action Plan (Bojadzi, 2012) where they identify harvesting for personal consumption to be greater than for commercial purposes and to be about 7,5 t annually. Interesting, although according to the Mountain Tea Conservation Action Plan, on the Macedonian side of the Prespa Park, in the areas where collection is allowed, the possible annual quantity that will maintain sustainable use of Mountain Tea - *Sideritis raeseri* Boiss. and Heldr. is found to be 807,4 kg (Bojadzi, et al., 2012, p.29), harvesting in general has not been found harmful in the subsequent years of monitoring of the population of Mountain Tea in Galicica National Park (Bojadzi, 2020).

Regarding cropping of the Mountain Tea, there are two farmers present in the WPA in North Macedonia. One farmer is in the Ohrid area and the other one in the Resen area, and both of them will not continue to produce in 2020. Their production in 2019 has been 500 kg (Taki, 2020) and 200 kg (Stojkovski, 2020) respectively and have not had much success in finding a market for their production. The Mountain Tea farmer from Ohrid inherited the plantation from his sister, and has no will to continue or to make a business out of it, however, the Mountain Tea farmer from Resen has a calculation that any price under 400 MKD is not feasible for him to continue to grow Mountain Tea, so he is in process of changing the crop to something that will bring profit.

6. Costs related to Mountain Tea cultivation

The procedure to Mountain Tea cultivation can vary to great extent, depending on the availability of funds, knowledge and resources of the farmer engaging in cultivation. The procedure here outlines all possible steps and notes whether they are obligatory, the options to these steps and the benefits or disadvantages in taking each of these steps, as well as the costs related to these steps.

6.1. Mountain Tea Cultivation Procedure

The procedure for cropping Mountain Tea outlined in this report is a blend of experiences learned from the interviews done with farmers that plant or used to plant Mountain Tea, and of the procedure outlined in the report of GFA Consulting Group (2009). The key difference between the procedure outlined in the report by GFA (2009) with the farmers practice is that GFA (2009) suggests that first substantial yields are expected only in the second vegetation - third year of the process, while farmers claim that they have gotten substantial yields already in the first vegetation - second year, technically after 12 months. However, both GFA (2009) and the interviewed farmers agree that the yield increases with every vegetation. GFA (2009) claims a maximum of 250 to 380 kg of yield, while farmers report about a maximum of 200 - 250 kg of herb from 1.000 m².

6.1.1. Seed Acquisition

Seed acquisition can be done in two ways: one is directly from plants while the other one is to purchase the seeds. Purchasing the seeds may sound easier, but it is not available in North Macedonia. Seeds are only available in Albania. The seeds from Albania have no phytosanitary certificate and their age or fertility rate is not known, so importing it to North Macedonia would be by smuggling it. The price of the seed in Albania is 25 EUR for a matchbox quantity (Stojkovski, 2020), although it can be found also per kilo, where the price is calculated at 700 EUR for 1 (one) kg (Stojkovski, 2020). It takes 4 (four) matchboxes of seeds to plant 1.000 m² (0,1 ha) (Stojkovski, 2020).

The collection of seeds directly from the plants should be done in August (GFA, 2009).

	Purchase	Collect
Availability	Available only in Albania	Possible at almost any local, higher mountain
Reliability	Not certified or examined by phytosanitary control	Not certified or examined by phytosanitary control
Species/Variety	Not known	From the local species/variety available in the local mountain
Price	700 EUR / kg 1.000 EUR for 1 ha	No direct price

Table 6. Comparison of seed acquisition methods (aggregated information from field research)

6.1.2. Production of Planting Material

From the seeds one needs to produce planting material to plant on the field. It is needed 35.714 herbs in one hectare (GFA, 2009, p.183), or that is 3.571 seedlings for 1.000 m² that are needed, and some additional to replace those that will not survive the planting in the field.

There are two possible methods to produce seeds. One is to produce planting material from the seed in beds, and the other one is to produce it in planting pots. Production of planting material in beds is the most common option among poor farmers.

