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# THE FUTURE OF THE OLIVE OIL INDUSTRY IN IRAQ

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## Introduction

USAID's primary project activity in the Iraqi agricultural sector is the USAID-*Inma* Agribusiness Program. *Inma* is the Arabic word for "growth". This program focuses on increasing the competitiveness of Iraqi agriculture by demonstrating the potential for profitable commercial agribusiness enterprises.

USAID-*Inma* supports two of the most profitable agriculture value chains in Iraq, Livestock-Protein and Horticulture. And through technical assistance with cross-cutting Business Development the program goal is to increase productivity, lower production and marketing costs, increase the profitability of agricultural enterprises, and generate rural employment.

The objective of the USAID-*Inma* horticulture value chain is to strengthen the sustainability and competitiveness of the agricultural private sector while increasing rural income and employment in Iraq. The goals will be accomplished by increasing crop diversity, improving productivity and value chain integration of the rural population, while providing Iraq with a more diversified, affordable and nutritional diet while contributing to food security.

## Executive Summary

Similar to Mediterranean and Middle Eastern countries, Iraq has the potential to expand and greatly improve the production of olive oil. Olives are a potentially important cash crop for Iraqi farmers and are attractive because it is a crop that makes good use of limited water resources. Since 2000 the Ministry of Agriculture (MoA) has openly recognized the potential for olive oil production in Iraq, and supported several programs to establish new olive groves in the country<sup>1</sup>. Demand for olive oil in Iraq is, however, still weak<sup>2</sup> due to the high price of the product and competition from the Public Distribution System (PDS) which distributes vegetable fats and oils, at no cost to most Iraqi households.

In order to develop a sustainable olive oil industry Iraq will have to expand the production of olives in the country and reduce production and packaging costs to make it more competitive with imported olive oil. The current production of olives is nearly all absorbed by the more valuable table olive sector Iraq produces 10,000 to 12,000 metric tons of table olives per year and consumes approximately 30,000 metric tons, importing, mostly from Turkey and Syria, some 20,000 metric tons per year.<sup>3</sup>

Iraqi olive oil is currently sold in the market as a niche, premium priced product with its label of origin, "Made in Iraq", standing as the main differentiation from imported olive oils. This niche strategy does not leverage a significant demand for the product and may also fail as a strategy since Iraqi olive oil compares unfavorably against imports in terms of price and quality<sup>4</sup>.

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<sup>1</sup> MoA Strategic Plan for Agriculture 2010 – 2013, Ministry of Agriculture for Kurdistan Regional Government – Strategic Plan 2009 - 2013

<sup>2</sup> Central Organization for Statistics and Information Technology (COSIT) and the World Bank Iraqi Households Expenditure Survey, 2008

<sup>3</sup> According to MoA data Tables Olives account for 98% of total olives production in Iraq, while only 2% of the olives are currently processed for olive oil.

<sup>4</sup> According to USAID-*Inma* Olive Oil Expert, Paul Vosson's Organoleptic, Blind Taste Test Comparing Iraqi olive oil with olive oils from Turkey, Italy, Spain and Lebanon conducted in Erbil in January, 2011.

The objective of this paper is to identify which business models could be adopted by Iraqi olive oil processors as an alternative to the current niche strategy. The “crushing-fee” model, widespread in European Mediterranean countries undoubtedly has potential in Iraq. Under this model, farmers, rural communities, or farmers associations provide the crushing mills with olives and pay a crushing-fee, usually in kind, for each liter of oil produced. The olive oil is packed in 5 or 10 liter bulk containers and used locally or sold by the supplier of the olives.

Another business model would be the inclusion of Iraqi olive oil in the Public Distribution System (PDS) scheme. Olives could be considered a strategic crop in Iraq since olive trees are often the only crop option for areas with low rainfall and olive trees promote rural development in geographic areas that would otherwise be idle or abandoned. Iraq currently imports nearly all fats and vegetable oils consumed in the country, 570,000MT/year<sup>5</sup>, and distributes through the PDS some 420,000MT/year<sup>6</sup>. The inclusion of domestically produced olive oil in the PDS basket, partially replacing imported vegetable oils, would immediately create a significant demand for the product in the country. This could possibly lead to the development of centralized crushing mills and bottling facilities around the country and to cost savings for processing and packaging based on economies of scale.

