DANISH REFUGEE COUNCIL

FAIR TRADE LEBANON

WEST BEKAA MARKET STUDY

NATIONAL AND INTERNATIONAL MARKET STUDY OF 5 SELECTED VALUE CHAINS IN THE BEKAA REGION

Olive Oil, Honey, Zaatar, Sumac, and Chickpeas

January
2019

PREPARED BY Nassim Njeim
Agronomist, Rural Development Specialist

Table of Contents

Table of Figures

Table of Tables:

I. Introduction to the agricultural sector in Lebanon

Demand for Lebanese agricultural products soared in Arab Gulf markets as production in war-ravaged Syria plummeted. Displacement, fuel shortages and lack of government subsidies are causing Syrian agriculture to stagnate[1]. As Syrian competition for GCC markets recedes, Lebanese exporters are struggling to meet demand because of a significant shortage in refrigerated trucks available for hire.

In addition to specific technical skills required by this sector, a key gap identified by a recent UNDP report included Marketing and retail skills for employment in the agro-food industry[2]. Indeed, the report found that 54% percent of companies reported suffering from a lack of market research, 52% identified knowledge of advertising as an issue, and 46% stated that the use of effective marketing techniques was an obstacle to their business.[3]

- Dominance of low-value crops, including tobacco which is cultivated at a loss
- Low productivity for many crops (e.g. olives), due to outdated techniques and low investment in technology
- Inefficient local markets in which farmers are vulnerable to unfair practices (e.g. by markets & distributors), partly due to weak cooperative system
- Poor access to global markets such as the EU, largely due to non-compliance with international standards (e.g. tests for honey) & weak post-harvest infrastructure
- Widespread illegal cultivation of cannabis

II. General Market trends

2.1 Food security and food safety

Improvement of technology and knowledge on different levels will enhance food production for all type of consumers.

Food safety is increasingly becoming an issue, especially when products are being exported to the EU and other developed countries. This tendency is also observed in the Gulf states, the main export destination for Lebanon. This includes requirements that have to be met on standards, like *Global Gap* and *HACCP*. Also *tracking and tracing* are in that context becoming more and more important.[4]

---

[1] "Citrus Cultivation: Lebanon's Sour Sector", BlOMINVEST BANK, 2016; http://blog.blominvestbank.com/wpcontent/uploads/2016/06/Citrus-Cultivation-Lebanon---s-Sour-Sector.pdf

[2] Mind the Gap: A Labour Needs Assessment for Lebanon, 2016, UNDP

[3] Addressing Root Causes Fund Inception Phase – Market Assessment Literature Review

[4] Export value chain Analysis fresh fruits and vegetables – December 2016 – CBI ministry of foreign affairs

2.2 Sustainable production and products

In Lebanon awareness is also growing that products and production processes become more sustainable and make less use of chemicals and natural resources, like energy and water. For example the availability of good quality water for vegetable production is under pressure, because of the increased need from other industrial sectors and the community (consumable water). To reach a higher level of sustainability, improved seed, new methods and/or innovative technologies should be implemented depending on the local conditions (e.g. climate) in order to increase the input. efficiencies.

2.3 Niches

The market of niche or quality products is growing. Niche products give an added value to the consumer and they are willing to pay (more). Niche products can have a better taste, special color, shapes, nutritional value or more convenience (easy to peel, seedless, etc.). The niche market (including organic products) is still of limited dimension in Lebanon, but is increasing strongly in developed countries like the *EU* and offers possibilities for export.

2.4 Chain organization

To react and anticipate on domestic and international market developments a professionalization of the supply chain will be needed in order to compete with other importing and exporting countries.

- A first point is standardization and legislation along the chain. This will be a minimum condition for quality products, especially for the export market (e.g. Europe).
- Another main issue is to provide adequate information about new cultivation methods, post-harvest issues and market information to the actors in the chain in order to maintain or improve product quality through the chain. Better market information enables growers also to be on the domestic and/or export market when there are less national and international competitors. (Case of Zaatar and Sumac)

- The purchasing power of supermarkets in Lebanon but also on the export market is increasing continuously and will result in higher requirements concerning food safety and sustainability. This will put pressure on the way of producing by Lebanon growers and the organization of the supply chain.

2.5 Developments on other markets (including geopolitical tensions)

The European market for olive oil and honey (especially commodities) is almost stable, but the market in

the Gulf States and Africa is expanding, in addition to China, India, and Japan. There is also an increasing interest in high quality products for the high-end market. Markets for Zaatar in USA and Germany are still limited though they offer a huge potential.

III. Selection of Value chains

After a conclusive brainstorming session with Fair Trade Lebanon (FTL) and Fair Trade and Tourism in Lebanon (FTTL) team with both consultants (value chain and market research), the team decided to tackle 5 organic value chains in the Bekaa area: olive oil, zaatar (thyme), sumac, chickpea, and honey. As the team had to select a specific area in the Bekaa, it was decided to be Rashaya as it hosts more than 13% of total Lebanese olive production[5] and can serve as a potential area for development.

IV. Olive oil

4.1 The olive oil sector in Lebanon

Olive is one of the most important agricultural products produced in the country, with 5.4% of the country's territory currently under production of olives. Olives are concentrated in six major areas in distributed in three regions around Lebanon namely Batroun, Koura, Zgharta, and Akkar in the North, Rashaya El Foukhar in the Bekaa (serving 13% of Lebanon's total olive production), and Hasbaya in the South.
Total production of olives in 2014 was estimated around 114 Ktons with a total value of $118 million placing it 3rd in the Lebanese agricultural sector by value after potato and tomato.

Table 1 Different olive production growers in Lebanon

Grower	Area (du)	% of producers	Production olives/du	Yield of oil (kg)	Sales tin (16.5 kg)	% of oil production
Small	>5	77%	150kg	30	$80-120	20%
Medium	6-100	14%	250kg	50	Direct 80-120 Traders 34-45	20%
Large	>100	9%	300kg	60	Diverse channels	>50%

Green olive can reach up to $0.7/kg bought by aggregators or damans.

4.2 Market supply and demand/ Sales and logistics

[5] Olive Value Chain Assessment Report: LIVCD Project, DAI, 2014

Almost 70% of the olives grown in Lebanon are used for the production of olive oil while the rest is sold directly for consumption[6]. Only a small percentage of the oil produced in Lebanon is virgin or extra virgin, mainly due to low quality of olives produced.

Domestic consumers in the country primarily purchase olive oil from family and friends in 20L plastic or iron tins, processed locally in traditional mills and mostly based on trust[7]. A small percentage of the oil produced is sold to large companies that mix the oil and bottle them for sale in markets. Moreover, interviewees have indicated that there is a lack of consumer awareness about high quality olive oil, due to the widespread consumption of low quality olive oil.

Channel 1: Direct to Household Sales.

Households in Lebanon purchase mostly olive oil in bulk unbranded tins through friends or family networks, family owned farms, other contacts, and olive mills. Total sales around 5,250 MT or 27% of total olive oil production is estimated to be sold through direct sales to households. In this part of the market, very little consideration is given to the label and formal quality specifications of the oil. Consumers rely mostly on their organoleptic evaluation, on the personal reputation of the seller, or the geographic location of the mill where it is produced. Farmers and mills who supply most of this oil use family connections and personal networks to sell it. Prices are quite high for this type of oil, with households willing to pay between $80 to $120 per 16.5 kg Tin or between $4.80 and $8.00 per kg.

Channel 2: Hotels Restaurants and Catering Businesses and Food Service Industry

This segment provides a major outlet for olive oil consumption and is highly affected by tourist demand and varies from year to year with changes in the political environment.

Current sales volumes are estimated to be around 2,500 MT or 13 % of total olive oil production. Purchasing decisions lay with the chef who selects based on taste. Restaurants have different factors for selecting olive oil sources; some prefer to deal with the same supplier over a long term basis and are generally price insensitive (paying around $80-$100 per Tin[8]) as long as the quality is judged to be acceptable by the chef. Other restaurants are exclusively price-driven and have very limited budget for olive oil purchases ($50 per Tin) which raises the question that the oil they get is probably not of Lebanese origin or refined from previous years (LIVCD, 2013). This sector is supplied both through the same direct sales channels as households, though also later in the season by olive oil traders who specialize in lower quality oil.

