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Water Justice: Water as a Human Right in Israel

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The following paper does not necessarily represent the views of the Heinrich Böll Foundation.

Note of Gratitude

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I would like to acknowledge special gratitude to Simone Klawitter and Julia Scherf, from the Heinrich Böll Foundation for their helpful comments, support and taking the initiative of launching this important report series.

Foreword

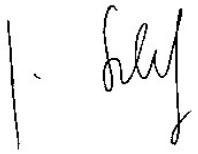
This publication is part of a Heinrich Böll Foundation series on Water as a Human Right in the Middle East. Prior to this study on Israel, the Heinrich Böll Foundation's Arab Middle East Office in Ramallah commissioned studies on Jordan, Egypt, Lebanon and the Palestinian Territories respectively. In all cases, national experts from local Non Governmental Organization were asked to supply information following the same structural framework. The Israel office of the Heinrich Böll Foundation in Tel Aviv commissioned the study Water as a Human Right in Israel with our longstanding partner Friends of the Earth Middle East.

The study focuses on national realities, but also offers a base for a comprehensive understanding of the regional picture following the criteria of the UN concept of Water as a Human Right. The Israeli study supplies a wealth of information on national water management. Moreover, it evaluates the degree of compliance with the UN concept of Water as a Human Right.

Israel is a highly developed water economy. Due to high technological standards the general public tends to handle water as an unlimited resource. This study informs and educates on the need for water sustainability, the limits of availability, and improved management of this scarce resource. One crucial finding of the study is the fact that minority groups face unequal access to water in Israeli society. The study identifies national fields of actions as well as institutions that should improve water justice. The study's commitment to ecologically sound, sustainable concepts of water use raises water consciousness as part of a general environmental awareness.

The Israel office of the Heinrich Böll Foundation continues to support the discussion about water as a Human Right. The study will be translated into Hebrew, distributed and is expected to trigger vivid discussion in Israel. Additional information will be provided to the Israeli audience by the presentations of the studies that were conducted in the Arab countries. Presenting and distributing the series at the Commission on Sustainable Development and other water conferences in Europe is expected to broaden insights beyond national policies.

I would like to thank the following people without whom this study would not have been realized: Simone Klawitter, Ayana Segal Cohen, Gidon Bromberg and Tamar Keinan and last but not least Hadeel Qazzaz.