## Global Outlook

Olive oil represents only 2.2% of the total vegetable oils consumed in the world.<sup>7</sup> Olive oil is possibly the single product most closely associated with the Mediterranean basin. In 2009-2010 the world production of olive oil was approximately 3.02 million metric tons.<sup>8</sup> Mediterranean countries accounted for almost 98% of this production. Spain, with a production of 1.41 million metric tons, was the world’s top producer, accounting for 46% of the market share. Italy ranked number two in the world with production of 0.460 million tons and Greece followed as number three with production of 0.320 million tons of olive oil. The European Union (EU) as a whole accounted for 74% of the total world production of olive oil. MENA countries (Middle East and North Africa) accounted for almost 24% of the world’s olive oil production. Other countries, such as the USA, Chile, Argentina, New Zealand and Australia, that developed domestic olive oil industries more recently account for the remaining 2% of global olive oil production.

According to data provided by the International Olive Council, the olive oil sector suffered from overcapacity during the years 1990 to 2005 when global production expanded at a faster pace than consumption, 5% per year and 3% per year respectively. This situation forced an overall restructuring of the industry and important changes in the EU Common Agricultural Policy (CAP), which regulates subsidies. Those changes led to a significant reduction of the number of hectares of olive trees in Europe. Spain experienced the most significant reduction in hectares of olive trees. Beginning in 2007 olive oil production and consumption have risen on a par thanks to a growing acceptance of the product in Northern Europe, the USA, Brazil, Canada, Japan, India and China. A reduction in the price gap between olive oil and other vegetable oils occurred between 2007 and 2010, narrowing from \$2,500 per metric ton in 2007 to only \$1,500 per metric ton in 2010. This contributed significantly to the rise in demand and subsequent rise in production.

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<sup>5</sup> COSIT and The World Bank Iraqi Households Expenditure, and Ministry of Trade.

<sup>6</sup> World Bank 2010, Public Distribution Survey and Analysis

<sup>7</sup> Source: International Olive Oil Council (IOOC) Report 2010. Total vegetable oil consumption in 2010 = 128 million MT.

<sup>8</sup> Source: International Olive Oil Council (IOOC) Report 2010.

Spain is the world's top exporter of olive oil, with some 0.6 million metric tons per year shipped, mainly to Italy. Italy is the world's biggest importer of olive oil and second biggest exporter (0.30 million metric tons per year). Typically Italy needs to import a significant amount of olive oil from Spain and Tunisia, and to a lesser extent from Turkey, Greece and Syria to satisfy its domestic consumption. Italy is also an important exporter of olive oil, branded as "Italian", but made with olives from Spain, Tunisia, and Turkey. Excluding intra-trade between EU countries, the USA is the leading importer of olive oil in the world accounting for 45% share of total imports of the product (approximately 0.650 million tons/year), followed by Brazil at 7%, Canada, and Japan. Tunisia is the only significant exporter of olive oil to the EU countries still benefiting from a generous tariff-free EU quota for 70,000 tons.<sup>9</sup>

On the supply side it is important to highlight that olive groves differ significantly from country to country. The traditional, extensive tree spacing is the common practice in desert, dry farmed regions of the Middle East (Syria and Turkey), North African (Morocco, Tunisia) Syria, Turkey, Italy, Greece and Portugal. In this model planting densities range from 200 to 400 trees per hectare, the groves are usually rain fed and harvesting is manual. High density and super high density planting ranging from 800 trees per hectare to 2,000 trees per hectare predominates in irrigated areas of the USA, Australia, Chile and Argentina where harvesting is almost completely mechanized.<sup>10</sup> Spain has a hybrid model with traditional groves coexisting with high density irrigated, groves that are mechanically harvested. Four powerful vertically integrated private companies in Spain control 80% of the production and virtually dictate the world market price.

## Olive Production in Iraq

Like many other developing Mediterranean and Middle Eastern countries, Iraq seems to have the potential to expand and greatly improve its production of olives for oil as well as table olives. Olives are a potentially important cash crop for Iraqi farmers and are attractive because olives can survive and produce fruit in areas with limited water resources. According to the latest data available from the Ministry of Agriculture<sup>11</sup> Iraq has a minimum of 600,000 fruiting trees concentrated in the Bashiqa area in the Northern Iraq governorate of Ninawa. The vast majority of olive trees are grown from cuttings. Predominant varieties are the indigenous *Ba'shiqa* and an unspecified Greek variety supplied by the Kurdish MOA. Both varieties are more suitable for the production of table olives than olive oil. Almost all trees are grown as a bush with multiple trunks as opposed to the US and European method of a strong central leader. Most of the groves are planted on a 9 meter x 6 meter spacing characteristic of extensive farming.

