Desalination as a game-changer in transboundary hydro-politics

Ram Aviram, David Katz and Deborah Shmueli, University of Haifa, Israel

Due to dramatic decreases in the cost of desalination technology over the past decades, desalination is increasingly becoming a cost-efficient source of freshwater supply for many countries. Already today over 150 countries are using desalination technology to some degree. This study demonstrates how the availability of seawater desalination is important, not just as an additional source of water supply on a national scale, but as a potential ‘game changer’ in transboundary hydro-political interactions. The study presents an overview of theoretical reasons why the growth in wide-scale desalination poses a challenge to past thinking and policy on water, and presents a case study of how relations between Israel and Jordan have changed with the adoption of desalination in the region.

Desalination provides a relatively clear and relatively fixed maximum marginal value for water. Thus, water relations are more likely to be treated as those dealing with typical manufactured goods, rather than as strategic management of scarce resource.

Much of the literature on transboundary waters focuses on the potential for conflict or cooperation between countries over the shared resource. The underlying assumption of freshwater as a fixed and scarce resource underpins the theories of both those who warn that water will lead to conflict and those that adopt a functionalist approach which views water as something that will entice countries to cooperate. The advent of desalination challenges this underlying assumption of a fixed resource. With desalination, the nature of water relations is no longer a zero-sum game based on resource capture, as some have viewed it. Thus, desalination can be expected to reduce the potential for conflict. However, while conflict and cooperation are often viewed as diametrically opposed, the advent of desalination does not necessarily promote cooperation. With desalination the need for cooperation between countries is less critical, as countries have an option to develop desalination unilaterally. Countries may be more willing to cooperate, given the lessened scarcity, but this cannot be assumed ex ante.

Desalination also challenges the existing assumptions about upstream-downstream relations. It is often assumed that riparian relations are asymmetrically advantageous to the upstream nation(s), as they can affect the water supply flowing downstream, but not vice-versa. However, desalination is often most economically feasible along coastal areas, which tend to be downstream. Thus, downstream countries are both less at the mercy of upstream policies and also have an additional bargaining chip or potential benefit to offer in negotiations.

Finally, desalination may also require a refining of international water rights. Allocations of desalinated waters are not themselves likely to be under the framework of international water law, as they are akin to manufactured goods, and not to natural resources. However, allocation
criteria for international water law include each country’s economic need and capabilities. If countries are deemed rich enough to afford desalinated water, this may be a factor in determining rights, or at least how each party views other’s rights.

Relations between Israel and Jordan typify the way that desalination can change hydropolitics. Early relations between the two countries were typical of antagonistic zero-sum games, with both parties rushing to pursue resource capture. Even when political relations improved between the two, water remained a source of tension. While there was some coordination, there was little cooperation. With the peace agreement between the countries, joint desalination was suggested as a means of increasing supply that did not threaten either countries existing usage. With the advent of wide-scale desalination in Israel, Israel was more willing to cooperate, offering to sell Jordan desalinated waters. Until now, Jordan has declined such offers, not wanting to increase a unilateral dependence on Israel for water supplies.

Joint desalination is being pursued, however, in the form of an agreement between the two states and the Palestinian Authority within the context of the Red-Dead canal project. Under the agreement, Jordan will desalinate water in the Red Sea and sell some of it to Israel, and in exchange, Israel will sell Jordan more water in the north, closer to Jordanian population centers. Thus, the exchange reduces costs of water supply, especially for Jordan, and allows for cooperation that was not feasible without desalination.

In sum, the study demonstrates the ways in which the option of desalination allows states to pursue both unilateral and collaborative policies that were not practical in the period prior to desalination. It concludes by emphasizing the need for a revised analytical paradigm for analysis of hydro-politics in light of the development of desalination.