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FAIR TRADE LEBANON

LEBANESE OLIVE OIL NATIONAL

LEBANESE OLIVE OIL NATIONAL MARKET STUDY

Marketing Strategy for the Olive Oil Production in Hasbaya

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Executive Summary

The current study is financed by Chico Mendes cooperative and implemented by Fair Trade Lebanon. The objective is to provide a market study for the Lebanese olive oil value chain to identify means for the Hasbaya olive oil production to be distributed to the local or international markets.

The current study includes two major parts: the first part is the desk review, where recent updates were gathered from renowned and trusted sources to understand the dynamics of the current olive oil value chain and the effect that the recent socio-economic crisis has had on it. Three market chains were identified: the first is directly to the consumer, the second to the local market through brands and the third through export. It was also shown that selling prices increased in Lebanese currently from the equivalent of 100 USD per unit (5.56 USD/L) to the equivalent of 50 USD per unit (2.8 USD) but increased in local currencies from 150,000 (8,350 LBP/L) LBP to 400,000 LBP (22,250 LBP/L), which made it less accessible to local market and more accessible to export markets. Olive oil is distributed into the following categories: Extra Virgin, virgin, pure olive oil, refined olive oil and pomace oil, based on its acidity and peroxide content.

Based on the desk review findings, clarifications were needed on the below subjects:

- Cost allocation per olive oil liter.
- Identifying the major players in the local market.
- Available olive oil categories with relevant prices.
- Expectations of different customers concerning the quality, traceability, quality assurance and prices.
- Export opportunities and requested quality.

The second part of the study includes three components: the first is the results of the KIIs, which would lead to the profiling of the Lebanese and more specifically the Hasbaya olive oil value chain through a SWOT analysis in the second component. After understanding the profile and the dynamics of the olive oil value chain, recommendations to all stakeholders are provided in the third component so allow the Hasbaya olive oil the best chances for market access.

In the first component, to gather the requested data concerning the missing information, 13 stakeholders were identified and Key Informant Interviews were carried (see annex 1 and 2 for details)

which led to clarifying the situation of the olive oil value chain. The millers showed that milling services cost between 1,400 and 2,000 LBP/L (0.175 and 0.25 USD/L). Olive productivity is very high (22%) since it is harvested in October, when it is preferable to harvest it in September a get a productivity of 16-18%, with better olive oil quality.

For bottlers, Bottled units usually range between 250 ml to 3 L and their prices range according to the volume, the glass quality, the shape and the caps, the cost of a 500 ml bottle could reach 1 USD and 35 cents for the cap. Forms include Marsh, Doreca, Novolio, etc.

Wholesalers gross profit would be around 20% to cover their collection, bottling, and distribution, the price of olive oil in the market is around 3USD/L for the extra virgin olive oil and between 6 and 8 for organic extra virgin olive oil.

On the retail level, since distributors have evaluated their added cost at 20% and the wholesale at around 15%, therefore, the discount that is supposed to be offered on the mills level should be around 35% and therefore, the price of sale at the mills should range between 1.82 USD/L and 2.25 USD/L.

Over 69% of consumer purchase directly from the producers, while only 13% buy from the mill and 12% from the distributors. In fact, olive oil is considered a valuable commodity related to the consumers' tradition and social belonging,

The second component: the SWOT analysis showed that some of the strengths are the importance of olive oil in the Lebanese diet and the know-how of the Hasbaya producers as well as the great reputation its oil has. Weaknesses included adulteration and small quantities of production which decrease the negotiating capabilities. Opportunities included the availability of the olive oil and decreasing cost when calculated in USD which eases the access to international markets.

The second component of this part is a SWOT analysis which includes elements applicable to all Lebanese regions including Hasbaya and specific points relevant to the Hasbaya region based on the KII findings. The third and final component is a series of recommendations for the different value chain key players. Finally, threats include increasing production costs and decreasing consumers purchasing power.

In the third and final component, recommendations are provided for different stakeholders: quality tests and assurance as well as traceability for processors, decreasing bottles cost or even proposing reusable packages, and for exports, using available online platforms and regional exhibitions to acquire new markets within the COVID-19 framework.

Part 1:

Desk Review

1. Introduction

The Lebanese olive oil national market study is part of the wider DOT-Olive project that aims to support olive oil producers in the Hasbaya district in Nabatiye Governorate. In addition to the reinforcement of the Olive oil production in the region, the project aims to enhance the access to market to the producers through marketing support. The Objective of the Lebanese olive oil national market study is to identify opportunities and provide insight and recommendations for marketing Hasbaya Olive Oil.

The objective of the current desk review is to understand the current status of the olive oil value chain and the effects, the socio-economic crisis has had on it. It will also identify the missing areas that require further investigation to provide a better understanding of the value chain model. Missing data will be incorporated in complementary research tools to reach obtain a clear understanding of the market needs and thus the adequate marketing process.

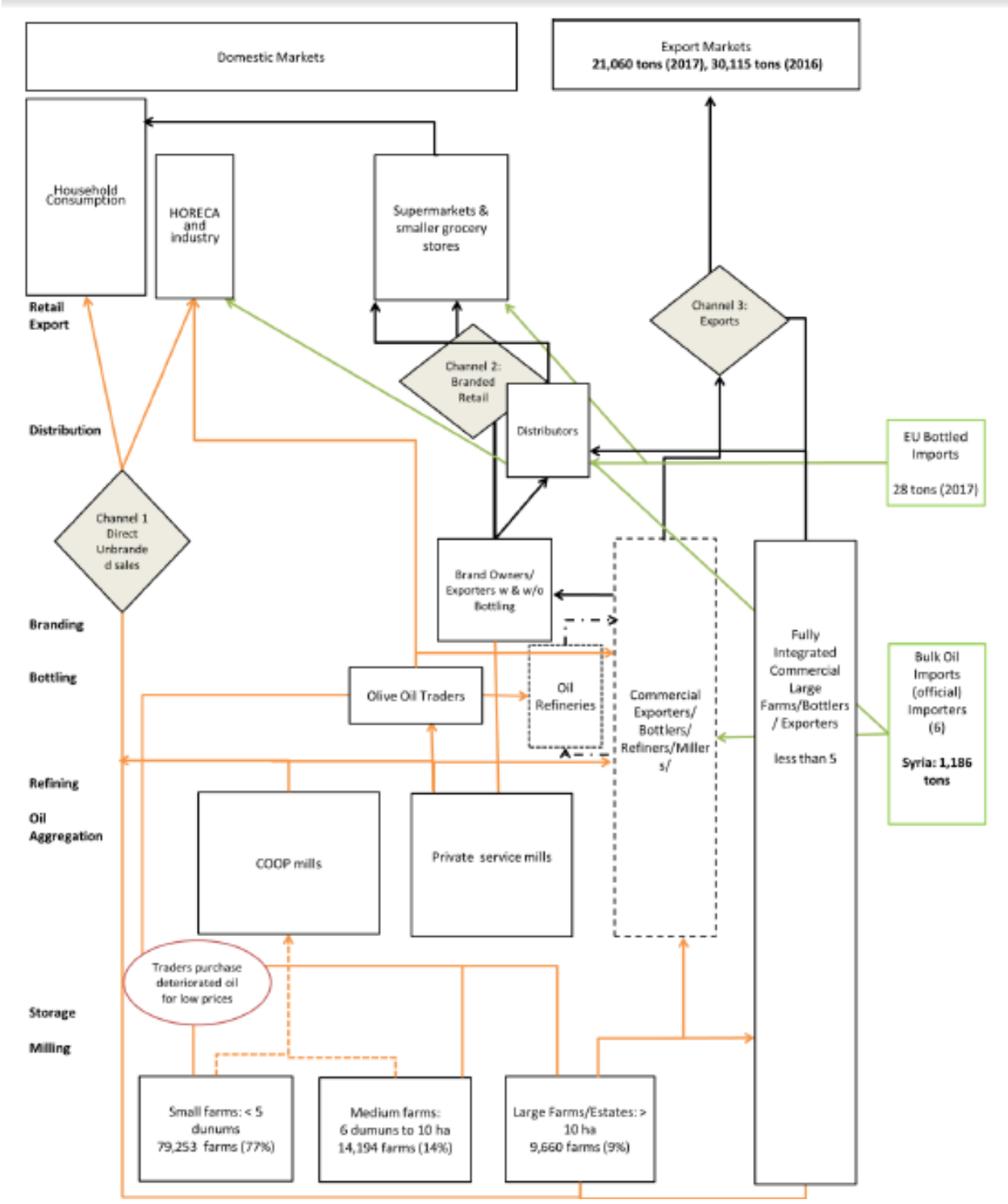
2. Olive oil value chain map

Almost 70% of the olives grown in Lebanon are used for the production of olive oil while the rest is sold directly for consumption. 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 trust1. A small percentage of the oil produced is sold to large companies that mix the oil and bottle them for sale in markets. Moreover, the study has indicated that there is a lack of consumer awareness about high quality olive oil, due to the widespread consumption of low quality olive oil. (1)

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

Figure 1: Map of olive oil value chain in Lebanon (2)



3. Olive production

In 2018, Olive trees occupied an area of 590 km2 in Lebanon, which represents around 5.6% of the country's territory, or 9% of total agricultural lands. Lebanese olive trees are on average 150 years old and are mostly rain-fed (Only 8% of the olive-cultivated area is irrigated, the rest is rain-fed). Olive production by volume reached 117,413 tons in 2018.

Over the last 45 years, olives have replaced wheat as the top crop by harvest area and demonstrated relative resilience. Around 70% of the olive trees are destined to the production of olive oil, and the remaining ones are destined to the production of table olives. Local production ranges between 80,000 tons and 180,000 tons, transformed into around 20,000 tons of olive oil and 25,000 tons of table olives. The oil productivity of the olives in Lebanon ranges from 18-25%.

Around 41% of olive oil production takes place in the North of Lebanon, followed by Nabatieh with 21% of total production, 15% in the South, 13% in the Bekaa and 10% in Mount Lebanon. (3)

Per capita consumption in Lebanon is estimated at 5.5 L of oil per year on average (i.e. 21,830 tons per 4 million people). Among oil-producing families, this figure rises to 8.7 L. The Lebanese individual consumes 5 kg of table olives (that is, 20,000 tons of olives for 4 million people).