The Ministry of Agriculture has never included olives as a strategic crop in the development plan for Iraqi agriculture. However, beginning in 2000, the MoA recognized the potential for olive oil production in Iraq, and initiated a program to establish nurseries to produce olive tree saplings. The MoA nurseries have distributed over one million saplings to farmers for the establishment of new groves with improved Greek varieties. More recently, in 2005 and 2006, the Agricultural Reconstruction Development Iraq Program (ARDI) worked with the MoA to establish sixteen demonstration and research groves in eight governorates: Salah ad Din, Diyala, Wasit, Babylon, Qadissiyah, Muthanna, Dhi Qar and Basrah, with the goal of improving olive production practices throughout Iraq. In 2007 the Iraq MoA announced a ten year plan to plant 30 million olive trees, of

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<sup>9</sup> IOCC Report 2011

<sup>10</sup> <http://www.oliveoilsource.com/page/olive-tree-spacing>

<sup>11</sup> Ministry of Agriculture (MoA) Strategic Plan for Agriculture 2009 -2013

varieties specifically bred for oil production. This program has the production goal of 750 thousand metric tons of olives and 150,000 tons of olive oil. Implementation of the ten year planting plan started in 2008, however there has not yet been a report of the number of trees planted to date. A further sign of the growing interest in the Iraq olive oil sector was the news released in September, 2010; Diyala Provincial Government submitted a bid to establish a 125,000 hectare olive plantation in the region. If established, this would be the biggest olive grove in the Middle East.

At the beginning of 2010 USAID-*Inma* Agribusiness Program started working with The Al Zaytoon Olive Growers Association in Ba'shiqa, Ninawa, providing technical assistance and installing three small olive presses with the capacity of processing, on average, 600kg of olives per hour.<sup>12</sup> In January of that year Al Zaytoon Association started trial production of the first press of five metric tons of olive oil packaged in 250 milliliter glass bottles to be sold through wholesalers and retailers across the country. Commercialization of the product has proceeded slowly due to the lack of marketing know-how of the Association and poor competitiveness of the product that compares unfavorably with imported olive oils in terms of quality, price and packaging. Beginning of 2011, USAID-*Inma* provided additional technical assistance in olive storage, grove management, olive oil processing training, and machine maintenance training to the Zaytoon Association with the objective of improving the quality of the olive oil and making it more price competitive.

This renewed interest in olive trees in Iraq, however, has not been accompanied by a consistent sector strategy, or business model of how to develop the olive oil industry in the country. The objectives of this paper are to analyze the potential of the olive oil sector in Iraq, identify appropriate business models for the development of this sector and highlight steps that should be taken to make the sector competitive and sustainable.

## Iraq Olive Oil Value Chain Analysis

The consumption of olive oil in Iraq is currently extremely low if compared to consumption of olive oil in the MENA area (North Africa plus Middle East). According to the Central Organization for Statistics and Information Technology (COSIT) and the World Bank Survey on Iraqi Household Expenditure (IHES) conducted in 2007 the penetration of olive oil in Iraq (percentage of household consuming olive oil out of the total households in Iraq) was only 0.24% as opposed to 13.5% for vegetable fats and oil bought in the market, excluding the product provided by the Public Distribution System, and 9.7% for sesame oil. The total consumption of olive oil in Iraq in that year amounted to 1,000 metric tons, and was only a small portion of the 570,000 metric tons of fats and oils consumed in 2007. On a per capita basis Iraq's consumption of olive oil is the least of any of the MENA area countries with Iraq's per capita consumption at only 0.035 liters, as opposed to 4.9 liters in Syria, and 3.7 liters in Jordan and Palestine. Such a low level of consumption, uncharacteristic in the area, is probably due to the following reasons:

- Almost every Iraqi household receives fats and vegetable oil at no cost through the Public Distribution System (PDS). Under the PDS scheme, currently in place in Iraq, Iraqis receive, on average, one liter of vegetable fats or oils per month. This mechanism greatly distorts the demand for additional fats and oils in the market, significantly decreasing demand for olive oil and crowding out investment in the industry

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<sup>12</sup> The three presses installed in Ba'shiqa could process a total of 240 MT per season (50 days x shift of 8 hours a day) producing between 40 and 50 tons per season depending on the yield of the olives (on average 1kilogram of olives yields 1 liter of olive oil).