Channel 3: Branded, Bottled Sales in The Lebanese Market

[6] IBID

[7] Based on interviews done by consultant (Ms. Traboulsi, Mr. Harb).

[8] Tin is of 16.5kg capacity

This channel faces a number of market constraints that have a great impact on the business strategies of actors selling into the branded and bottled part of the domestic market.

The chief constraint is that if bottlers and brand owners in this segment seek high sales they need to get into many supermarkets and neighborhood grocery stores, or establish their own in-house retail distribution function which requires a big investment and carries a risk. On the other hand, they can reach out to largest distributors that set high minimum turnover thresholds of $500,000 and pass on supermarket shelving fees making the price of an entry ticket into this segment too high[9]. As an alternative, smaller distributors offer limited access to retailers, and are not so demanding in terms of overall volume. Others seek to provide directly to some retailers or have plans to develop their own specialized retail outlets.

In any case, the rules set by distributors have a strong impact on the level of market access that sellers into this segment can expect to achieve, and these rules tend to favor the few larger sized operations.

Another constraint is that sellers in this market face a significant degree of consumer skepticism about product purity and quality that has its roots in a mistrust of Lebanese industrial processors. These leave actors in this market at a relative disadvantage both compared with actors selling into the direct household market and to imported bottled olive oil from the EU, which although still quite small in volume, maintains high levels of consumer trust.

FTTL sells 5.5 MT of olive oil in this market segment. 50% of virgin olive oil sourced at $65 a tin sold in 0.5L bottles, 25% extra virgin olive oil sourced at $75 a tin and sold in 1L bottle, and lastly 25% organic extra virgin olive oil (certificate based) sourced at $80 a tin and sold in 1L bottle; they also face the challenge of marketing and consumer awareness though an increase in this segment is experienced.

With an interview with Mr. Fadi Al Achkar, he expressed that this segment is stagnant in growth, and might also decrease due to Syrian olive oil, and price sensitivity of the Lebanese consumer. Al Achkar source 400-500 tins of extra virgin olive oil, with challenges in finding this quality, and 400-500 tins of virgin olive oil; prices could not be collected due to confidentiality.

Channel 4: Branded Exports

Given the difficulty of selling into the domestic branded market, many smaller exporter/bottlers/millers and integrated processors/producers have business strategies that privilege export sales. To attain large volumes of sales, however, without a recognized international brand, exports need to be price competitive, something that is virtually impossible with Lebanese olive oil due to the strong demand pull from Channel 1 and the tendency of farmers to hold onto stock. If actors in this segment hope to reach high volumes, they have no alternative but to sell a product that includes significant quantities of lower priced Syrian olive oil.

[9] LIVCD OLIVE VALUE CHAIN ASSESSMENT REPORT DRAFT MARCH 7, 2013

At lower volumes, however, higher prices can be achieved in the export market, which relaxes the constraint on using Lebanese oil. This is particularly true for exports to countries outside the Middle East region which currently range from $5.50 to $8.00 per kg FOB for branded products, while compared with $4.50 to $5.80 to the GCC markets. The export market has attracted a number of younger integrated producer/processors and exporter/bottlers/millers who are targeting these higher quality niche markets. These players remain small, however, with limited production capacity and financial strength to support market development expenses.

FTTL sells to the international market 12 MT of Extra virgin organic olive oil at diverse market prices depending on demand, though the olive is sourced from cooperatives at $80 a tin, while they experience local surplus years in which cooperatives are ready to sell their oil at $60-70 per tin. In addition, a rise in international demand is experienced at 25% yearly growth.

Channel 5: Unbranded Exports

This channel is oriented towards countries in the GCC. It consists mainly of bulk cargo expeditions from large farmers and traders of unbranded tins of olive oil to family contacts, restaurants, and even distributors in the Gulf who repackage it under their own labels. Prices in this channel (around $65/tin) are largely comparable to the lowest prices in Chanel 1. As with channel 1, this circuit is largely governed by personal relationships.

4.3 Marketing of products (import/ export)

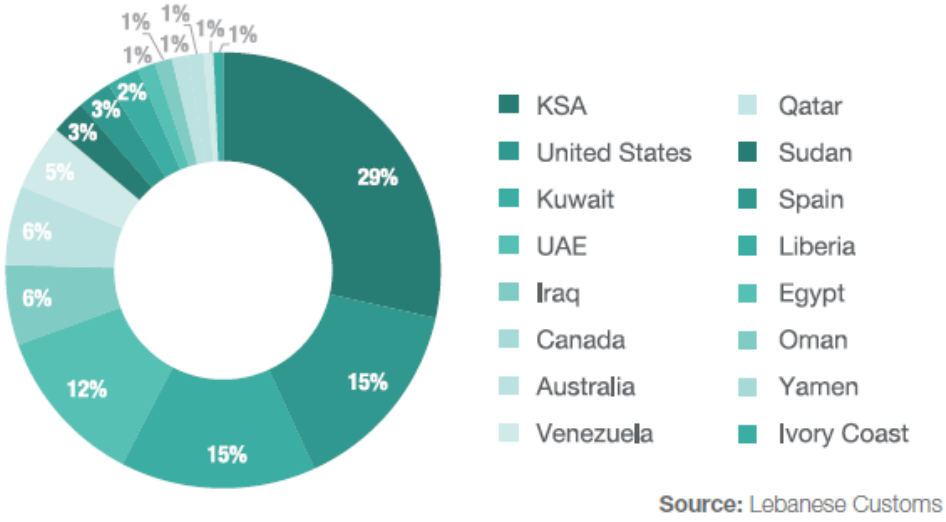
Exports of olive oil have been growing at a compound annual growth rate (CAGR) of 30% since 2014, according to the Olive Oil Factsheet published by IDAL.

Figure 1 Lebanese Olive Oil - Exports Net Weight Tons - 2012-2016

	2012	2013	2014	2015	2016
Virgin Olive Oil	1,756	3,391	2,704	3,114	3,929
Other	2,406	3,694	3,240	4,407	6,085
Total	**4,162**	**7,085**	**5,944**	**7,521**	**10,013**

Source: Lebanese Customs

Figure 2 Lebanese Olive Oil export partners - 2016

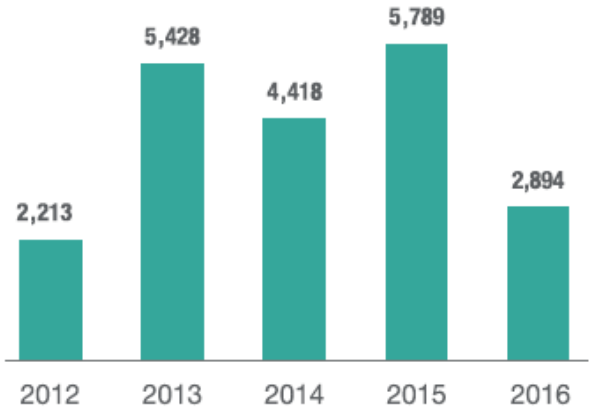


Main export partners for Lebanese olive oil are Arab countries with 61.4% export share (6,531 tons) and North America with 18.9% export share (1,895 tons). In addition to growing export partners as African countries, Australia, and Venezuela.

In terms of exports, olive oil produced in the country is primarily targeted at Lebanese diaspora living in countries such as US, Canada and Australia. In addition, interviewees indicated that markets such as China and Eastern Europe provide significant opportunities for export; however they remain in the potential list as Lebanese olive oil suffers from low quality and high acidity due to the use of obsolete production practices, storage, transport and processing techniques.

Imports:

Figure 3 Evolution of Olive oil imports Tons (2012-2016) – Lebanese customs



The domestic market in Lebanon enjoys high levels of protection with 70% tariff on European import on olive oil. However, due to the very high cost of production of olive oil in the country (primarily due to high cost of labor and inputs), and the high demand, Lebanon continues to import low-value olive oil in large

qualities from Syria. Syrian olive oil imports compromise 98.8% of all olive oil imports into Lebanon, and Jordan 0.8%, whilst Italy and France have minimal shares (Interviewees indicated that a large percentage of the olive oil from Syria is smuggled to avoid high fees), and high-value olive oil in small quantities from France and Italy. Most of the imported oil is mixed and bottled in the country and sold to domestic consumers. Imports of olive oil to Lebanon have been greatly impacted by the civil unrest in Syria. This decrease lead to increased prices for the Lebanese local market of olive oil[10].