The procedure to produce planting material using beds is fairly simple. In late Summer, preferably in August, right after the collection, the seeds are germinated in loose soil in a shaded place. When on the seedlings appear the first leaves, the seedlings are then replanted into prepared beds, preferably in plastic covered tunnels. Fertilizing the seedlings is recommended with 40 to 50 t/ha of natural fertilizer (GFA, 2009, p.180). Natural fertilizer is sold between 1.000 MKD/t (Todor, 2018) and 1.500 MKD/t (Green Village, 2016). When the seedlings reach a size of about 20 cm they are ready to be planted in the field (Stojkovski, 2020). Planting in the field should be done in Spring: March or April (GFA, 2009).

The procedure to produce planting material using planting pots is similar to the other procedure, with that difference that the small seedlings are not replanted in beds, but they are replanted in prepared pots that have been filled with fertilizer rich soil. The pots need to be with a depth of about 15 cm, and width of about 10cm, however these are difficult to be found, so pots with depth of 10cm are used as they are readily available in North Macedonia (Stojkovski, 2020). The pots are also preferably kept in a plastic covered tunnel until ready for planting (Stojkovski, 2020).

At first glance the field planted with plant material from pots is better than the plan material from beds. The plants from the beds suffer a shock during the replanting and take time for them to start growing, while the plants from the pots continue to grow undisrupted. This is only for a short period since within several months the difference is not present as the plants from beds catch up the growth of the plants from pots (Stojkovski, 2020). The difference is that the production of planting material in pots is more expensive due to the need to purchase planting pots, but the success rate is much higher. In comparison, only about 5% of the plants planted using pots are lost in the field and need to be replaced with new ones, while using the traditional method directly from beds, there is 30% loss of the planting material. Another advantage of the pots is that whenever a plant dies in the field, it is much easier to replace it at a later point in time, since the one in the pot will not suffer from the replanting shock.

	Beds	Pots
Success rate	70%	95%
Price	/	1,25 MKD per pot

Table 7. Comparison of seedling production types: in beds and in pots (aggregated information from field research)

6.1.3. Selection of Planting Location

Selecting the right location where to plant the Mountain Tea is of great importance. The Mountain Tea is not an invasive species, so it can be easily overgrown by grasses and weeds (Tasevski and Tasevski, 2020). Therefore planting it in a nutrient rich soil will cause the Mountain Tea to be surrounded by weeds and eventually it will be lost. Choice to a stony and sandy soil is recommended (Stojkovski, 2020). The soil should be limestone basis, though serpentine and flych is also possible, and between the altitude of 800 and 1.900 m.a.s.l. (Bojadzi, et al., 2012). Another thing is that the Mountain Tea does not tolerate water, so the soil must be dry and well drained and with no high groundwater table (Stojkovski, 2020). Soils and plots that are usually seen as appropriate for vine growing are best for growing Mountain Tea (Stojkovski, 2020). Prespa area has many plots where people used to grow vine that are no longer in vine and could be utilized to grow Mountain Tea.

6.1.4. Tillage

Tillage or deep plowing of the field is not an activity that is practiced among poor farmers. However, plowing the field before planting the Mountain Tea, some time in September / Autumn (GFA, 2009) will create a benefit that there will be less weeds after planting (Stojkovski, 2020).

6.1.5. Planting the Field

Planting is done by hand and using a dibble or a dibble bar planting tool. Placing a plastic sheet over the soil may sound as a good option (n.n., 2020a) since the Mountain Tea is a sensitive plant and mud will make the leaves dry and die out, luckily the leaves will grow back (Stojkovski, 2020). However, a plastic sheet that does not breathe will cause the soil to dampen and it will cause the Mountain Tea to dry (Stojkovski, 2020). Using Geotex material that allows the soil to breathe may be better, but it is also more costly.

According to Mekovic (2009) it is best to plant the seedlings at a pace of 70 x 40 cm. With this arrangement it is possible to plant up to 35.714 herbs in one hectare (GFA, 2009). Furthermore, such an arrangement would allow motorized weed management between the rows of the herbs, thus it will enable faster and more efficient weed management.

6.1.6. Weed and Pest Management

The Mountain Tea plots require it to be cleared from weeds. For this reason it is best that one digs through the field twice a year. An option that can make the production easier is that the width of the plants in the field is at a width where a moto cultivator can pass, so the digging can be done mechanically.

Option in manual weed control is by digging only around the plants and not the whole field. This is sufficient for the Mountain Tea to have room to grow.

