

The water conflict in the Holy Land

Jad Isaac

'For the Lord your God is bringing you into a good land – a land with streams and pools of water, with springs flowing in the valleys and hills; a land with wheat and barley, vines and fig trees, pomegranates, olive oil and honey.' (Deuteronomy 8.7-8)

A look at a satellite image of the Holy Land makes it difficult to believe that it is the same land described by early visitors as a land 'flowing with milk and honey'. Barren hills have taken the place of what was once rolling woodland covered with thickets and forests. Deserts have replaced grassland. The winding Auja (Yarkon) now swims with refuse and is laced with chemical wastes. The Hula Lake and its surrounding marshes have been drained. The Sea of Galilee suffers from increasing pollution. A fetid trickle of sewage now runs where once was the Jordan River. The environment of the Holy Land has been sacrificed at the altar of political ambitions.

The Holy Land, which totals 27,000 sq km, encompasses 6 million Israelis in an area of 21,000 sq km and 3.5 million Palestinians in an area of 6,000 sq km, of which only 40 per cent are currently accessible. While the Holy Land is situated in a semi arid area, it is blessed with the presence of a fair amount of surface and groundwater resources that can meet the needs of its population if these water resources are managed properly and shared in a fair and just way. Regrettably, this is not the case.

Water and history

Water has historically played a significant role in shaping the geopolitical boundaries of the Middle East. Few realize that the lines on present day maps of the region are, to a great extent, the result of

of communist regimes. The dams on the Columbia river and its tributaries in the 1930s and 1940s destroyed one of the richest salmon rivers in the world.

Depleting the oceans

On another front over-fishing is depleting the oceans and leaving them barren. Many people felt that the oceans are so vast and the variety of fish so abundant that there would always be quantities of fish in the sea. We are now learning how false those assumptions were. According to a report by the UN Food and Agricultural Organisation (FAO) in 1995 over 70 per cent of the world's marine fish stocks are either 'fully-to-heavily exploited, overexploited, or slowly recovering'². The depletion is most notable in many of the world's most productive fishing grounds. These include the Grand Bank of Canada and New England. Cod fishing has collapsed in the North Sea.

Most of the damage to the oceans was done in the last century. Fish catches increased from three tonnes at the beginning of the 20th century to almost 90 million tonnes in 1989. Most of the increases happened after World War Two when sonar and radar tracking technology, which had been developed for military purposes, was now used to locate and catch fish. Furthermore, super-trawlers the size of a football field were built to accommodate nets thousands of feet long. In a single netting these boats can take up to 400 tons.

As a direct result of overfishing the oceans' fish catches peaked in 1989. By 1998 they were down over 30 per cent despite improved gear, tracking and snaring technology. Daniel Pauly, the author of a new study on global fishing trends, predicts that 'if things go unchecked, we might end up with a marine junkyard dominated by plankton'³. Dishonesty and corruption are rife. Between 1986 and 1992 more than six times the quota for cod, flounder and redfish were taken from the Grand Bank off the Canada coast. When Spanish ships were boarded by Canadian police in 1995, the Canadians found two sets of books on board. One recorded the true tonnage of the

only side that has been denied the utilization of the Jordan River waters and who are facing a serious water crisis. It is worth mentioning here that the Johnston Plan which was presented in the 1950s for the allocation of the Jordan River waters included a West Ghour Canal that would have provided Palestinians with 200-250 MCM of water annually. This plan has not seen the light, yet.

In addition to the conflict over the Jordan River water, Israelis and Palestinians have another conflict over the ground water resources. The groundwater regime in the West Bank is a multi-aquifer system which is mostly recharged from rainfall on the West Bank's mountains. The Western Aquifer System, the largest, has a safe yield of 362 MCM per year, of which Israel utilizes 340 MCM leaving the Palestinians with only 22 MCM annually. The Northeastern Aquifer System has an annual safe yield of 145 MCM. Palestinians are limited to 42 MCM/year while Israel utilizes 103 MCM/year. The Eastern Aquifer System has a safe yield of 100-150 MCM per year (of which 70 MCM are brackish). It lies entirely within the West Bank territory. After the war of 1967, Israel expanded its control over this aquifer and began to tap it, mainly to supply Israeli colonies implanted in the area. Out of the Eastern Basin, the Palestinians extract 54 MCM/year and the Israelis extract 40 MCM/year. The main Gaza Aquifer is a continuation of the shallow sandy/sandstone coastal aquifer of Israel. Its annual safe yield is 60 MCM, but the aquifer had been over-pumped at the rate of 120 MCM resulting in a lowering of the groundwater table below sea level and saline water intrusion in many areas.