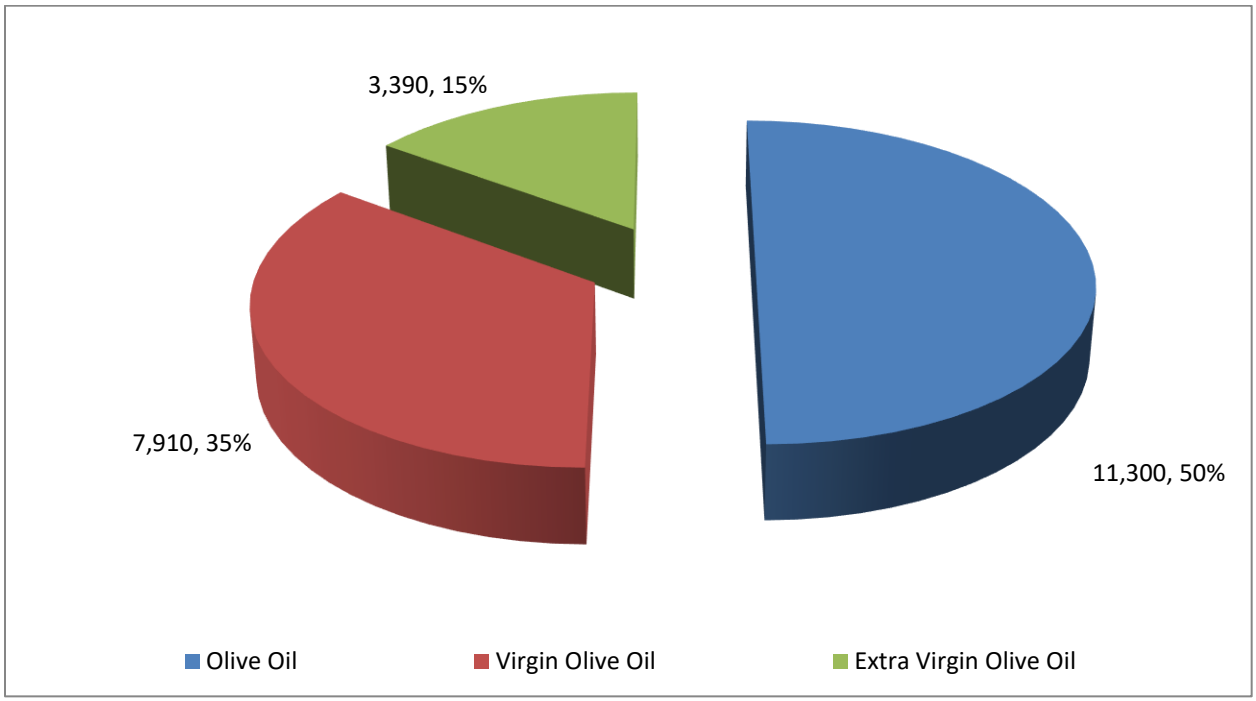
There are around 500 olive presses and 100 oil packing units and about 60 table olive packaging units. The share of extra virgin oil has increased in the last ten years from 10% of the total oil produced to 25%, thanks to the awareness campaigns carried out by the Ministry of Agriculture in cooperation with international organizations and society

As for the most important challenges facing olive cultivation:

- Selling all the olive production of a whole year
- Inconsistent production
- Old orchards (more than 50 year old trees represent 50% in some regions)
- Small properties
- Using obsolete production techniques
- Weak infrastructure especially for marketing services.

Olive oil production is represented in the below table:

Figure 2: Olive oil production distribution in categories (Tons)



4. Olive oil cost allocation

The rise in olive oil price is very surprising, as this relates to the 2019 harvest, and the previous year's oil would usually be discounted at this time of the year. It is inferred that producers incorporated the increased costs of the 2020 season into their selling prices. On the other side, customers anticipated a further rise in prices with the new 2020 harvest. (4)

Table 1: Olive oil production cost allocation before and after the crisis (4)

Cost category	Before crisis	After crisis	
	Cost (LBP/Ha)	Crisis impact	Cost (LBP/Ha)
Depreciations (Plantation)	120,000 2.99% 120,000	2	240,000 2.37%
Inputs (copper, phytosanitary, fertilisation)	1,200,000 29.85% 1,200,000	5	6,000,000 59.17%
Services Oil pressing Plowing and misc.	1,200,000 29.85% 600,000 600,000	2	2,400,000 23,67%
Labor Permanent Daily, pruning Daily, harvesting	1,500,000 37.31% 200,000 300,000 1,000,000	1	1,500,000 14,79%
Summary of costs accounting costs cash costs	4,020,000 3,900,000		10,140,000 9,900,000
Increase in costs On accounting costs On cash costs		152% 154%	
Yields			
Olive		2,500 (Kg/Ha)	
Oil Yield		0.2	
Oil		546 (L/Ha)	
Selling units		30 tanke (16.5 Kg or 18L)	
Unit cost		**132,660 LBP/Tanke (16.5Kg or 18L))**	
Sales	**Before Crisis**	**After crisis**	
Unit price	8,350 (LBP/L)	22,200 (LBP/ L)	
Sales	4,550,000 (LBP/Ha)	12,120,000 (LBP/Ha)	
% change		166%	
Margins	**Before crisis**	**After crisis**	
Unit cost (LBP/L)	7,370	18,500	
% change		152%	
Margin (LBP/Ha)	530,000	1,980,000	
% change	12%	16%	
Cash flow (LBP/Ha)	650,000	2,220,000	
% change	14%	18%	

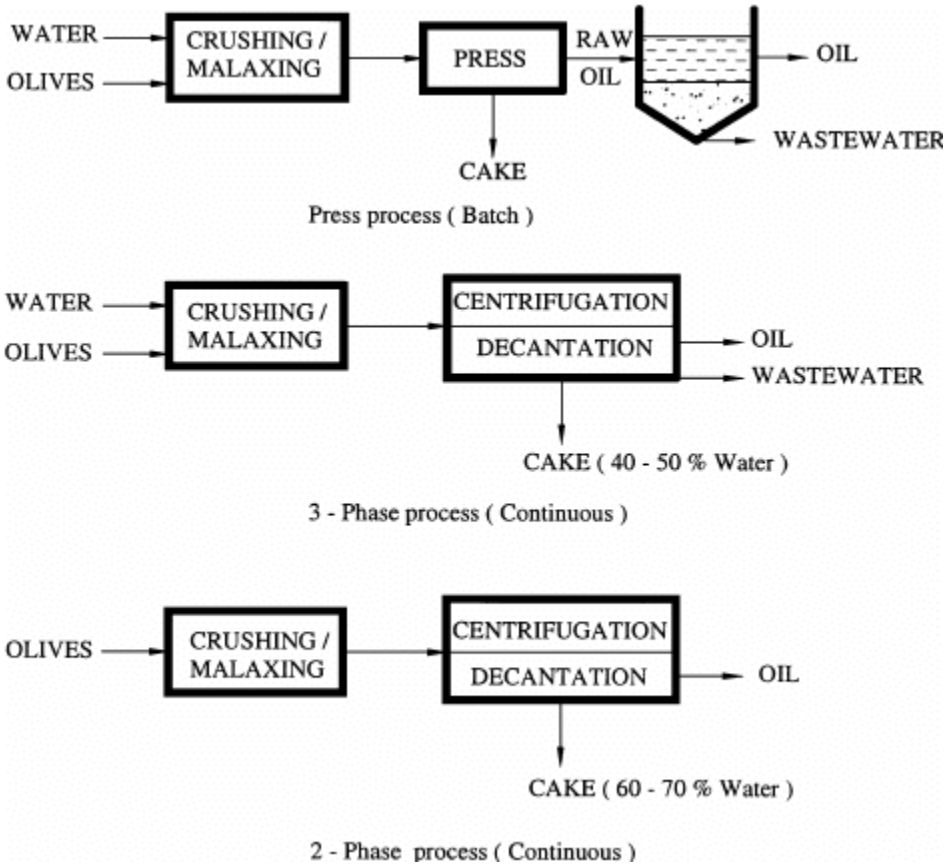
5. Olive milling process

Lebanese consumers do not have a high awareness of the main international olive oil quality standards or product origins, which minimizes the incentives for farmers and processors to improve their practices. (2)

There are four processing systems:

- **Press system:** In this system, the olives fruits are crushed using a hummer mill that leads to a more complete breakage of olive flesh. Then, the crushed olives are grinded for around 30 min using cylindrical millstones to obtain the olive paste. The obtained olive paste is then placed on mats, stacked one above the other and pressed using a hydraulic press at a pressure up to 400 atm. The obtained oil is then pumped to a vertical centrifuge to separate the oil from vegetable water and other impurities. (5)
- **Sinolea system (also known as cold percolation system):** In this system, the olive fruits are crushed in a hammer mill. Then, the oil is separated from the olive paste using the sinolea system consisting of a series of metal discs used to mix the paste inside a perforated semi cylindrical vat including rows of metal discs or plates that dip into the paste, and the oil wets and sticks to the metal and is removed with scrapers in a continuous process. The oil dropping down the vat by gravity is collected in stainless steel recipients. To increase the efficiency of oil extraction of this system is combined to 3-phases decanters. The oil obtained is mixed to the previously collected oil, and then separated from any remaining impurities by a vertical centrifuge. (5)
- **3-phases system:** The olive fruits are crushed also by using a hammer mill, and then they are slowly mixed in a malaxation machine at 25 to 28 degrees C in order to coalesce the small oil droplets. At the end of this process, the resulting paste is homogenous with large oil spots floating on the surface and ready for separation inside the decanter. The decanter is a horizontal centrifuge rotating at around 3000 rpm to achieve the separation of the constituents of the homogenous paste into 3 different products: (i) dry pomace; (ii) vegetable water; and (iii) oil with small quantities of vegetable water that are removed by vertical centrifugation. In order to achieve better separation of the three phases in the decanter, 200–300 L of water per tons of olive paste are added. (5)
- **2-phases system:** The 2-phases processing system is quite similar to the 3-phases system. However, the main difference is that the decanter separated the homogenous paste into only two phases: The first one is the mixture of pomace and vegetable water (wet pomace) and the second one is the oil mixed with small quantities of vegetable water. The obtained oil undergoes a vertical centrifugation to clean it. In this system, no water was added to the paste. (5)

Figure 3: different classical pressing phases for olive oil



The milling process is characterized by the below activities:

- **Post-harvest handling**

There is a tendency to combine harvested fruits with olives that have fallen out before taking them to the mill. Furthermore, many farmers still transport olive fruits in plastic bags to the mills where, the olives may be stored for up to 48 hours before they are pressed. This has negative effects on the oil's quality because the lack of air circulation and leads to a gradual increase in temperature and humidity and thus a deterioration in the quality of the olive fruits. (2)

- **Traditional mills**

A high percentage of the approximately 500 mills in Lebanon16 still operate traditionally, using stone mills crushing and pressing mechanisms to extricate the oil; thus, exposing olives to high levels of oxygen, thereby raising the level of peroxide. Mills also do not abide by rigid models of cleanliness, and this is visible at first glance by the improper sanitary conditions and inappropriate outfits worn in the

mills. Nonetheless, oil produced by traditional mills remain in high demand in Lebanon, as a significant segment of Lebanese consumers tend to prefer opaque oil produced by traditional mills, despite its lower conventional quality, i.e. as determined by international olive oil quality standards. (2)

- **Waste and by-products management**

In most of the cases, there are no alternative plans for wastewater coming from olive mills, other than dumping them into rivers or lands. This increases the pesticide levels and pollution in the water, according to a study conducted by the Beirut Arab University18. Although this wastewater is rich in polyphenols that can be reused as fertilizers for the olive trees (or reduced by a two-phase separating decanter like those used in modern mills), it is toxic to plants and microorganisms and has posed huge problems in various villages in Lebanon19. Wastewater from mills leads to detrimental levels of pollution in the surrounding area, and, as such, it should become the responsibility of olive mills and local authorities to ensure that they are reused carefully to ensure pollution is limited. It is important to note that modern and competitive mills create minimum waste residues, as water is stored and reused for irrigation/fertilization and remaining solid waste are stored in the form of briquette to be used for winter home heating. (2)

