Water cooperation

Cooperating for the sake of water – the Israel experience

In an exclusive interview with Water Wheel Editor, Lani van Vuuren, Israel ambassador to South Africa, Arthur Lenk, shares his thoughts on the drought in South Africa and what the country can learn from the way in which Israel overcame its inherent water scarcity.

When ambassador Lenk first saw the reports on the widespread drought in South Africa, he felt compelled to act. As a son of Israel he is extremely familiar with issues of water scarcity. With its part-Mediterranean, part-desert climate, the lack of water has been an inherent part of Israel's history from Biblical times. The latest significant drought, which lasted from 1998 to 2012 and stretched over the entire eastern Mediterranean, was reported by the US National Aeronautics and Space Administration (NASA) to be the worst to hit the region in 900 years.

Like many others countries in the world, including South Africa, Israel has seen an increase in the demand for water in recent decades due to economic development and population growth. This left the small country with a dilemma – how to grow water supply when natural resources are so scarce and said to become even scarcer in the face of climate change?

Rather than be defeated by this challenge the country chose to act using the most innovative science and technology at its disposal, focusing its attention on curbing demand and increasing water supply from alternative sources. Today, the country operates a sophisticated water infrastructure where more than 50% of the water used is artificially produced.

The *Huffington Post* calls Israel the "unsung hero of water management". The government – which acts as legal guardian over water – has created such an efficient infrastructure of water supply and conservation that the country can now practically function without rain.

This is the first lesson ambassador Lenk believes South African can learn. "South Africa – like Israel – is constrained by the lack of natural water resources. The secret to success is not only to learn to work within these constraints but to make the pie bigger."

Israel has achieved this in three main ways. Firstly, the country has introduced recycling and reuse of wastewater on a massive scale. Israel has become the world leader in wastewater recycling, reclaiming more than two thirds of the 530 million m^3 of sewage and effluent it produces a year. This water is used mainly for agriculture. Over 55% of water used in agriculture in Israel today is reclaimed. (Compare these figures with the world's second-largest water recycler Spain, which reuses only 17% of its wastewater)

Along with water reuse the government has also introduced desalination. Among the country's five desalination plants, the Sorek plant, located about 15 km south of Tel Aviv, is the largest (this desalination plant is also one of the largest in the world). The plant produces about 624 000 m^3 of potable water a day. Plans are afoot to expand desalination further, and seawater and brackish water is expected to make up a third of the total water supply in Israel by 2020.

Ambassador Lenk admits that energy costs are a current hurdle for South Africa in expanding desalination, but adds, "desalination is becoming cheaper, cleaner and more energy efficient as technologies advance." It is interesting to note that cities such as Durban, which has been particularly hard hit by drought, are already exploring the implementation of desalination.

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Israel's third focus has been on teaching its citizens that water is a scarce resource. The Mediterranean country managed to cut down severely on water demand in the last few years. This is largely the result of intense campaigns to reduce consumption and curb waste. *The New York Times* reports how the Israeli government made huge cuts in the annual water quotas for farmers, and encouraged household water saving by fitting willing households with free water efficient devices (such as aerated showerheads). Water prices have been raised – encouraging everyone to use less – and much has been done to reduce leakage. The hard work paid off – between 2008 and 2011 household water reduced by 20% and remained stable.

Ambassador Lenk believes that South Africans do not yet know the true value of water. "In Israel the value of water is akin to the value of oil." Getting people to value water this much takes more than "just a few adverts in the paper," he says. "Rather, it will take a concerted effort by all entities involved to instil in people how important water is to life and that it must be conserved at all cost."

This also means addressing the South Africa's unaccounted-for-water rate of 37%. How can people value water if they see their municipality letting millions of litres just flow down the street?

In the Middle East, successful management of water impacts directly on peace. Ambassador Lenk cites the example of the memorandum of understanding Israel signed with the Palestinian Authority and Jordan in 2013 on water sharing in the region. Part of the agreement is increasing water sales from Israel to the Palestinians. Ambassador Lenk notes that Israel annually supplied the Palestinian Authority with over 20 billion litres of water beyond requirements of agreements between the sides (nearly 52 billion litres in total), giving the Palestinians access to over 248 million m^3 annually.

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"Israel and Jordan have also reached an agreement to share water to be produced by a planned desalination plant in Aqaba, from which salty brines will be piped to our shared Dead Sea. In return for its portion of the desalinated water, Israel will double its sale of Sea of Galilee water to Jordan on the countries' north border," the ambassador explains.

The ambassador feels so strongly about addressing issues of drought in South Africa that he has cancelled national day celebrations at the Israeli embassy and instead is using the budget to host three water management seminars in South Africa, to be hosted in Johannesburg on 6 June, in Cape Town in 8 June, and in Durban on 9 June. The aim is for water experts from both Israel and South Africa to exchange intellectual capital.

The embassy has invited Israel's top water experts from government and academia, along with representatives from 15 leading Israeli water tech companies. The 'Israel water week' follows an agreement reached with the South African Department of International Relations and Cooperation that these events will form part of official bilateral cooperation It is the hope that this will be the start of a road to water cooperation between the two countries.

South Africa is already familiar with some of Israel's water companies. One of these is Netafim, a pioneering firm in drip irrigation. The world's largest irrigation company, the firm won the 2013 Stockholm Industry Water Award for the pioneering of drip and micro-irrigation.

Netafim was established in 1965 to respond to a lack of water in Israel – particularly the Negev desert. Today, over 10 million hectares of farmland are irrigated with drip irrigation. Drip irrigation helps growers worldwide increase their yields while minimising utilisation of water, energy and arable land.

Netafim's global presence enables the company to make a significant impact on water usage by growers throughout the world. The company operates 16 manufacturing plants – including one in South Africa – and serves an ever-increasing number of growers in over 100 countries.

The Israel experience has shown that there is no quick fix to water security. "It is only by elevating the water question to that of a national issue of importance that solutions can be found," concludes ambassador Lenk.

To participate in the Israel water week events register via the website, http://israelwater.co.za

The Sorek desalination plant, 15 km south of Tel Aviv, is the largest in Israel.