

Water Resources in Palestine

A Fact Sheet and Basic Analysis of the Legal Status

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INTRODUCTION

The violation of the right to equitable and fair utilization of the shared water resources is contrary to the spirit and principles of customary international law and has long been one of the major obstacles to co-operation and the achievement of peace between the Palestinians and Israelis. The transboundary water resources at issue are the international groundwater resources shared between Israel and the West Bank (WB) and the Gaza Strip (GS), and the Jordan River basin that is shared between Israel, Lebanon, Syria, Jordan and the Palestinian Authority.

After many years of conflict, the Israelis and Palestinians are at the negotiation table, hampered by their inequality in power. The major barrier is that Israel, with superior power in every respect, does not recognize the Palestinian right to existence nor does it acknowledge the Palestinian national aspirations. Thus minimum progress has been made during the last seven years of negotiations. No common agreement on the overarching principles for the future utilization of the transboundary water resources has been achieved. The challenge is how the parties can negotiate an agreement irrespective of their unequal bargaining power relying on ethical considerations and good faith.

This paper describes the current utilisation of the international water resources in the area, followed by an analysis of the existing declarations and agreements, and then will assess the role of international law in the resolution of the conflict.

BACKGROUND

Extensive literature exists on the historical evolution of the water problem dating back to the early 1900's. Authors agree that water has always been considered an important strategic element in the Israeli plans for regional development. It has also been a source of economic and political stress. Israel has tapped the Yarkon-Taninim, or Western Mountain, aquifer since 1955. It also relies on two other transboundary aquifers that recharge the WB - the Northeastern and the Eastern Mountain aquifers. The former aquifer discharges into the Jezreel Valley and the latter into the Jordan Valley. The three aquifers combine to provide approximately 30 per cent of Israel's total water supply. One of the major outcomes of the 1967 occupation was the annexation of much of the headwaters of the Jordan River by Israel, and the subsequent loss to Jordan of a significant amount of its available water supply. Since 1967, the key problem relating to the region's international water resources involves the strict Israeli policy of restricted water allocation in the WB and GS, which deprives the Palestinians of adequate water, both in quality and quantity. Approximately 40% of the groundwater upon which the state of Israel is dependent and more than one-quarter of its sustainable annual water yield originates in the WB.

The Palestinian and Israeli negotiations began formally in 1992. The aim of the Israeli-Palestinian negotiations was, among other things, to establish an Palestinian interim self-governing authority in the WB and the GS, for a transitional period not to exceed five years, leading to a permanent settlement to be based on UN Security Council Resolutions 242 and 338.

The Government of the State of Israel and the Palestinian Liberation Organisation (PLO), in September 1993, signed a "Declaration of Principles" (DOP). The DOP was the first initiative by both parties to put an end to decades of confrontation. The "Gaza-Jericho" Agreement was signed between the PLO and the State of Israel regarding the autonomous rule of the Palestinian Authority PA, in Jericho and the GS on May 4, 1994. In 1995, the Government of the State of Israel and the PLO entered into an interim agreement on the WB and the GS. Both Parties showed a desire to put into effect the DOP and reaffirmed their recognition of mutual legitimate and political rights.

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After the murder of Yizhaq Rabin, the former Prime Minister of Israel, successive Israeli governments began to erode the Peace Agreements that had been signed with the PLO. Delays and slow progress characterises the implementation of the agreements. Currently the negotiations on a water agreement are frozen due to the current tension between the Palestinians and Israelis.

WATER RESOURCES

Availability

The large variations in rainfall and limited surface resources have led to widespread scarcity of the fresh water resources in the region, resulting in a heavy reliance on groundwater as the major source for various uses. The contribution of surface water to the overall water balance is limited and marginal.

The sources of water in the WB are those renewable waters of the Mountain aquifer that rises and outcrops in the WB but extends across and below the territories of Israel. The main recharge acceptance area is located in the core of the WB where water originating in altitudes higher than 400 meters feed the major aquifers in the area. . The groundwater recharge in the WB is the direct infiltration of rainwater through fractured, karstic rocks and porous soils. The overall balance in the West Bank is estimated to be 679 MCM/ yr, while in Gaza it is estimated at 45 MCM/ yr.

