

# MANAGEMENT ASPECTS OF TRANSBOUNDARY WATERS BETWEEN PALESTINIAN AND ISRAEL

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## 1. Introduction

Palestine utilizes four groundwater basins three of which are transboundary waters. Palestine is a riparian country in the Jordan River but it is denied its water rights. Figure 1 shows the extent of shared aquifers between Palestine and Israel.

This paper addresses the transboundary aquifers between Palestine and Israel. The paper concentrates on the water rights issues of the Palestinians in these transboundary aquifers.

The problem with the Palestinian water resources is the Israeli control not only over shared water resources but also over the endogenous ones. Israel controls 100% of the Palestinian water rights in the Jordan River and 86% of the Palestinian groundwater resources resulting in an unequal per capita water consumption ration of 4:1 in favor to Israel. Also, Israel's mismanagement of the transboundary waters lacks the holistic and integrated approach and is based on putting huge pressure on the aquifers (abstraction scenario for Israeli use) in drought periods which only increase the suffering of Palestinians in terms of meeting their water needs.

## 2. Existing Situation and Bilateral agreements

Israel and Palestine signed bi-lateral agreements (Oslo II) over water but these agreements were in favour of the Israel in the following terms:

1. They neglected the Palestinian water rights in the Jordan River which is a transboundary river.
2. The agreements were about the Palestine water use inside the West Bank that gives Israel the veto over any water development project through the Joint Water Committee (JWC).
3. The Palestinian water rights in shared ground water resources were neglected.
4. After 13 years since the signature on agreements, Israel allowed to implement a small proportion of what was agreed upon.

The Israeli stance about transboundary aquifers is still a difficult one that allows them to keep the current status as it is and convert the Palestinian water rights to how the Palestinians can purchase water from Israel at costs they normally cannot afford. In other words Israel's stance is that Israel would negotiate how the Palestinians would purchase water from Israel to meet their water needs without any negotiations about the absolute sovereignty of the Palestinian waters in their political boundaries (of West Bank and Gaza). The Israelis impose facts on the ground such as the construction of the Separation Wall which resulted in putting all important transboundary waters under their control.

On the other hand, the Palestinians already made their stance clear that Palestine should develop necessary plans that allow it to develop, utilize and control its water within its international boundaries such that the utilization of transboundary water will cause no harm to Israel according to the international law but Israel does not seem to want the international law as a reference.

### 3. Palestinian Water Rights

The Palestinians see their rights in indigenous and transboundary waters as presented in the Table 1 below.

Beyond groundwater, the Jordan River and the surface runoff constitute the other sources of Palestinian water resources. Table 1 shows Palestinian claims for water rights that reach a total of 880 Mcm/yr. This means that this quantity needs to be available in order to meet future Palestinians water needs.

