

Market Study and Marketing Strategy for Olive and Olive Oil Sector in the Southern Arid Part of Jordan

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ABSTRACT

This study aimed at characterizing the livelihood of communities in term of their assets and opportunities and identifying and describing the corresponding market segment(s), as well as devising a suitable marketing strategy that would ultimately lead to more effective community engagement. A socio-economic questionnaire was designed to elicit basic numerical data on olive production, and marketing system of olive and olive oil, and agricultural practices. The study was conducted during 2014-2015 for 155 farmers, distributed in four sub-governorates in Karak Governorate. Research findings and SWOT analysis shows that the Jordanian Olive Sector in general, and Karak Olive Sector in particular, has a good potential to grow and expand further, particularly in light of recent developments that the sector has undergone and the modernization of olive oil presses. However, the sector has a number of weaknesses that are restricting it from realizing its growth potential. Key weaknesses are related to fragmentation of the sector, labor availability, skills and work-ethic issues, marketing and branding, packaging, warehousing, lack of coordination with the olive oil presses as well as limited financial and management planning know-how. Finally, study of the enterprise budget of olive crop showed that the rate of olive oil production per hectare reached 650 kg, the average price was US\$ 5.5 kg⁻¹, the Gross margin was US\$ 2009 ha⁻¹, with US\$ 992 net profit.

Keywords: Economic and social characteristics, Enterprise budget, Marketing system, SWOT analysis.

INTRODUCTION

Around the world, there are almost 10 million ha of olives. Global average yields per hectare under dry-farmed (rain-fed) orchard conditions and wide spacing range from 0.5 to 4 t of fruit ha⁻¹. The huge variability in production is due to the olive tree's strong tendency toward alternate bearing (large crop yield every other year) and a strong dependence on seasonal rainfall and stored soil moisture to generate adequate shoot growth for the next year's

production. Many of these orchards are on steep terrain and have large tree structures that cannot be harvested mechanically with trunk or canopy shakers, making them very marginal economically. The more modern, medium-density to high-density to super-high-density orchards that are irrigated can produce from 5 to 12 t of fruit ha⁻¹ (Aparicio, 2013).

In Jordan, olives are the number one crop with just over 131,000 ha under production. More orchards are being planted, and annual production has been approximately 175,000

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ton olive fruits (Ministry of Agriculture, 2016) yielding approximately 20,000 t of oil. The primary variety grown is Rasi'i (IOC 2011b). According to latest data of Department of Statistics of the year 2015, olive trees have reached approximately 17 million trees, accounting for 50% of the total number of trees in Jordan. Approximately 73% of olive trees bear crops and 27% are non-productive (Department of Statistics, 2015). About 78% of olive trees are planted in rainfed areas where the average rainfall exceeds 300 mm and the rest is planted under irrigation. Statistics show that about 22% of the area is under permanent irrigation. According to data from the Ministry of Agriculture (MoA), orchard density averages 180 trees ha⁻¹. Crop yields range from 150 kg ha⁻¹ in rainfed mountain orchards to 600 kg ha⁻¹ in irrigated orchards (MoA, 2013). All of the irrigated orchards provide a quicker return on investment.

Olive oil is converted from fresh olives based on a conversion factor of 17.5%. This means that 100 kg of fresh olives yield about 17.5 kg of olive oil. Olive mills usually take about 10% of the extracted oil as the cost of processing (Jabarin *et al.*, 2002).

Current production levels exceed domestic consumption levels of table olives, which implies that Jordan is self-sufficient of table olives and that current production levels exceed domestic demand. Domestic consumption of olive oil averaged at approximately 24,283 ton year⁻¹, which is almost equal to production levels. With regards to export activity, Jordan is ranked as the World's 2nd largest exporter of fresh olives after Portugal. Concerning olive oil, Jordan is the world's eighth largest exporter of olive oil, exporting its product to several countries including Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the US (ILO, 2014).

Agriculture in Al Karak Governorate of Jordan is dominated by olive orchards irrigated by water from natural springs. A study of the traditional irrigation system showed that a major problem was loss of water from the unlined irrigation canals taking water from the springs to farmers'

fields. Loss of water combined with the age of the trees—many trees were found to be more than 50 years old, with some of 100 years or more—was restricting olive yields and limiting farmers' cropping options (Menaride, 2013). Olive growing in Jordan, and particularly in Karak, produces two main products, namely, table olives and olive oil. There are around thirty different types of olive trees present in Jordan and all of which are capable of producing excellent quality Extra Virgin Olive Oil. In Karak, cultivated olives trees produce olives that can be used to produce table olives as well as olive oil. The predominant olive varieties are big and black, belonging to the *Nabali* olive variety.

