

# Israel develops water-conscious culture

By **SHERYL HARRIS**  
For the Capital Press

Israel knows water. Or, more accurately, the nation perched in one of the driest regions of the world has developed cutting-edge ways of dealing with a lack of water.

From developing ways to conserve water to building some of the largest desalination plants in the world to convert sea water into drinking water, Israeli engineers have developed innovative ways to produce and reuse its most precious resource.

Israel is about the size of New Jersey. About one-third of its land is arable. Within that area, it receives about as much rain as Arizona, about 15 inches a year.

For Americans, water is the elephant in the living room. "Water is such a crucial issue, and nobody is talking about it" in the U.S., said Jewish National Fund Communications Director Adam Brill. The fund raises money to develop reservoirs that supply about 10 percent of Israel's water.

To provide water for the nation's 8.5 million people and the farms that grow their food, Israelis have developed a national infrastructure to manage the resource.

Israel has only one water authority: the national government. Because of its single water authority, Israel is able to use a nationwide system to deliver water from reserves and treatment plants to where it is needed.

Water is also priced to reflect its value and the cost of maintaining and monitoring pipelines. The price of potable water is \$7.70 for 100 cubic feet. That's nearly 10 times the price of water in Las Vegas, another desert area.

Another important component is education. "Our children are our most important 'crop,'" said Alon Melamed, irrigation manager at Kibbutz Kinneret in northern Israel. Nearly 700



Kibbutz Kinneret

Crop covers do more than provide shade. They also help with water conservation and fruit longevity.

Israelis work on the collective farm, which grows a variety of crops and operates a dairy. Water conservation education may officially begin in kindergarten, but it also begins long before that because of what children see in the home, he said.

Israel has a multi-faceted strategy for water: production, conservation, technology and reuse.

In 2010 the nation drilled three wells to tap aquifers nearly a mile deep. Once treated to remove the naturally occurring caustic compounds, the water extends plant and fish seasons, irrigates vineyards and crops, increases the Jordan River's flow and raises the level of the Sea of Galilee.

Five of the world's largest desalination plants are in Israel, providing 35 percent of its water. They use a process called reverse osmosis to convert water from the Mediterranean Sea into potable water. An Israeli company, IDE Technologies, also designed and built the Western Hemisphere's largest desalination plant, near Carlsbad, Calif. It provides 50 million gallons of fresh water a day to the San Diego County Water Authority, supplying 7 percent of its needs.

Almost 90 percent of Israel's wastewater is recycled, providing about half of what is required for agriculture. Reclaimed water is also used for industry.



Alon Melamed, irrigation manager at Kibbutz Kinneret, discusses water conservation.

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