

# **ESCWA/WFP Report**

"Strategic Review of Food and Nutrition Security in Lebanon"

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# Lebanon: land of plenty?

Lebanon's agriculture sector weighed down by challenges

AGRICULTURE

May 4, 2016 by Nabila Rahhal

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#### Illustration by Ivan Debs

Based on our geography textbooks, Lebanese school students grow up learning that Lebanon has a strong agriculture sector with practically each region excelling at growing a certain type of fresh produce – from the citrus fruits in Sidon and Tyre to the olives in Koura, North Lebanon and South Lebanon to the many crops in Bekaa Valley and Akkar.

Once out of school, however, we see that the reality is not quite so simple or rosy. We learn that agriculture in Lebanon contributes to only 5 percent of growth, and that Lebanon actually imports up to 80 percent of its food needs – this according to a yet to be published report acquired by Executive and prepared for the United Nations Economic and Social Commission for Western Asia (ESCWA) entitled "Strategic Review of Food and Nutrition Security in Lebanon". This situation does not have to be permanent, though, and Lebanon's agricultural sector has the potential to be modernized and improved, as demonstrated by some efforts on the level of educational institutions and private sector operators.

While it may have been the land of plenty in the 1960s and 1970s – our parents tell us stories of how Lebanese presidents used to gift our fresh produce of citrus fruits to visiting ambassadors – today the agricultural sector is plagued with many difficulties, from a lack of natural resources to a lack of planning and innovation.

# Nothing without water

To begin with, Lebanon is a small country with only 250,000 hectares of agricultural land, the rest being mountainous or rocky land. Rainfall is generally the heaviest for three months of the year and, as a result, rainfed agriculture is limited to that period as well, explains Isam Bashour, professor of agriculture at the American University of Beirut (AUB). Meanwhile, continues Bashour, irrigated land, from lakes and some underground wells, amounts to a mere 70 to 80 thousand hectares of the total agricultural land.

The irrigation system in practice is also problematic, as the Strategic Review outlines: "Lebanon's irrigation system remains traditional, and comparatively inefficient flood irrigation accounts for more than 70 percent of irrigation activity."

Indeed, Bashour cites the lack of structured access to water for irrigation as one of the main impediments to development in the agricultural sector. "If the country goes into a program that would improve the availability of water through building dams and such, it would reflect positively on the agricultural sector because that is the limiting factor," says Bashour.

According to the Strategic Review, Lebanon drafted a National Water Sector Strategy in 2012 which would expand irrigation schemes around the Litani River basin and therefore boost agricultural land in the South and Bekaa Valley, although the plan has yet to be implemented due to political deadlock.

# Living on fruit and vegetables

While Lebanon's climate allows farmers the advantage of growing a variety of produce – one could plant bananas at sea level, apples in the mountains and wheat crops in the Bekaa for example – the limited availability of irrigated land causes farmers to go for the produce that they can sell at the highest price while using the least amount of water which, in this case, is fruit and vegetables. "In terms of agriculture in Lebanon, we have mainly fruit trees and vegetables; forget about grains and wheat, we produce less than 10 percent of our needs from those and that's it. Irrigated land will go to vegetables as farmers make more money from them than they would on wheat and barley, and they need less water," says Bashour.

# Lack of Planning

Fruit and vegetables are all well and good, but lack of planning and coordination at the ministerial level leads to farmers planting the same thing at the same time which causes a surplus. "Planting needs planning on what to grow, where to grow it and what to import, depending on what is fresh in the country at the time in order to protect what we produce. But no one is doing this and the same areas are planting the same products at the same time. This is a huge job but it should be done and the farmers alone don't know what to do," says Wael Lazkani, owner and chef of the restaurant Jai – who is an example of restaurant owners that, out of personal initiative, work with local farmers to supply their restaurants. Lazkani explains how he is working with some farmers to use their surplus of certain fruits and vegetables to develop innovative food products. These products, says Lazkani, would have novelty as a competitive advantage, giving the example of his recent work with a farmer to make cider out of his surplus of apples, in addition to the traditional apple jams and juices which the farmer used to make, and his idea to use tomatoes to make chutney in addition to the traditional tomato pastes.

Within the agricultural sector, a mixture of a lack of regulations and weak implementation of existing ones has led to a chaotic market with no certifiable quality assurance standards **Jungle market** 

Within the agricultural sector, a mixture of a lack of regulations and weak implementation of existing ones has led to a chaotic market with no certifiable or measurable quality assurance standards to reassure consumers – whether locally or in export markets – of the safety of the food they are eating.

The Strategic Review prepared for ESCWA points to regulations being applied by the Ministry of Agriculture (MoA) on the importation of pesticides and fertilizers and on imported seeds (including certificates of origin and import permits), but generally sees government imposed and created regulations as currently being weak and ineffective.