Olive oil products dominate the marketplace, and 80 to 90% of olives produced are devoted to olive oil production and the rest for pickling. Karak produces mainly the *Nabali* olive variety, which is suitable for oil extraction. Indeed, olives contribute about 44% to total household income, and pension income and civil service employment contribute over 50% to household income as shown by this study results.

The low productivity of olives (disease management concerns, 'poor' production practices, limited access to irrigation) lead to low marketable volumes; and poor quality and limited bargaining power lead to lower than expected prices for fresh olives and olive oil. Hence, introducing organic farming for the production of olives in rainfed areas, and developing a system to issue certificates for products of organic farming according to international standards will also improve the quality of olive oil (Agriculture Policies and International Cooperation Department, 2004). Moreover, improving productivity, market access, and thereby profitability can enhance household incomes in an area with limited opportunities for agricultural production.

The marketing strategy for olive sector in Al Karak Governorate have rarely been analyzed and documented. There is a need for better understanding of the market for

olive and olive oil. The socio-economic characteristics of olive farmers have to be also assessed. Therefore, a socio-economic survey of Al Karak Governorate was conducted to collect a broad range of information about the selected sites to gain data from farmers in a structured way according to specific questions. Thus, support is needed for conducting a market study to explore internal and external opportunities, and prepare a marketing strategy to assist local businesses in reaching both local and international markets. It should cover the full range of olive and olive oil products, and be relevant for both farmers, small-scale olive product producers and up to larger manufacturers.

This study aimed at characterizing the livelihood of communities in term of their assets and opportunities and identifying and describing the corresponding market segment(s), as well as devising a suitable marketing strategy that would ultimately lead to more effective community engagement. The main focus of this study was related to the olive production in the rainfed and irrigated areas in order to identify the socio-economic characteristics of olive farmers; review the strengths, weaknesses, opportunities, and the threats of olive sector (SWOT Analysis); and study the marketing system of olive and olive oil. In addition, we aimed to map out the current situation in terms of available raw materials, local skills, processing and communication infrastructure, marketing channels, and appropriate technologies within the target area.

MATERIALS AND METHODS

Data Collection and Data Sources

This study was based on desk research as well as field research and analysis of primary qualitative data gathered through interviews with a number of farmers and growers of olive in Al Karak Governorate. Secondary data presented in this study

primarily comes from reports and databases published by Department of Statistics, Ministry of Agriculture, as well as any other sector reports and statistics that were available at official secondary data sources.

A socio-economic questionnaire was designed to elicit basic numerical data on olive production, and marketing. A randomly selected group of farmers and producers of olive in Al Karak Governorate was interviewed personally. The study was conducted during 2014-2015 for 155 farmers, distributed on 4 sub-governorates in Karak Governorate.

Empirical Framework

In assessing marketing practices of the sector, the team used the Marketing Mix (4Ps) model. The same model has been used in setting and listing sector marketing strategy recommendations. Analysis and listing of key research findings was done in accordance to the Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis model. In identifying business opportunities and value-added initiatives in the sector, the team relied on both desk research (of similar cases) and field research (by interviewing farmers). The enterprise budget of olive oil of one hectare of olive crop at Karak Governorate was calculated as average of the 155 farmers to identify the net profit and total costs.

RESULTS AND DISCUSSION

The vast majority of olive farms in Karak are fragmented into a large number of small-scaled farmers and producers. Empirical findings showed that 49% of farmers were working full time on the farms, and 47% were working half time on the farm, and only 4% had no time to work on the farm. It means that half of the community was depending on the farm as the source of income.



There are 3 methods for olive harvesting; 82% of farmers were using hand methods, 13% used hand and other methods, 12% of farmers used comb or comb and hand methods for olive harvesting. Olive fruit harvesting is considered the most expensive stage of olive production since olive harvesting consumes 50–80% of the total expenses of growing olive (Metzidakis, 1999). Because the ratio of fruit mass to pedicel's strength is relatively small as compared with other fruits, a huge amount of force is required to shake off the fruits from olive trees (Ben-Tal, 1994). Currently, olives are harvested by hands in Jordan, expensiveness and availability of the labor are the main difficulties in olive harvesting (Daga, 2011).

