

The Political Context of Water Management in Israel

Clive Lipchin, PhD

Director, Center for Transboundary Water Management, Arava Institute for Environmental Studies

Israel's water supply has faced many challenges since the country's establishment in 1948. Besides the country's naturally arid climate, consecutive years of drought, rapid population growth, and the rising standard of living, political tensions in the region have also put pressure on the country's water resources .

The main freshwater resources in Israel are Lake Kinneret, the Jordan River, the Coastal Aquifer and the Mountain Aquifer (see Fig. 1). It is important to note that all of Israel's freshwater resources are shared with her neighbors. The Mountain and Coastal Aquifers are shared with the Palestinian Authority, the Jordan River is shared with Jordan, Lebanon, the Palestinian Authority and Syria, and Lake Kinneret's eastern border used to be the border with Syria. Almost all of these resources are over-exploited and recent drops in quality and quantity have underscored the fact that current use is unsustainable in the long term . Nevertheless, Israel has entered into a number of agreements for managing water resources with her neighbors, in particular Jordan and the Palestinian Authority.

The political climate in the Middle East makes it impossible to discuss water without addressing the political contexts that have shaped its availability. The roots of the water conflict can be traced back to the British Mandate period when the British government commissioned the hydrologist Michael Ionides to conduct a study of the water resources and irrigation potential in the Jordan Valley Basin. This formed the main reference for the 1947 UN Partition Plan, which recommended the division of British Mandate Palestine into a Jewish and an Arab state.

On October 26, 1994, Israel and Jordan signed a bilateral peace treaty, which also addresses shared water resources. Israel and Jordan agreed on allocations of water from the Jordan and Yarmouk Rivers and from the Arava/Arava Aquifer. Israel transfers 50 million cubic meters (MCM) to Jordan annually from northern Israel in return for the use of groundwater wells on the Jordanian side of Wadi Arava. Additionally, the two countries agreed to cooperate in order to alleviate water shortages by developing new and existing water resources, preventing contamination of water resources and minimizing wastage and to rehabilitate the Dead Sea. In February 2015, the two countries updated the water agreement by signing a memorandum of understanding for further water sharing. The agreement is for Jordan to build a desalination plant in the southern city of Aqaba and to transfer a portion of this water to Israel for water needs in Eilat and the southern Arava. The brine wastewater from the desalination facility will be piped north to the Dead Sea where the brine will be discharged. This aspect of the project is to determine whether brine waters from desalination can contribute to restoring the Dead Sea water levels that have been dropping alarmingly by around one meter every year. The drop in the Dead Sea water level is a consequence of the upstream use of water in the Jordan River and the Kinneret by Israel, Jordan and Syria. In return for the water Israel will receive from Jordan in the south Israel will transfer a similar amount of water to Jordan in the north.

Despite the ongoing conflict between Israel and the Palestinians, cooperation over shared water resources has continued since the signing of the Oslo II Accords in 1995. Under Oslo II

Israel recognized that Palestinians have water rights to the Mountain aquifer system and a Joint Water Committee was established to sustainably manage this resource. Cooperation over water with the Palestinians has had its ups and downs and despite many difficulties, there are numerous projects for water allocation from Israel to the Palestinian Authority such as the improvement and upgrading of Palestinian water infrastructure. Many issues remain between the parties such as untreated wastewater flowing from the West Bank to Israel but cooperation by water experts from both sides to solve these shared problems is ongoing.

Finally, Israel has developed innovative solutions to address Israel's and the region's water challenges. The most significant of these are desalination and wastewater reuse. Desalination production in 2011 was enough to fulfil around 40% of Israel's drinking water needs. This amount is set to increase significantly as water demand rises. Treated wastewater is primarily used to meet the high water demand in the agricultural sector. Production of these alternative sources of water reduces the dependence on fragile natural water supplies and opens opportunities for Israel to share water with her neighbors whilst at the same time limiting the over-exploitation of the region's freshwater resources.



Figure 1: The shared water resources of Israel, the Palestinian Authority and Jordan