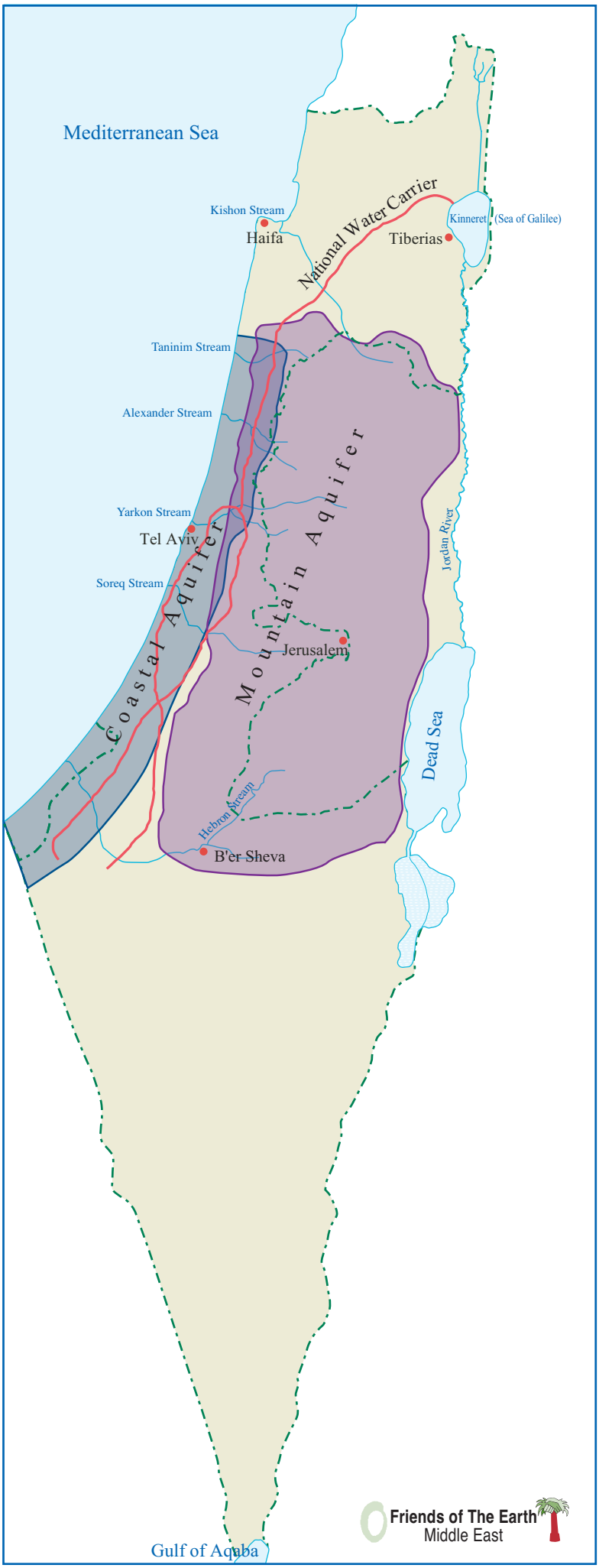


Julia Scherf

Representative of the Heinrich Böll Foundation to Israel

Tel Aviv, April 2005

Major Water Sources in Israel



Content

Objective

This report presents a wide overview of the Israeli water economy, aiming to examine the strengths and weaknesses of water management in Israel from a sustainability and human rights perspective. It is one of a series of Middle East reports commissioned by the Heinrich Böll Foundation that aim to examine the level of implementation of the right to water as pronounced by the UN Committee on Economic, Social and Cultural Rights.

At the request of the Heinrich Böll Foundation this report focuses solely on the state of Israel according to 1967 borders as recognized by international law. While mention is made of the trans-boundary nature of Middle East water resources and the Middle East conflict as it pertains to water resource issues, the objective of this report is to focus on the concept of water as a human right for the citizens of the state of Israel.

Summary

The water economy of Israel is well known for its efficiency particularly as regards water usage in agriculture. Drip irrigation systems, sophisticated computer water distribution systems, wastewater treatment designs and reverse osmosis technology are just four examples of Israeli technical know-how. Making the desert bloom by bringing water from Israel's relatively wet north to the desert south was a national project supported by consecutive Israeli governments. The re-use of treated wastewater for agriculture, the import of fresh water by tankers and large-scale desalination projects continue to attract international attention as regards new water developments in Israel.

The less known story of Israel's water economy is that despite the highly trained personnel and sophisticated systems in place, the complex institutional framework for decision making has often led to indecision, resulting in piecemeal implementation of water policies and at times inappropriate policies being taken. There are many examples. The Israeli government has never been able to adopt a water master plan. Discriminatory political considerations have left tens of thousands of Bedouin citizens of Israel with out piped water and sanitation systems in place. Privatisation of the Israeli water economy is taking place without any public discussion on the implications of the control of the water economy in private hands. The decision of the Water Commissioner to invest heavily in desalination technology is at the expense of investments in demand side management and in particular in water conservation and pollution prevention. The heavy reliance on supply side water management has lead Israeli environmentalists to raise the red flag and express concern that current policies are unsustainable. Creating and maintaining an unsustainable water economy will in the long run result in the inability of the Israeli government to provide clean water and a healthy environment to all its citizens at affordable prices.

Presently, four areas of national policy significantly influence Israel's water economy with ramifications for water as a human right in Israel:

First, Israel's neo-liberal economic policy is advancing the process of privatising significant parts of Israel's water economy, especially in the area of water supply through desalination to the domestic sector.

Second the Israeli Arab conflict has not only implications on water rights issues between Israel and her neighbours but also as regards Israel's minority Arab population.

Third water policies towards the agricultural sector continue to be discriminatory as regards other water users.