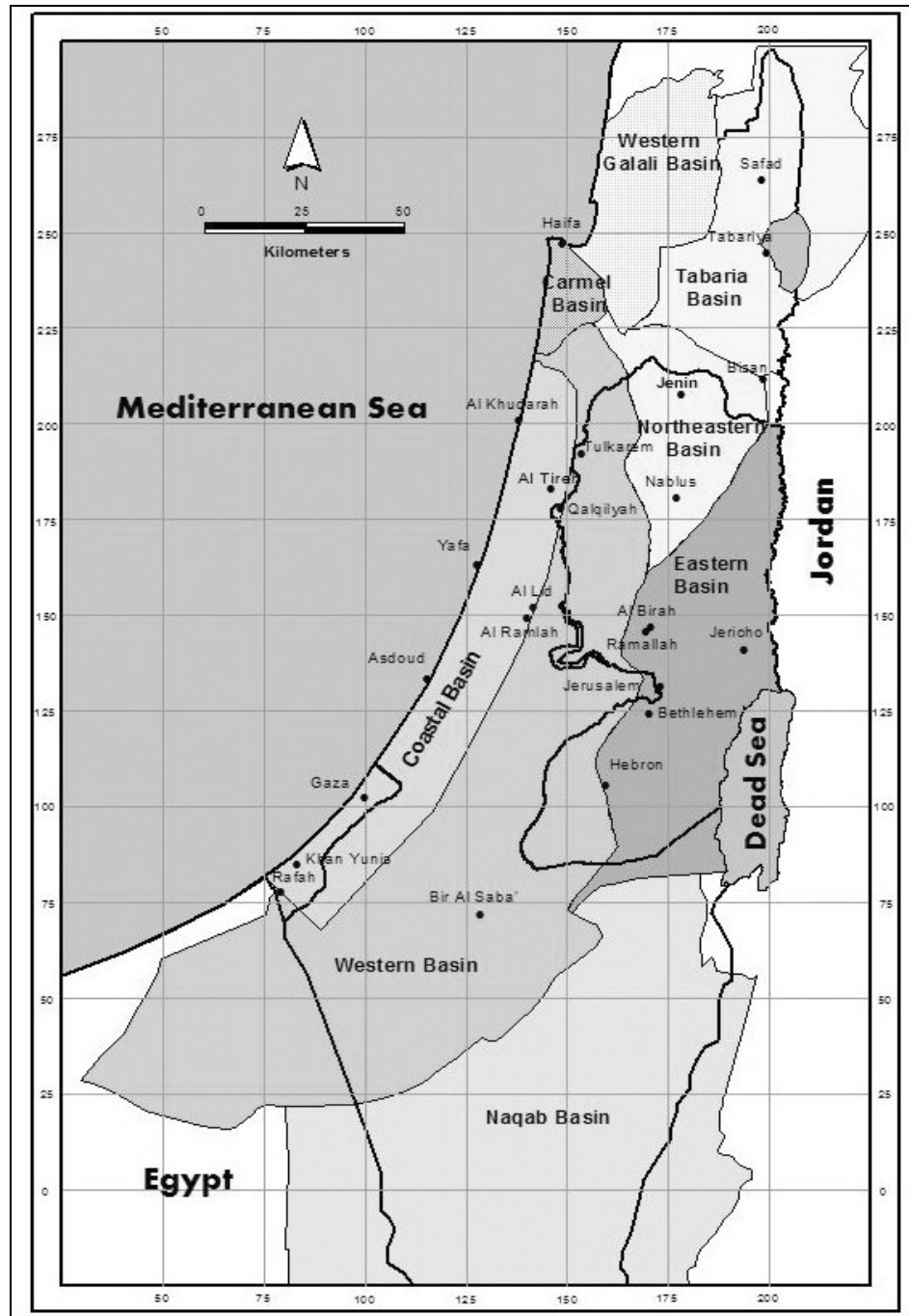


Figure 1: Shared Aquifers between Palestine and Israel

**Table 1: Palestinian Water Rights**

Source	Quantity Mcm/yr	Shared or indigenous	Possible Palestinian share (Mcm/yr
1. Eastern Aquifer Basin	172	indigenous	172 (100%)
2. Northeastern Aquifer Basin	150	shared	90 (60%)
3. Western Aquifer Basin	443	shared	266 (60%)
4. Gaza Coastal Aquifer	65	indigenous in Gaza	65 (100%)
4. Jordan River including eastern Wadis	1500	shared	173 (11%)
5. Western Wadis	72	shared	72 (100%)
6. Dead Sea Wadis	17	shared	17 (100%)
7. Wadi Gaza	25	shared	25 (100%)
Total			880 Mcm/yr

Protecting water quality is critical for ensuring the sustainable supply of water from West Bank groundwater resources. Water management strategies must provide solutions to the associated risks of pollution.

### 5. Management of transboundary Aquifers

The Palestinians see management of transboundary aquifers to cover the following:

- Equitable utilization and control.
- Optimal use of transboundary resources.
- Ecological protection of transboundary resources.
- Sustainable development of Transboundary resources.

Instead Israel over-utilizes the transboundary waters and further pollute the shared aquifers by the Israeli settlements in the West Bank which further bedevil the cross-national implications of water scarcity in the Palestine-Israel region.

For many years, raw sewage effluents from Israeli settlements in the West Bank have been discharged in the Wadis. Moreover, leachate from Israeli dumping sites, industrial wastes, agricultural returns rich with agro-chemicals and hazardous wastes in addition to over-pumping of aquifers have caused groundwater quality of Palestinian aquifers to deteriorate. Since the carbonate aquifers of the West Bank have pronounced mature karst features, both above and below the water table, these aquifers show high potential for extensive pollution.

The overall per capita supply rate (including losses) for urban domestic purposes in the West Bank was estimated to vary between 30 l/c/d and 70 l/c/d with an average of about 50 l/c/d. These estimated domestic water consumption rates are substantially lower than the WHO minimum value of 150 l/c/d due to the Israeli restrictions on water usage by the Palestinians. In the Gaza Strip, of the total water supplied to the domestic sector only some 8.9 Mcm/yr may be considered of acceptable quality (based on health considerations). This 8.9 Mcm/yr corresponds to only 18% of the water supplied by municipal wells and translates to an acceptable per capita supply rate for domestic use of only about 13 l/c/d – less than 150 l/c/d of the WHO recommended levels.

The average per capita consumption of 50 liter per day in the West Bank and the lack of some 350 Mcm/yr to the Palestinians in the West Bank and Gaza places a constant pressure on the stability of the socio-economic future of the Palestinians. At present, the Palestinian citizens pay about \$1.25 per 1m<sup>3</sup> of water which is a high cost compared to the average income of the Palestinian citizen. At a minimum, Palestinians argue that Palestinian citizens should be entitled to receive a basic quantity of water (basic human right to

water) amounting to at least 150 liter per day at an affordable cost. This water should be safe, acceptable and physically accessible.

## **5. Conclusion**

**5.1** The specific quantities that should be allocated to the Palestinians constitute a core political matter in the final status negotiations. But even so, a sustainable solution to the Palestinian water crisis will require effective management, development and planning of the resources. A consensus in this regard among Palestinians includes the following points:

- Palestinian water rights should be solved according to international legal principles which will guarantee sufficient quantities and grant sovereignty to Palestinians to utilize and control their water resources.
- Palestinian water rights should extend to their indigenous and shared ground water aquifers as well as surface water including the Jordan River.
- Final agreements will have to ensure removal of any obstacles in Palestinian lands that limit to Palestinian (e.g., access to wells currently controlled by Israel inside the West Bank, the separation wall constraints imposed by Israeli settlements, etc.).
- Bi-lateral and multi-lateral cooperation remain key elements in any final status negotiations over Palestinian water rights.

**5.2** The Israeli management of transboundary aquifers is a critical one as they over utilize aquifers by two orders in drought periods. The Palestinian water rights in transboundary aquifers are yet to be recognised and respected by Israel. This abstract is calling for international law to be implemented between Palestine and Israel to solve the dispute of water rights over transboundary aquifers between them.

## **6. References**

- HWE Database (2004-2008)
- PWA Database (1996-2008)
- Technical files of final status negotiations over water between Palestine and Israel. Internal Report.