- **Storage**

After the olive oil is extracted from mills, storing them is the next step in the value chain. Many Lebanese farmers do not store the olive oil in stainless steel containers and continue using plastic, which has long been acknowledged as a dangerous alternative by the MoA. Following up with storage is particularly challenging because since most sales are on a house-to-house basis, inspecting the olive oil would require house visits that may impede privacy. (2)

6. Marketing Channels

While consumption of olive oil per capita is about 4.3 liters in Lebanon, it is doubled and quadrupled in Greece and Syria, where consumption is 10 and 20 liters per capita respectively. Lebanese consumers have a distinct preference for locally produced oil and tend to buy olive oil in bulk from trusted family or neighbors with whom they have an established relationship. A majority of Lebanese consumers care little about formal standards and do not distinguish between extra virgin, virgin, and pure olive oil. Rather, the key factor most consumers look for is a “trusted” and “authentic” rural connection, which is

most often guaranteed by family or a personal relationship with the farmer or, failing that, with a particular olive mill. (2)

Channel 1: Direct unbranded sales

Approximately half of the registered farmers and land owners had at least one dunum of olive trees. As a matter of fact, a significant number of people have access to a direct supply of olive oil at production cost, and more importantly a large part of the production of olive oil is not intended for market use. It is estimated that approximately 15% of the total land planted with olives is intended for home consumption only and is therefore not marketed. (6)

Over 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 interpersonally relationship and trust, and/or on the geographic location of the oil. Intermediation in this market segment is minimal to none, as farmers and mills who supply most of this oil use family connections and personal networks to sell it. Prices are quite high, with households willing to pay between USD 80 to USD 120 per 18 L tin or between USD 4.40 and USD 6.67 per L. This market choice is often also the choice of cooperative members. There is a lack of knowledge on how to price products, how to deal with customers outside of the surrounding area, and what competitive edge to leverage on. (2)

Channel 2: Branded retail

The Lebanese local distribution and retail market is dominated by low cost low quality bottle olive oil. The market is dominated by private actors that usually commercialize branded olive oil. Most of them use their own bottling and storage facilities, in which both Lebanese and imported olive oil are mixed and blended. Some large branded companies act as virtual companies and subcontract to existing bottle facilities all required operations. Most of them work with intermediaries to ensure required supplies. Large companies also use the services of oil refineries to produce “pure olive oil”. According to interviewed expert, the refining processed allow the recycling (i.e. refining) of old olive oil with high level of acidity into refine olive oil with zero acidity and neutral taste. This oil is then blended with virgin olive oil, produced locally and/or imported, to create pure olive oil. This process allows large companies to manage inventory (as acidity level tend to increase with age) and significantly reduce costs through the refining process itself but also by buying lower quality and one-year old olive oil from farmers and cooperatives at low cost. (2)

Some stakeholders have capitalized on their ability to produce extra virgin olive oil, as well as high quality olive (high density, handpicked and organic oil). They have relied on the limited but growing consumer demand for high quality products. Strategies within that segment rely on bottled branding as well as on bulk quantity, with respect to good storage and transportation practices. High quality olive oil actors have been able to secure both a local and an export market share.

Several cooperatives have engaged in the production of high quality olive oil, nonetheless, many have limited capacities in terms of volume and the market remain dominated by larger private aggregators that procure part of their supply from cooperatives. As a matter of fact, the development of this market sub-system would not have been possible without donors' supported efforts to improve field agricultural as well as milling and manufacturing best practices. Although some cooperatives were able to integrate high quality olive oil value chain, they remain a weak actor because of their lack of investment and growth capabilities. (2)

Channel 3: Exports

In 2018, olive oil production was estimated at 18,480 tons, growing at a CAGR of 4% for 2011-2018. In 2019 olive oil exports reached 6,930 tons and increased at a CAGR of 7.5% during the period 2012-2019. Lebanese olive oil was exported primarily to the USA (19.7%), followed by Kuwait (19.5%), Canada (10.2%) and the UAE (10.2%) - with the bloc of Arab countries taking in 50% of total exports (3,452 tons), followed by North America at 30% (2,080 tons). (3)

7. Olive oil categories

- **Extra Virgin:** Zero defects. Acidity range less than 0.8g per 100g. Peroxide content less than 20.
- **Virgin:** Acidity range between 0.8 and 2g per 100g, Peroxide content less than 20.
- **Pure Olive Oil:** Blended, virgin and refined olive oil. Acidity range between 2 and 3.3g per 100g. Peroxide content less than 15*.
- **Refined Oil:** Acidity range between 0.3 and 2g per 100g. Peroxide content less than 5*.
- **Pomace Oil:** Extracted from olive husk after milling. Acidity range, up to 1g per 100g. Peroxide content less than 15. Inedible oil.

Acidity: Triglycerides oils are produced inside the fruit naturally, and during the production process of olive oil, fatty acids get released, which increase its acidity level; lower acidity means that olive oil has undergone less damage during production.

Peroxide: the level of olive oil oxidation leading to rancidity

*Refined oils and oils blended with refined oil have a lower peroxide content due to the refining process.

8. Olive oil chemical and organoleptic analysis

Olive oil is subjected to below chemical analysis to determine its characteristics

- Free Acidity, Peroxide Values and UV Absorption
- Fatty Acids Composition
- Extraction of Phenolic Compounds and Determination of Total Phenolic Content
- Oxidative Stability Index (OSI)

As for sensory analysis, they are usually performed by trained experts and include the following:

Each taster first smells the oil and judges it as defected or without defects. Then, the panel members test the oils without defects and mark the intensity of fruity, bitter and pungent attributes. Attributes are assessed on an oriented 10 cm line scale and quantified measuring the location of the mark from the origin according to the method of organoleptic characterization of virgin olive oil described by the IOC. This method is used to classify each oil according to the intensity of the three mentioned positive attributes. An attribute was considered as delicate if the median is lower than 3; as medium if the median is between 3 and 6; and, as robust if the median is higher than 6. (5)

9. Recommendations

This desk review showed important information concerning the olive oil market, including the different categories of olive oil and their benchmarks, the different available, olive oil extraction techniques and their advantages as well as cost allocation from production to the milling and the effect of the crisis on the costs and prices evolution.

On the other hand, the study identified the direction to be taken by the Key Informant Interviews in order to fill the missing market data. Following the primary data collection and analysis, it will be able to provide a market study, followed by a SWOT analysis and eventually recommendations for the best market access strategy for the Hasbaya olive oil. KIIs will be designed in a manner to provide clarifications to the following:

- Cost allocation per olive oil liter, following the different marketing channels, from the millers onwards.
- Identifying the major players in the local market and their market share.
- Available olive oil categories with relevant prices, market shares and preference by consumers.
- Expectations of different customers – including consumers - following the crisis concerning the quality, traceability, quality assurance and prices.
- Export opportunities and requested quality.

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Part 2:

Market Analysis

1. Introduction

Rural areas base much of their income on agricultural activities and Lebanon presents a variety of agricultural ecosystems despite its small surface. The Hasbaya region in Western Bekaa is known for its olive oil production and its appreciated quality; however, the Lebanese olive oil sector has been facing its own problems before the socio-economic and sanitary crises that were added lately.

Olive oil is a basic component of the Lebanese diet and is an integral ingredient of many salads and Lebanese dishes; moreover, olive oil production is related to the Lebanese heritage, tradition and pride.

The objective of the current study is to investigate the hasbaya olive oil potential and the different possibilities for its market access, especially in very difficult and volatile times.

The current study is divided into three major components:

- Market study
- SWOT Analysis
- Recommendations

2. Methodology

2.1. Key Informant Interviews

After performing a secondary data analysis which showed the lack of recent available information about the Lebanese olive oil sector, a series of 13 Key Informant Interviews were performed according to the bellow list:

Table 2: List of Key Informant Interviews Stakeholders

Number	Category	Institution	Contact Person	Position
1	Milling Akkar	Kobayat Coop	Tony Raad	President
2	Milling Koura	Dar Beechtar	Eng. Roland Andari	President
3	Filling and Bottling	Zaka Multitec	Valérie Zaka	Owner
4	Bottling	Wellani - Koura	Joseph Khoury	Owner
5	Distribution	Saifan	Sami Saifan	Owner
6	Distribution (Organic)	Biomass	Jimmy Hajj	Operations Manager
7	Retail sale	FTL Study	FTL Study	FTL Study
8	HoReCa	Hilton	Massoud Naddaf	Procurement Manager
9	Public Authority	Ministry of Economy	Dr. Elie Bou Yazbek	Assistant General Manager
10	Private Authority	CCIA (Tripoli)	Simon Bachawati	Development Manager
11	Quality Assurance	LARI	Dr. Milad Riachi	Quality Expert
12	Pubilc Authority	Ministry of Agriculture	Eng. Mariam Eid	Head of food industry dept.
13	Export Support	FTTL	Cheryl Abdelnour	Brand Manager

The interviews were also followed by two retail visits for two major supermarkets Le Charcutier Aoun - Batroun and Jbeil Supermarket – Byblos to get a validation to the current olive oil prices and results were discussed with different stakeholders to understand the pricing strategies.

As for the consumers, the data were based on an internal study performed by FTL, where data relevant to the current study were identified and analysed. The study covered a sample of 197 terminal market representatives distributed over the seven governorates as follows: Akkar (25%), Beirut (9%), Bekaa (40%), Mount Lebanon (10%), Nabatieh (5%), North Lebanon (0.5 %) and South Lebanon (10.5%). Types of terminal markets included Bakeries, Hotels, local consumers, restaurants and caterers, supermarkets and groceries, fairs & local outlets and soap producers. Gender distribution was 36% females and 64% males. The questions included the frequency of olive oil purchase, source (local or imported) and focal point of purchase source.