4.4 Bottlenecks and market-risks

- As stated by Ms. Traboulsi,(General Manager of Rural Delights Cooperative) in Lebanon, consumers purchase olive oil in 20L tanks and it is mostly based on trust from a relative, friend, or by word-of-mouth. There is still little awareness and added value to glass bottled olive oil.
- Harvesting and transport add up to 50% of total cost of production.
- Barriers of aggregation of olive oil include strong desires of most players to have their own independent brands despite limited volumes and lack of common effective standards that would facilitate transparency in oil assembly and quality-based differentiation.

4.5 Future requirements/ trends and opportunities

Diversification in taste and geographical traceability

A market can be found differentiating diverse oil qualities based on the geographic location especially in the Lebanese market. Each region possesses different climatic condition and if it is highlighted in the label can offer a sense of belonging, and diversified taste to the consumer.

Improved awareness of local consumers:

As indicated above, the interviewees revealed that as consumers primarily purchase olive oil locally from their own villages rather than retail stores, and due to the widespread prevalence of high acidity, low quality olive oil, there is a lack of consumer awareness about higher quality oils. Many stakeholders interviewed indicated that awareness raising activities such as taste testing could improve demand for better quality oils, creating additional jobs through raising local market demand for better quality of oils.

Opportunities:

- Olive oil is one of the few agro-industries to post an external trade surplus in 2017.
- Increased global demand on good quality olive oil, specifically USA, Japan, and China in addition to GCC countries.

[10] Average selling price for the 500ml bottle of extra virgin olive oil USD 4.5, while the 750 ml bottle is sold for USD 6.5

- Flavored olive oils with different herbs and spices are becoming popular and represent a good investment opportunity in the Lebanese market

V. Honey

5.1 The Honey sector in Lebanon

Bee keeping and honey production sectors in Lebanon are growing sectors providing an important opportunity for marginalized households in rural areas with limited access to land, or time.

Bee-keeping is an activity that is well adapted to small household level of production, with relatively minimal labor inputs except at harvest period with low start-up investment. The fixed costs of setting up a honey production facility are a small portion of the total costs, which means that large farmers do not have a relative advantage over smaller farmers. That is, a medium sized bee keeper with 25-50 hives will only have to invest slightly more than a small sized bee keeper with less than 25 hives. Given this, the honey sector provides high potential for creating home based employment opportunities for vulnerable populations.

In figure 5 calculations are based on Average selling prices, it differs in the three cases due to differences in marketing strategies, which vary by quantities produced. The model below assumes the honey from the first 25 hives along with 50 percent of medium beekeepers' production (50 beehives) and 25 percent of large beekeepers' production (100 beehives) is allocated exclusively to the direct household bulk market at $20 per Kg. All production above that is assumed to flow into the commercial branded honey market (Coops or private) at $12 per Kg which can absorb larger transaction volumes. The organic honey market is little though increasing in demand, and can give higher prices to producers reaching $26/kg for oak honey

Figure 4 Honey Cost of Production

Scale of Production	Small	Medium	Large
Number of Harvests	Single harvest	Double harvest	
Number of beehives	25	50	100
Honey production (kg/beehive)	15	15	15
Total honey produced (kg)	375	1500	3000
Average selling price (USD/kg)	$20	$16	$14
Total revenue (USD)	$7,500	$24,000	$42,000
First year fixed investment costs (USD)	$6,284	$12,556	$25,094
Total operating costs	$1,835	$7,473	$15,220
Profit Year 1*	-$619.00	$3,971.00	$1,686.00
Profit Year 2	$5,665.00	$16,527.00	$26,780.00
Operating costs/kg	$4.89	$4.98	$5.07

* Calculated as total revenue less first year fixed investment and total operating costs with no amortization

In Rashaya, West Bekaa, and zahle area the beehive concentration is less than 5% which can indicate for an opportunity for growth to be studied.

5.2 Market supply and demand

Two main types of honey can be differentiated:
(1) forest and shrub land-based honey, including wild flowers, such as Syrian oregano - *Origanum syriacum* - honey, oak – mainly *Quercus Libani* – honey, as well as cedar – *Cedrus Libani* – honey, although production of the latter is limited.
(2) orange blossom honey. It is common for beekeepers to move their beehives to coastal areas during winter to obtain a harvest of orange blossom honey in early spring.

It is estimated that orange blossom honey constitutes around one third of the total Lebanese honey production, and is on average 33 percent less expensive than wild flower and/or oak honey in retail outlets. As discussed with Mr. Bou Rjeili (a Honey expert and large producer with 1000 beehives), Lebanon produced 2000 tons of honey in 2018, and still the Lebanese market faces a shortage filled by legal and illegal smuggling of Syrian honey; in addition, some big retailers are mixing honey with different syrups and sell their product at competitive prices.
This gives a rise to a great potential for Lebanese honey production as both the local market and the export market are on a rise of 20% annually; to note that forest and shrub land honey has a higher demand and value (20 – 40 USD/kg) due to quality and taste, and the orange blossom honey has a value of 15 – 35 USD/kg and is less demanded in the Lebanese market due to low consumer awareness to this type of honey

as it crystalizes after a 6 months' period. Orange blossom honey has a good sales channel towards processing and industrial use.[11]

Ms. Traboulsi mentioned that Rural Delights Cooperative (RDC) recently started marketing honey (since 2016) and sell around 500Kg a year with increased demand also experiencing shortage at the cooperative production level.

According to FTTL their sales summed up to 400kg in 2018 in the local market with a growth expected to reach around 4 tons, while still not tapping the potential export market.

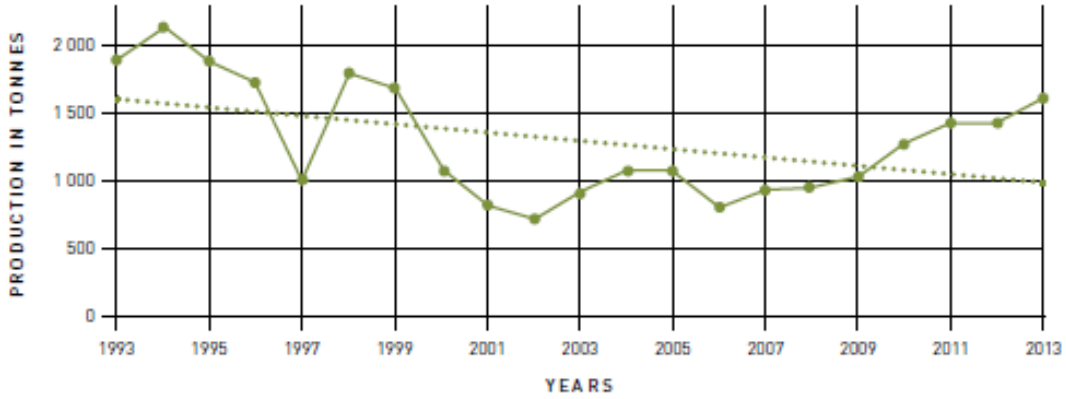
When purchased in big quantities the forest and shrub land honey can achieve a price of $18-20/kg while the orange blossom honey is sourced at $10/kg.

5.3 Sales and logistics

Beekeeping is common in all Lebanese regions. In 2013, around 6200 Lebanese, mostly part-time, beekeepers[12] produced approximately 1620 tons of honey for a total value estimated at US$ 32 million[13], of which US$ 23 million represented the value of forest and shrub land honey. Moreover, around 60% of this produce is sold unbranded directly by beekeepers or cooperatives[14].

During the last 20 years, production quantities have been volatile. Although the overall trend shows a decrease in production, the last five years have witnessed an increasing pattern, as shown in figure 7 below.

Figure 5 Lebanese honey production in tons 1993- 2013 (FAO-stat)



Moreover, increasing investments and upgrading of quality testing facilities, and growing consumer confidence in Lebanese brands and retail markets have opened up high value GCC markets and the United States, as well as branded exports to Saudi Arabia[15].