The Gaza aquifer, which is a classical coastal aquifer, represents the sole water source of the GS covering an area of 360 (km²) with a total recharge of approximately 60 mcm/ yr. The Gaza aquifer is threatened by seawater and salt ground water intrusion due to over pumping, and by pollution especially nitrates from the overuse of fertilizers and infiltration of sewage.

The Jordan River has an average annual flow of 1300 mcm. The main rivers in Jordan are the Jordan, the Yarmouk, and the Zarqa. While the water quality of the Jordan and the Yarmouk Rivers is good, the Zarqa River, flowing entirely within Jordan's borders, faces a pollution crisis that prohibits both access to and the use of its water.

Utilization

Currently the Israelis are dependent on the subterranean water supply of the WB. Approximately 40% of the groundwater upon which the state of Israel is dependent and more than one-quarter of its sustainable annual water yield originate in the WB. The size of the problem for Palestinians may be best illustrated by noting that the total available groundwater in Israel and the Palestinian Territory is 1,209 million cubic meters (mcm)/ year out of which 1,046 mcm/ year is currently being used by the Israelis, while the Palestinians are permitted to use only 259 mcm / year.

The imbalance of current water use translates into an imbalance in water consumption. The Palestinian domestic per capita consumption of 35-80l/ day is far below the WHO standards, which assign a minimum of 100 l/ capita/ day. On the other end the Israeli per capita consumption exceeds 300 l/ day. Israel also uses about 800 mcm/ yr of the total quantities of the Jordan River water, which means that most of Israel's water comes from rivers that originate outside the border, or from disputed lands.

The Israeli legal experts have relied on the following to support their claims: the precedence of "Prior Use" or "Historical Rights" in the water resources in the region. Thus, since all "existing uses" are non-negotiable for the Israelis, they persistently raise the availability of "alternatives of comparable value" (desalination, wastewater reuse and the importation of water from neighbouring countries), as a means to supply Palestinian needs.

Available Alternatives for the Palestinians

Fresh Water Resources

Apart from the water resources in the Jordan River system, the only surface water available is the runoff in the wadis, which for most wadis is intermittent. An exception is the spring fed wadis - for instance Wadi Qilt and Wadi Far'ia, but these are already heavily utilized. To a large extent, the wadis are also overloaded by raw sewerage in the headwater areas. The yet un-exploited potential safe yield available to the Palestinians in the

Eastern Aquifer has not been determined accurately but may be somewhere between 50 and 100 MCM/ Yr. Article 40 indicated that the potential is 70 mcm/ yr.

Non-Conventional Resources

The Palestinian technical and financial capacity to develop non-conventional resources is not yet adequate. However, the National Water Policy, the Water Resources Management Strategy and the Water Law that have been adopted by the Palestinian Authority all encourage conservation and call for the development of non-conventional resources. The Palestinian position emphasizes that until the legal entitlements from the shared water resources are regained, the discussion of developing non-conventional resources would be politically unfeasible and not accepted.

Policy and Institutional Frameworks

Background

Palestine's legal, policy and institutional frameworks in the water sector are emerging. The following sections present an analysis of the existing policies, laws and regulations in Palestine including an assessment of their adequacy to operationalise the IWRM. There is decision concerning the establishment of Water Supply and Sanitation Utilities in the West Bank and Gaza Strip. These utilities are planned to take over the responsibility for water and sanitation operations. The proposed utilities are divided according to the administrative/ governorate lines and not according to the lines of catchment areas.

Palestinian National Water Policy of September 1995

After the signing of the Interim Agreement of 1995, the need for a comprehensive survey of water resources and their development strategies became a top priority as far as the PA was concerned. The adoption of the elements of the National Water Policy (NWP) in September 1995 represented the first step in addressing the important issues of water resources management and planning. The NWP establishes the foundation for decisions regarding the structure and tasks of water sector institutions as well as water sector legislation. It also underpins the necessity of the sustainable development of all water resources and establishes the principle that water resources are a public property of the State. Clearly, the development of the water resources of Palestine must be coordinated on a national level and carried out on the appropriate local level.