Water and power

The current allocation of the shared water resources between Israelis and Palestinians is not the outcome of agreements, negotiations or equitable principles. Rather, it reflects the asymmetries of power in existence and the abilities of the strong to impose their wills on the weak. Israel is currently utilizing more than 80 per cent of the Palestinian water resources and thus inducing water scarcity that is impacting the economic, environmental and social fabric of the Palestinian society. Israel is restricting Palestinian domestic water

consumption to less than 30 cm/capita/year while Israelis enjoy utilizing 100 cm/capita/year². For agriculture, Palestinians are allowed to irrigate around 10 per cent of their cultivated lands while Israel is enjoying abundant water to irrigate 50 per cent of its cultivated land. During the years of occupation and up to this date, Palestinians do not have enough water in their taps for much of the year, especially during summer. At the same time, Israelis and Jewish settlers have enough water for their lawns and private swimming pools. This discrepancy of water allocation among many other issues, creates a feeling of unjustness among Palestinians.

According to the Oslo II agreement, Israel recognized the Palestinian water rights, but these are to be negotiated in the permanent status negotiations. However, so far, no negotiations have taken place to enumerate the Palestinian water rights. Out of the 28.6 MCM of additional water committed by Israel in the Oslo II agreement to be provided to the Palestinian Authority to meet immediate needs, Palestinians have received only 12 MCM in the seven years since the agreement was signed. There are serious doubts that Palestinians can extract the water quantities specified in the agreement. One third of the Palestinian population are still not connected to public water networks. Ninety per cent of the water resources in Gaza are not suitable for domestic consumption. Certainly, such a situation cannot continue in the future.

Israel's proposed solutions to the water conflict have focused on 'enlarging the pie' by increasing the water supplies to the region. A wide array of proposals have been made ranging from multi-billion dollar Red-Dead or Med-Dead canals, peace pipelines from Turkey, Lebanon, or Egypt, Medusa Bags ferrying water from countries with water surplus to those in short supply, tugging icebergs from northern areas, to mega-desalination projects. Such dream-solutions flounder in the face of astronomical capital expenditure and environmental concerns.

Water and peace

In the Israeli-Palestinian context, 'equal utilization' and 'joint management' of the water resources offer a just and sustainable basis for resolving the historic water conflicts. Most water resources in the world are shared and Israel/Palestine are no exception. Managing shared water resources should be integrated and not only include allocation of water quantities, but most importantly, involve the protection and sustainable utilization of this scarce resource. A comprehensive and sustainable peace should be based on *justice and fairness*. Both parties have agreed on the principle of 'equitable utilization' of the resources, but quantifying this term will have to be agreed upon. Palestinians are proposing that 'equity' be used as a simple and straight forward interpretation and quantification for the term 'equitable utilization'. In other words, the distribution of water in Israel and Palestine (2,086 MCM) be shared equally between Palestinians and Israelis based on the population figures. Such an approach may alleviate Palestinian fears of a dry peace and most importantly, prove to them that they are not 'Children of a Lesser God'.

Notes

- 1 MCM = Million cubic metres
- 2 cm= cubic metre

About the author

Dr Jad Isaac is director general of the Applied Research Institute-Jerusalem (ARIJ) which is a leading Palestinian institute located in Bethlehem that conducts research on agriculture, environment, and water. He studied at Cairo University, Egypt, Rutgers University, USA and has a doctorate from the University of East Anglia in the United Kingdom. He is the former Dean of Science at Bethlehem University. During the Intifada, he was active in the non-violent resistance movement in his home town Beit-Sahour. He has published several articles and books in his field of interest including: *The Environmental Profile for the West Bank* and *The Atlas of Palestine*. He headed the Palestinian team for the multilateral working group on the environment and is a technical adviser to the Palestinian negotiating team on final status issues. He is a member of the Eastern Orthodox Church.