2.2. Stakeholders

A value chain approach was adopted in order to get a holistic overview of the market dynamics and the interactions between the different components. Three sales chanels were identified, each including it own stakeholders:

Sales channel 1: Direct sales

- Farmers and cooperatives
- Millers
- Consumers

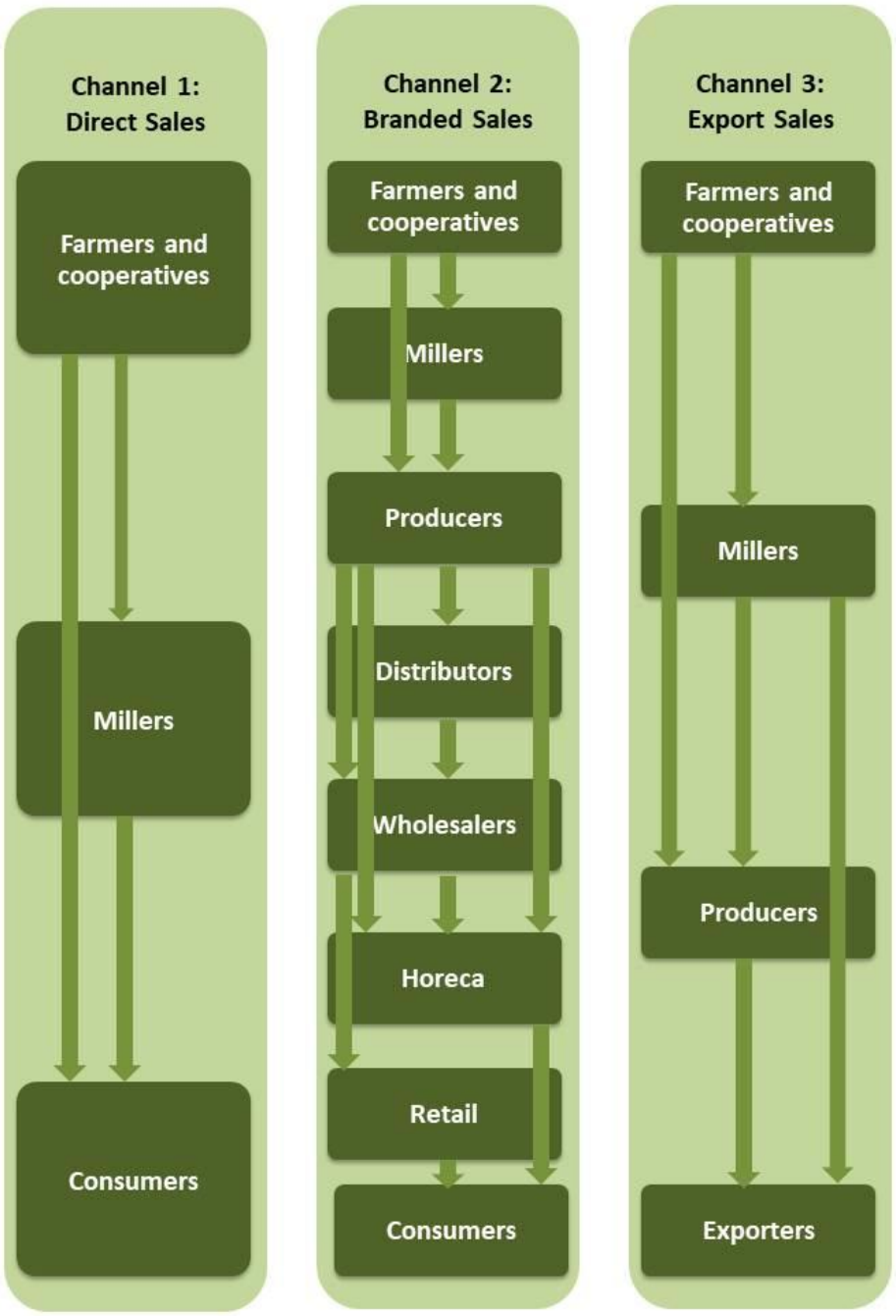
Sales channel 2: Branded Sales

- Farmers and cooperatives
- Millers
- Producers
- Distributors
- Retailers
- HoReCa
- Consumers

Sales channel 3: Export sales

- Farmers and cooperatives
- Millers
- Producers
- Exporters

Figure 4: **Sales channels of the olive oil value chain**



2.1.1. Millers

The most successful business model for olive oil mills is **when they are part of the services provided by agricultural cooperatives** for two major reasons: the first is being able to have an impact on a larger number of farmers by decreasing their production cost and the second is that they could benefit from cumulative support from NGOs. This is the case of the Agricultural Cooperative Association – Kobayat who possess a 3 phases milling process who process between 300 and 400 Tons of olives every year and who benefited from support of different NGOs to expand their activities. Also, the Dar Bechtaar cooperative that processes between 500 and 1000 tons of olives in its three phases extraction system and possess a semi-automatic bottling line which is used for their own brand or for other private brands.

Usually, millers related to cooperatives offer the following services:

- **Harvesting:** mechanical harvesters along with harvesting teams (Warsheh) are provided to cooperatives members with minimal costs.
- **Transportation:** harvested olives are transported from orchards to the mills in plastic cases also loaned to protect their quality from piling up.
- **Milling:** Two and three phase extraction processes are used to guarantee better efficiency while each batch does not wait more than 24 hours at the mill before its milling.
- **Storage:** Some mills also offer the possibility to store olive oil in stainless steel tanks.

Some Wholesalers can accumulate all the phases of olive oil value chain from production to distribution, including bottling, branding, etc. as will be shown eventually.

The cost of milling in cooperatives owned mills is around 25,000 LBP including the pick-up from the producers, while it could reach 35,000 LBP for private millers. The cost of the 18L (16.5 Kg) stainless steel tin is 2 USD. The average price of the filled unit ranged between 400,000 LBP and 500,000 LBP (50 USD - 62 USD) during the 2020 season (2.78 USD/L and 3.45 USD/L).

When bought, olives cost 5,000 LBP/Kg and the olive oil **productivity ranged between 22% and 26%** which is extremely high, since the olives are only harvested in October, while it could be between 16% and 18% when harvested in September and provides a better quality for olive oil.

2.1.2. Processors

Processors are considered as entities that sell bottled olive oil; their activities could cover all or parts of the processes from production to bottling. Willani is one of the major processors who

possess two milling line, one of which is for organic olive oil production certified by OMC, which allows them to extract organic olive oil for different producers. They produce from their own lands around 10,000 gallons (180,000 Liters) and produce around 17,000 gallons (306, 000 Liters) from other producers. They also possess a fully automatic bottling line and sell their own label and for other private labels and they sell in the local and the export markets as well.

Before bottling, olive oil is subjected to the following tests:

Acidity: to measure the amount of free fatty acids, which is an important indicator to the quality and the age of olive oil since it increases with time.

Peroxide: Measure the amount of oxidation of olive oil and thus the rancidity and the bad smell.

UV Absorbance: this test is used to measure the secondary components and allows exposing adulteration, where olive oil is sometimes mixed with different vegetable oil.

Olive oil quality tests could be performed at the Lebanese Agricultural Research Institute (LARI) or the Industrial Research Institute (IRI) or other private institutions such as the Chamber of Commerce, Industry and Agriculture in Tripoli (CCIAT) and American University of Beirut (AUB). These institutions provide certified quality assurance certificates. In fact, the best solution for the Hasbaya region is to perform the simpler peroxide and acidity tests at LARI's regional center, while UV tests and methyl esters have to be performed at LARI's central branch in Fanar, when needed. Every season, two samples would be tested simultaneously at LARI, IRI and AUB to be certain about the consistency of the results.

Bottled units usually range between 250 ml to 3 L and their **prices range according to the volume, the glass quality, the shape and the caps**, the cost of a 500 ml bottle could reach 1 USD and 35 cents for the cap ; however, the average costs of glass packages are as listed in the below table:

Table 3: Average cost of olive oil glass bottles and stainless steel tanks

Size (ml)	Cost (USD)
250	0.14
500	0.33
750	0.4
1,000	0.45
1,500	0.55
2,800	0.57
3,000	0.6

18,000 (stainless steel)	2

Bottles are used according to the target market and they can range from low quality glass to high quality and design bottles for export markets. Some of the forms include Marsh, Doreca, Novolio and the high end Italian made Nocturne; names that are universally known for the same bottle forms.

Table 4: Contact details of processors

Entity name	Contact person	Job position	Contact details
Willani SARL	Mr. Sarkiss Moussa	Manager	71 77 71 17
Cooperative Association for development, manufacturing and production of olive oil in Darbaachtar	Mr. Rafoul Rafoul	Manager	03 56 63 26
Kobayat Cooperative	Tony Raad	President	03 46 74 79
Agricultural Cooperative for the production and marketing of vine and olive in Rashaya Al Fekhar and Al Khraybeh	Mr. Ibrahim Jrawi	President	03 76 84 38
Agricultural Cooperative Rachaya Fakhar	Mr. Gaith Maalouf	Presdent	03 75 04 70

Table 5: Contact details of bottles providers

Entity name	Contact person	Job position	Contact details
Zakka Multitech	Valérie Zakka	Owner	03 62 18 13
Hammoud Bottles	Salah Hammoud	Owner	03 30 62 14
Koub Glass	Alaa Koubaytri	Owner	71 28 59 57

2.1.3. Distributors

Usually, olive oil is gathered from different producers who would have transformed their olives into olive oil at the mills or directly from mills. Quality tests (peroxide, acidity and organoleptic) are performed and olive oil is usually categorized in one of four categories: Extra virgin, virgin, or for soap production or finally for refining which sometimes is requested by foreign markets such as the UK. Distributors may possess their own brands as they can produce for other private brands, they perform the bottling in different shapes and sizes according to the target market, their gross profit would be around 20% to cover their collection, bottling, and distribution. Saifan for example, one of the major distributors collects olive oil from around 450 producers, pay them in fresh money and produces around 500 Tons of olive oil of which 350

Tons are exported and around 700 Tons of soap. Usually, the price of one liter of extra virgin olive oil is sold at 3 USD.

Biomass, distributors of organic food products distribute 3,000 liters yearly. They either buy organic olives and mill them or buy directly organic olive oil, as per the list of producers provided yearly by CCPB for control and certification. The raw material is gathered, tested for Peroxide, acidity and pesticides residues and when suitable, it is bottled in 250 ml, 500 ml and 750 ml bottles. Sale prices per bottles are listed in below table:

Table 6: prices of organic olive oil at point of sale as per Biomass list

Volume (ml)	Price (USD)	Price (USD/L)
250	2.14	8
500	3.57	7
750	5	6

High end organic extra virgin olive oil is difficult to distribute in the local market due to its higher prices when comparing **table 3** numbers to **table 4** numbers; therefore, Biomass is trying to decrease the cost by producing their own olives by their own standards by renting olive orchards and transforming them into organic olive production or by providing technical assistance to farmers producing organic olive oil.

Table 7: Contact details of main distributors

Entity name	**Contact person**	**Job position**	**Contact details**
Saifan Olive oil	Sami Saifan	Owner	03 80 33 73
Biomass	Jimmy Hajj	Procurement Manager	70 72 12 82
Atyab / Boulos olive oil	N/A	Procurement Manager	03 62 94 29
Willani	Joseph Khoury	Owner	03 22 88 49

2.1.4. Hotels, Restaurants and Catering (HoReCa)

The Hotels, Restaurants and Catering (HoReCa) sector was strongly influenced by three major events: The COVID-19 lockdowns, the monetary devaluation and the Beirut Port blast. The 1st event had both a negative and positive effect: on the one hand, large assemblies were banned

and restaurants were closed intermittently; however, occupancies increased in some hotels due to quarantines and escapades from the daily stress. The second event increased the cost for raw material, which increased the cost of food and thus decreased its accessibility to consumers and finally, the third event caused damages in large regions surrounding Beirut, which imposed the reconstruction costs.

The Hilton hotel in Beirut includes the Metropolitan and the Habtoor Hotels, they consume around 30 tanks (540 L) of olive oil per month. They buy their needs from distributors but occasionally only from farmers due to the following reasons:

- The consistent supply on monthly basis since the hotel cannot buy once a year and store all 350 tanks they will consume. Also the consistency in quality is very important.
- Payment terms in checks (USD or Lebanese) which can be withstood by larger distributors.