When harvesting from taller trees, the workers use the method of “beating with a stick”. This damages the fruits and affects their quality and quantity. Also, this method of fruit harvesting is considered costly (Ferguson, 2006). On the other hand, mechanical olive harvesting is limited to a minor portion of the olive oil industry worldwide (Denney and Martin, 1994). The majority of olive oil produced (94%) is not of the best commercial quality (Lavee, 1996), as the fruit has not been picked at the optimal harvest time. Time of harvesting may have a significant effect on oil quality as well as yield, oil stability, and sensory characteristics (Salvador, 2001). Indeed, optimal harvesting time is the most important factor that determines the olive oil quality and quantity. In fact, most olives are harvested at a late stage of maturity, when decaying processes are already going on in the fruit and the harvested olives are usually stacked in plastic bags, where they are left for long period before being processed (Maaitah, 2009).

Previous research in Karak showed that the highest oil accumulation belonged to *Nabali* variety. The result proved that olive cultivar and harvesting date combine together to influence oil quality and quantity. In the light of the results, it is concluded that the optimum harvesting date

to obtain the best olive oil quality and quantity is dependent on location, cultivar, and harvesting date. It could be recommended that the harvest be delayed to obtain both the best quality and quantity. It could be concluded from the results of this investigation that January 15 and December 1 are the optimum harvesting dates for obtaining the best olive oil quality and quantity (Maaitah, 2009).

Market Analysis

Olive and olive oil are very important for Jordanian family. In the villages, usually farmers have no available market and 94% of farmers are depending on local markets, 5% of farmers leave part of their production for family consumption and for friends, only 1 farmer was selling his product in his shop.

Besides consumption patterns and expected developments in the world supply and demand, numerous other factors also influence olive oil marketing on new markets. Amongst these are increased market globalization and changing international trade and agricultural policies. For international marketing purposes, globalization requires deregulation, lowering of protectionist barriers, business flexibility, and certain standardization in the world demand. Global marketing policies were the strategic basis for the recent development of many products and companies. However, globalization is progressing more slowly in food products than in other goods and services, as can be clearly seen in the data from international organizations such as the World Trade Organization (WTO), the World Bank, or the EU. This differential evolution is mainly because food demand is heavily influenced by the socio-cultural context in which consumption functions take place. Thus, not only do export businesses have to make the necessary adaptations to organize marketing more flexibly in a more globalized economy, but they also have to consider the special characteristics of

introducing a high-quality food like olive oil into new geographical areas (Mili, 2006).

The marketing system suffers from several shortcomings, including lack of advanced agricultural know-how for the production of high quality products, lack of access to markets that demand quality produce and pay a premium for it, and lack of an adequate marketing infrastructure that is required for proper post-harvest handling to distant markets. These shortcomings have led to an increased marketing cost and margins, low quality produce, and low quality packages and packaging. Globalization could be an important vector for expanding the product, provided its distinctive features and those of the destination market are properly taken into consideration, that is, when an effective international expansion and segmentation strategy combining country/region-based features with buyer-based variables is implemented (Hassan *et al.*, 2003).

One fundamental question facing any olive oil exporting company is what marketing strategies to adopt to enter or to expand foreign markets and to obtain sustained competitive advantages, in view of dramatic changes in consumption patterns and in the international scenario. When tackling foreign markets, companies are confronted by a series of internal, external and operational barriers. Of all these, the most crucial factors for olive oil are, probably, adaptation of the product to consumer tastes and to trade and safety specifications at destination, and access to distribution chains or use of companies' own distribution networks (Mili, 2006).

There are over 100 mills in Jordan containing some 179 production lines of olive oil, with a production capacity of about 280 tons per hour. Traditional oil mills no longer exist in Jordan, and this has been a result of modernization of mills in recent years. Today, Jordanian mills and presses operate modern and sophisticated machinery, using two and three phases. Statistics of the MoA shows that traditional

mills have disappeared. However, the introduction of modern olive mills, and their increase from 104 in 2006 to 118 in 2011 does not seem to have helped in increasing the olive oil extraction rate, which remains constant at about 19%. It is estimated that extraction rate could be boosted if more efficient and coordinated access to mills is granted to farmers. The main problem is not attributed to limited mills' processing capacity, rather, it lies in the fact that there is a lack of coordination between olive growers and olive oil processors, there are problems of oil quality and storage and there is no commercial structure. Previous research recommended to strengthen the partnership between farmers, private commercial sector, and government institutions (Ministry of Agriculture) and benefited from foreign technical experts and financial support (Al-Shdiefat, 2006).