6.1.7. Picking of the Tea

Picking tea is a labor intensive activity that is best done by hand. Since workers in the Prespa area are scarce, engagement of seasonal workers from Albania may be needed. The price for their engagement is 1.500 MKD per day.

According to the interviews done, one can expect production of about 150 kg of Mountain Tea in the first year and about 200 kg of Mountain Tea in the second year from 1.000 m² of land appropriate for vine. This goes in line with the Mountain Tea Conservation Action Plan for the Prespa Lakes' Watershed where it is noted that annual yield is 25 kg for 100 m² in Prespa Area in Albania and about 200 kg for 1.000 m² in village Konjsko in North Macedonia (Bojadzi, 2012, p.44-45).

6.1.8. Drying

A very important step is the drying of the Mountain Tea. It should be done in a shade with air flow, and no sun. If sun hits the plants it will make them turn to brown, and this will make them unappealing for the market. The drying of the plants can be done in a barn or a roof adapted for this purpose (Stojkovski, 2020). There is also a solar drying machine that can speed up the process and provide better quality of the dried herb. The solar drying machine is made by a local company from Stip - Eco Solar, and costs 3.181 EUR for a device that can handle 120 to 150 kg of material (Eko Solar, 2020).

6.1.9. Plantation Management

It has been noted that the cultivated plot of Mountain Tea tends to dry and die after 5 years (Tasevski and Tasevski, 2020). The reason for this has not been confirmed, but it has been confirmed as an occurrence by the growers in Konjsko, Prespa. Therefore one needs to plan to plant a new plot already in the 4th (fourth) year so there is no pause in production.

6.2. Mountain Tea Cultivation Timeframe

Year 1

Late Summer / August:

- Collection of seeds
- Planting of seeds in covered seed beds

Autumn / September

- Tillage

Year 2

Spring / March till April

- Planting of seedlings in the field
- Weed management

Summer

- Weed management
- Harvesting

Year 3

Spring

- Weed management

Summer

- Weed management
- Harvesting

Year 4

Repeat procedure from year 1 onwards, on a different location, because there is a danger that the plantation may die out in year 5.

6.3. Mountain Tea Cultivation Costs

For the purpose of this calculation to be easily applicable in the field, all costs have been calculated at the level of 1.000 m³ or that would be 1 da (deka ar). The calculations are made in accordance with the above defined procedures for rising and cropping Mountain Tea. There are three scenarios. The first one is a minimalistic scenario, where all work is done by the farmer. The second scenario is when things are done by workers, but all activities are at their optimum. While the last and most expensive calculation is where the work is done by hired hand and technological advancements are included to reach the final goal.

In all cases, it is presumed that the farmer already has a number of tools that will be used also for this activity, and the costs for transport to and from the location of the field have not been taken into account.

Activity	Minimal costs	Optimal costs	Maximum costs
1. Seed acquisition	0	6.200 MKD ⁵ / da	6.200 MKD ⁶ / da
2. Natural fertilizer, 169 kg	/	169 MKD ⁷	2531 MKD ⁸
3. Shading material, 1 kg	180 MKD ⁹	180 MKD ¹⁰	180 MKD ¹¹
4. Pots, 128 plates x 28 holes	n/a	n/a	4.480 MKD ¹²
5. Tillage	n/a	560 MKD / da ¹³	600 MKD / da ¹⁴
6. Planting, 1 man/day	Own labor	1.500 MKD ¹⁵	1.500 MKD ¹⁶
7. Weed and pest management, 2 man/days	Own labor	3.000 MKD ¹⁷	3.000 MKD ¹⁸
8. Picking, 2 man/days	Own labor	3.000 MKD ¹⁹	3.000 MKD ²⁰
9. Drying	Existing facilities	Existing facilities	195.632 MKD ²¹
Total - first year investment:	180 MKD	14.609 MKD	217.123 MKD
Total - annual maintenance (without points: 1, 2, 3, 4, 5, 6 and 9)	0 MKD	6.000 MKD	6.000 MKD
Total - repeating plantation (without point 9)	180 MKD	14.609 MKD	19.211 MKD

Table 8. Comparison of pessimistic - minimum costs, moderate - optimum costs and optimistic - maximum costs scenario investments for Mountain Tea plantation (aggregated information from field research)