- There is insufficient olive production in the country to satisfy the demand for table olives or to create a surplus that could be utilized for pressing. The Iraqi table olive sector currently absorbs the entire quantity of olives produced in the country. This strong demand raises the price and makes olives expensive. According to data provided by the Al Zaytoon Association in Ninawa, farm gate price for good quality olives averages ID 900 per kilogram (\$770/MT).<sup>13</sup>
- Olive oil is expensive in Iraq when compared to the price of other oils. Olive oil also commands a higher price than other vegetable oils in other countries but is perceived as being a superior product of very high quality and thus worth the difference in price. Iraq currently has few modern processing units that can guarantee the degree of quality olive oil that would justify a price of \$1.50 per liter higher than vegetable oils.

From the standpoint of a potential export market for Iraq olive oil, it is clear that development of the olive oil industry in Iraq can currently only rely on supplying the domestic market demand since:

- The countries neighboring Iraq (Syria, Turkey, Iran, Jordan) do not need to import olive oil;
- The European production of olive oil is heavily protected from competition through subsidies and import tariffs;
- Other important olive oil importers such as the USA and Japan have a strong preference for branded products with Italy or Spain as the country of origin.

In particular the possibility of exporting olive oil to Europe should be definitively ruled out considering that Europe protects its olive oil producers with import tariffs ranging from €1,226 to €1,346 per metric ton depending on the grade of the product (extra virgin, virgin or refined) and favors some non-European Mediterranean countries such as Tunisia with duty-free import quotas.

With regard to the domestic market, it is important to highlight that the future of the Iraqi olive oil industry depends not only on strengthening the demand, but also on the competitiveness of the product in both quality and price when compared to imports from Turkey, Syria, Italy and in particular Spain.

Under the current circumstances, as demonstrated by the trial production of Ba'shiqa<sup>14</sup>, olive oil was not price competitive with imported oils for the following reasons:

- The high cost of Iraq olives at \$770/MT in comparison to olives produced in Turkey at \$500/MT or Europe at \$455/MT<sup>15</sup> is caused by the strength of demand for table olives in Iraq;
- Olives for the production of olive oil are currently subsidized in Europe at an average rate of \$0.30/kg<sup>16</sup>;
- Harvesting is entirely manual raising the cost of olives in Iraq. In most Mediterranean countries olive harvest has been partially or fully mechanized, using pneumatic combs and minishakers resulting significant cost reduction;
- The low yields of olives in Iraq of 20 to 30 kilograms per tree as compared to other countries with an average of 50 kilograms per tree;

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<sup>13</sup> In perspective prices at farm gate for olives in Europe in the campaign 2010 were around \$450-\$500/MT.

<sup>14</sup> USAID-*Inma* facilitated production of olive oil by the Al Zaytoon Olive Growers Association in Ba'shiqa, Ninawa

<sup>15</sup> IOCC annual report 2010

<sup>16</sup> IOCC annual Report, 2010



- The unfavorable 6 to 1 ration of fruit to oil conversion in Iraq, due to the fact that Iraq currently does not raise olive varieties specifically bred for oil production, the ratio for most Mediterranean countries is 5 to 1 (5kg of olives to produce 1 kg of olive oil);
- Higher processing costs in Iraq when compared to most Mediterranean countries, due to the lack of economies of scale. Iraq only has small capacity presses;
- Prohibitive bottling costs due to the lack of a competitive packaging industry in the country. Currently empty glass bottles are imported from Jordan and trucked to Bashiqa incurring high transaction costs.

**Table 1: Competitiveness of Olive Oil Produced in Iraq – Cost Analysis by Factor and Comparison with Spain and Turkey for 250 ml Glass Bottle**

Cost Factors	Iraq	Spain	Turkey
Harvest Yield in Kg per tree	15-20	50	40
Press Yield Ratio Olives/Oil %	15%	18-20%	17%
Raw Material (Olives)	\$0.83	\$0.59	\$0.55
Processing Cost (Labor, Utility and Amortization)	\$0.246	\$0.03	\$0.03
Packaging Costs	\$0.83	\$0.25	\$0.25
Other Costs	\$0.22	\$0.12	\$0.10
Total Cost \$	\$2.12	\$1.07	\$0.93
Total Cost ID (Dinar)	ID2,500	ID1,180	ID1,100

Source: Al Zaytoon Association, IIOC, 2010

As for quality, according to the technical evaluation provided by the USAID-*Inma* olive oil expert, Paul Vossen, who visited the Ba’shiqa processing facilities in January 2011, Iraq still lags far behind other regional producers of olive oil in both olive production and processing technology. Producing olive oil is, in fact, still a relatively new venture for Iraqi farmers and processors, who generally have much more knowledge of and experience with table olives. As a result, the quality of the first olive oil produced in Ba’shiqa was ranked as “low-quality” by the olive oil technical expert. The expert evaluation determined that the low quality production was due to several factors:

- Olives were not processed soon enough after harvest and fermented building up acidity levels that adversely affected the olive oil;
- Much of the oil produced was based on a salvage operation of lower quality olives rejected as not fit for packing as the table olives, which means that the raw material that was pressed in to olive oil was low quality;
- Iraq lacks olive varieties specific for oil production;
- The absence of laboratory equipment to determine the ideal time to purchase olives for pressing into oil (measuring fruit moisture and acidity level)

- Staff untrained or undisciplined in cleaning the equipment at the end of each processing shift, that lead to cross contamination the oil from one shift to the next.