Water Resources Management Strategy of May 1998

The overall development objective of the Water Management Strategy is to translate the messages from the NWP into strategic imperatives. The strategy emphasizes the necessary aspects of water development as the establishment of a comprehensive framework for the sustainable management of Palestine's water resources, in addition to the development of an appropriate institutional set-up for reforming and strengthening the water sector in coordination with relevant stakeholders. This long-term and coordinated strategy for the water sector will be used as an overall basis for further planning relating to the activities and tasks associated with the water sector, with the main objective being the securing of an environmentally sound and sustainable development of the water resources through efficient and equitable water management. The eight key elements of the Water Resources Management Strategy are as follows:

- Secure the Palestinian water rights
- Strengthen national policies and regulations
- Develop institutional capacity and human resources
- Improve information services and assessment of water resources
- Regulate and coordinate integrated water and wastewater investments and operations
- Enforce water pollution control and protection of water resources
- Develop public awareness and participation
- Promote regional and international cooperation

Water Law No. 3 for 2002

The objective of this particular law, as stated in Article 2, is to “develop and manage the water resources, increasing their capacity, improving their quality and preserving and protecting them from pollution and depletion. This objective is fulfilled through: i) The sustainable development of water resources based on environmentally sound and enabling bases; ii) The provision and satisfaction of societal and individual needs for water in an optimal and equitable way; and iii) The protection of all water resources from pollution to secure water quality, an environment not harmful to human health or well-being, and sufficient water for production and self-renewal.”

EXISTING AGREEMENTS

The Declaration of Principles - DOP

Annex III of the DOP establishes an institutional mechanism, the Israeli-Palestinian “Committee for Economic Co-operation”, which focuses on many areas, among which water was important. The resulting co-operation in the field of water includes a “Water Development Programme” prepared by experts from both sides specifying the mode of cooperation for the management of water resources in the WB and GS. Annex III also calls for the preparation of proposals, studies and plans on water rights for each party as well as on the equitable utilization of joint water resources, to be implemented in and beyond the interim period. According to the DOP, the two sides will cooperate in the context of the multilateral peace efforts in promoting a development program for the region, including the WB and the GS. The Economic Development Programme for the WB and GS includes the development of water infrastructure. At the regional level, the program involves the development of a joint Israeli-Palestinian-Jordanian Plan for coordinated exploitation of the Dead Sea area, the Mediterranean Sea (Gaza), Dead Sea Canal, Regional Desalination and other water development projects.

The significance of the DOP lies in its reference to the necessity for cooperation and coordination on water issues within and beyond the interim period. It was considered the benchmark for future negotiations. Theoretically, the institutional mechanism that was proposed within the DOP allows for dialog between the two parties on crucial matters pertaining to water. The DOP is the only official document wherein both parties agreed to undertake studies and prepare proposals on the “*equitable utilization*” of joint resources for the implementation in and beyond the Interim Agreement discussed below.

First Gaza Jericho Agreement (May 4th 1994)

This Agreement dealt with the water issue in the context of environmental protection and prevention of environmental risks, hazards and nuisances. The Agreement allowed for new wells to be drilled on condition that they cause no harm for existing Israeli utilization. The Agreement applies only to the water and wastewater resources and systems in the GS and Jericho Area. It clearly confirms the need for Israel and the Palestinians to adopt, apply and ensure compliance with internationally recognized standards concerning acceptable levels of land, air, water, and sea pollution, and acceptable levels of treatment and disposal of solid and liquid wastes.

The two parties agreed to establish a subcommittee to deal with all issues of mutual interest including the exchange of all data relevant to the management and operation of the water resources and systems, and the mutual prevention of harm to water resources. The Agreement focuses on the “no harm principle” and the continuation of the Israeli current water entitlement more than any other international water law substantive or procedural rules. The institutional mechanism established is an “Environmental Expert Committee” for co-ordination of environmental issues, to be convened as the need arises.