Finally, though the Israeli government is currently preparing a National Strategy for Sustainable Development, the water economy is not being reviewed according to sustainability principles.

The chief strengths of Israel's water economy include:

- Israel has an expansive and effective water provision system resulting in 99 % of the citizens of Israel having modern access to fresh water.
- All natural water resources are presently state owned.
- Israel's legal system provides a framework that recognizes the essential basic right to water.
- There is a growing realization that water-pricing policies must reflect the shadow price of water (resource value at source).
- Ground water aquifers are being managed for the first time according to their replenishment capacities.

The chief weaknesses of Israel's water policies include:

- Some 60 thousand Bedouins, residents of unrecognised villages, are not connected to the national water network as the Israeli government does not recognize their right to reside where they live.
- Over emphasis on water supply management with investment in desalination as a chief solution rather than capitalizing on demand management with investment in water conservation awareness and technology.
- Water cut-offs take place either for entire municipalities by the national water company MEKOROT, where the local municipality has not paid its water rates or where individuals have not paid their water rates to the company.
- Lack of enforcement against municipal, industrial and agricultural water polluters.
- Transfer of management of the water economy to private hands.
- The legitimate water rights of Israel's Palestinian neighbours are insufficiently provided for.
- Development of Israel's water economy comes at the expense of natural water systems, such as the Jordan River and the Dead Sea.

Introduction

The UN concept of water as a human right is little known in Israel. The general public is aware that 99% of Israeli citizens have water flowing into their homes. Many would not be aware of the denial of water rights to the unrecognized Bedouin villages. Fewer still are aware of the quantity of water available to Palestinians and Jordanians – though they are aware that water scarcity there exists.

When Israelis turn on the top they expect water to always flow though they are more and more concerned as to the quality of that water and hence increasingly either filter their tap water or purchase bottled water. Overall Israelis believe that they have a sophisticated water infrastructure, which includes a national fresh water network and extensive use of treated wastewater for agriculture. Though the level of water in the Sea of Galilee can be a measure as to the mood of the country, the Israeli public is not particularly concerned about the need for water conservation. There is general support and even an expectation that technological solutions such as seawater desalination are available and desirable to maintain their quality of life.

Both the Jewish Israeli majority and Arab Israeli minority associate agriculture with their roots and identify farmers as pioneers that continue to carry out the hard labour of food production. As world leaders in water efficiency in agriculture by making the desert bloom, Israelis are proud of these achievements. The fact that agriculture consumes approximately 50 % of the water resources (including treated effluent) and produces less then 3% of the GDP and employs even less of the workforce is not on the public agenda as a water rights or water justice issue. Even much of the environmental movement is wary of upsetting the current subsidy of water to agriculture for fear that lost farm lands would turn into new housing and industrial developments. When it comes to water issues in Israel, much is at stake, reflected by the high level of controversy and difficulty in decision-making.

1 The national water sector

1.1 National macro-economic setting, development objectives and water policies

1.1.1 Geography, climate, population

Israel shares borders with Egypt, Jordan, the Palestinian Authority, Syria and Lebanon. It covers a territory of 22,000 sqm. Israel has two outlets to the sea: on the west, the Mediterranean with its 92 km of coastline, and in the south an outlet to the Red Sea through the Gulf of Eilat (Gulf of Aqaba). Since 1967 Israel occupies the territories of the West Bank and the Gaza Strip that comprise the Palestinian Territories. Israel also occupies 17% % of the territory of the Golan Heights that belong to Syria.

The State of Israel is located on 30-33 latitude north. Therefore its northern region has Mediterranean climatic influences, and its southern region has a desert climate. Israel's climate may be described as semi-arid. In such a climate a stretch of rainy years may interchange with a stretch of drought years. In addition the semi-arid climate is characterized by copious water loss as a result of atmospheric evaporation. Israel has one rainy season that extends from November through to March. Despite the small area of the country the level of rainfall varies greatly from one area to the next – from an average annual rainfall of 900mm in the north, to 30mm in the southern Negev region. About half of the country's area receives less than 200mm of rain annually.

