Box 6.2 Water rights in the Occupied Palestinian Territories

Nowhere are the problems of water governance as starkly demonstrated as in the Occupied Palestinian Territories. Palestinians experience one of the highest levels of water scarcity in the world. Physical availability and political governance of shared water both contribute to scarcity.

On a per capita basis people living in the Occupied Palestinian Territories have access to 320 cubic metres of water annually, one of the lowest levels of water availability in the world and well below the threshold for absolute scarcity. The unequal distribution of water from aquifers shared with Israel, a reflection of asymmetric power relations in water management, is part of the problem. With rapid population growth declining water availability is a tightening constraint on agriculture and human use.

Unequal sharing is reflected in very large discrepancies in water use between Israelis and Palestinians. The Israeli population is not quite twice the size of the Palestinian population, but its total water use is seven and a half times higher (figure 1). In the West Bank Israeli settlers use far more water per capita than Palestinians and more than Israelis in Israel (figure 2): nearly nine times as much water per person as Palestinians. By any standards, these are large disparities.

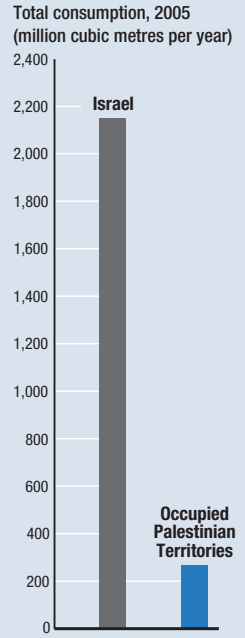
What explains the inequalities? Palestinians do not have established rights to the waters of the Jordan River—the main surface water source. This means that nearly all of the water needs in the Occupied Palestinian Territories are met by groundwater aquifers. The rules governing extraction from these aquifers have a major influence on access to water.

Management of the western and coastal aquifers demonstrates the problem. Part of the Jordan Basin, the western aquifer is the single most important source of renewable water for the Occupied Palestinian Territories. Nearly three-quarters of the aquifer is recharged within the West Bank and flows from the West Bank towards the coast of Israel. Much of this water is unused by the Palestinians. One reason: Israeli representatives on the Joint Water Committee stringently regulate the quantity and depth of wells operated by Palestinians. Less stringent rules are applied to Israeli settlers, enabling them to sink deeper wells. With only 13% of all wells in the West Bank settlers account for about 53% of groundwater extraction. Water not used in the Occupied Palestinian Territories eventually flows under Israeli territory and is extracted by wells on the Israeli side (see map).

There are similar problems with the waters of the Coastal Basin. These barely reach the Gaza Strip because of high rates of extraction on the Israeli side. The result: extraction rates from shallow aquifers within the Gaza Strip far exceed the recharge rates, leading to increasing salinization of water resources.

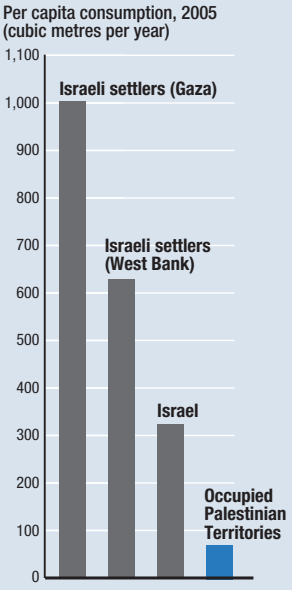
Limitations on access to water are holding back development of Palestinian agriculture. Although the sector represents a shrinking share of the Palestinian economy—estimated at roughly 15% for income and employment in 2002—it is nonetheless crucial to the livelihoods of some of the poorest people. Irrigation

Figure 1 Water use is unequal between Israel and the Occupied Palestinian Territories



Source: Jägerskog and Phillips 2006.

Figure 2 Water is scarcer for some than for others



Note: Moving population-weighted average; Israeli settlements in the Gaza Strip were evacuated in August and September 2005.

Source: Jägerskog and Phillips 2006.

is currently underdeveloped, with less than a third of potential area covered because of the lack of water.

The underdevelopment of water resources means that many Palestinians depend on water deliveries from Israeli companies. This is a source of vulnerability and uncertainty because supplies are frequently interrupted during periods of tension.

The construction of the controversial Separation Wall threatens to exacerbate water insecurity. Construction of the wall has resulted in the loss of some Palestinian wells and the separation of farmers from their fields, especially in highly productive rainfed areas around the Bethlehem, Jenin, Nablus, Qalqilya, Ramallah and Tulkarem governorates.