The cost of olive oil ranges between 100 and 150 USD (on the BDL platform rate of 3,990 LBP/USD). The purchasing process starts with an organoleptic test provided by the purchasing department, quality control department and the chef. Once the taste is approved, discussions for purchasing start, where quality certificates are provided by supplier including acidity, peroxide and UV tests. On monthly basis, the same tests are performed by the purchasing department at LARI to make sure all quality standards are met. Olive oil is used for the salads and Lebanese cold plates.

There was no real change in occupancy rates specifically for this Hotel, since it is now occupied by NGOs and donors staff, the restaurants are still open with minimal change in customers and consumption numbers, but this cannot be applied for the other hotels.

Table 8: Contact details of HoReCa Procurement Managers

Entity name	Contact person	Job position	Contact details
Hilton Hotel	Masoud Naddaf	Procurement Manager	03 31 00 89

2.1.5. Retail

The F&B retail sector is experiencing hard times due to the rapid increase of the monetary devaluation; they are experiencing heavy losses and are therefore decreasing their stock so they are able to adapt their prices to the changing exchange rate. Needless to say that retailers are exhibiting basic quality products and are no longer providing high ended food commodities to match the current demand of consumers.

The ministry of economy keeps a close eye on supermarkets to control prices and is supported by volunteers and sometimes by security forces. Some of the food commodities obtained support from the government but only little quantities are available in the market.

It was very difficult to get in touch with wholesalers representatives so a visit to opening supermarkets were made (Le Charcutier Aoun and Jbeil supermarket) and below is a list of the average prices of available products, shown in USD.

Table 9: Average prices of branded olive oils (Extra Virgin and Organic Extra Virgin)

	Volume	LBP	USD	USD/L
Saifan	500	21,000	1.4	2.8
	1,000	42,300	2.82	2.82
Family	250	10,000	0.67	2.67
	1,400	53,000	3.53	2.52
Barakah	250	13,750	0.92	3.67
	750	33,000	2.2	2.93
Boulos	250	14,500	0.97	3.87
	750	33,000	2.2	2.93
	1,400	61,000	4.07	2.9
Biomass c (Organic Extra Virgin)	250	29,960	2.14	8.56
	500	49,980	3.57	7.14
	750	70,000	5	6.67

Olive oil price per liter varied between 2.52 USD and 3.87 USD and it averaged 3.01 USD/L. price per liter decreases with increasing volume unit due to the decrease of the cost of glass bottles. When compared to the price at the mill which was around 2.78 USD/L and 3.47 USD/L.

It is important to add that distributors have evaluated their added cost at 20% and the wholesale at around 15%, therefore, the discount that is supposed to be offered on the mills level should be around 35% and therefore, the price of sale at the mills should range between 1.82 USD/L and 2.25 USD/L. This discount was not mentioned by any of our interviewees, which poses an important question about the pricing strategy and olive oil quality.

2.1.6. Consumers

It is important to note that most consumers living in regions with high olive oil production regions such as Akkar, the North, Nabatyieh, Marjeyoun and Hasbaya usually use olive oil

produced in their own lands or in the lands of their close relatives. On the other hand, in other regions, 24% buy olive oil few times a year, another 24% twice a year, while 23% on a monthly basis, while only 14% buy it once a year.

Over 94% answered they buy local olive oil from millers or farmers as they like the taste of the virgin olive oil; however, it is important to note that very few consumers have the necessary know-how to distinguish the real organoleptic qualities of the olive oil and they depend on their own gustatory preferences. They also prefer a few months old olive oil where its sharpness decreases with time and they usually don't mind buying last year's production.

Consumers prefer buying olive oil directly from the producers, in fact 69% of them adopt this purchasing activity, while only 13% buy from the mill and 12% from the distributors. In fact, olive oil is considered a valuable commodity related to the consumers' tradition and social belonging, they are keen on getting the best quality through their personal contacts and their personal trust, so they don't always look for branded products.

Consumers are suffering from an immense decrease of their purchasing power, where the LBP exchange rate for the USD increased from 1,500 LBP/USD in October 2019 to around 15,000 LBP/USD. This change has greatly altered consumers purchasing decision where they turned into less expensive vegetable oils and adulterated olive oil.

2.1.7. Public authorities

The ministry of Agriculture provides technical support through its centers distributed all over the Lebanon, they also provide minimal amount of pesticides according to the limited budget they have. The ministry also provides through its Lebanese Agricultural Research Institute certified tests for soil, water, honey and olive oil. Olive oil tests provided by LARI centers include peroxide and acidity, while UV tests are also performed in their central lab in Fanar. Through its department of food industry headed by Agr. Eng. Mariam Eid, the ministry provides data and linkages for different stakeholders.

The ministry of economy performs price monitoring and quality assurance for food products imported, exported and available in the market.

Unfortunately, both ministries are not provided with their needed budget so they can perform their duties efficiently, they are therefore sometimes supported by volunteers and by some of the security forces in their prices control activities.

2.2. Quality Standards

It is important to note that despite local misconceptions about quality differences between different districts, a deep analysis of the available olive oils showed the following:

- Prices differences are sometimes due to **cost differences**, based on workforce cost since in some regions, farmers prefer to rely on local or family workers which cost double the foreign seasonal workforce.
- There is **no difference between olive oil qualities in relation to the region**, since during the HoReCa exhibition's olive oil competitions each year the winners would be from different Lebanese regions; moreover, processors and distributors tend to buy from other regions when they face a shortage in their production.
- Adulteration is a widely spread practice, where other plant based oils are mixed and it cannot be exposed through the usual peroxide and acidity tests especially that **some regions tend to produce olive oil quantities which are far greater than their cultivated areas**.

2.3. Market access

The Lebanese olive oil market is not very diversified and its purchase is based on a person to person trust, therefore, many sales are made door to door once or twice per year. At the same time, branded sales in the retail sector are also common for smaller families and for convenience. As for the third channel, Lebanese olive oil possesses a good reputation despite some adulteration incidents, and is easy to perform due to the vast Lebanese diaspora, but remain less competitive then other olive oils.

2.3.1. Channel 1: Direct sales

This channel is the preferred one for the average local consumer, it is based on personal trust and olive oil is usually purchased once a year, during the season in a stainless steel or plastic tank of 18 Liters or 16.5 Kg.

Quality assurance relies on organoleptic test and other rudimentary quality tests without any traceability assurances. The package content is then transferred into separate gallons of 4 liters or dark bottles and placed in dark places at home to be consumed during the year.

Olive oil produced in Southern Lebanon is preferred and is more expensive, however, there are no scientific proofs or test results to back this belief, on the contrary, distributors noted that only lab tests are used to evaluate the quality and thus the price of olive oil.

Some consumers tend to buy previous year olive oil for two reasons, first is the cheaper price and the second is the sweeter taste – which reflects a decrease in quality. Consumers' choice relies more on taste preference than on actual quality.

2.3.2. Channel 2: Branded sales

The boundaries of each stakeholder in the branded sale channel are not very clear and sometimes overlapping, some distributors cover the value chain from the production to the distribution, including milling, extraction and filling and others are limited to distribution. Olive oil flow between stakeholders is always covered by quality tests, mainly peroxide and acidity.

The advantages held by large distributors is their capacity of providing customers such as retail and HoReCa with stable quantities of olive oil and possess enough room for storage. On the financial level, these distributors are capable of minimizing the effect of prices fluctuation since they have the needed financial status to sustain long term operations.

A relationship of mutual respect and dependability is established between distributors and customers based on a stable collaboration for many years. This relationship is kept stable based on frequent quality tests and quality assurances.

There is a lot of room for adulteration in this channel, since quality control is weak on the retail level due to the weak control of public authorities, since they lack the financial and the human resources support.

Olive oil units most used packages are 250 ml, 500 ml, 750 ml and 1L volumes, their prices have witnessed dramatic increase during the last few months due to the monetary devaluation, which was not the case for the channel 1 sales that took place at the beginning of the season.

2.3.3. Channel 3: Export sales

Exporters usually need an export permit for every shipment with relevant quality tests results. Usually olive oil is included with other different local productions to fill a full container.

This year, exporters were able to start competing in the regional market, especially in the UAE for they were able to match the needed 55-60 USD/tank benchmark to be able to enter the international market, due to the LBP devaluation.

On the other hand, there is still a high competition with Syrian and Palestinian olive oils in the Arab gulf countries since their countries of origin also face financial difficulties.

Export demand decreased during the COVID-19 pandemic due to lockdowns and the decreased purchasing power worldwide.

2.3.4. Cost allocation

Following Key Informant Interviews with different stakeholders, and following calculations, it was possible to set up the cost allocation for olive oil starting from the olive oil mill. A benchmark of 3 USD/L of extra virgin olive oil is acceptable for distributors, which is the price of the olive oil at the mill. The distribution could cost an extra 20% and the retail an extra 15%, which is another cause behind the bloom of Channel 1 sales.

Below presented prices are higher than prices available on the shelves, which is probably due to the immense monetary devaluation of around 50% during the last two weeks, which makes the pricing more difficult.

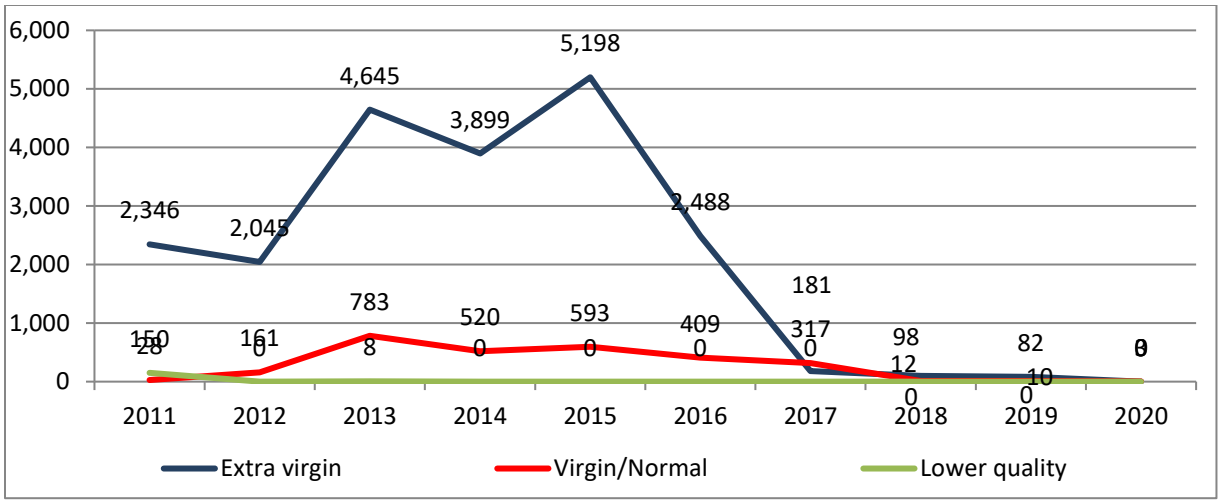
Table 10: Cost allocation (USD/ Liter) from Miller to consumer

Item	Cost (USD/L)	Cumulative cost (USD/L)
Olives	2.56	2.56
Milling	0.17	2.74
Bottles	0.40	3.14
Distribution (20%)	0.63	3.76
Retail (15%)	0.56	4.33

2.3.5. Import

As shown in below figure, there was a sharp decrease in olive oil import starting 2016 since a decision was taken to stop import in order to protect local production. This decision opened a great opportunity for local producers, but the socio-economic crisis that started in 2019 and the monetary devaluation slowed down the process.