The Interim Agreement on the WB and GS (September 28th 1995)

Within the Interim Agreement on the WB and GS (Interim Agreement) both parties recognised the need to protect the environment and utilise natural resources on a sustainable basis. The sphere of cooperation includes sewage, solid waste and water. Both parties agreed to strive to utilise the natural resources, pursuant to their own environmental and developmental policies, in a manner, which shall prevent damage to the environment, and shall take necessary measures to ensure that activities in their respective areas do not cause damage to the environment of the other side.

The Agreement explicitly states that Israel recognises Palestinian water rights, which will be negotiated in the permanent status negotiations. The nature of these rights was not identified nor was the overarching principles governing the rights and obligations of both parties set out in the text.

Appendix I of Annex III Article 40 of the Interim Agreement deals with water allocation only to fulfil the immediate needs of the Palestinians and gives no due consideration to the principle of equitable and reasonable utilisation of the water resources by Palestine and Israel. The two parties agreed to establish a Joint Water Committee (JWC) as an institutional mechanism for the interim period. The main aim of the JWC is to undertake the implementation of Article 40. It was further agreed that decisions of the JWC should be reached by consensus, including the agenda, the procedures and other matters.

Key Water Problems

Inequitable Utilization

To date the water conflict has been dealt with apart from the principles of international law. The existing inequitable utilization of the international water resources has been considered “*de facto*” as establishing water rights and the “no harm principle” is the overarching principle applied by at least the Israeli negotiators. The international legal rule of equitable and reasonable utilization is not the guiding rule in any of the signed agreements, and is not found specifically in the Interim Agreement.

The Israeli-Palestinian agreements do not contain the obligation for Watercourse States to recognize the permanent unity of the drainage basin as an integrated whole that should be equitably and reasonably utilized by all Watercourse States. Mutuality and the necessity to cooperate are also very important concepts, which were neglected, in the current agreements. Instead, cooperation agreements were designed to ensure that the *status quo* of current utilizations is maintained. Only additional supplies to serve the urgent water needs were allocated for the Palestinians in Article 40; these will be developed from the Eastern Aquifer Basin and any other agreed sources. The agreement emphasises Israeli recognition of Palestinian water rights in the WB, but gives no definition of these rights. Furthermore, there is no agreement on the overarching legal principles that will govern the rights and obligations of both parties. The negotiations on these rights were postponed for the permanent status agreement negotiations.

If one compares the agreements with what has actually been achieved, there is a strong indication of the complexity of the situation and the inequality in the power structures that has favoured the Israelis. Decision-making within the JWC was unilateral, always dependent on the impact of the proposed Palestinian projects to the *status quo* of the current Israeli utilization. The “no harm principle” was the dominant factor applied in the Israeli evaluation and resulted in the rejection of the Palestinian projects and plans. In the past six years the Palestinians developed only 13 mcm out of 80 mcm (Minutes of Meetings of the JWC between 1996-2000). The repeated Israeli claim that these projects cause harm to current Israeli utilization is a major obstacle for the successful implementation of the agreement.

Inadequate Access to Water Resources and Proper Sanitation

Whilst around 2 million Palestinians have access to 16% of the Mountain Aquifer’s renewable waters, Israel, - besides all the other surface and groundwater resources available for its use - has control over the remaining 84% of these waters. A deficient domestic water supply, in quantity as well as quality, is not only detrimental to general welfare, but also a direct economic liability to society, through increased load on the health and social services, and through increased absence from work. Generally, it is not possible to achieve high quality water supply without proper handling of sewage. The economic development is also to a large extent dependent on adequate water supply. A wide range of industries depends on water in processing. For some uses, the quality of the water is of less importance, but for some, like food processing, the adherence to high standards is vital for access to national and international markets.

Deteriorated Infrastructure and Services

The level of development in water infrastructure and services is far less in the Palestine Territories compared with Israel. After transfer of certain responsibilities and authorities by the Israelis to the PA and especially after the establishment of PWA in 1995, many projects have been implemented to construct new water networks or to rehabilitate existing ones. This is considered to be a time consuming task that requires commitments from the Palestinians and Israelis supported by the international community. There are very few sewage treatment plants in Palestine, and the few existing do not operate satisfactorily. With the relatively high

percentage of the population not connected to a sewerage network, this gives a high amount of raw sewage being returned to the natural environment.