In 2002 Israel had 6.63 million residents of which 78 % were Jewish, 20 % Arab, and 2 % other. The average GDP per person was US $15,700 per annum. Income disparities are on the rise, between the upper income groups and the lower income groups of the population (see Swirsky, et al. 2004) such that in 2004 the upper income groups enjoyed 27.7 %of domestic income, compared to 2.4 % that the lower income groups received. The disparities reflect population sectors, such that, for example, an employee from the Arab sector earns on average 79 % of the income of the average Israeli wage, and a Jewish employee of European or North American origin earns 26 % above the countrywide average wage. The income of female employees is 83 % of the average male income per hour of work.

1.1.2 Strategic policy affecting water policy

Agricultural policy

Israeli government policy views agriculture as important for several reasons: agriculture plays a significant role in producing basic food staples, livelihoods for periphery communities, and plays a role in preserving open spaces and preserving the agricultural character of the country. In light of these factors, the government has committed itself to preserve 2 million dunam of non-irrigated agricultural land, and 2 million dunam of irrigated agricultural land as agricultural lands. To support these agricultural activities the Water Commissioner has established a quota of 530 MCM of fresh water with the addition of treated wastewater and floodwater as the main sources of water for agriculture.

Economic policy

On its founding Israel was oriented towards being a socialist state with significant state intervention in all aspects of the economy, including the water economy. Since the late 1970's, however, consecutive Israeli governments have been advancing a neo-liberal economic policy which includes strengthening the free market, minimizing regulation, encouraging private investment and competition, lowering taxes, supporting privatization of government assets and overall reducing government involvement in economic activity.

As per the water economy, on the one hand, the neo-liberal approach recognizes the need to raise water prices in line with real costs but also seeks to reduce government involvement exemplified in the private sector BOT (Build Own and Transfer) ownership of Israel's desalination plants currently being built. According to a 2004 government decision some 30 water and sewage corporations will be created which are to supply water and sewage services to citizens in most of Israel's local authorities. In the coming years the local authorities are supposed to transfer control of the municipal corporations to the hands of the private sector (Ministry of Finance 2005).

Strategic Plan for a Sustainable Israel

On May 14, 2003 the government of Israel decided to prepare a National Strategy for Sustainable Development (NSSD). The strategy, which is being drawn up according to UN guidelines for sustainable development, is now in the process of formulation. The Ministry of the Environment is coordinating the activity and the Knesset Committee for the Interior and the Environment has taken on the role of monitoring the process. A coalition of non-governmental organizations, which is shadowing the process regards the incorporation of the strategy's principles in the 2006 governmental budget as the test point for implementation of the strategy.

Though the Water Commission's office is part of the strategy process, the water strategies presented are an incorporation of existing strategies developed prior to the government decision to prepare a NSSD.

1.1.3 Water Policy

Israel's current declared water policy includes five central goals (2005 budget proposal for the state of Israel)

1. Increasing the supply of water sources, among other things by developing sewage treatment facilities, to purify water for various uses. Reclamation of wells which were disqualified, and desalination of brackish water and seawater.
2. Supply of water to different sectors while addressing the depletion of water sources below the "red lines", and preservation of natural water sources.
3. Regulating demand for water in order to make water consumption in the urban sector more efficient, among other things by allocating resources for water conservation projects and encouragement of water-saving practices in agriculture.

4. Treatment of all sewage in the State of Israel according to required standards and using them in irrigation or for municipal gardening as a substitute for fresh water.

5. Concentration of the many regulatory authorities in Israel's water economy under one national water authority, with the authorization and responsibility to manage all aspects of the water economy. On August 15, 2004 the government of Israel decided to establish an inter-ministerial team of director-generals who will recommend how the authority will be established, its modes of authorization, and its modes of operation.