The costs for cultivating Mountain Tea can be different, depending on the willingness of the farmer to invest, and available time to work directly on the field or to hire a helping hand for the fieldwork. The Mountain Tea is a sensitive plant, but it does not require much to provide yield. It has no pests, and therefore other than choosing the right location and occasional clearing of the weeds, it does not require a lot of work (Bojadzi, 2020). The cropping of the Mountain Tea can cost as low as 180 MKD, when all labor is internalized and existing facilities are used, or as high as 217.123 MKD, when hired

⁵ Stojkovski, 2020

⁶ Stojkovski, 2020

⁷ Todor, 2018

⁸ Green Village, 2016

⁹ n.n., 2020b

¹⁰ n.n., 2020b

¹¹ n.n., 2020b

¹² Gorgi, 2019

¹³ n.n., 2017

¹⁴ n.n., 2017

¹⁵ Stojkovski, 2020

¹⁶ Stojkovski, 2020

¹⁷ Stojkovski, 2020

¹⁸ Stojkovski, 2020

¹⁹ Stojkovski, 2020

²⁰ Stojkovski, 2020

²¹ Eko Solar, 2020

labor is used and new facilities are being bought - a solar dryer. These costs reflect the first year of investment, the annual maintenance, and the replanting of the plantation each 5 year cycle.

7. Farmers' Needs and Barriers to Mountain Tea Cultivation

7.1. Cropping

Among the Women Farmers of Prespa, there is a will to crop Mountain Tea. However among the many farmers there are two groups that share reasons why they have not made steps into cropping Mountain tea previously.

The first group is more proactive, and willing to engage in new crops. Some have even though or even tried to plant other MAPs (Gorgievska, 2020, Prculovska, 2020). Their barriers have been the lack of time, due to obligations with children while they were small (Gorgievska, 2020), or simply not having a source where to get seedlings to plant on their farm (Prculovska, 2020).

The second group is the more cautious and traditional group that poses concerns about the profit and about the availability of a market since there is no local buyout company for Mountain Tea in Prespa in North Macedonia (Kitanovska, 2020, Bozinova, 2020). This group is focused on the apple orchards and finds difficulty in diversifying their farming income. They have attachments to the apple orchards since they see tradition that came to be a synonym for their home place (Kitanovska, 2020). Availability of free land to plant new crops is also an issue (Bozinova, 2020), but also finances are an issue to start something new (Kitanovska, 2020). There is a general fear in starting something new, because local farmers had been led to start with new crops and then were left without a market where to sell it (Kitanovska, 2020).

7.2. Market

In Prespa in North Macedonia there is no buyout of Mountain Tea (Goce, 2020, Kitanovska, 2020, Zoran, 2020). However, there is a very small scale and very selective need for other MAPs for the herbalist Naume Petkovski and his company Roza Kanina (Petkovski, 2020). Other markets, such as bars and restaurants, likewise as in other parts of North Macedonia, there is no offer of Mountain Tea in the menus.

The farmers are more interested in wholesale arrangements with a buyout company than investing time and energy to create a system for direct sale (Bozinova, 2020). With wholesale they can dedicate their time to the production, but also because they have other day jobs (Bozinova, 2020). Since currently there is no buyout company in Prespa in North Macedonia, a possible option for business oriented cropping of the Mountain Tea is cooperating with the companies from Ohrid Alpojo and/or Natnas that started packaging Mountain Tea and selling it in supermarkets. However such a relation would require negotiation for a fair price, since currently those companies are buying the Mountain Tea for a low price of 100 MKD/kg.

Direct sale is interesting for the few farmers that have made steps to diversify their income and are already getting income from tourism and see the opportunities and added value of direct sales.

Regardless whether direct sale or wholesale is chosen it will be required for the farmers to work together in establishing a link for distribution and sale.

8. Opportunities for other MAPs

The need for cultivating MAPs lies in the needs of the pharmaceutical companies (GFA, 2009), but also the food processing industry for plant material with standardized quality. In this sense, the possibility for cropping MAPs is not only limited to the Mountain Tea. The Mountain Tea can serve as a pilot to what the farmers of Prespa are capable of doing and achieving. This project, though narrowly focused on the Mountain Tea, may spark initiatives for other MAPs to be cultivated in the same manner.