Mario Massoud, executive manager of Biomass – a Lebanese producer and distributor of organic fruits and vegetables – explains that Biomass had to get their organic farming certification from an Italian certification body with offices in Lebanon, Instituto Medditerraneo di Certificazione (IMC), as there are no government or local certifying bodies for organic produce (see Q&A page 34). Indeed, the IMC has certified all of the organic products produced in Lebanon in line with European Union regulations.

Liban Fruits, which is ISO 2200 (an international food safety management system certification) certified, speaks of the difficulty it faces in convincing local farmers to grow their products in accordance with the ISO 2200. The obstacle, explains owner Elie Maalouf, lies in the chaotic market which leads to farmers refusing to spend the 10 percent extra money it takes to grow the ISO certified way, while their fellow farmers are growing in a haphazard manner – such as using any fertilizers to increase yields or using unsanitary water for irrigation – thereby spending less money but with both of them selling their produce at the same price.

"Today half the vegetables in Lebanon have no taste; this is because there is no regulation or monitoring. Farmers are looking for profitability and are trying to develop big yields at the price of the taste," says Maalouf, who adds that the solution is to have regulations and monitoring, at the ministerial level, ranging from what pesticides should be used (and in what quantity) to the quality of water used. "When this happens, the quality of the product will improve and prices will be more leveled," explains Maalouf.

#### **Post-harvest woes**

Both Bashour and Gumataw Kifle Abebe, visiting professor of agriculture at AUB, mention post-harvest as another challenge affecting the agriculture sector in Lebanon, leading to unnecessary waste and loss.

"Most of the pre-harvest practices are predictable and relatively easier to manage. In contrast, post-harvest management is more complex as it involves a number of actors at the different stages of the supply chain, with each actor likely to have a varied level of risks and rewards. Post-harvest losses vary depending on product handling, storage and treatment conditions as well as the production region," says Abebe.

# Food for everyone

It is clear that the agricultural sector in Lebanon is aging. As the Strategic Review outlines: "Despite its favorable climatic position in the region, agriculture's value added in percent of GDP has declined to an estimated 5.5 percent in 2014. This decrease can be attributed to patterns of mass urbanization which already began in the 1950s and 1960s. Back then rural populations constituted

around half of Lebanon's population. Another reason for this retrenchment is likely that public investment targeting the sector's development remains relatively low, something evident in the share of the budget allocated to the MoA," which – at 0.5 percent of the total budget – is five times less than neighboring countries.

"Most of the pre-harvest practices are predictable and relatively easier to manage. In contrast, post-harvest management is more complex"

Despite its low contribution, many believe this 5.5 percent of Gross Domestic Product (GDP) should be maximized to its full potential, if only to be more food sufficient (producing enough food for local consumption) than we are now – not to mention having a competitive edge in export markets. "25 to 30 percent of the people live off of agriculture, plus it's creating a lot of business. I always give the example of California where their agriculture is very advanced but they produce only 2.8 percent of their GDP; do they stop producing? They keep supporting it because if you kill agriculture, you kill your economy and then you become 100 percent dependent for your food on other sources," argues Bashour.

Indeed, on aggregate, Lebanon is only self-sufficient when it comes to fruit (147 percent) and almost self-sufficient when it comes to vegetables (93 percent), according to the Strategic Review. However, it imports up to 80 percent of its remaining food needs.

In terms of export, fruit and vegetables constitute the majority of agricultural exports from Lebanon – potatoes being the largest export crop with a 55 percent share of vegetable exports – although export volumes remain low when compared to production and import numbers.

While Lebanon's size does not allow it to be fully food-sufficient, it could be producing a wider variety of produce and be more competitive than it is now, as the Strategic Review notes.

#### Back to the future

The essence of what is needed to revitalize this sector, and be competitive with our neighbors, is applied research and development of modern ways of farming, says Bashour. "We have to come up with new ideas and grow different things; we cannot grow what Egypt or Jordan are growing at the same time as them. We have to be ahead of everyone around us somehow by learning more, by applying new technology and by being smarter in production and post-production," says Bashour.

Farmers should not be expected to do this research on their own, and as such Bashour says it's the job of the government with the collaboration and input of civil society and educational institutions to do so.

He stresses that research alone is not enough and that outreach, through training and workshops for farmers, is key. "We have to transfer this information to the farmer. Some money is being spent on research but it's not enough. We need more money and effort for the research and much more on relaying this to the farmer," emphasizes Bashour. He goes on to explain that the MoA does have outreach offices in farming areas, and has been hiring people – several from AUB – to work with them on outreach, but that more could be done to make it more effective and far reaching, noting that real change will be slow.

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Relatively recently, a crop of agricultural entrepreneurs (see profiles starting page 24) have seen the potential in Lebanon's land, and started working with local farmers on introducing fresh produce or food products which are innovative and unusual to Lebanon, demonstrating the potential Lebanon has for similar projects with the proper research and training of farmers.