Figure 5: Olive oil import fluctuation (Tons)



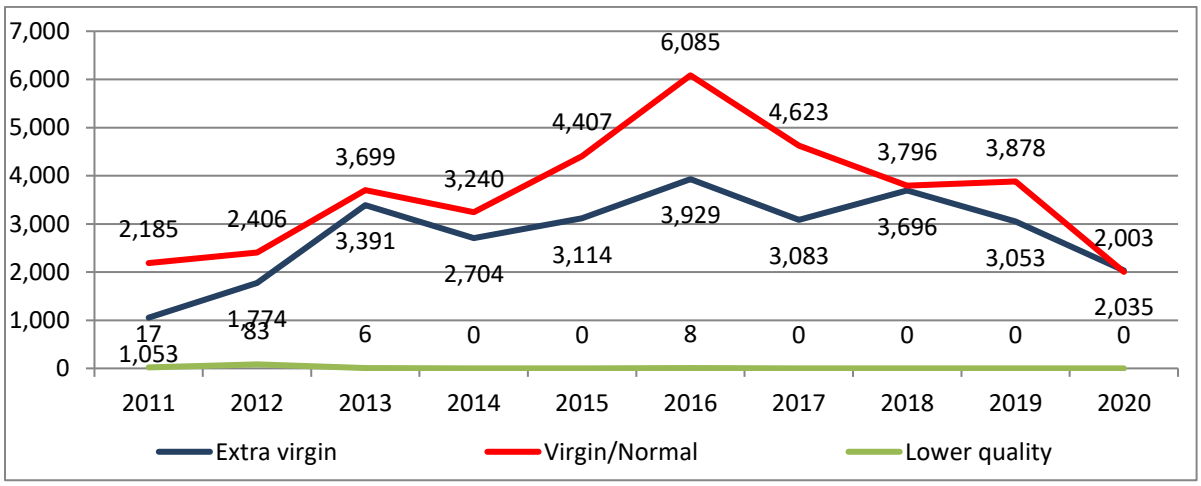
2.3.6. Export

Olive oil export reached a peak in 2016; however it decreased during the following years since it became more and more difficult to enter foreign markets due to the below causes:

- COVID-19 pandemic which decreased the demand of HoReCa and complicated the shipping process.
- Increased competition with olive oils from other surrounding countries with lower prices (55-60 USD/ tank) is a good price to enter the international market.
- Quality and traceability concerns due to some adulteration attempts.

It is expected that exports would increase during 2021 due to the monetary devaluation which brought the tank price below the international benchmark.

Figure 6: Olive oil export fluctuation (Tons)

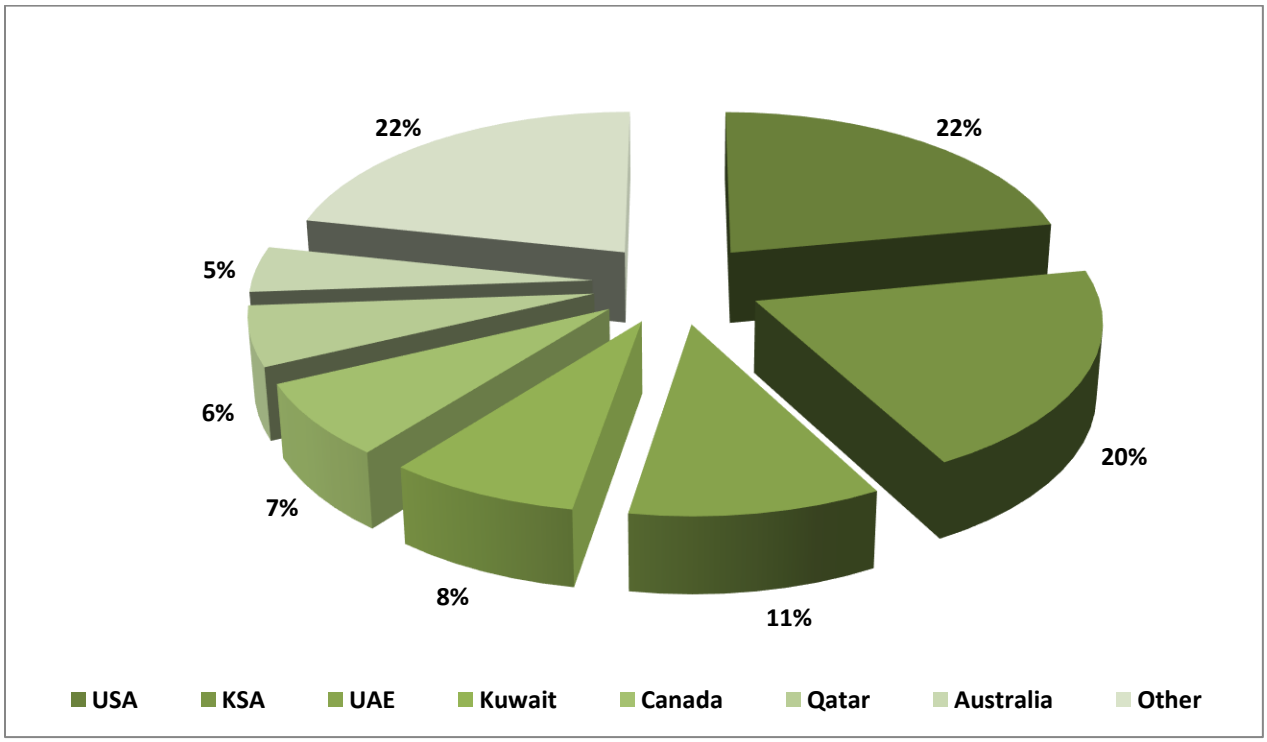


Source: Ministry of Agriculture

Lebanese olive oil exports are mainly destined to North America and the Gulf. More specially, 22% of total exports of the equivalent of 915 tons are exported to the United States, 835 tons to Saudi Arabia or 20% of the total. Interestingly, there is a number of growing export partners such as Australia, New Zealand, and Latin American countries. In fact, olive oil exports to these parts of the globe have been on the rise in recent years due to the presence of a large Lebanese diaspora.

In 2012, Olive oil exports reached 3,238 tons of which 1,053 tons were virgin olive oil and 2,185 were Extra Virgin Olive Oil or Organic Olive Oil.

Figure 7: Lebanese olive oil export partners



3. SWOT Analysis

Strengths	Weaknesses
• Olive oil is part of the Lebanese diet, especially the cold mezzeh; therefore its consumption is one of the highest in the region • Olive oil production is part of the local tradition and represents a pride for producers who compete with the quality of their produce • Olive oil is also used in Mouneh, a form of food products with longer shelf lives. • Hasbaya orchards possess the potential of providing high value olive and olive oil with the available geographical and weather conditions. • The ban on olive oil import imposed by the public authorities, which decreases internal competition. • The olive oil sector has been the objective of many development projects which increased the producers know how and equipment. • Monetary devaluation which decreased the price of one tank to less than 55 USD, which is the international benchmark for olive oil price. • Availability of certified, reliable and advanced quality assurance institutions. • Hasbaya is historically known for its great reputation of olive oil production, which gives it an edge for consumers	• Some of Hasbaya's farmers still use obsolete production activities and orchards include very old trees. • Adulteration cases can be common where newly produced olive oil is sometimes mixed with old olive oil and sometimes with other vegetable olive oils. • Increasing cost of agricultural inputs and of packages which affected the price of olive oil. • In the international markets, Lebanese olive oil still suffers from fierce competition from Palestine and Syria who can also produce at low costs due to their own economic crises. • Small quantities which weakens the price negotiation capabilities and the dependency of distributors on smaller suppliers, especially that Hasbaya farmers are mostly small farmers. • There is weak public support for the agricultural and processing sector. • There is also a weak public monitoring for quality and prices due to the lack of budget and manpower in relevant ministries. • Absence of a scientific approach for price identification in a fair manner for producers and distributors; the price is dictated by the offer and demand dynamic.

Opportunities	Threats
• Decreasing prices of Lebanese olive oil on the international market provided a push to enter these markets. • With the right agricultural recommendations, Hasbaya tree production can be increased from 10 Kg to 25 Kg. • There is still an excess of Lebanese olive oil which is not easily sold, therefore, it is possible to produce with this olive oil innovative and added value products (flavored olive oil, flavored soaps, etc.) and thus increase the plethora of available olive oils (virgin, extra virgin and organic) • Demand for organic olive oil is increasing worldwide, but the local production is still not meeting the demand; therefore there's a great potential for upgrading Hasbaya orchards to provide Organic Extra Virgin Olive Oil. • Clustering of olive oil producers, processors and mills is becoming more and more acceptable which provides a stronger position in prices negotiations • Hasbaya olive oil has an excellent reputation and if a proper traceability system is placed it could play an important role for export markets. • Consumers are become more health conscious and olive oil with is flavonoids and unsaturated fatty acids are a key component for a healthy diet. • It is possible to increase the per capita consumption olive oil from 5.5 L per year to 8.7 or 11, based on the health benefits	• Increasing cost with monetary devaluation, which would make the producers more and more vulnerable since there would be an increase in input prices faster than increases in olive oil prices, which would cumulate losses. • The decreasing purchasing power of Lebanese consumers makes them less capable of purchasing a healthy high end product like olive oil, which could lead to an increased adulteration to meet the consumers' financial capabilities, especially in the absence of an efficient monitoring system. • Making olive oil more competitive in the external markets would further increase its price and makes it less affordable for the local population. • Volatile monetary devaluation which calls for adapting a dynamic pricing strategy, for example between March 11 and March 18, some distributors had to make pricing updates 6 consecutive times. • The increasing prices of agricultural inputs would lead to poorer attendance to orchards needs and thus to a decrease in the quality and quantity of olive oil. • Political complications and social unrest could lead to a disturbance in the production and the distribution process. • The continuing COVID-19 pandemic and the subsequent lockdowns could cause delays in packaging shipments, paperwork and testing and thus production delays and could decrease access of consumers due to retail sector lockdowns.

4. Recommendations

4.1. Production

- It is a common knowledge that any intervention on agricultural value chains has a greater impact the farther it goes along the different stakeholders, especially when it targets producers. Supporting producers through input purchase, good agricultural practices, etc. would decrease the cost and increase the quality.
- Follow up of the production process to and adopt good agricultural practices including fertilizers input, pruning, harvest/post-harvest, Integrated Pest Management to get a stable production both quantitatively and qualitatively.
- Specific technical recommendations include:
    - Applying integrated pest management which would increase production, decrease pesticides cost and decrease pesticides residues.
    - Provide certified olive trees to avoid the spread of viruses
    - Apply fertilization programs to increase production from 10 Kg/tree to 25 Kg/tree, when combined with previously mentioned recommendations
    - Use mechanical harvesters or tractor harvesters.
    - Replace the use of bags with the use of cases to improve the post-harvest activities.