1.1.4 Suitability to socio-economic and environmental conditions in Israel

For both socio economic and environmental reasons the agricultural sector needs to be reformed. The current subsidy to agriculture based on water helps the wealthier farming cooperatives that have invested in high return crops but does little to assist the poorer farmers who are already struggling to survive from agricultural incomes alone. Financial support should be given to farmers to reward those that are acting as stewards of the land and to assist them to diversify their incomes to other activities such as rural tourism. The allocation of over 500 MCM of fresh water for the agricultural sector should be allocated to meet the water rights of Israel's neighbours and released back to rivers and streams in order to rehabilitate natural habitats, as the basis of eco-tourism for the benefit of rural tourism development.

Strength and weakness

The year 2000 report on the Israel Water Economy by the Knesset State Control Committee determined that the deterioration in the state of the water economy resulted, among others, from the absence of a national policy. The Israeli Cabinet has not adopted a master plan for the water economy, and there hasn't been an overarching perspective of water issues in Israel.

The creation of a National Water Authority as currently being considered by the government would help in policy formulation and implementation of decisions made. But without sustainability being the mandate of a new Water Authority, then access to healthy water will remain at risk to the Israeli citizen. Current plans focus on supply side management, especially through desalination of seawater as the solution to Israel's water supply problems. Desalination of seawater is a high-energy consumer, dependent on fossil fuels for energy production. Not only are the CO2 emissions of concern, but also in the long term Israel is building its water economy on a finite non-renewable resource. As fossil fuel resources become scarcer the cost of desalinated water would be exorbitant even for the developed Israeli economy.

Limiting agricultural production to be dependent on highly treated wastewater and allocating significant and long term financing to support water conservation both in awareness and appropriate technologies is the sustainable policy required.

1.2 Evaluation of water sources

1.2.1 The basis of the water economy

Some 70 % of the rainfall in Israel returns to the atmosphere through direct evaporation, 5 % flows in rivers and waterbeds and 25 % percolates into the groundwater (Gvirtzman, 2002). The average level of rainfall is 7 BCM per year approximately. Most of this amount, some 5 MCM are lost yearly to evaporation and 0.2 % reach the sea directly. The total amount of rainfall which fills natural reservoirs is 1.8 MCM. These quantities include the Palestinian Territories, since from a hydrological perspective, it is a single territorial unit. The hydrological systems of Israel and her neighbors cannot be treated separately. Israel's water supply is based on pumping from shared groundwater reservoirs, from the trans boundary surface waters of the Jordan River basin and from natural springs. These reservoirs are renewable reservoirs that rely on the replenishment of 1.8 BCM.

The National Water System

The State of Israel created a national water system which takes advantage of the three largest water reservoirs: the Jordan River basin (Sea of Galilee), the Coastal aquifer, and the Western Mountain Aquifer. The national system has two functions: the first is conveying the water from its source to the consumers, and the second is to regulate water use between dry years through multi-year accumulation. The National Water Carrier that was built in 1964 connects the three reservoirs and is the backbone of the national water system, which supplies water to most of the country's inhabitants. The National Water Carrier connects the regional and local water systems and enables the conveyance of water between regions. This system conveys approximately 1.1-BCM fresh water yearly.

Table 1: Main fresh water sources

Source	Quantity of water use (average of MCM yearly)
Mountain Aquifer	600
Coastal Aquifer	250
Jordan River and the Sea of Galilee.	630
Other	165

1.2.2 Additional potential for the water economy

Israel has been active over the past decade in promoting two processes that will increase the potential of the water economy: treatment of effluents and desalination.

Effluent re-use

The need to dispose of hazards from sewage and the recognition of effluents as a potential water resource has led to the building of sewage treatment plants in most of Israel's towns and villages. The water resource potential of treated sewage is as high as 500 MCM per year. According to Israeli law, any municipality that produces a

large amount of sewage (above 10,000 residents) must have its sewage treated at a purification plant at levels of BOD 20, and TSS 30. A government decision from July 18, 2000 calls for the acceleration of a multi-year plan for treating sewage, and converting it to agricultural, industrial and urban uses, and replacing the use of fresh water by more than 150 MCM in the next four years. This decision is being implemented through private entrepreneurs. Entrepreneurs may receive grants for up to 40-60 % of their investment in a purification plant. Local authorities that convert their public gardening irrigation from fresh water to treated sewage water receive a one-time grant, based on the amount of water whose use was converted. The amount of sewage treated was 340 MCM in 2003, and by 2010 an additional 170 MCM are planned. All together 510 MCM of sewage water will be treated and reused by 2010.