Conditions in the Occupied Palestinian Territories stand in contrast to the more cooperative arrangements that have emerged elsewhere. Since the peace agreement of 1994 Israel and Jordan have collaborated to build water storage facilities in Lake Tiberias, which has improved water allocation for Jordanian farmers. The institutional structure has also helped in arbitrating disputes arising over seasonal and annual variations in water flow, even though this was not originally covered by the agreement. Elsewhere, the Middle East Desalinization Research Centre, based in Muscat, Oman, has been successfully promoting multilateral research into effective desalinization techniques for more than a decade. Its council has representatives from the European Commission, Israel, Japan, Jordan, the Republic of Korea, the Netherlands, the Palestinian National Authority and the United States.

Managing the aquifers – Palestinians and Israelis share groundwater unequally

Perhaps more than in any other setting, water security in relations between Israel and the Occupied Palestinian Territories is bound up in wider problems of conflict and perceptions of national security. Yet water is also a powerful symbol of the wider system of hydrological interdependence that links all parties. Managing that interdependence to enhance equity could do much for human security.

Source: Elmusa 1996; Feitelson 2002; Jägerskog and Phillips 2006; MEDRC 2005; Nicol, Ariyabandu and Mtisi 2006; Phillips and others 2004; Rinat 2005; SUSMAQ 2004; SIWI, Tropp and Jägerskog 2006; Weinthal and others 2005.

sovereignty model, the Harmon Doctrine advocated that, in the absence of contrary legislation, states should be free to use the water resources in their jurisdiction without regard to effects beyond their borders. Variants of this approach survive in the national legislation of many countries. The 2001 Parliamentary Law in Kazakhstan declares that all water resources originating within its territory are its property.

The essentially competing principle of absolute territorial integrity suggests that downstream riparians have the right to receive the natural flow of a river from upstream riparians. Downstream states sometimes cite the allied principle of "prior appropriation", or the idea

One helpful framework for thinking about transboundary water governance identifies four layers of potential gains from cooperation: benefits to the river, benefits from the river, benefits because of the river and benefits beyond the river

that past use establishes a right to future use of the same amount of water, to contest absolute sovereignty approaches.[24]

In practice most governments accept that absolutist approaches to water rights are an unhelpful guide to policy design. After decades of consideration principles for sharing water were codified in the 1997 UN Convention for the Non-Navigational Use of Shared Watercourses, building on the 1966 Helsinki Rules. The core principles are "equitable and reasonable utilisation", "no significant harm" and "prior notification of works". The broad idea is that governance of international watercourses should be developed by taking into account the effects of use on other countries, the availability of alternative water sources, the size of the population affected, the social and economic needs of the watercourse states concerned, and the conservation, protection and development of the watercourse itself.

The application of these principles is fraught with difficulty, partly for the obvious reason that they do not provide tools for resolving competing claims. Upstream users can cite social and economic needs as grounds for constructing dams for hydropower, for example. Downstream states can oppose these measures, citing their own social and economic needs and existing use. The difficulty associated with competing principles and the concern over national sovereignty help explain why only 14 countries are party to the UN convention. Nor is there a practical enforcement mechanism—in 55 years the International Court of Justice has decided only one case on international rivers.

Yet for all its limitations the 1997 convention does set out principles central to human development. It provides a framework for putting people at the centre of transboundary water governance. Equally important is the 1992 UN Economic Commission for Europe Convention on Protection and Use of Transboundary Watercourses and International Lakes (ECPUTW). This convention focuses more on water quality, explicitly considering the river basin as a single ecological unit. The 1992 convention also emphasizes member states' responsibilities based on current water needs rather than historical water use—an important human development principle. The ECPUTW is already in force and has the potential to become global if 23 countries that are not members of the Economic Commission for Europe sign up: 4 have already done so. Yet for all the intuitive appeal of both conventions the political challenge is to operationalize these frameworks amid the real world problems of water governance.

On the river and beyond the river

The case for cooperation, along with the mechanisms for achieving it, will inevitably vary across international shared water systems. At its most basic level cooperation implies acting in a manner that minimizes the adverse consequences of competing claims while maximizing the potential benefits of shared solutions. Taking the principle that states seek to pursue rational and legitimate self-interest as a starting point, cooperation will occur only if the anticipated benefits exceed the costs of noncooperation. Enlightened self-interest can help identify and broaden the range of potential benefits.

One helpful framework for thinking about transboundary water governance has identified four layers of potential gains from cooperation:[25]

- Benefits *to* the river.
- Benefits *from* the river.
- Benefits *because* of the river.
- Benefits *beyond* the river.

Benefits to the river

Conserving, protecting and developing rivers can generate benefits for all users. In Europe the Rhine Action Plan, launched in 1987, marks the latest phase in cooperation to enhance the quality of the river in the interests of all users. The plan marks the culmination of more than half a century of incremental change, with France, Germany, the Netherlands and Switzerland gradually developing a response commensurate with the scale of the threat to their shared interests (box 6.3).

In poorer regions of the world maintaining the integrity of river systems can generate profound benefits for livelihoods. One illustration