Lack of Cooperation and Coordination and weakness of Existing Joint Management Institutions

Coordination between Israel and Palestine on the transboundary groundwater resources has been absent so far because the magnitude of the problems has outpaced efforts for comprehensive management. In effect, during the period of occupation the Palestinians have had limited control over these resources. Any further delays in taking serious steps towards genuine co-operation will lead to a further deterioration in the water situation and to inflation in the water crises thus causing harm for the present and future generations and to the groundwater resources. The current situation of no co-operation has widened the gap between the parties and deepened the mistrust in all matters and at all levels. The continuation of the *status quo* in relation to the imbalance in utilization and the uncoordinated management of transboundary groundwater are not in the best interest of either parties.

Lack of Financial Resources and Donor Coordination

The requirements of efficient water resources management cannot be accomplished unless there is a strong commitment from the multilateral institutions and government donor agencies to fund such activities.. It is true that current investments in the water sector in Palestine and Israel are huge, but it is believed that these investments are improperly planned. The reason for this is that there is no unified donor coordination policy towards the water conflict and the means for its resolution; accordingly, projects are not planned procedures that ensure no duplication and overinvestment. There is a need for the harmonization of donor policies and strategies towards the water problems.

POTENTIAL ROLE OF INTERNATIONAL LAW IN CONFLICT RESOLUTION

Equitable and Reasonable Utilization and “No Significant Harm”

Future negotiations and agreement between the Palestinians and the Israelis may very well benefit from the guidance offered in the 1997 UN Convention on the Non-navigational Uses of International Watercourses (the 1997 UN Convention) concerning the equitable and reasonable utilisation of international watercourses. The general legal principles of “equitable utilization” and “no harm” are difficult to define outside the context of an existing legal framework. For negotiations to be fruitful the Palestinians and Israelis should formulate their new water agreement within the framework of the 37 articles constituting the 1997 UN Convention.

The principle of equitable and reasonable utilization is set forth in Article 5 of the 1997 UN Convention. The International Court of Justice identified this principle as the governing rule in its 1997 decision in the Gabcikovo-Nagymaros case involving Hungary and Slovakia. The Court explicitly referred to the “basic right” of Hungary to an equitable and reasonable sharing of the resources of the international watercourse in the dicta of the decision. On the other hand Article 7 of the 1997 UN Convention sets forth the obligation not to cause significant harm to other Watercourse States. Where significant harm is caused the Watercourse State causing this harm must take all-appropriate measures to eliminate and mitigate such harm and where appropriate discuss the compensation.

Extensive discussions within the International Law Commission of the United Nations, the drafting body for the 1997 UN Convention, took place pertaining to which of the two principles has the legal precedence. In other words, how should Watercourse States best achieve a balance between the “equitable and reasonable utilization” and “no significant harm” principles where they are in conflict? How would an upstream state like Israel - in the case of the Jordan River, ensure that their use of the international watercourse is equitable, reasonable and at the same time not causing harm to the Palestinians who live downstream? The ILC, in its Report to the United Nations General Assembly in 1994, indicated that the “no harm” rule gives way to the right of the Watercourse States to a reasonable and equitable share of the beneficial uses of the international watercourse. The balancing of the Israeli uses, with the right of the Palestinians to an equitable and reasonable share of the resources within their territory, must be achieved. Further, Qualifying “harm” with the words “significant” indicates the importance of allowing the utilisation of international watercourse, even though some

harm might ensue. Watercourse States may utilise an international watercourse in an equitable and reasonable manner, but still have the obligation not to cause significant harm. Within the framework of the 1997 UN Convention, and to fulfil their obligations, Watercourse States must exchange data and information regarding the use and status of the watercourse to enable all affected parties to arrive at an agreed allocation of the beneficial uses of the watercourse, and discuss in good faith any consequent harm.

Proposed Approach

Accept Common Criteria and Principles

Both Israel and Palestine should agree on the main principles of international law governing a Watercourse States' rights, recognizing that each of the nations on an international watercourse has a right to a portion of the water. A first step would be to estimate how much water is needed by each party to meet the domestic needs as well as those of economic development. Therefore, a new assessment of all joint groundwater resources becomes a necessity. An "Expert Fact Finding Mission" EFFM, with the aim to investigate reliability of data pertinent to the availability and utilization of the water resources of the area could be established. A third party that is accepted by both sides might establish the EFM.