Desalination of brackish water

In 2004 an agreement was signed between the MEKOROT Company and several water associations concerning the purchase of 6 MCM of desalinated brackish water. Five desalination plants are in the process of being built by the MEKOROT Company. All of this water will be connected to the national water system. The total amount of future desalinated brackish water is 60 MCM per year (10 MCM in Acre, 25 MCM in the Carmel coast, and 25 MCM in the Negev).

Desalination of sea water

A first desalination plant was built in Israel in 1965 for processing small quantities for the city of Eilat. It produced only 500 CM per day. Following a government decision from April 8, 2000 the volume of desalinated water in Israel will be 515 MCM. Seawater will be desalinated in Ashkelon, Palmahim, the Western Galilee, Hadera and Ashdod. The installations will be built by the private sector on public lands with the help of governmental grants, and with the government's commitment to purchase the amount of water that is desalinated, according to contract.

Table 2: Desalination plants at various stages of development

Name of Project	Status	Executor	Planned Production Capacity (MCM)[1]
Ashkelon desalination plant	Under construction. Will begin production in 2005.	Private BOT Method	100
Ashdod/Palmahim desalination plant	Under construction	Private BOT method	30
Ashdod desalination	In process of signing contract	MEKOROT	45
Hadera desalination plant	In process of public tender	Private BOT Method	100

[1] There exist different plans with different figures of both institutions mentioned.

Shafdan desalination plant	In the process of approval	Private BOT method	200
Desalination plant in Western Galilee	In process of approval	Private	30
Total			515 (300 planned by 2010)

A draft master plan for development of the water economy mentions a national balance for freshwater supply to the year 2010 (including desalination) of 2 BCM.[2] Total consumption is 1.7 BCM, and the remainder to be diverted to reservoir rehabilitation.

Polluted well reclamation

The plan for well reclamation entails the removal of minerals, nitrates, and other pollutants from the water pumped. The government provides a one-time grant for every cubic meter of water that was disqualified as drinking water, and which will be purified to the level of potable water.

Connecting private water producers to the national water grid

Connecting private water suppliers to the national grid will increase the reliability of supply, while making more efficient the use of the present production facilities, and saving investment in drilling new wells. The MEKOROT company will be required to purchase the water from private producers at a price which will be set by the Water Commissioner and the Finance Ministry.

1.2.3 Evaluation of water resources quality

The water pumped from two of the main water reservoirs, the Sea of Galilee, and the Mountain Aquifer, for the most part meet Israeli water standards. Israeli water quality standards, however, are lower then EU and North American standards, despite the fact that Israel is a developed economy. Large parts of the Coastal Aquifer no longer provide potable water even by Israeli standards, as a result of a continuous decline of the water quality due to pollution and increased salinity.

In general, over the past decades water quality has been on the decline in Israel. Among the reasons for the deterioration are: over-pumping, seepage of raw sewage, extensive use of fertilizers in agriculture, unchecked industrialization, and fuel leaks. The coastal aquifer has suffered from over-pumping for more than 40 years. This has resulted in the salinization of large parts of the aquifer. In addition the largest

[2] The figures on which the Water Commissioner based the master plan for planning the future water economy (for the year 2010) are: Population: 7.3 Million, Consumption per capita: 120 CM per year, Industrial demand 167 MCM, transfer of water to the Palestinian Authority and Jordan 115 MCM , allocation of water to nature – 50 MCM, basic supply of water for agricultural – 530 MCM , natural supply of fresh water 1500 MCM , supply of desalinated sea water – 400 MCM , supply of desalinated brackish water – 140 MCM

concentrations of Israel's population lives over the coastal aquifer, and various types of pollution, from industry, fuel and domestic wastewater pollute the groundwater.

