



USAID
FROM THE AMERICAN PEOPLE

GLOBAL WATERS



Lebanese farmer Haykal Jibrael Mikhael sits in his apple orchard, which now receives irrigation water thanks to the USAID–funded Lebanon Water Project (LWP). Photo credit: Mahmoud Rida/LWP

Saving Livelihoods One Drop at a Time

July 7, 2019

For Haykal Jibrael Mikhael, a farmer from the town of Qobaiyat in north Lebanon, losing one of his apple trees means losing a part of his livelihood. And for decades, Haykal and many other farmers have been losing many of their trees because of dwindling water availability.

“It’s not the first tree that has died,” added Haykal. “Many others have died, too, because of lack of water.”

“We had to find a solution.”

When the USAID–funded Lebanon Water Project (LWP) offered local NGOs the opportunity to apply for small grants that they could use to help improve the quality and quantity of water available to any local community, the Safadi Foundation in north Lebanon seized the opportunity. Joining forces with the Qobaiyat Agricultural Cooperative and the Qobaiyat Municipality, the Safadi Foundation proposed a proj-

ect that would connect area farmers to an existing artificial lake.

With the USAID grant, the consortium built a main distribution line. Once installed, water-parched farmers immediately started laying down drip irrigation networks from the main line to their neighboring lands.

More than 60 farmers have benefited from this specific intervention.

“This was an excellent intervention,” said Tony Raad, head of the Qobaiyat Agricultural Cooperative. “The feedback we have been getting from farmers has been very positive. To start, now they have access to water; also, with the drip irrigation, their work has become much less labor-intensive in comparison with flood irrigation. Now all they need to do is open and close a valve.”

As a bonus, farmers are saving money on pesticides because drip irrigation significantly limits the growth of weeds, Raad added.

The impact of this intervention will continue long after the five-year USAID project has completed its work with the Safadi Foundation and the cooperative. LWP has helped connect the cooperative to an international NGO, which was looking to implement projects in the region. With these supplementary funds, the cooperative has been able to connect more farmers to the main line that LWP installed. To date, 21 additional farmers have benefited from the main distribution line.

Since agriculture consumes more than 70 percent of all available water in Lebanon, targeting farmers to switch to water-efficient irrigation methods made a lot of sense.

For this reason, LWP worked with farmers cultivating a variety of water-loving crops. These include wine and table grapes, potatoes, corn fodder, vegetables, and apples.

In one region in Mount Lebanon, LWP partnered with the Beirut and Mount Lebanon Water Establishment to install drip irrigation and filtration systems for more than 67 farmers, who had been using traditional flood irrigation for generations to irrigate their apple orchards. With this intervention, 219,000 square meters (54 acres) of land became water-efficient, their irrigation efficiency increasing from 32 percent to 56 percent.

In other words, so much water was saved that several neighboring villages now benefit from a better water supply.

LWP's overall goal is to help Lebanon's four water establishments better manage Lebanon's water resources, thus improving access to clean and safe water for more than 700,000 Lebanese citizens and Syrian refugees. In partnership with Lebanon's water establishments, LWP is focusing its intervention in four main districts in different parts of the country. Through infrastructure projects, LWP is installing customer and network meters to introduce the concept of water-demand management into Lebanon's water sector. Additionally, through the engagement of residents and the private sector, LWP hopes to build a culture of “responsible citizens,” who subscribe to water establishments, pay bills, and conserve water.

Through partnerships with two other NGOs, Atayeb Al-Rif and the Chamber of Commerce, Industry and Agriculture of Zahle and the Bekaa, as well as several private-sector agribusinesses, LWP introduced many tools that help reduce water use in agriculture and conducted farmers' field days for more than 226 farmers. During these field days, farmers had the chance to learn about water-efficient irrigation methods that also have the added value of improving yield and saving on costs. LWP also connected farmers to USAID grants and other funding sources and agribusinesses that could help farmers submit airtight applications for grants and loans.

In total, LWP succeeded in convincing 112 farmers to adopt water-saving irrigation methods, including water-efficient drip irrigation and tensiometers — which measure the moisture level of the soil indicating to farmers the optimal time and frequency for irrigation. In some cases, LWP helped farmers install solar panels for pumping water, thereby saving them money on energy bills. In other cases, the water-saving technologies helped to increase corn fodder and potato yields.

For Mhammad Hamiyeh, a farmer from Taraya in the Bekaa region of Lebanon, being introduced to tensiometers meant that he could now irrigate once every five days, instead of daily. With the water saved, he could expand his agricultural land and plant more crops. "Because of the saved water, I have managed to double the number of greenhouses I have to 20," he said.

Despite the fact that LWP is not an agricultural project, but rather a water-demand management project, LWP has succeeded in switching a total of about 927,000 square meters (229 acres) of land to water-efficient farming methods.

And the impact does not stop here.

"In spite of the tough economic times, farmers have bought drip irrigation systems from my company for an additional 100,000 square meters (25 acres) of potatoes, and an additional 400,000 square meters (99 acres) of wine grapes, after becoming convinced of the benefits of LWP's intervention last year," said Tony Slim, irrigation technical manager of one of LWP's private-sector agribusiness partners.

In the case of farmer Haykal, access to water meant more than a renewed life for his trees. The lands were revived. Livelihoods were safeguarded. Hope was restored.

"Now I can sleep peacefully, knowing that none of my trees will ever die of thirst again," said Haykal. "And my future is safe."

By Maha Al-Azar



This article appears in Global Waters, Vol. 10, Issue 4; for past issues of the magazine, visit Global Waters' homepage on Globalwaters.org.