All these factors, negatively affected the quality of the first attempt at olive oil production in Ba'shiqa. These factors do not constitute a permanent constraint to future production of olive oil as each factor can be addressed with limited investment and targeted technical assistance. The USAID-*Inma* Program olive oil expert is confident that in the future Iraq will be able to compete on quality with olive oil produced by countries such as Spain, Italy, Syria and Turkey. The main hurdle to viability and sustainability of the “infant” Iraqi olive oil industry will be price-competitiveness rather than quality. It has been demonstrated that Iraqi olive oil cannot compete with imports on price until the country develops a modern, competitively priced packaging industry, improves productivity (yields) and lowers harvesting costs. More importantly, and more difficult to address in the short term, is the fact that Iraq needs to drastically expand its production of olives in order to create a “surplus” in the market available for processing at a more competitive price. This will be a long process, taking into account that olive trees only bear significant yields after seven years.

In the meanwhile, before these structural changes take place it is vital for Iraqi olive oil producers to adopt a viable business model that will make the infant olive-oil industry in Iraq sustainable.

## Olive Oil Sector Business Models for Development

Iraqi olive oil is currently sold in the market as a niche, premium priced product with its label of origin, “Made in Iraq”, standing as the main differentiation from imported olive oils. This niche strategy does not leverage a significant demand for the product and may also fail as a strategy since Iraqi olive oil compares unfavorably against imports in terms of price and quality. This business model has several weaknesses. First of all a niche strategy can only work in a developed market with significant volume, something that has not yet happened in the Iraqi olive oil market. In addition the differentiation should be based on merits that are clearly perceived as a “plus” by consumers. Currently, the origin is the sole point of difference of the olive oil produced in Ba'shiqa. This differentiation alone is not enough to justify the high price of a product, 50% to 100% more than imported olive oil. In addition the Ba'shiqa olive oil scores unfavorably against imports in terms of quality and packaging. In order for this model to be successful quality and packaging need to improve and price needs to be reduced.

It is clear the future of the infant olive oil industry in Iraq depends on the adoption of alternative business models that have the capacity to create additional demand for the product and make it more price competitive against imports.

Two models are herewith analyzed.

“The crushing-fee model” is a bottom-up model popular in the European Mediterranean area. Under this model, farmers, rural communities, or farmers associations provide the crushing mills with olives and pay a crushing-fee, usually in kind, for each liter of oil produced. The olive oil is packed in 5 or 10 liter bulk containers and used locally or sold by the supplier of the olives. In practice, entire rural communities make their olive oil for their own consumption or to trade locally. This model presents several advantages:

- It bypasses the current problem of packaging, utilizing bulk containers instead of expensive glass bottles;

- It expands the demand and penetration (number of households actually using the product);
- It creates its own distribution channel with no need for marketing the product in the wholesale or retail market
- It drastically reduces the amount of operating capital required by the mills as they do not buy the olives from the farmers.

Another business model would be the inclusion of Iraqi olive oil in the Public Distribution System (PDS) scheme. Olives could be considered a strategic crop in Iraq since olive trees are often the only crop option for areas with low rainfall and olive trees promote rural development in geographic areas that would otherwise be idle or abandoned. Iraq currently imports nearly all fats and vegetable oils consumed in the country, 570,000MT/year, and distributes through the PDS some 420,000MT/year. The inclusion of domestically produced olive oil in the PDS basket, partially replacing imported vegetable oils, would immediately create a significant demand for the product in the country. This could possibly lead to the development of centralized crushing mills and bottling facilities around the country and to cost savings for processing and packaging based on economies of scale. On the other hand a switch from vegetable oil to olive oil would require a subsidy of around \$1,500 per metric ton. This is the international price gap between the two products. It would have to be determined if the GOI is ready to bear such a price subsidy with the objective of developing an industry that has the potential of diminishing the dependency on imported edible oils, to create jobs, and generate rural income.