[11] Interview with Mr. Johnny Bou Rjeily and Mr. Joe Abi Harb by the consultant.
[12] Source: MOA and FAO 2010 agricultural census.
[13] Estimation based on price data reported by USAID (2013). Honey value chain assessment report. LIVCD project document.
[14] Honey Value Chain Assessment report – LIVCD 2013
[15] Honey Value Chain Assessment report – LIVCD 2013

5.4 Marketing of products (import/ export)

The world honey market has been increasing in terms of value and volume, and features two distinct market segments based on price; expensive and inexpensive honey. In general, large scale honey producers export inexpensive honey, which ranges in price from US$2.00-US$ 5.00 per kilo and constitutes the majority of honey trade in terms of volume. Small scale honey producers, including Lebanon, export expensive honey, which ranges in price from US$8.00- US$15.00 per kilo and is exported in much lower quantities. The market for mid-priced honey, at least among the largest players in the honey market, is very small.

Figure 8 shows the increased trend in honey export and how it is growing through the years, with an average price of $12.5/kg in year 2014.

Figure 6 Lebanese Honey Exports in Tons (2011-2014)[16]

Custom.gov.lb HS 0409 Natural Honey	2011	2012	2013	2014
Volume in Tons	26	28	44	50
Value in $	$335,000	$323,000	$598,000	$629,000
Growth		108%	157%	114%

Honey export have been growing since 2008, and there is great export opportunities for Lebanese honey; however, honey exports remain at the stage of market channel identification.

In 2014, around 78 percent of Lebanon's honey exports were directed to the GCC market (of which more than half were sold in the Saudi market).

Saudi honey imports can be divided into two market segments

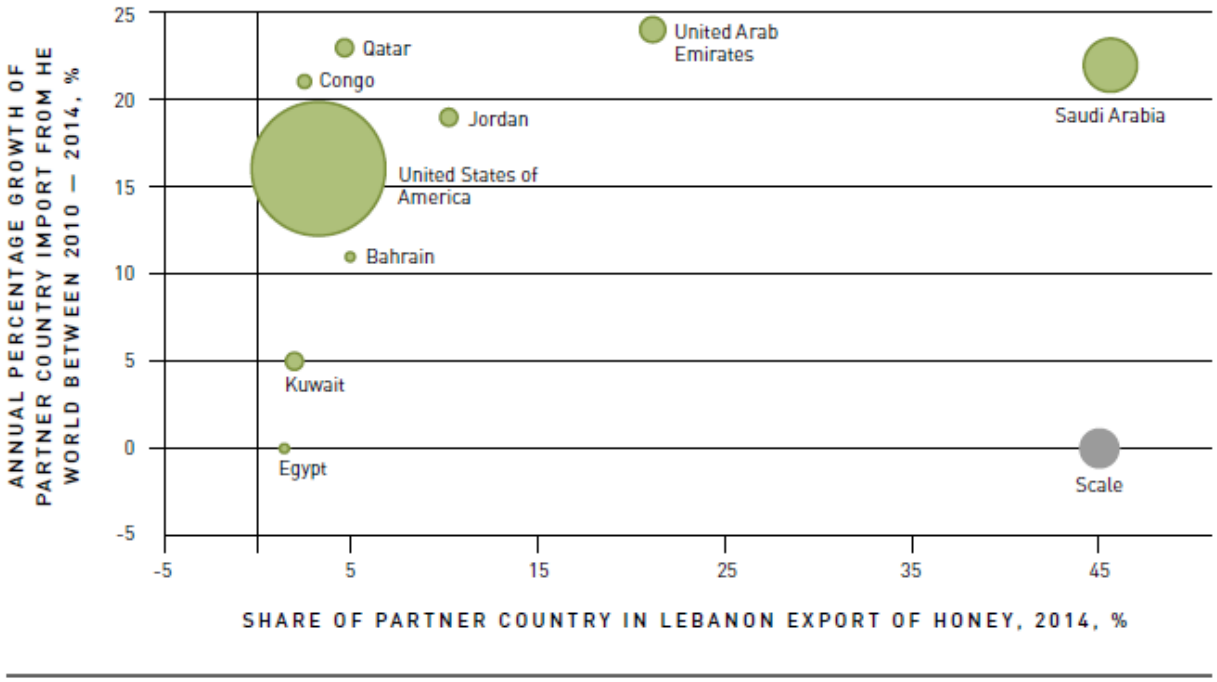
- Inexpensive honey comprises 80 percent of honey imports, and costs under US$ 5.00 per kilo; inexpensive honey, such as that from China, India, and Argentina is typically re-exported
- Expensive honey, which comprises 20 percent of imports and costs over US$8.50 per kilo; expensive honeys are consumed in Saudi Arabia.

The GCC markets – especially the Saudi market which represents 3.7% of total world import of honey - are important markets for Lebanon, and have a potential for growth.

US honey market, which represents around 25% of the world's imports of honey, can be seen as a strategic market for Lebanese honey production and an entry point for any potential expansion of production. Nonetheless, the implementation of proper rules and regulations – e.g. in terms of phytosanitary measures, antibiotic use, and traceability, especially if volumes are to be gathered from small producers, is an asset for export expansion in high value markets.

[16] Lebanese Customs data. www.customs.gov.lb.

Figure 7 Lebanon export market diversification prospect for Honey and current export percentage



Source: International Trade Center (ITC), calculation based on Lebanon Ministry of Economy and Trade data. Bubble size represent partners share in world imports. Bubble scale is 2 percent. Countries in the chart represent 97.5 percent of Lebanon's export of honey

5.5 Bottlenecks and market-risks

- Climatic and environmental conditions that affect honey supply making it volatile and inconsistent.
- Flooding of Syrian honey in the market, adding to the mistrust of consumers towards diverse marketing channels other than direct sales to friends and family.

5.6 Future requirements/ trends and opportunities

The honey sector in Lebanon is underexploited - the level of honey production remains below the country's potential. There is scope for increasing honey production capitalizing on export markets of both Gulf Council Countries (GCC) and of the countries of the Lebanese diaspora.

Long term trends for expansion in the supermarket segment coupled with the new domestic market regulations on pesticide residues both argue for continued expansion of this segment of the Lebanese honey market.

Future trends of honey associated with medicinal properties that can be found in pharmacies.

Expansion of product offerings to include flavored honeys such as honey with walnuts and dried fruits.

Honey production can be used as a tool for rural development that has the capacity to alleviate poverty and valorize local forest and natural resources due to its income value, low investment entry, and environmental role.

VI. Zaatar (*O. syriacum)*

6.1 The Zaatar (O. Syriacum) in Lebanon

Production of Zaatar is mainly concentrated in South Lebanon (cultivated), North Lebanon, particularly Akkar (wild collection), and to a lesser extent in Mount Lebanon. Whereas, Beqaa productivity of Zaatar is limited for both cultivated (newly introduced in the region) and collected (not vastly present in the wild)[17]. "Farmers started recently cultivating thyme in green houses in the South," said Boutros Asmar, Director of the South region at Debbane Agri[18].

According to an ESCWA pilot project on zaatar: 1 du can produce 1 ton of green marketable zaatar (Leaves & flowers, and stem) and nets around $3,000 in profits annually depending on quantities of harvest.

6.2 Market supply and demand

Approximately 1,000 tons of pure Lebanese Zaatar is produced in Lebanon each year through wild collection and cultivation. The majority of production is consumed locally in dried form, either pure or in za'atar mixes. Lebanese zaatar is preferred by the Lebanese, as well as people in other countries, due its uniquely strong flavorful taste. Thus, international volumes and value of Lebanese Thyme cannot be specifically identified in trade statistics. Additionally, oregano and thyme are commonly pooled with other spices such as bay leaves in trade data. "Thyme (zaatar) is one of the booming products (in Lebanon) and is in high demand," said Samir Abdel Malak, Chairman of Fair Trade Lebanon, a non-governmental organization, which markets agro-food products.