It is worth mentioning that Karak Olive Farmers, particularly the small-scale ones, are benefiting from mills that offer farmers the ability to pay pressing services out of the extracted olive oil profit, rather than paying cash money upon extraction of oil. In addition, many small-scale farmers are exhibiting their olive oil products at the mills to reach end-customers, who have grown accustomed to buying fresh olive oil directly from the mills (ILO, 2014).

Distribution Channels

Results showed that olives are usually distributed to the local markets. There is no reliable data on the distributed quantities and the share of each distribution channel. However, in qualitative terms, the majority of olives are distributed in wholesale markets:

1. Farmers to the local markets: Wholesale markets to retailers to consumers.
2. Farmers to owned shop: Who sell to consumers.
3. Farmers to family and friends. (Figure1)



The distribution channel does not allow access of farmers to sell directly to retailers, exporters, or end consumers. The bargaining power of wholesale markets and contractors stems from fragmentation of relatively small farmers. In light of such fragmentation and as a result of wholesaler's bargaining powers, farmers are unable to retain margins of sound profitability, whereas wholesalers and intermediaries are making much higher margins when they sell to exporters and retailers.

Table 1 shows the challenges that face Karak Olive Producers according to distribution channels.

SWOT Analysis

Research findings and SWOT analysis show that the Jordanian Olive Sector in general, and Karak Olive Sector in particular, has a good potential to grow and expand further, particularly in light of recent developments which the sector has

undergone and the modernization of olive oil presses. The SWOT matrix below (Table 2) summarizes the key findings of market analysis.

However, the sector has a number of weaknesses related to fragmentation of the sector, labor availability, skills and work-ethic issues, marketing and branding, packaging, warehousing, lack of coordination with the olive oil presses as well as limited financial and management planning know-how.

At the farm and mill levels, agents' coordination is crucial to obtain the best possible olive oil quality. In fact, after picking, the less is the time to mill the olives, the best it is in terms of olive oil quality, which deteriorates if olives are not milled for just a few days. Furthermore, at the mill level, olive oil is mainly filled in metal cans that badly affect olive oil quality. Farmers should be made aware of the need to transfer their olives to mills shortly after having picked them and, in coordination

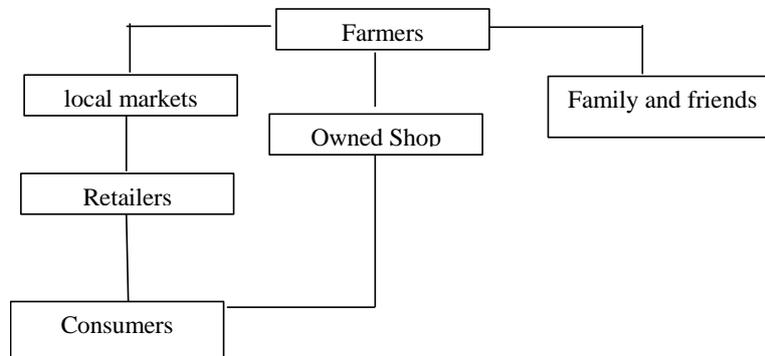


Figure 1. Distribution channels of the olive market in Karak. Source: Author's elaboration (2017).

Table 1. The challenges that face Karak Olive Producers according to distribution channels.

Channels	Critical success factors/ Market requirements	Improvement needed	Constraints to achieving improvements
Local markets	Raising profit margins for olive producers through better pricing	Leveraged bargaining power and Branding image	Fragmented farmers/growers bargaining power of farmers/growers
Owned shop	Raising profit margins for olive producers	Branding and image	Fragmented farmers/growers

Source: Author's elaboration (2017).

Table 2. SWOT Analysis of market.

Strengths (S)	Weaknesses (W)
<ul style="list-style-type: none"> • The Nabali and Baladi varieties produced in Karak have good commercial potential and considered to be of good quality and taste. • Jordanian customers prefer domestic products. • Recent modernization of olive oil presses has improved the olive oil extraction activities. 	<ul style="list-style-type: none"> • Fragmentation of olive production base (farms are too small to be efficient). This is leading to failure to carry out marketing cooperatively and recognize market standards among small grower operations. • Labor-intensive practices raise the cost of production. • Insufficient knowledge and inadequate awareness of producers about market quality criteria. • Insufficient know-how and inadequate awareness of producers about product varieties and market potential. • Insufficient expertise and inadequate awareness of producers about various types of pesticides and fertilizers. • Improper packaging. • Lack of coordination between growers and olive oil presses causing delays at oils mills. • Low local prices compared to the cost. • Limited cash flow of producers/growers and lack of financial planning capabilities.
Opportunities (O)	Threats (T)
<ul style="list-style-type: none"> • Demand at the regional level is increasing due to growing population and increased health-awareness. • The opportunities that consolidation of small farmers/growers would bring, including: collective marketing & branding, collective raw material and other input procurement (better prices, better terms), minimization of production and marketing costs, as well as collective improvement of packaging, and quality. 	<ul style="list-style-type: none"> • Inflation and declining purchasing power of domestic consumers might result in decreasing local demand as consumers might shift towards cheaper imported olive oil. • The issue of consumer trust in local processors and producers of olive oil might result in domestic consumers shifting towards the less favorable, but 'safer' imported olive oil.