4.2. Processing

- It is important to adopt a cooperative approach all along the value chain and share available infrastructure and equipment's services and costs, which would allow service providers to sustain their activities and decrease their cost (tractors owners, automatic pickers, etc.). Applying the same approach on millers would also be beneficial, as shown by the analysis of cooperatives owned millers where they provide discounted services (picking, gathering, milling, storage, bottling, etc.)
- Local market sourcing depend a lot on trust for consumers, and is a mix of trust and quality assurance for distributors and wholesalers; therefore, the baseline need for market entry is quality assurance through certified quality tests and traceability scheme for olive oils. On the longer run, once the Lebanese law concerning appellation of origin is ready, it is advisable to go for an AOC (Appellation d'Origine Controlée) or an AGP (Appellation Géographique Controlée).

4.3. Packaging

- If the final objective is the export market, it is possible to sustain the cost of imported high quality bottles; however, for the local market, it is preferable to substitute currently used glass bottles with different cheaper cost sources.
- Large packaging units (Stainless Steel, 18L) include one opening for filling olive oil, but while emptying the tanks, users usually include a second opening to let the air in a replace the emptied olive oil, which makes the package unusable. It is possible to alter the design of the tank to include a second smaller opening with a small cap to be opened during the emptying process, which would make the package reusable and thus decrease the cost by around 2 USD. In fact, when using a one opening stainless steel gallon, the oil will be emptied through the same opening from which the air is supposed to enter and fill the emptied space, which causes discontinuity in oil spilling; therefore, users proceed to making a second opening with a knife to ease the air entry process, however, this would make the gallon unfit for a second use.
- It is advisable to provide the Hasbaya cluster with its own automatic or semi-automatic bottling line – according to its production – which would allow it to increase its plethora of customers to include filling for private labels.

4.4. Distribution

- It is very important to take into consideration not only the monetary devaluation, but also the monetary fluctuation, especially that most distributors pay in LBP or in checks with at least a three weeks delay for payment. It is then very important to perform the pricing using USD when possible and to make deals with the distributors at the beginning of the season to offer guarantee for both parties. Needless to say that in order to have accurate production evaluation, technical follow up needs to be made on the production level.
- A different approach needs to be adopted for each channel:
    - For the first channel, where the consumer buys directly from the producer or the mill, they rely solely on their organoleptic preferences and the green color; therefore, it is important to provide dark green olive oil with a slightly stinging taste which would provide - for the consumers – quality assurance. It is also important to use the name of Hasbaya when promoting the olive oil since they possess a very positive reputation at the consumers' level. Since consumers have seen their purchasing power decrease, it is important to decrease the prices as much as possible and to use the classical stainless steel gallon package (18L=16.5 Kg) with two openings to allow the reuse and decrease the prices by around 2 USD. Reaching consumers can be done door to door although it would be

difficult, since the personal trust is a very important component of the purchasing decision.

- The second marketing channel approach is completely different: first, the needed packages are smaller units, mainly bottles ranging between 250 and 1000 ml and some cases the 300 Ml gallons. When dealing with distributors, Hasbaya olive oil will not have any advantage on other oils since their the buyers' decision is based on quality tests results, therefore, it is important to get the right certifications. Another edge could be provided through the application of traceability schemes which would provide producers with more assurance. It is advisable to approach distributers with large quantities to be able to answer their supply needs and to be able to negotiate better prices.
- As for the third marketing channel, which is export, it is possible to sell through small units of 250-1000 L bottles, but some exporters also ask for larger tanks 100-500 liters, when the bottling takes place at the importing country. Traceability is a must and if a traceability system guaranteeing that the olive oil origin is from Hasbaya, it would be possible to reach the Lebanese diaspora very easily based on the excellent reputation of the olive oil. This advantage would be important when targeting Lebanese diaspora and would help competing with other olive oils from different sources; however, for other nationalities, it is important to guarantee the quality, the lowest price and the most suitable organoleptic characteristic. It is also important to access these markets through the commercial attachés present in different Lebanese embassies (Check annex 4)

- Need for quality assurance scheme and a quality assurance label to be placed on any purchased olive oil volume.
- Setting a labeling scheme with relevant label and trade mark along with quality certificates would allow the transfer of the trust from certificates to the trade mark name, keeping in mind that trust in names and in persons is a major motor behind customers behavior as shown by the carried KIIs

4.5. Export market

- Clustering to be able to provide large quantities and thus decrease export costs and being able to fill complete containers, which decreases the cost.
- It is possible to directly open export lines with international partners through the classic channels such as exhibitions; local exhibition includes Horeca (www.Horecashow.com) where olive oil competitions are held yearly, regional exhibitions include Gulfood (www.Gulfood.com), International exhibitions include Fruit Logistics, Berlin

(www.fruitlogistics.com), SIAL, Paris (www.sialparis.com). As for trade platforms, they include the following:

https://www.buylebanese.com/
https://madeinlebanon.com/
https://lebanesesignature.com/
https://www.kwikby.com/
https://www.minbaladeh.world/
https://fromlebanon.co/

- Once the contact is established, and related quality assurances and quantities are guaranteed, the same contracts could be renewed and updated based on international markets; however, it is always advisable to either provide large quantities of olive oil through clustering or to provide other food commodities in order to fill a full container and thus decrease shipping cost.
- External competition is fierce, despite the decreasing prices, therefore, an edge should be provided to the Hasbaya olive oil and a relation with larger importer with their own sales network could also facilitate the demand.
- It is important to use the help of commercial attachés present in different Lebanese embassies to access foreign markets, a list of which is available in annex 4.

Annexes

Annex 1: List of Key Informant Interviews

Key Informative Interview – Milling

Olive Oil Market Study – The Case of Hasbaya

Interview information	
Interviewer name	
Date	
Interviewee name	
Job position	
Signature	

1. What are the different categories/quantities/prices of purchased olive?
2. What are the services you provide (milling/buying olives and selling olive oil, etc.) with relevant cost?
3. Kindly explain the milling process from the reception of olive until olive oil production
4. In which package is olive received?
5. Where/how and how long is olive oil stored?
6. What is your used milling method?
7. What are the quantities of olives processed each year?
8. What is the productivity ration (Olive oil Liters/Tons of olives)
9. If you sell olive oil, what are the different packaged/bottled products with quantities
10. What kind of support do you need to improve your production/decrease your cost/scale your business?

Key Informative Interview – Filling & Bottling

Olive Oil Market Study – The Case of Hasbaya

Interview information	
Interviewer name	
Date	
Interviewee name	
Job position	
Signature	

1. What are the services you provide? (Bottling, processing/selling, etc.)
2. What is the volume of your operations? (L/year)
3. Where/how/how long is the received olive oil stored
4. Where/how/how long is the bottled olive oil stored
5. What are the sources/categories/prices of your olive oil?
6. What are the different used packaging volumes/material?
7. What are the relevant costs?
8. What are the characteristics of each?
9. What are the used tests for quality validation and who are the quality assurance institutions?
10. What is the cost allocation for your operations?
11. What are the target markets of your production?
12. Is there a specific market for every olive oil category?

Key Informative Interview – Distribution/Distribution Organic

Olive Oil Market Study – The Case of Hasbaya

Interview information	
Interviewer name	
Date	
Interviewee name	
Job position	
Signature	

1. What are the sources of your olive oil purchases (with prices)?
2. What are the different used packaging volumes (with selling prices)?
3. What is the process behind the pricing strategy?
4. What are the needed olive oil by each market segment?
5. What are the expected qualities for each?
6. What are the relevant prices?
7. What are the used tests for quality validation and who are the quality assurance institutions?
8. What is the cost allocation for your services?
9. What are your yearly sales (Liters)? And how can you describe the fluctuation during the last two years?
10. What are your target markets (Geographical and segment)?
11. Is there a specific market for every olive oil category?
12. What are the payments terms?
13. How do you promote olive oil? What kind of support is needed

Key Informative Interview – Wholesale

Olive Oil Market Study – The Case of Hasbaya

Interview information	
Interviewer name	
Date	
Interviewee name	
Job position	
Signature	

1. What are the sources of your olive oil purchase (with prices)?
2. What are the different used packaging volumes (with selling prices)?
3. What is the process behind the pricing strategy?
4. What are the different categories of olive oil?
5. What are the expected qualities for each?
6. What are the used tests for quality validation and who are the quality assurance institutions?
7. What is the cost allocation for your services?
8. What are your yearly sales (Liters)? And how can you describe the fluctuation during the last two years?
9. What are your target markets (Geographical and segment)?
10. Is there a specific market for every olive oil category?
11. What are the payments terms?
12. How do you promote olive oil? What kind of support is needed

Key Informative Interview – Retail Sale

Olive Oil Market Study – The Case of Hasbaya

Interview information	
Interviewer name	
Date	
Interviewee name	
Job position	
Signature	

1. What are the sources of your olive oil purchase (with prices)?
2. What are the different used packaging volumes (with purchasing and selling prices)?
3. What are the different categories of olive oil (with purchasing and selling prices)?
4. What are the expected qualities for each?
5. How can you describe the current consumer behavior concerning olive oil purchasing
6. How did you adapt to this changing behavior?
7. What are the consumers' expectations concerning quality and affordability and how do you intend to meet them?
8. What are your yearly sales (Liters)? And how can you describe the fluctuation during the last two years?
9. What is the general profile of your customers?

Key Informative Interview – HoReCa

Olive Oil Market Study – The Case of Hasbaya

Interview information	
Interviewer name	
Date	
Interviewee name	
Job position	
Signature	

1. What are the sources, quantities and qualities of your olive oil purchase (with prices)? Local/foreign
2. What are the different used packaging volumes (with purchasing and selling prices)?
3. What are the different categories of olive oil (with purchasing and selling prices)?
4. What are the uses of olive oil in your operations?
5. What are the expected qualities for each?
6. How can you describe the current consumer behavior during the last year?
7. How did you adapt to this changing behavior?
8. What are the consumers' expectations concerning quality of used olive oil?
9. What are your yearly needs? (Liters)? And how can you describe the fluctuation during the last two years?
10. What is the general profile of your customers?

Key Informative Interview – Consumers

Olive Oil Market Study – The Case of Hasbaya

Interview information	
Interviewer name	
Date	
Interviewee name	
Job position	
Signature	

1. Household information including: number of persons, total income, age, socio-economic profile, literacy.
2. What are the sources of your olive oil purchase (with prices)? Why?
3. What are the used unit volumes?
4. What is your purchasing frequency?
5. What is your use frequency?
6. What are the specific uses of olive oil in your diet?
7. What your expectations quality wise?
8. What your expectations pricing wise?
9. Have your purchasing power been affected during the last year?
10. How did it affect your olive oil consumption and purchasing?
11. What is the source of quality assurance?