An Interview with Mr. Mouhammad Nehme (known commercially as Abou Kassem of Zawtar)[19], is one of the biggest zaatar producers in Lebanon producing more than 15 tons of pure Zaatar per year. He sells 90% of his products in the Lebanese market and exports 10% to USA and UK through direct shipments and direct relations with distributors abroad with a value of 12 – 15 USD/ Kg; his product is sold under the label of "Tabie and Balade" as this has a big Niche Market and added trust on the consumer level.

Ms. Traboulsi explained that the local cooperatives, especially in the South, produce around 1300Kg/ annually of pure zaatar. Cooperatives sell it in the zaatar mix form (40% zaatar) sold to the local market with some exports to USA and GCC countries. Still there is a little focus on the export market as local sales are satisfying and they are falling into shortages as well.

FTTL source 8 tons of grinded zaatar a year from cooperatives, while quantities of sourcing differ as cooperatives prefer selling it directly at prices reaching up to $22/kg. FTTL sources zaatar at prices

[17] Non-wood forest products – Value chains in Lebanon / FAO 2016

[18] http://www.businessnews.com.lb/cms/Story/StoryDetails.aspx?ItemID=6784&fbclid=IwAR12aIT33zdUCQxGQ0vSakNRzqyC97o0aMn9i6axLMAz0z4eOjvCx90h5Ng

[19] Done by consultant

relatively competitive to the market with wild or conventional grinded zaatar at $8-10/kg and organic zaatar at $10-12/kg.

6.3 Sales and logistics

Zaatar can be harvested up to four times per year if the plants are given the required fertilizers and are irrigated on a regular basis. One kilogram of dried zaatar sells for approximately $13 to $20 depending on quality. According to Mr. Aziz (Founder of The Good Thymes), he produces 1.5 tons of zaatar and zaatar mixes currently; Mr. Aziz blends the zaatar mix with several new ingredients (Chocolate chips, dried tomato, mixed nuts…) giving his product a different acquired taste and targeting a high end market with relatively higher prices than the local market (20 to 30$/ Kg). He explained that his target market are foreigners visiting Lebanon and the export market. Ms. Maksoud (Quality manager of "Second House") explained that their market is for export and it is sometimes a challenge to find high quality zaatar that is free of residues, as some farmers currently spray the zaatar. In addition, they try to source all their zaatar from Lebanon and the shortage they fill it up from the Syrian market reaching 20-40%. As their purchases are big in quantities (total of 80 tons) they purchase their zaatar at 4-6 USD/Kg in big quantities and during the zaatar season. From the logistics perspective, an advantage of Zaatar is that it has a long shelf-life and is easy to handle while not requiring complicated machines for processing, and can be dried in a dry dark room.

6.4 Marketing of products (import/ export)

The estimated volume of imported Zaatar reaches around 1000 tons compared to about the same volume of locally-produced Zaatar[20], setting a total local demand of 2000 tons of dried zaatar.

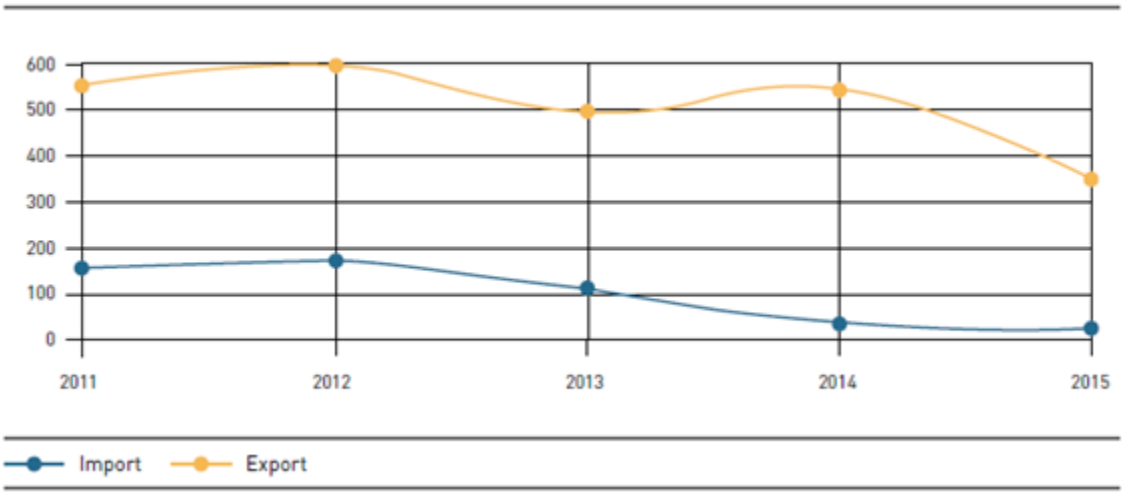
Zaatar exports doubled in 2017 increase by 110 percent to reach 136 tons compared to 2016, and increased some 40 percent in the first eight months of 2018, compared to the same period of 2017; from what is estimated, around 200 tons of zaatar were exported in 2018 (Lebanese customs data). Zaatar is exported mainly to the Gulf countries as well as the United States, Australia, and Germany. "It is one of the most feasible crops currently," said Ramez Osseiran, Chairman of the Association of Farmers in the South.

Ms. Maksoud explained that zaatar export demand is increasing especially for US, Australian, EU, and African market. They export yearly a range of 80-100 tons of zaatar mix and they believe there is an increase in demand of 15% yearly and still new markets to tap.

Lebanon's exports also witnessed a significant decrease (as shown in figure 10 below) due to the Syrian crisis. The presence of more than a million Syrian refugees have increased local demand for zaatar mix, and also the road trade routes became increasingly risky, until its closure in 2015

[20] Zaatar in Lebanon - Value Chain Assessment and analysis – UNDP November 2018

Figure 8 Volume of import/ export of Lebanon zaatar mixes and O. syriacum (2011-2015, in tonnes)



Source: Lebanese Customs data

Lebanon exports zaatar mixes as well as dried zaatar and shows a positive balance of trade, in terms of both volumes. Approximately, 10 percent of the Lebanese zaatar production is exported in the form of dried zaatar (110 tonnes in 2012), and another 20 percent is exported in the form of zaatar mixes. As a matter of fact, it is difficult to track the exact quantities of traded Zaatar since Lebanese trade statistics only consider mixes, and quantities of Zaatar in these mixes are unknown[21]. As expressed by FTTL, a high value per ton of imports versus exports is experienced and may be attributed to the pre-packaged and mixed zaatar product that is imported versus raw bulk zaatar product that is exported.

As shown in Figures 11 and 12 below, Lebanon's export partners are diversified but generally correspond to countries with large Lebanese diaspora communities.

[21] Zaatar in Lebanon - Value Chain Assessment and analysis – UNDP November 2018