The will to cultivate MAPs is already present among the women farmers from Prespa. Some women farmers have already been thinking of cultivating sage, lavender and thyme (Gorgievska, 2020). But the same limitations related to time constraints had prevented them from following up on such ideas. Likewise, with other points raised in this report, the same needs and barriers apply to other MAPs: knowledge on cultivation is needed; source of seeds or planting material is needed; market connections are needed; difference in preference among farmers whether direct sale or wholesale is better; and environmentally clean land, suitable for organic production where the MAPs can be planted.

The market for other MAPs are comparable, but mainly dependent on the species of choice. For some species there are already buyout companies in Prespa in North Macedonia, such as for raspberry and juniper berries. But again, the prices are also key in deciding which MAP to cultivate. In that manner direct sale or a processed or a final product from MAPs would be a better choice. The project “Strengthening capacities of farmers for cultivation of Medicinal and Aromatic Plants through transfer of knowledge and good practices” or in short CuLT in 2016 (CuLT, n.d.) recommends producing essential oils from MAPs since there is an increasing demand by the pharmaceutical industry. Further analysis on the markets and investments needed for other MAPs would be welcome in future.

Specific knowledge for cropping MAPs exists in the country and in the region. There are already several companies and farmers in the country that cultivate MAPs. To name just a few of the companies: Flores, Konimeks, and Herba Stojanovi. Additionally, there are studies that provide knowledge on cropping of plants nationally in Macedonian language: one made for National Park Galicica (GFA, 2009), and the other one by the project CuLT (n.d.). The available knowledge is limited to 11 species (CuLT, n.d.; GFA, 2009):

- Sage - *Salvia Spp.*;
- Oregano - *Origanum Spp.*;
- Thyme - *Thymus Spp.*;
- Mountain Tea - *Sideritis Spp.*;
- Rosemary - *Rosmarinus Spp.*;
- Bulgarian Rose From Kazanlak - *Rosa Damascena Mill.*;
- Lavender - *Lavandula Spp.*;
- Mint - *Mentha Spp.*;
- Camomile - *Chamomilla recutita L. (Matricaria chamomilla L.)*;
- Common Balm - *Melissa officinalis L.*; and
- Rose hip, *Rosa canina L.*,

And the knowledge for 10 of these species is available in the Handbook for Cultivation of MAPs produced in the CuLT project (CuLT, n.d.). Additional information on the cultivation for other species from regional sources and in various regional languages is also found on the CuLT project website - www.projectcult.com

However the best scenario for MAPs cultivation in the WPA would be to look at species that are already endangered and/or have a status of being protected. Thus the cultivation of MAPs would not only provide business opportunity but also an environmental protection solution. Such a plant, besides the Mountain Tea, is the Great Yellow Gentian plant - *Gentiana lutea L.* It is found to be very difficult for

cultivation, however, a study in Albania (Nelaj, et al., 2018) showed that the Gentian plant can be a species under cultivation with agricultural importance and with high pharmaceutical value. Further research and piloting in this direction should provide even more opportunities for local farmers to make their business serving nature conservation.

9. State Support for Cropping MAPs

The Ministry of Agriculture, Forestry and Water Economy of North Macedonia in 2018 started providing subsidies of up to 50% of the costs for making new plantations of MAPs. This is part of the Measure for Rising Of New Multiyear Vine And Fruit Plantations, And Multiyear Plantations Of Aromatic Herbs And Honey Yielding Plants On New Areas, that is annually implemented by the Agency For Financial Support To Agriculture And Rural Development (AFSARD) (nn, 2018). These measures are, unfortunately, not known by the farmers in Prespa in North Macedonia (Gorgievska, 2020).

However, it is not clear whether this particular measure will exist also in 2020, since the staff from the AFSARD are not aware and the Manual for the state payments for 2020 is not published yet (n.n., 2020, AFSARD, n.d.).

10. Conclusions and Recommendations

At this moment, **cropping Mountain Tea is in a critical moment**, and looks like it is not a good business decision because of the low buyout prices. However, considering that many, if not all farmers in the WPA including Albania and even beyond - throughout North Macedonia have abandoned cropping Mountain Tea and switched crops, soon enough there will be a need for supply. Some demand would be met from harvesting wild Mountain Tea from Galicica, or other mountains, but it is possible that having a plantation of Mountain Tea in a year or two would be interesting again for meeting the local market demands, and just maybe the buyout price for wholesale would go up again.