The Mountain Aquifer, presently the best quality drinking water for both Israelis and Palestinians, is threatened from the flow of some 60 MCM of untreated sewage from Palestinian villages and cities and Israeli settlements (Tagar, Keinan and Bromberg, 2003). There is now evidence of anthropogenic pollution in both the Tulkarem and Hebron areas of the West Bank (Israel Hydrological Service, 2003). The level of salinity of the Sea of Galilee has declined as a result of the pumping of the saline springs at the bottom of the lake and discharge of the water to the southern Jordan River. Nevertheless sewage pollution, agricultural fertilizers and other anthropogenic sources continue to pollute the Sea of Galilee's watershed, and ultimately reach the lake.

1.2.4 Conflicts between users

Farmers and domestic consumers

The large gap between the price of water for domestic consumption and the price of water for agriculture (which are usually also the price farmers pay for drinking water) discriminates against the urban sector. In addition, the rise in the standard of living in Israel has caused a rise in water consumption in the domestic sector that has resulted in reducing the amount of fresh water available to the agricultural sector.

Sewage producers (local authorities) vs. consumers of treated wastewater

Cities that produce large quantities of wastewater generally transfer the gray water for irrigation purposes to the agricultural sector, and this creates conflict as who should bare the cost of wastewater treatment.

Nature and other users

In order to maximize the amount of fresh water available for agriculture, domestic and industrial purposes almost all water has been removed from natural streams and rivers. This has lead to conflict between nature authorities and naturalists on the one hand and mostly the agricultural sector who are the largest single user.

Strength and weakness

Though the policy of treated wastewater being made available for agriculture is a positive step, there are two major short falls. First, the level of treatment at 20/30 is such that its utilization still threatens to pollute groundwater. The Ministry of Environment has recommended high treatment levels of 10/10 to better protect groundwater but the Finance Ministry has to date refused to accept the recommendation due to the increased costs involved. Desalination of wastewater, however, would be the better alternative so that all salts would be removed and the use of effluent could be then unrestricted.

Second, the government policy towards agriculture still identifies over 500 MCM of fresh water to that sector. Together with demand side management through water conservation and support for appropriate technologies (water harvesting, water saving devices etc.) the saving of fresh water from agriculture must be used to increase water

supply for the Palestinians and to increase the present amount of only 50 MCM identified for nature.

Enforcement of the Water Law is a basis for the existence of an adequate water economy. The low level of enforcement on issues of overexploitation, overuse and particularly pollution of water resources seriously harms water resources.

1.3 Analysis of demand and supply of water

Until the 1990s the agricultural sector consumed the vast majority of Israel's water. Some 70 % of the water was used for agriculture. Population growth, rise in standards of living, and lack of attention to water conservation in the domestic sector, has led to significant increases in water consumption for the domestic sector over recent decades.

1.3.1 Water over the past decades

The water economy in the 1950-60s

Principal developments: Accelerated development that involved over pumping in the coastal aquifer that ultimately caused the deterioration of the aquifer. Construction of the National Water Carrier – the backbone of the national water grid.

The water economy in the 1970-80s

Conveyance of water between the large reservoirs begins, development of Greater Tel-Aviv Metropolitan area sewage system (Shafdan) begins, and first use of recycled grey water in agriculture. The Shafdan sewage system provides 140-150 MCM per year of wastewater at a tertiary level of treatment. This is the major breakthrough toward sewage treatment and the use of grey water in agriculture.

The water economy in the 1990s

The beginning of the 1990s were rainy years which gave an impetus to the development of drainage systems for floodwater. In the middle of the 1990s there was a succession of drought years that caused a crisis. The crisis endangered even the drinking water supply, which ultimately led to the decision to build large desalination plants.

The water economy after 2000

The age of desalination is poised to change the water economy dramatically. Privatisation of the water economy advances.

The following table describes the recent water consumption in the different sectors, for all types of water.