Figure 9 Distribution of Lebanon export of zaatar mixes and O. syriacum 2015

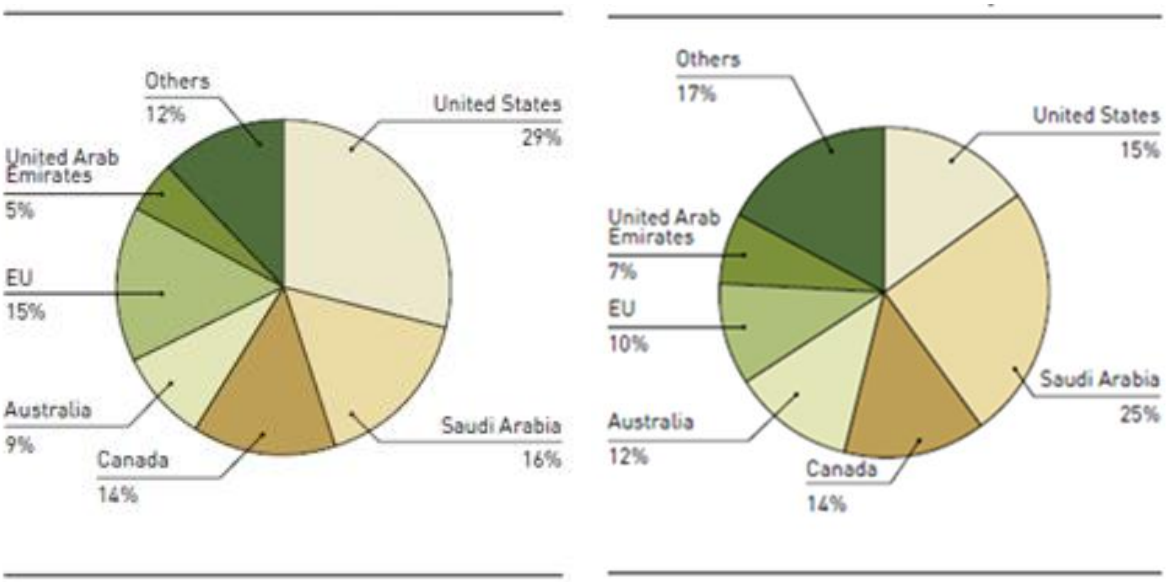


Figure 10Distribution of Lebanon export of zaatar mixes and O. syriacum 2012

Source: Lebanese Customs data

6.5 Bottlenecks and market-risks

- According to Ms. Maksoud some of the zaatar is being tested and has pesticide residues which does not fit the standards for export
- Wholesalers and exporters control over 60% of the locally produced and almost all the imported volume, whereas food establishments, cooperatives and farmers manage about 30% of the locally produced Zaatar.
- A competition in the zaatar market from the Syrian zaatar; Syrian zaatar is smuggled into the market and has a selling price of 2-6 USD/Kg depending on quality, and it is often not pure zaatar as additives are added to sum up weight and color.[22]

Concerns have been raised about the sustainability of wild collection of *O. syriacum*, especially that early collection and removal of the roots – together with increased urbanization – constitute significant threats to *O. syriacum*.

6.6 Future requirements/ trends and opportunities

- Fair Trade Lebanon has signed a deal with Whole Foods Market to market local thyme at 400 locations across the US. It will ship 40 tons of thyme to Whole Foods Market as a start. “If this is the start, there will be a large need to increase the quantities of thyme cultivated,” said Abdel Malak.

[22] Interview with Mr. Nehme and Ms. Maksoud

- Mr. Nehme expressed that the demand of zaatar is both increasing locally and internationally, and he has a demand of more than 150 tons of zaatar annually that he cannot fulfill, in addition to aligned orders to the Jordanian market that he still did not tap.
- Zaatar is economically suitable for production in remote rural areas since it is marketed in dry form and has a long shelf life, without a need for sophisticated or expensive storage requirements.
- The female labor engagement in Zaatar sub-sector is very high considering collecting, post-harvest operations, and processing from the wild, and planting and weeding to be added for cultivated practices.
- Increasing the cultivation area to meet local and international demand should not be difficult, though should be organized and well managed[23].
- Focusing on exports towards high value and stable markets, such as the EU and North American markets. Although there is a very low probability that zaatar mixes will significantly reach non-Lebanese and Levantine diaspora communities, there is scope for adding value to the product by promoting sustainable and organic production labels. Promoting environmentally sustainable wild collection practices in Lebanon could increase the product value in a global market, which has increasing interest in offering sustainably produced products at premium price. By adopting differentiation of labels, such as the Sustainable Forest Management certification label, Lebanese production would differentiate itself from its competitors, mainly the Jordanian and (past and future) Syrian production, in order to gain market shares in the international niche market for Zaatar and zaatar mixes.
- Shifting from exporting bulk raw product towards exporting packaged and branded Lebanese Zaatar.
- In 2012, the Lebanese Ministry of Agriculture (MOA) issued a decree regulating collection and export trade of *O. syriacum* as well as *Salvia fruticose.*

VII. Sumac

Sumac is an intrinsic part of the Lebanese and Levantine food in general. In addition, it plays an important role in the Lebanese cuisine and flavoring. Sumac is an important ingredient in the Zaatar mix as it consists of 30-40% of the total mix, we can conclude that the total Lebanese market of sumac total to that of pure zaatar to 2000 tons of Sumac.

7.1 Market supply and demand

As sumac is still considered a wild herb, statistics of production, import, and export are still not documented and hard to find. Through diverse interviews, Mr. Nehme's Sumac is sourced from Al Wirhanniye area in Chouf (4-5 tons yearly); Second house sources their Sumac from all over Lebanon and they face a shortage

[23] http://www.businessnews.com.lb/cms/Story/StoryDetails.aspx?ItemID=6784&fbclid=IwAR12aIT33zdUCQxGQ0vSakNRzqyC97o0aMn9i6axLMAz0z4eOjvCx90h5Ng

of 50% from their yearly demand of 100 tons, while the other 50% is imported from Syria at a lower price than when sourced locally. Sumac color might differ from region to the other, and on a yearly basis due to irrigation or rain fall quantities, as the color is dependent on the amount of water intake by the plant.
In addition, FTTL added that Sumac sourcing is very challenging in Lebanon as most of it is still harvested from the wild and as demand is increasing for the zaatar mix, sumac is difficult to source.

7.2 Sales and logistics

Sumac can be bought either in a big bag collected and dried clusters, or in the grinded form. Second House purchases the Sumac in both forms dried clusters are purchased at $9-12/Kg and grinded at $6/Kg. It is cheaper if grinded as quality cannot be controlled and diverse additives can be added or the Sumac cluster is not pure. FTTL source their sumac from diverse areas in Lebanon at $8-10/kg.
Ms. Maksoud added that Sumac is profitable for farmers or wild collectors, though some of their quality control tests have identified pesticide residues in Sumac; Organic sumac cannot be found in the market as most of the collection is wild, and having it certified requires land ownership which is challenging to obtain from wild areas owned by monasteries or the government.
Dr. Noun, medicinal herbs consultant for ESCWA, expressed the importance and potential in sumac plantation as it is highly demanded in Lebanon; after the pilot project executed in South Lebanon he did not have the opportunity to follow up with farmers, though on the demand size a great potential is present.

7.3 Marketing of products (import/ export)

Interviewees mentioned that a big portion of the sumac demand is filled by imports both legally and smuggling from Syria Second House); while also some prospect sumac could be purchased from Iran at low prices (FTTL)

7.4 Bottlenecks and market-risks

Adaptation of cultivated Sumac. “It should not be a sensitive plant” as Dr. Noun said, though what is important is the cost-profit analysis of its cultivation in an agricultural field.

7.5 Future requirements/ trends and opportunities

Trust in quality for a big field and plantation of Sumac as being cultivated organic; could be added to a Zaatar mix from the same region as a holistic regional mix, can play a good part in marketing.
High demand as it complements the local zaatar mix.

VIII. Chickpea Sector

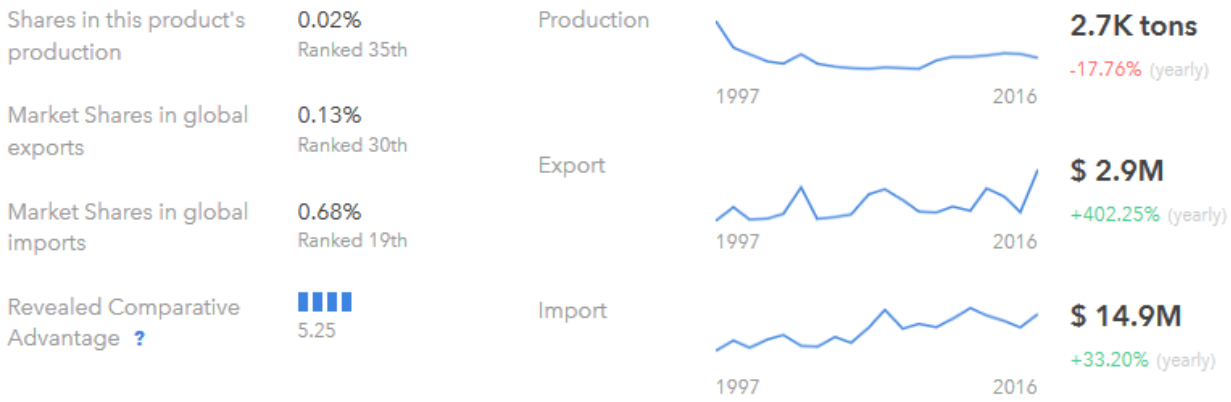
8.1 The chickpea sector in Lebanon

The pulse is usually planted late March to early April, timed with the warmth of spring, as chickpeas flourish in dry weather, and while hummus has long been a staple food in Middle East cuisine, the popularity of the dish in the West has been rising rapidly. Demand for chickpeas has soared as it is rich in nutrients and protein; it also became a popular snack among vegetarians and vegans.