The **buyout price for wholesale Mountain Tea is unstable**. It has been 300 MKD/kg in the past and now has fallen down to half 150 MKD/kg, and lower prices are reported of even 100 MKD/kg. However, the **retail price of Mountain Tea at fresh produce markets remains stable** for the last 10 years or so at 1MKD/g or 1.000 MKD/kg, making direct sales and added value products a better business than wholesale.

The available markets for Mountain Tea in WPA in North Macedonia are scarce at the moment, limiting between selling it directly on market stands on the green markets in the country or wholesale to the few, new packaging companies and the traditional green market sellers. However **there is market potential in the area of direct sales, online sales and also opening new markets like that of bars and restaurants**, where Mountain Tea is completely missing in their menu.

The Mountain Tea has a cross-border nature in the WPA. With the movement of people of the WPA, in particular Mountain Tea harvesters and farmers, unknown amounts of Mountain Tea pass unrecorded. The National Park Galicica is not issuing permits for harvesting, allowing only harvesting for personal consumption. All of these points above make it **close to impossible to assess the quantities that are harvested in the Prespa Area in North Macedonia** in particular to differentiate those that are for personal consumption from those that are for commercial purposes.

Local people throughout the WPA consider the Mountain Tea as a very tasty drink. The locals harvest it so much that the personal consumption is greater than any harvests for commercial purposes. Though, at National Park Galicica, according to years of monitoring, do not consider this anymore as a threat, if a decrease to harvesting of the Mountain Tea in the National Park is to be promoted it would be best by making local people plant it in their gardens for personal consumption. **The strong liking of Mountain Tea by people is a potential for developing business** in selling Mountain Tea seedlings so people can easily plant it in their yards and/or balconies.

Women farmers from Prespa lack **knowledge and confidence** to produce planting material for Mountain Tea. They feel safer if there is someone that would provide planting material for the Mountain Tea that they would simply plant in their fields and gardens. Building of knowledge and confidence on Mountain Tea cropping is needed in particular for producing Mountain Tea seedlings. This process can come from a **peer learning process through exchange of experiences** from the one farmer in Prespa that made a recent plantation, but also from the many farmers in Albania that have already 10 years of experience. This way the Women Farmers from Prespa would become sustainable in cropping Mountain Tea, without dependency from outsiders in seedling production. Additionally, this knowledge could open new business for them in **producing and selling planting material of Mountain Tea** to other farmers but also simply people that would like to have some in their garden.

Women farmers of Prespa have different opinions whether direct sales or wholesales is better. This comes mainly on their available time to engage in finding and opening new markets, but also access to markets. Some that already have diversified incomes as tourism, see the potential and

opportunity to sell it directly. Those **women farmers that see the potential and are willing to engage in a process of adding value and direct sale, should be supported** in achieving this, and to serve as an example for others, but also to open doors to the so much needed markets.

The already offered domestic products of packed Mountain Tea by the two companies from Ohrid is exhibiting a process of badly dried herbs. This infers that a **quality drying process should be endorsed by the Women Farmers of Prespa**. Support for the process of cropping Mountain Tea should be set in acquiring a solar drying machine, such as those made by Eco Solar a.k.a. Agro Solar from Stip for which the manufacturer claims that the farmers can get up to 80% refund from the IPARD programme (Agro Solar, 2020).

Cultivation of other MAPs is possible, and there are many MAPs for which knowledge on cultivation is readily available on the internet (Cult, n.d.). However, **efforts should be made in further assessment, research and piloting in cultivation of other protected species of MAPs**, such as endangered or local endemic species. Such plant is the Great Yellow Gentian for which initial cultivation results have been achieved in Albania (Nelaj, et al., 2018).

The farmers of Prespa in North Macedonia do not have information of current financing opportunities that are offered by the State regarding cropping of MAPs. **Associating the Women Farmers into an organization** can alleviate this issue, and enable the farmers with more incentives to engage in other farming activities, other than apples.

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List of Annexes

Annex 1: List of companies related to MAPs in Prespa Area of North Macedonia

Annex 2: List of people met for the purpose of the engagement