The source of data for the EFM will be the hydro-geological investigation carried out by the Israelis and the Palestinians in the WB and GS. The EFM membership should be based on purely professional criteria and might include Palestinian and Israeli experts as well as international experts. The two parties shall exert their best efforts to agree on the EFM conclusions or at least develop a common position in that regard. The recommendations of the EFM shall form the basis for further discussions on the procedure for implementing the equitable and reasonable utilization of the water resources.

Identify What Is Equitable, What Is Reasonable

Article 5 and 6 of the 1997 UN Convention contain an important aid to the identification of what constitutes an "equitable and reasonable" use in each case. It describes the main factors that should be applied, although the list is not exhaustive, due to the framework character of the Convention. Specific criteria based on the elements of Article 5 and 6 of the Convention and any other accepted factors for the allocation of the beneficial uses of the water resources should be commonly developed. This would require accurate and reliable information and data to be shared by the parties. An International Legal Experts Committee (ILEC) could be developed to be involved in assigning weight to the factors in consultation with the EFM. These weights have to be determined by their importance in comparison with that of all other relevant factors. In determining what is an equitable and reasonable use, all relevant factors are to be considered together and a conclusion reached on the basis of the whole.

Develop Future Cooperation

A mechanism for cooperation may be achieved based on international law and on the assumption that "good faith" will govern the relationship between the parties. In principle, if both parties agree to apply the principle of equitable and reasonable utilization based on the above implementation procedures; a water agreement could be formulated on equal footing. The principle of "equitable utilization" is a basic foundation for such an agreement. A mechanism of joint cooperation would have to be established within the agreement to ensure the exchange of complete data and information on agricultural, industrial and domestic water use. A new Agreement concerning the Jordan River will be easier to achieve and monitor than in the case of the West Bank groundwater resources. A treaty concerning the latter could, however, benefit from applying the model of existing international water treaties regarding the uses of surface watercourses. The new agreements should, therefore ensure each the obligation to cooperate, including adequate coordination. However, resolving conflicts over water rights will require a major effort of "political willingness" to accept changes in the *status quo*. Based on the available existing water resources and the projected needs for development it is believed that there will always be a regional shortage. It is therefore beneficial for both Israel and Palestine to jointly manage the valuable regional water resources to ensure their sustainable development. The parties could also cooperate in the areas of developing non-conventional water resources; i.e. desalinated water.

Since there is an obligation in general international law to settle dispute peacefully, a mechanism for future dispute settlement should be part of the agreements adopted by the parties.

Conclusions

Existing peace agreements between Israel and the PLO on the WB and GS water resources do not go beyond temporary solutions for emerging crises nor do they create a sustainable and permanent solution. Further, these agreements were concluded in an unjust and inequitable manner. The existing agreements are merely a temporary solution for solving only the immediate domestic needs of the Palestinians for the transitional five years of the interim period, which expired in September, 1998.

It will require prodigious effort by the Palestinians and international mediators to engage the Israelis in negotiations over water with the above-proposed approach. The findings of this paper emphasise that Israel has continuously practiced a unilateral control over *all* water resources in the WB and GS, not fulfilling its obligations as a belligerent occupier under the international law. Furthermore, the current utilization of the international water resources does not by any means comply with the main principles of international law, specifically the principle of equitable and reasonable utilization. The continuation of the *status quo* is a clear and persistent violation of the principles of international law.

This paper strongly recommends that the Palestinians and the Israelis abide by the principles of international law. The 1997 UN Convention serves as a guideline for a future agreement. This framework is widely believed to ensure the utilization, development, conservation, management and protection of the international watercourse and the promotion of the optimal and sustainable utilisation for the present and future generations. The final agreement on water should include solutions and mechanisms for co-operation on the various international water resources. Neither Israel nor Palestine can bear further the consequences of the continuing water conflict, the first and foremost being the major threat to peace.