Source: Author's elaboration (2017)

with mill owner, making sure that olives are milled upon arrival, to obtain the best possible olive oil quality. The consciousness should be extended to the miller concerning the quality of cans that are used in filling olive oil and about the place of oil storage. Furthermore, picking operations account for the major shares of total cost. Therefore, suitable technologies to reduce the cost of picking olives should be applied (Al Ashkar, 2006).

TWOS Analysis

In order to enhance the sector's chances of achieving and sustaining growth, the following TWOS Matrix (which is a variant of the SWOT Analysis) (Table 3) provides

recommendations on how the sector can utilize its Strengths to capitalize on Opportunities (SO), utilize Strengths to avoid current and potential Threats (ST), overcome current Weaknesses by exploiting Opportunities (WO), and; lessen the impact of Weaknesses and avoid current and potential Threats (WT).

The sector has a number of internal weaknesses that are restricting it from realizing its growth potential. Introducing the 'holy-land' olive branding and the creation of a GI organization may play a central role in coordinating collective action, such as providing technical assistance, managing the internal rules and controls system along the supply chain, and the marketing and communication strategies (Davide, 2014).

**Table 3.** Threats, Weaknesses, Opportunities and Strength TWOS Analysis.

	Key Internal Strengths	Key Internal Weaknesses
	Geographic location Good varieties with good quality and taste Domestic consumer preference Modernized olive oil presses Enhanced availability of skilled labor	Fragmented sector Unidentified GI Relatively limited production Labor-intensive growing Lack of coordination with olive oil presses Lack of marketing know-how Weak branding and packaging Inadequate technical skills related to growing and pesticides
Key External Opportunities	SO	WO
Expanding exports to Saudi and GCC markets Claiming the 'holly land' category The economic and marketing opportunities embedded in the idea of sector consolidation	Develop and implement an export marketing plan targeting the Saudi market Introduce new by-products targeting wider segments of domestic consumers Introduce the 'holy-land' olive branding	Constant delivery and installing proper warehouses will contribute to enhancing sales Establish a farmer cooperative mainly to serve the following purposes: (1) achieve economies of scale through collective procurement, (2) enhance coordination with mills to enhance olive oil productivity Build farmers' capacity in planting planning, soil tillage and rugged land use know-how
Key External Threats	ST	WT
Changing climatic conditions (Unpredictable rainfall) Competition Domestic consumer trust issues	Introduce favorable shipping charges/terms to targeted regional importers Enhance communications with domestic customers	Enhance rainwater harvesting and storage techniques and facilities Introduce GI for Karak olive production Enforce regulatory control and implementation of pesticides and fertilizer use

Source: Author's elaboration (2017)

Certain food and agricultural products have a specific quality linked to their production origin that can make them famous because of characteristics linked to their local natural and human environment (Vandecandelaere *et al.*, 2009). Moreover, the institutional and political context in which Geographical Indicator (GI) supply chains "touch down" plays a critical role (Bowen, 2010).

Marketing Strategy: Marketing Mix (4Ps) Model

The following matrix (Table 4) provides a summary of key marketing upgrading needs

and recommendations for Karak Olive Farmers (growers), based on the Marketing Mix (4Ps) Model.

There is a need for product improvement through building farmers' capacity in product varieties and possibilities and providing capacity building to women on entrepreneurship and opportunities in the sector, and establishing a farmers' cooperative that would handle collective procurement.

Providing capacity building on best practices of post-harvesting and developing a business plan for the proposed cooperative to provide post-harvest handling activities to farms. Within the context of a branding plan

Table 4. Marketing strategy and recommendations.