# Time to connect

Lazkani speaks of a disconnect between the small farmers and end consumers (be it restaurant owners or people in their homes) noting that such communication is necessary to allow small farmers more contact with local market needs, and therefore potentially be able to provide more competitive produce.

Farmers markets, such as Souk el Tayeb or Souk el Ard, are ideal for small farmers or agricultural entrepreneurs testing out the market for new produce, says Lazkani, who visits every week to see what's new for his restaurant.

Massoud's Biomass says they started out in Souk el Tayeb, introducing their line of organic fruit and vegetables and getting feedback directly from the consumer. Biomass outgrew Souk el Tayeb, but Massoud believes in it as a platform for small farmers while saying that, in Lebanon, supermarkets are the main places where people purchase food.

Lazkani also admits that chain supermarkets have taken over the way people purchase food all over the world, but takes heart in the relatively recent global trend towards going back to buying local and reducing the size of their carbon footprints.

He has seen this trend slowly take root in Lebanon with more people visiting Souk el Tayeb than when it first started, and as such believes that more farmers' markets spreading across Lebanon could be beneficial to the country's farming community.

# **Going forward**

According to the Strategic Review, Lebanon has developed a plan called The Ministry of Agriculture Strategy 2015-2019, with eight courses of action which, if implemented, could go a long way toward improving the agricultural sector in Lebanon.

The agricultural industry has too much potential to be left without attention. "We have many basic points in agriculture that limit us,

such as irrigation or limited land availability. But with new technology and the right education and research, these resources can be utilized in a much smarter way," concludes Bashour. For Lebanon's sake, let's hope we do. Sharing

http://www.executive-magazine.com/agriculture/16479

# **Women Economic Empowerment Portal**

# Half of the Lebanese population is concerned about food security



# 13-5-2016

ESCWA released a new report entitled: Strategic Review of Food and Nutrition Security in Lebanon, in which it warns that Lebanese and displaced populations residing in Lebanon, face the problem of the absence of food security. The report notes that Lebanon should speed up the process of drafting a national food security strategy to face this issue, adding that 49% of the Lebanese are worried about their ability to secure sufficient food whereas 13% said that they have not had health food over the past year. According to the main results of the report, Lebanon imports 80% of its alimentary needs which makes it vulnerable to prices fluctuation and increases the level of debt. The report further noted that despite the availability of fertile land and cheap labour, the contribution of agriculture to the GDP has fallen to 4% only. (Al Akhbar 13 May 2016)

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# Food trade relies heavily on imports

170,000 people slip to poverty line due to Syrian crisis

Up to 80 percent of the market's food needs are imported, according to ESCWA's 'Strategic Review of Food and Nutrition Security in Lebanon' report, released this month.

Food accounts for 16 percent of the total import bill, second only to fuel. Consumed food items are distributed as follows: 35 percent for bread and cereals, 11 percent for milk and dairy, eight percent for meat and poultry, and 46 percent for other food products.

The food items for which the market is completely dependent on imports include: Sugar, sweeteners, coffee, sesame seeds, cocoa beans, tea, spices, rice, vegetable oil, and sunflower oil. The food category most consumed through imports is cereals, especially wheat and maize, of which 76 percent and 99 percent are imported, respectively.

More than half of agricultural production is in fruits (25 percent) and vegetables (32 percent). Cereals make up just five percent of the total production.

Agriculture, which makes up four percent of the Gross Domestic Product (GDP) accounts for up to 25 percent of employment and up to 80 percent of economic output in rural areas, according to the report. Agricultural workers are also the poorest of any employment sector, with around 40 percent of farmhands considered poor.

Around 37 percent of land can be cultivated, while the current agricultural area is estimated to be just 231,000 hectares (2,310 square kilometers), with only half being irrigated. The northern and eastern parts of the country hold the majority of cultivated and irrigated lands, with Baalbek-Hermel and Bekaa accounting for 43 percent of total cultivated agricultural land, compared to 26 percent in Akkar and the North, and 22 percent in the South and Nabatiyeh region. A total of 55 percent of all irrigated lands are located in Baalbek-Hermel and Bekaa.

Prior to the refugee crisis, an estimated 27 percent of the population (about one million persons) lived below the upper income poverty line (\$3.15/day). By 2015, the effects of the refugee crisis are estimated to have increased the number of Lebanese who have fallen below the upper poverty line by 170,000 persons.

The report said that diets are changing and the Lebanese are moving away from micronutrient-rich diets towards Western diets, which are higher in energy, sugar, and fats. "The change in diet has resulted in a higher incidence of obesity, which has increased to 10.9 percent for six to 19 year olds and 28.2 percent in adults," according to the report. The average calorie intake moved up from 2,600 kilocalories (Kcal) per person per day, to 3,000 Kcal. The poorest fifth of the population consumes 2,100 Kcal, while the richest consumes the double. Reported by Yassmine Alieh