Chickpea is treated as commodity and is traded worldwide; in the past years two factors – damaged crops and a higher demand – have caused hummus prices to increase.

Lebanon produces 2,700 tons of chickpea with a decrease in production at an average of 10% yearly rate in the past 5 years and it is ranked the 35th country in chickpea production; as production rate is decreasing production cost is increasing with a 20% annual rate reaching an average production cost of 1,200 USD/ ton[24]. Import and export values can be seen in the figure below.

Figure 11 Overview of the chickpea sector in Lebanon (Production, Export, and Import)[25]



8.2 Market supply and demand

Lebanon imports almost 95 percent of its chickpeas, according to the Ministry of Agriculture -2016.

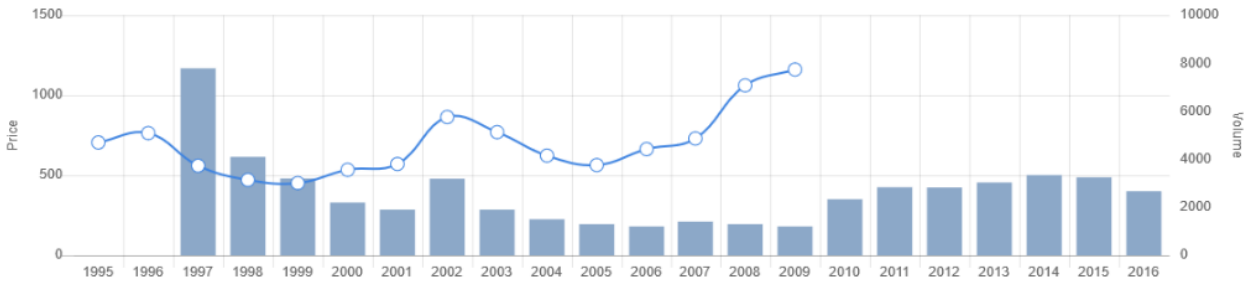
Food importer Riachi Trading said that 1 kilogram of chickpeas imported cost $1.50 in 2017, while in February 2018, the price has nearly doubled to $2.80. This increase is reflected on the supermarket shelves, said Mr. Fadi Fakhouri, of Riachi Trading. “One kilogram of chickpeas is sold for LL5,000 ($3.30) when it used to be between LL1,250 ($0.99) to LL2,000 ($1.32) some years ago”. Ms. Trablousi explained that imported chickpeas is very competitive in respect to locally produces chickpea. While the chickpea of “fahle” variety is sold at $1.40/kg previously and recently reached $2.7/kg, the locally produced chickpea that might also be infected by insects is sold at $6/kg. This reflects on low demand for the locally produced chickpea for both its price and relative quality. On the other hand, FTTL source their chickpea at prices

[24] https://www.tridge.com/intelligences/chickpea/LB/production
[25] https://www.tridge.com/intelligences/chickpea/LB/production

ranging from $1.2 -2.5/kg, good grade chickpea fetches high prices of $2.2-2.5/kg though it is hard to source.

Lebanese restaurants have also felt the rising prices, but some proprietors said they didn't realize the traditional dish was in danger.

Figure 12 Chickpea production in Lebanon - Price($) and Volume (Tons)



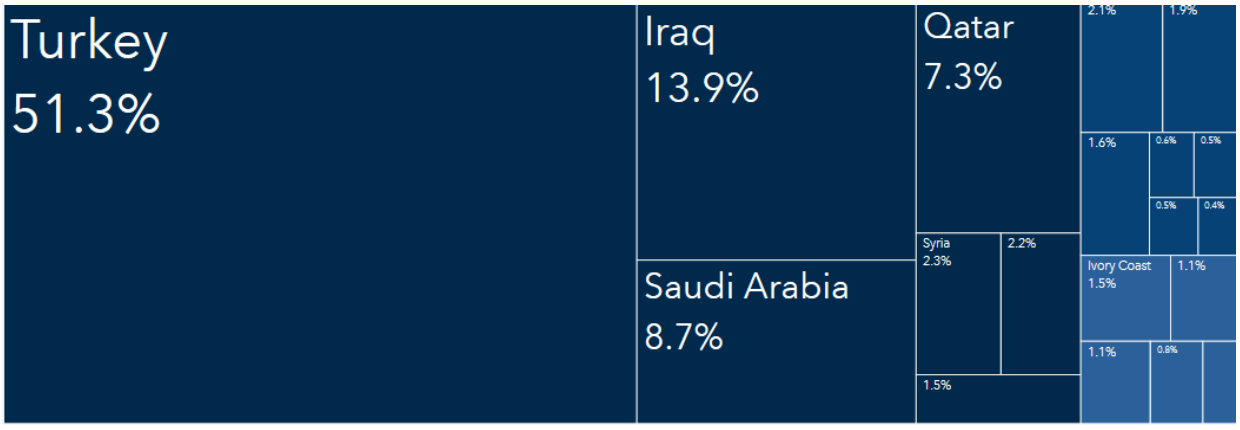
On average the price of chickpea in the Lebanese market, is 1.5 dollars per kilo, and that yearly local consumption is estimated at 1,500 tons per year, i.e. a total value of $ 2.25 million[26], disregarding the processed hummus that is re-exported as a processed product.

8.3 Marketing of products (import/ export)

Antoine Hayek from the Agriculture Ministry told The Daily Star that while Lebanon has the ideal temperature and environment to plant chickpeas, importing them is still cheaper. "But if the price rises a lot, we might start producing more in Lebanon," he said. The Lebanese market has already been affected by the shortage.

In this respect, Lebanon has, between 2012 and 2014, imported around 14,000 tons of chickpea crops, and exported nearly 80% of the finished hummus product to foreign markets.

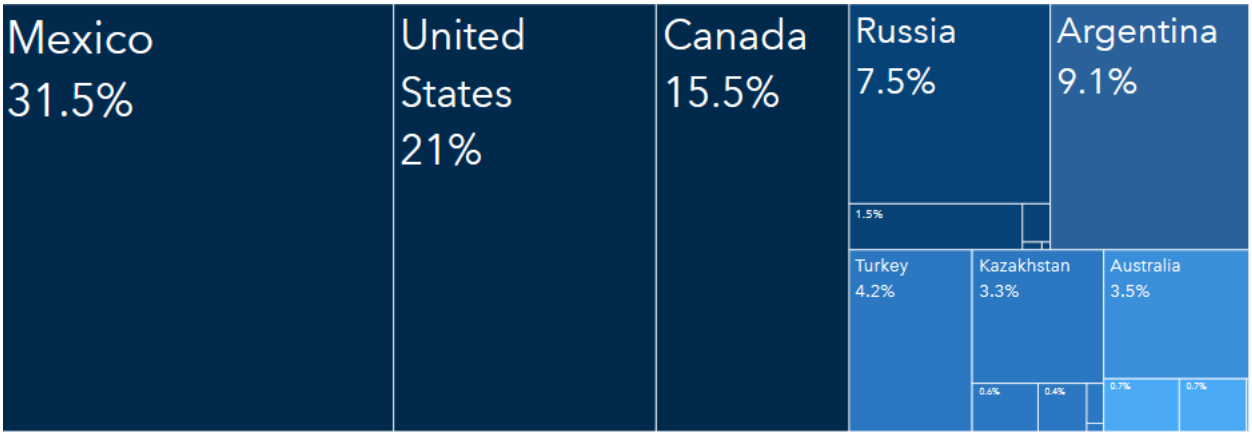
Figure 13 Exports of Chickpeas by volume 2017



[26] http://www.dailystar.com.lb/News/Lebanon-News/2018/Feb-13/437839-chickpea-shortage-threatens-to-push-up-price-of-hummus.ashx

Lebanese total export value of chickpea and chickpea by-products reached $2.9 million in year 2017.

Figure 14 Imports of Chickpea by volume 2017



FTTL sources local organic chickpeas and process it into different ready to eat mixes. Export demand is 20,000 jars of 300gr chickpea paste or chickpea mixed with eggplant; this sums up to 7 tons of chickpea per year. Mr. Joe expressed that demand is increasing and new markets could be tapped in the future with these products reflecting to higher demand of locally grown organic chickpea.