Product			
Improvement Needed	Constraints to achieving improvements		Recommendations
Product innovation and diversity of product varieties and by-products of olives and olive oil	Farmers' attitude towards trying new varieties Enhancing entrepreneurial spirit by producers and the female segment		Build farmers' capacity in product varieties and possibilities Provide capacity building to women on entrepreneurship and opportunities in the sector
Procurement sourcing of raw materials including fertilizers and pesticides	General lack of knowledge of sourcing venues and different types of raw materials Lack of collective procurement of raw materials		Establish a farmers' cooperative that would handle collective procurement Build capacity of proposed cooperative
Land use (Production efficiency related)	Lack of planting plan and rugged land use know-how		Provide capacity building to farmers on planting plan and rugged land use know-how
Pruning and field care techniques (Quality and production efficiency related)	Conventional practices of plowing, pruning and inoculation of olive trees		Provide capacity building to farmers on best practices of plowing, pruning and inoculation of olive trees
Harvesting and pressing costs (Quality and production efficiency related)	Conventional harvest methods Lack of harvest automation Bargaining power of pressing mills in light of the fragmentation of farmers		Develop an operational plan to enhance coordination between farmers and olive oil presses
Post-harvest handling (Quality and production efficiency related)	Conventional post-harvest techniques Lack of regulatory control and enforcement		Provide capacity building on best practices of post-harvesting Develop a business plan for the proposed cooperative to provide post-harvest handling activities to farms
Packaging	Lack of knowledge of proper packaging Cost of proper packaging		Conducting a technical study and designs to introduce proper packaging
Price			
Improvement Needed	Constraints to achieving improvements		
The way pricing is dictated in the local market	Bargaining power of wholesalers in light of farmer fragmentation		Establish a cooperative of olive farmers. Define its representative roles and operations within the context of a business plan
Promotion			
Improvement Needed	Constraints to Achieving improvements		
Ineffective promotional campaigns	Farmer fragmentation and lack of marketing representation		Work with JOPEA on ways to leverage the impact of the Annual Olive Festival Within the context of a branding plan for olives, develop a marketing communications plan that targets domestic consumers
Place (Distribution)			
Improvement needed	Constraints to achieving improvements		
Improving farmers' margins when selling to wholesalers and intermediaries	Weak farmers' bargaining power in light of fragmentation		Establish a cooperative of olive farmers. Define its representative roles and operations within the context of a business plan
Product			
Improvement needed	Constraints to achieving improvements		Recommendations
Access times to pressing	Lack of coordination and systematic scheduling with olive oil presses in light of fragmentation of small-scaled farmers/growers		Develop an operational plan to enhance coordination between farmers and olive oil presses



for olives, a marketing communications plan that targets domestic consumers should be developed.

Olive Cost and Return

Oil production based on an average oil yield of 15 kg per 100 kg of olives. In practice, the percentage of oil extracted from olives varies considerably (ranges from 10 to 25%), depending on climate, olive variety, etc. (Beaufoy, 2000).

The price of olive and olive oil is dependent on the quality and source and usually it ranges from US\$ 0.38 to US\$ 4.2 per Kg, if it is used for pickling. Olive oil price ranges from US\$ 3.5 to US\$ 9.8 Per Kg, it is also dependent on varieties and cultivation practices, if the trees depend on rainfall or irrigation. Despite the importance of olive crop in Jordan, farmers do not take enough care of these blending trees regarding fertilization, irrigation, and protection of diseases and insects. Also, farmers do not take care of the proper selection of agro-climatic zones for these trees, which lead to low yields of olive trees and rage yield variations from year to year and, consequently, low profitability.

Study of the enterprise budget of olive crop showed that the rate of olive oil production per hectare reached 650 kg, the average price was US\$ 5.5 kg⁻¹, the Gross margin was US\$ 2009 /ha and net profit was US\$ 692 ha⁻¹. The total costs amounted to US\$ 2,883ha⁻¹, of which US\$ 1,566 were variable costs, accounted for supplementary irrigation water costs, which were 36% of them (Table 5).

CONCLUSIONS

Research findings show that the Jordanian Olive Sector, in general, and Karak Olive Sector, in particular, has a good potential to grow and expand further, particularly in the light of recent developments that the sector has undergone and the modernization of

olive oil presses. However, the sector has a number of weaknesses that are restricting it from realizing its growth potential. Key weaknesses are related to fragmentation of the sector, labor availability, skills and work-ethic issues, marketing and branding,

Table 5. Enterprise budget of one hectare of olive oil at Karak Governorate.