Key Informative Interview – Private Authority (CCIA)

Olive Oil Market Study – The Case of Hasbaya

Interview information	
Interviewer name	
Date	
Interviewee name	
Job position	
Signature	

1. What is the region of your activities
2. What are the services/support you provide to your members?
3. What kind of support do you give specifically to the olive oil stakeholders?
4. Kindly provide a list of olive oil millers/bottlers/traders/distributers, etc. along with their market share if possible
5. Kindly provide any data about olive oil categories and prices
6. What is the national volume of the olive oil market/production/import/export?
7. What are the challenges faced by different olive oil stakeholders?
8. How to adapt to alleviate the effect of the current crisis?
9. What kind of support is needed?
10. What are the opportunities offered by the current situation?
11. How do you promote olive oil? What kind of support is needed

Key Informative Interview – Public Authority

Olive Oil Market Study – The Case of Hasbaya

Interview information	
Interviewer name	
Date	
Interviewee name	
Job position	
Signature	

1. What are the services/support you provide to producers and consumers?
2. What kind of support do you give specifically to the olive oil stakeholders?
3. Kindly provide a list of olive oil millers/bottlers/traders/distributers, etc. along with their market share if possible
4. Kindly provide any data about olive oil categories and prices
5. What is the national volume of the olive oil market/production/import/export?
6. What are the challenges faced by different olive oil stakeholders?
7. How to adapt to alleviate the effect of the current crisis?
8. What kind of support is needed?
9. What are the opportunities offered by the current situation?

Key Informative Interview – Export Support

Olive Oil Market Study – The Case of Hasbaya

Interview information	
Interviewer name	
Date	
Interviewee name	
Job position	
Signature	

1. Export support institution profile (years of experience, regions covered, years of experience within the agri-food sector, etc.)
2. What are the advantages of the local olive oil that make it a marketable product in the internal market?
3. What are the advantages of the local olive oil that make it a marketable for the export market?
4. What would be acceptable prices for the internal and the external markets?
5. What could be added to local olive oil profile to make it more marketable?
6. What are the different categories of olive oil with the characteristics of each?
7. How can you describe the variation of olive oil sales during the last two years?
8. What are the needed quality standards and quality assurances?
9. How do you promote olive oil? What kind of support is needed

Key Informative Interview – Quality Experts

Olive Oil Market Study – The Case of Hasbaya

Interview information	
Interviewer name	
Date	
Interviewee name	
Job position	
Signature	

1. What are the currently existing olive oil categories?
2. What are the organoleptic and physic-chemical characteristics of each?
3. What are the parameters and adopted benchmarks for local market?
4. What kind of basic tests are performed with benchmarks?
5. What kind of organoleptic tests are performed with benchmarks?
6. What are the organoleptic characteristics for local olive oil consumers?
7. What kind of accreditation can be provided for organoleptic tests?
8. What are the needed standards for export?
9. What kind of support is needed for the olive oil value chain quality wise?
10. What kind of equipment is used for the tests?
11. What is the cost of different quality tests?
12. What kind of accreditation are offered/needed?
13. What is the national volume of the olive oil market/production/import/export?

Annex 2: Sample of key point answers of KIIs

Name	Joseph Khoury
Position	Owner
Institution	Willani
Category	Processing/Bottling/Distribution
1. Provided services	• Two bottling lines Normal and organic) • 3 phases mill
2. Volume of operations	• Production of 26,000 Gallons of which 10,000 are produced by their own lands
3. Details of olive oil storage	• Stainless steel tanks
4. Details of bottled olive oil storage	• 250- 4 L packages
5. Sources, categories and prices of olive oil	• Check available table in study
6. Available packaging volumes and material	• Check available table in study
7. Characteristics and costs of Bottles	• Check available table in study
8. Quality tests	• Peroxide, acidity and UV at regional LARI station • When for export: CCIAT
9. Cost allocation for operations	• Check
10. Target markets	• Local • Gulf despite high competition
11. Category per target market	• Virgin/extra virgin olive oil for local and export market.

Name	Tony Raad
Position	President
Institution	Kobayat Cooperative
Category	Milling
1. Olive details	• 350 Tons of olives • Source: Kobayat surroundings • Olive price: 5000 LBP/Kg
2. Provide services and costs	• Pick up and mill: 25,000 USD
3. Milling process description	• Olives spend a maximum of 24 hours before milling • Testing at AUB/CCIAT for acidity and peroxide
4. Reception package	• Olives are brought in cases
5. Storage conditions	• Stainless steel
6. Milling method	• 3 phase decanter
7. Productivity ratio	• 25%
8. Sales package	• Stainless steel gallon • Sometimes clients bring their own gallons
9. Needed support	• Distribution and sales

Name	Dr. Elie Bou Yazbek
Position	Assistant to the director general
Institution	Ministry of economy
Category	Public authority
1. Provided services	• Studies • Market prices control • Quality control
2. Support to olive oil stakeholders	• Same as above
3. List of stakeholders (millers/distributors, wholesalers, etc.)	• Not available • Partial list provided through MoA
4. Olive oil categories and prices	• Olive oil • Virgin Olive Oil • Extra Virgin Olive oil
5. National volume of the olive oil market/production/import/export?	• N/A
6. Major challenges	• Lack of human resources • Monetary fluctuation • traceability
7. Needed support	• Inspectors • Larger jurisdiction • More presence in international fairs
8. Opportunities	• Very good history and knowledge of Lebanese olive oil • Monetary decrease so larger export potential

Name	Dr. Milad Riachi
Position	Head of Olive Oil Quality Lab
Institution	MoA - LARI
Category	Quality Assurance
1. Existing Olive oil categories	• Olive oil • Virgin Olive Oil (350,000-400,000 LBP) • Extra Virgin Olive Oil (500,000-600,000 LBP)
2. Organoleptic and physic-chemical characteristics	• Stated in the study
3. Benchmarks for local market	• Same benchmarks used
4. Basic tests	• Peroxide • Acidity • Fatty acids profiling • 8 LARI labs in Lebanon
5. Organoloeptic tests	• Amer, picant, etc.
6. Available accreditations	• Lab accredited by FAPAS
7. Needed export standards	• All three tests • Residues tests are required for organic olive oil
8. Support needed for value chain	• Accreditation and traceability
9. Equipment used for tests	• Titration for peroxide and acidity • UV absorbance
10. Cost of quality tests	• 85,000 LBP per test
11. Accreditation	• LARI labs are accredited locally and internationally
12. Information on national market	• Available at MoA directorate of studies

Name	Sami Saifan
Position	President
Institution	Saifan Olive Oil
Category	Distributor
1. Source and prices of purchase	• Mainly from the North and Akkar but also from other Lebanese territories (450 producers) • Directly from mills or producers
2. Packaging volumes	• 250/500/750/1000/3000/4000/9000 L
3. Pricing Strategy	• Re-priciing according to USD exchange rate
4. Needed categories of olive oil by each market	• Olive oil of low quality for soap • Virgin and Extra virgin Olive oil for local consumption and export
5. Qualitative characteristics	• Peroxide (as per national standards) • Acidity (as per national standards) • Organoleptic tests by owner
6. Quality validation tests	• IRI/CCIAT/AUB
7. Cost allocation for the service	• 15-20 % gross profit
8. Yearly sales	• 500 Tons of olive oil of which 350 Tons for export
9. Target markets	• Lebanon/Gulf/USA
10. Payment terms	• 90% of the time fresh USD within 2 weeks
11. Products promotion	• Through personal network

Annex 3: List of major wholesalers and distributors of the olive oil value chain

Names of Industries	Telephone	Address	E-mail	Brands	Products
Cortas Canning & Refrigerating Co. S.A.L	01/257171 - 256397	Bouchriah - Dora - Near Metco Station - Cortas bldg.	cortas@cortas.net	Cortas	Packing & Packaging for Foodstuffs (Jam - Olive Oil - Mixed Nuts - Rose water - Thyme - Halwa & Tehini - Spices - Coffee - Seeds)
Usine Laveluxe Industrielle "Ahmad Ataya"	03/215888 - 05/600006	Chouf - Haret Naameh - Al chkif Str. - Ataya Bldg.	info@yamama-lb.com	Yamama - Laflox - Arou - Al Anwar	Rose water, orange blossom water, vinegar, Lemon juice, pomegranate juice, beverages, packaging of vegetable oil and olive oil , tomato sauce
Kobayter Freres Industrial & Commerce S.A.L.	06/400550/502	Tripoli - Kalamoun - Main Road - Koubayter Bldg.	info@kobayterfreres.com - kobayter@kobayterfreres.com		Olive Oil - Soap - Olives - Rose Water - Salt
Fakra Trading & Industries	09/635111 - 09/635222- 09/710341	Office: Kesrwan - Autostrade Jounieh - Adem Bldg. / Factory: Kesrwan - Kfardebian - Main Road - Fakra Center	info@fakra.com	Fakra - Arak Fakra - Grand Seigneur Wine -	Alcoholic Beverages(Arak,brandy, wisky,gin,vodka), Wine, soft Beverages, Mineral Water, Food Products, Olive &Vegetable Oils, Honey
ALNakhil Co. for Food Production SARL	04/984384	Abou Mizan - Main Road - Al Nakhil bldg.	alnakhilco@hotmail.com	Al Nakhil	Food Products (Halawa - Tehini - Olive oil - Pickles - Treacle - Rosewater)

Maalouf Industry For Trading S.A.L.	06/950450 70/251015	Koura - Amioun - Bziza - Main Road	info@maaloufindustry.com	Le phenician - Ishtar	Olive Oil & Edible Oil Processing
Al Dayaa Products S.A.R.L.	06/952838 03/303862	Koura - Kfarakka- Fadi Tannous bldg.	aldayaa@hotmail.com		Olive - olive oil - Rose Water - Blossom Water - Pickles - Syrups
Industrial Kingdom S.A.R.L.	06/384389 - 03/832200	Minyeh - Al Badawi - Barakah Str. - Industrial Kingdom bldg.	bassel.rafi@industrial-kingdom.com		Olive Oil - Soap
Olive Trade S.A.R.L.	01/338003 - 06/360104	office: Achrafieh - facing Brazilian Cultural Center - Mar Mitr str. - Issa bldg. - 4floor/ Factory: Akkar - Alnour str.	houseofzejd@olivetrade.com	zejd	Olive Oil - Artificial wood (olive jift)
ATYAB SARL	09/918525- 09/910090	Jounieh - Mina al Jadida st. - boulos oil bldg.	info@zeitboulos.com - tony@zeitboulos.com	Virgo - Al-baraka - boulos oil - Family oil - Atyab Lebanon - Olvitta	Oils - Olive - Vinaigre - Alcoholic - Rose water - Jam - Syrups

House of Olives sarl	03/246557	Mount of Lebanon - Jieh - Zarout Str. - Nagib Dimashquieh bldg.	houseofoliveslb@gmail.com	House of Olives - Aroma Garden	Olive Oil - Pickles - Grain - Spices
Msallem FoodTech sarl	06/952383	Koura - Bziza - Wadi Khozama Str. - Jeanne D'arc bldg.	wissam@msallemfoodtech.com - rabihghantous@msallemfoodtech.com		Pickles - Olive Oil - Olives - Potato
East Group & Impex sarl	06/543379	Koura - Anfah - Chekka str. - Jawad bldg.	info@eastgroupimpex.com - estrihab@gmail.com	Mehras Chtours - Khair Baladi - Jersy - Almaraa	Halawa - Tehini - Olive Oil - Olives - Rosewater - canned food

Annex 4: List of Lebanese Economic Attachés

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