8.4 Bottlenecks and market-risks

- While Europe and the Arab Gulf countries still import made-in-Lebanon hummus, the US has in the past five years shifted towards imports from Jordan; in addition, Other countries, like Kuwait and Dubai, have also embarked on the production of hummus[27].
- High prices of Lebanese grown chickpeas as reflected from the high cost of production[28]. Unclear chickpea products as some might have gravels and requires further sorting once purchased due to the primitive processing techniques.
- Chickpea is a world commodity and is being traded worldwide, in addition organic chickpea is imported from Argentina and Turkey to the EU and Canadian market. For the Lebanese organic chickpea to compete it should be challenged by the price of $1.7-2/Kg with a maximum of 20% range[29].

8.5 Future requirements/ trends and opportunities

The wholesaler Jabra and Sons are trying to tackle the high demand and price through local production projects: “We just sold 10 tons of chickpea [seeds] to farmers in the south of Lebanon to plant,” Jabra said.

[27] L’Orient Le Jour, August 1, 2016
[28] Head of the Crops and Vegetables Section at the Agricultural Scientific Research Department, Rabi’ Kabalan, L’Orient Le Jour, August 1, 2016
[29] Ms. Maksoud from Second House company in Lebanon.

He explained that the quality of these crops will be different from the imported versions, and local farmers don't have a machine that filters the dirt and pebbles from the chickpeas, which will slow down production. "But it's a start," he said as an experiment to assess local production.

As chickpea is traded as an international commodity it is hard for Lebanese production to compete with world prices due to the limited area, and capacities present in Lebanon with no existence of a competitive advantage of its production.

Conclusion and recommendations

To summarize the conclusion of the study a table below summarizes each product's market position in accordance to supply, demand, competition, ease of sales, and profitability.

Table 2 Summary of product market analysis

	Product	Supply		Demand		Competition	Ease of sales	Profitability
		Local	International	Local	International			
1	Olive oil	High	Medium	High	High	High	Medium	Medium
	Extra virgin O.O.	Medium	Medium	High*	High	High	High	High
	Organic O.O	Low	Medium	Medium	High	Medium - High	High	To be assessed
2	**Honey**	Medium	Medium	High*	High	Medium	High	High
3	**Zaatar**	Medium	Medium-low	High*	High	Medium	High	High
4	**Sumac**	Medium - low	Medium – low	High*	High	Medium	High	*To be assessed*
5	Organic Chickpea	Low	Medium - high	Low	High	High	Medium	Medium

**Represents a local market shortage*

The analysis below portrays each products advantage in regards to the compared factor:

Supply (Zaatar, Sumac, honey)

Local market: Lebanese olive oil is in high surplus, except the extra virgin, and organic olive oil that face a local shortage; while honey, zaatar, and sumac face a shortage of almost 50%. Organic chickpea is not commonly grown and has a low supply into the local market.

International market: Chickpea is supplied from diverse countries and has a high international supply though prices are increasing giving way to a potential market for large productions. Extra virgin, and organic olive oil, and honey are analyzed according to the premium quality that Lebanon offers, as the

international supply is medium in that matter with a good space for growth. The lowest supply is seen in the zaatar and the sumac as they both complement each other and face a good potential growth for export.

Demand

Local demand for olive oil, extra virgin olive oil, honey, zaatar, and sumac is high with a highlight on a forecasted 20% growth in honey, zaatar, and sumac market specifically. While demand for local organic olive oil and chickpea is low.

In the international market all products face a demand in its specific channel and quality.

Competition (honey, zaatar, and sumac)

There is a big competition in the local and international market for both olive oil, extra virgin olive oil, and chickpea, making it challenging with price barriers for the Lebanese products in the market. On the other hand, zaatar, and sumac have a medium competition especially in the Lebanese market as it is authentic to the region with high demand.

Ease of sales (Honey, zaatar, and sumac / Direct sale)

According to the previous analysis in each product segment honey, zaatar, and sumac have a big portion of their production sold directly to consumers coupled with an increase in demand in the local market which decreases logistics; moreover, as a product, they are easy to handle and possess a high shelf-life and a simple package. On the other hand, olive oil in all its forms, still has a high portion of its sales through direct sales. On the other hand, if the yearly yield is high, sales are challenging in respect to the surplus of olive oil found in the Lebanese market. A main challenge is the aggregation and quality factor between and within cooperatives and getting the desired quality for the international market. Still aggregators in Lebanon for the Lebanese market find a shortage in the supply of extra virgin olive oil. Organic chickpea has a targeted niche market with a medium ease of sales.

Profitability (Olive oil, honey, and zaatar (sumac?))

Reflecting on the data gathered and interviews, zaatar and honey have a high profitability ration taking into consideration the low investment and labor required. Olive oil possesses a high potential profitability as well if export quality is reached, and if small-scale farmers follow GAP to increase their yield. On the other hand, chickpea has a medium profitability ration relative to competitive price, and high local cost of production.

- As a conclusion honey, zaatar, and sumac have the highest competitive scores according to the table formulated before and can be complimented with extra virgin olive oil production as it can be approached as a holistic project and land use; keeping in mind that the concentration and economic value will be reached from honey, zaatar, and sumac.

Recommendations

The following actions are recommended for expanding market opportunities:

1. Promote zaatar (in the zaatar mix) as a medicinal plant and healthy food which would help establish a niche local market and increase international market.
2. Investigate potential benefit from complementarity with honey production, such as Zaatar honey (honey produced near Zaatar fields, and characterized by its particular taste);
3. Develop related value-adding activities (packaging, labelling, and GIs) and adding a good story to the product increasing consumer attachment to the product and the geographical area
4. Promote a new youth idea twisted with authenticity of the products. Flavored olive oil (spicy, lavender, garlic…), added products to zaatar mix (grinded nuts, dried tomato, dried olives, dried pepper…)
5. Creating a space to promote rural tourism and introducing consumers to production areas and facilities of production to increase awareness, and direct sales; in addition, this will promote tourism in the geographical area as a whole.
6. Linking farmer groups directly to big restaurant chains for a good price and ease of sale, especially for zaatar and sumac mix (when high production is experienced)

Develop a holistic market-driven approach based on geographical origin, traceability, and sustainable story:

A market driven approach is convenient to the marketing environment and conditions in Lebanon, which are mostly based on relations, partnerships and effective communication. Although, Farmers may be trained, further steps should be considered such as:

- Establishment of sustainable service centers to follow up on the build-up of marketing networking, and effective communications with internal and external chain actors, to support the sector extension and linkages.
- Enhancement and follow up of the formulation of effective norms and standards regarding quality control and production practices to retain quality and expand local and export market share.

Contact list of interviewees:

	Product	Company / Area	Contact person	Contact #
1	Zaatar – Sumac	South Lebanon (Zaatar Zawtar)	Mr. Mouhamad Nehme	07-571347
2	Zaatar – Olive oil – Honey	Rural Delights Cooperative	Ms. May Traboulsi	03-335854
3	Zaatar – Olive oil – Honey	LIVCD	Mr. Wajdi Khater	03-751709
4	Honey	Beekeeper and honey distributor	Johny Bou Rjeili	03-140898
5	Zaatar	Wooden Bakery – Quality control	Wissam Akl	04-410666 Ext: 216/111
6	Zaatar – Sumac – Chickpeas	Second House	Joyce Maksoud	04-915391
7	Olive oil	Gardenia	Nicholas Bou Khater	08-931570
8	Olive oil – Zaatar - Chickpeaa	Al Achkar	Fady Al Achkar	70-131386
9	Olive oil – Zaatar – Sumac – Chickpea – Honey	FTTL	Joe Abi Harb	70-830427
10	Olive oil	Boulous	Ms. Maguie	09-918525
11	Zaatar – Sumac	ESCWA consultant	Dr. Jihad Noun	03-292252
12	Zaatar – Sumac	ESCWA and UNDP consultant	Ms. Carol Cherfane	03-388398
13	Zaatar	The good Thymes	Fady Aziz	70-010410