Item	US\$ Value ha ⁻¹
Revenues	3575
Operational cost	1316.9
Establishing cost	169
Building depreciation	93
Irrigation network depreciation	154.9
Concrete ponds depreciation	42
Wall and fences depreciation	56
Machines depreciation	155
Family labor	282
Land rent	140
Maintenance	140
Interest rate on operational cost	85
Variable cost	1566
Plowing	113
Ammonia	34
Organic matter	50
Urea	10
Macro and micro element	34
Herbicides	32
Insecticide	13
Labor	20
Irrigation water	560
Field container	42
Harvesting	197
Transporting	13
Oil container	85
Milling cost	246
Fuel	14
Interest rate on variable cost	103
Total cost	2882.9
Gross margin	2009
Net profit	692.1

Source: Author's elaboration from field survey database (2017).

packaging, warehousing, lack of coordination with the olive oil presses as well as limited financial and management planning know-how.

The study recommends the followings:

(i) Provide capacity building to the olive growers (including women) on best practices of planting, post-harvesting, etc – across the whole value chain,

(ii) Establish a cooperative of olive farmers at Al Karak: Define its representative roles and operations within the context of a business plan. The obligation of the proposed cooperative should aim at creating a link between members' production and supermarkets, particularly in Amman and or exporters,

(iii) Create a branding plan and GI for Al Karak olives oil,

(vi) Develop a marketing communications plan that targets domestic consumers.

A small business ideas and value-added activities can be operated by women and small entrepreneurs in Karak. Also, there is a need for establishing a Collective Marketing, Branding and Procurement Cooperative of Small-to-Medium Scale for Karak Olive Farms.

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REFERENCES

1. Al Ashkar, H. 2006. *Olive Oil Comparative Advantages*. Working Paper No 19, The National Agricultural Policy Centre (NAPC), 1-56.
2. Al-Shdiefat, S., El-Habbab, M. S. and Al-Sha'er, A. 2006. Introducing Organic Farming System in Olive Production and Linking Small Farmers to Markets: "A Success Story". <https://jordankmportal.com/resources/introducing-organic-farming-system-in-olive-production-and-linking-small-farmers-to-markets-ncare>
3. Anania, G., Rosaria, M. and D'Andrea, P. 2007, *The Global Market for Olive Oil: Actors, Trends, Policies, Prospects and Research Needs*. Working Paper 08/2, Italy.
4. Anonymous. 2014. Agriculture Policies and International Cooperation Department. Revised Reporting Format For The Follow Up of The Implementation of The World Food Summit Plan of Action.
5. Aparicio, R. and Harwood, J. 2013. *Handbook of Olive Oil: Analysis and Properties*. Second Edition,
6. Beaufoy, Guy, (2000), *The Environmental Impact of Olive Oil Production in the European Union: Practical Options for Improving the Environmental Impact*, Institute for European Environmental Policy, London.
7. Bowen, S. 2010. Embedding Local Places in Global Spaces: Geographical Indications as a Territorial Development Strategy. Wiley Online Library , Pages **75(2)**: 209-243.
8. Ben-Tal, Y. M. and Wodner, M. 1994. Chemical Loosening of Olive Pedicel's for Mechanical Harvesting. *Acta. Horticulturae*, **356**: 382-387.
9. Daga, A., Kerem, Z., Yogevev, N., Zipori, I., Lavee, S. and David, E. 2011. Influence of Time of Harvest and Maturity Index on Olive Oil Yield and Quality. *Scientia Horticulturae*, **127**: 358–366.
10. Davide, M. 2014. Extra-Virgin Olive Oil Production Sustainability in Northern Italy: A Preliminary Study. *British Food J.*, **116(12)**: 1942-1959.
11. Denney, J. and Martin, G. 1994. Ethephon Tissue Penetration and Harvest Effectiveness in Olive as a Function of Solution pH, Application Time, and BA or



- NAA Addition. *J. Am. Soc. Hortic. Sci.*, **119(6)**: 1185–1192.
12. Department of Statistics (DOS), (1997-2015), External Trade Bulletin, Amman, Jordan.
 13. Department of Statistics, Agricultural Census, 2007.
 14. Ferguson L. 2006. Trends in Olive Fruit Handling Previous to Its Industrial Transformation. *Grasas Y Aceites*, **57**: 9- 15.
 15. Hassan, S. S., Craft, S. and Kortam, W. 2003. Understanding the New Bases for Global Market Segmentation. *J. Consumer Market.*, **20(5)**: 446-462. International Olive Oil Council, 2001, Projected Olive Oil Production and Consumption by 2008, CE/R.54/Doc. n° 3, IOOC, Madrid.
 16. International Labour Organization (ILO). 2014. *Market Study and Marketing Strategy of Olive Sector in Irbid*. Draft Report v2. International Labor Organization.
 17. IOC (International Olive Council). 2011. World Market in Figures. *Olivae*, **115**: 26–29
 18. Jabarin, A., Badwan, R., Al-Habahbeh, R. and Al-Hyari, A. 2002. *Protection and Comparative Advantage of Selected Activities of Jordanian Agriculture*. Capacity Building on Agricultural Policy and Project Planning (TCP/JOR/0066), WD5, Ministry of Agriculture, Amman, Jordan.
 19. Lavee, S. 1996. Biology and Physiology of the Olive. *J. Hort. Sci.*, **66**: 620–648.
 20. Maaitah, M., Al-Absi, Kh. and AL-Rawashdeh, A. 2009, Oil Quality and Quantity of Three Olive Cultivars as Influenced by Harvesting Date in the Middle and Southern Parts of Jordan. *Int. J. Agri. Biology*.
 21. Menaride, 2013. Rehabilitating Irrigation Canals and Olive Trees Boosts Farmer Income in Jordan. Improving Irrigation Canals and Rejuvenating Old Olive Trees Have Dramatically Increased Olive Yields and Farmers' Income in the Karak Region of Jordan.
 22. Metzidakis I. 1999. Field Studies for Mechanical Harvesting by Using Chemicals for the Loosening of Olive Pedicel on cv. Koroneiki. *Acta Horticulturae*, **474**: 112-117.
 23. Mili, S. 2006. Olive Oil Marketing on Non Traditional Markets: Prospects and Strategies, NEW MEDIT N. 1/2006.
 24. Ministry of Agriculture (MOA). 1995-2015. *Yearly Reports, Directorate of Information and Computer*. Amman, Jordan.
 25. Ministry of Agriculture. 2016. *Agricultural Statistics*. <http://www.dos.gov.jo>
 26. Salvador, M. 2001. Simple and Hydrolysable Compound in Virgin Olive Oil. *Food Chem.*, **248**: 95–112
 27. Vandecandelaere, E., Arfini, F., Belletti, G. and Maresscotti, A. 2009 *Linking People, Places and Products: A Guide for Promoting Quality Linked To Geographical Origin and Sustainable Geographical Indications*. Second Edition, FAO and SINER-GI.

مطالعات بازاری و راهبرد بازاریابی برای زیتون و روغن زیتون در بخش جنوبی و خشک اردن

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چکیده

هدف این پژوهش شناسایی ویژگی های معیشتی جوامع بر حسب دارایی ها و فرصت ها و نیز شناسایی و توضیح بخش های متناظر در بازار(ها) و همچنین طراحی یک راهبرد بازاریابی مناسب بود که مآلا منجر به مشارکت بیشتر جوامع شود. به این منظور، برای استخراج داده های پایه در باره تولید

زیتون و سامانه بازاریابی زیتون و روغن زیتون و عملیات کشاورزی، یک پرسشنامه اقتصادی-اجتماعی طراحی شد. پژوهش در دوره ۱۵-۲۰۱۴ روی ۱۵۵ کشاورز در ۴ بخش در فرمانداری کاراک (Karak) اجرا شد. یافته های این بررسی و تجزیه تحلیل SWOT نشان میدهد که بخش تولید زیتون در اردن به طور کلی، و همین بخش در Karak به طور ویژه، استعداد خوبی برای رشد و گسترش بیشتر را دارد، به خصوص با در نظر گرفتن تحولات اخیر در این بخش و مدرنیزه کردن دستگاه های استخراج روغن. با اینهمه، این بخش نقاط ضعفی دارد که جلو تحقق استعداد رشد آن را گرفته است. ضعف های اصلی مربوط است به پراکنده بودن (fragmentation) بخش، دسترسی به نیروی کار، مهارت ها، و مسایل اخلاقی، بازار یابی و استفاده از نام تجاری (branding)، بسته بندی، انبار داری، عدم هماهنگی تولید کننده با مسولین دستگاه های استخراج روغن، و دانش محدود برای برنامه ریزی مالی و مدیریتی. بالاخره، بررسی بودجه سازمانی (enterprise budget) تولید زیتون نشان داد که عملکرد به ۶۵۰ کیلو گرم در هکتار می رسد و با میانگین قیمت ۵/۵ دلار آمریکا در هر کیلو، حاشیه ناخالص (Gross margin) در حد ۲۰۰۹ دلار آمریکا در هکتار و سود خالص برابر ۶۹۲ دلار در هکتار بود.