Table 3: Water consumption per sector (MCM)

Year	Domestic Consumption	Agricultural Consumption	Industrial Consumption	Total
1986	423	1125	104	1652
1990	481	1162	106	1749
1995	588	1274	119	1981
2000	794	1113	125	2032
2003	698	1045	116	1859

Water consumption in the agricultural sector has decreased slightly, however consumption of fresh water in this sector has dropped considerably since 1993: 846 MCM in 1993 compared to 562 MCM in 2003.

As part of Israel's peace treaty with Jordan, and the Oslo agreements with the Palestinians, the MEKOROT water company supplies to Jordan and to the Palestinian Authority (PA) fresh water. In 2003, according to figures released by the Water Commissioner's office 55 MCM were transferred to Jordan, and 41 MCM to the PA.

Table 4: Agricultural Sector Consumption from 1998, planned consumption until 2010

(Israeli Water Commission, 2005)

		1998	2002	2003	2004	2005	2006	2007	2008	2009	2010
National total	Total agriculture	1,266	1,007	1,023	1,029	1,056	1,092	1,102	1,103	1,113	1,122
	Fresh water	860	582	577	544	541	538	535	533	531	530
	Effluents	276	295	316	356	385	434	453	461	479	496
	Brackish water	130	130	130	130	130	120	114	108	102	96
Areas served by national system	Total agriculture	1,073	809	825	831	858	900	916	923	939	955
	Fresh water	774	500	500	470	470	470	470	470	470	470
	Effluents	269	279	296	332	358	404	420	427	443	459
	Brackish water	30	30	30	30	30	26	26	26	26	26
Areas outside national system	Total agriculture	193	198	198	198	198	192	186	180	174	166
	Fresh water	86	82	77	74	71	68	65	63	61	60
	Effluents	7	16	21	24	27	30	32	34	36	36
	Brackish water	100	100	100	100	100	94	88	82	76	70

1.3.2 Future perspectives on demand and supply

The future perspective as foreseen by the Water Commissioner is one of business as usual. Desalinated seawater is not seen as a limited necessary investment to supplement supply in the case of drought years but as a permanent addition to growing demand in the domestic and industrial sectors of the water economy. Water savings from demand management are not even identified and rates of fresh water allocated to agriculture are maintained.

Figure 1: Forecasts of fresh water supply to various sectors until 2010 (Israeli Water Commission, 2005)

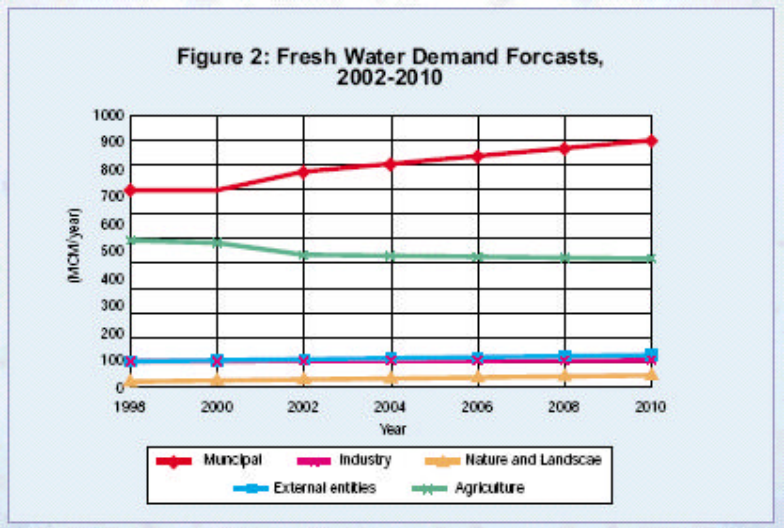


Table 5: Summary of supply and demand in Israel (Israeli Water Commission, 2005)

WATER SOURCES - MCM								WATER CONSUMPTION - MCM													
Year	Israel Population (million)	Fresh	Reclaimed	Desali-nation	Brackish water	Required supplement	TOTAL Utilized Supply	Domestic	Industry				Agriculture				PA	Jordan	Storage Capacity Restoration	Nature and Landscape	TOTAL Consumption
									Fresh	Effluents	Brackish water	TOTAL	Fresh	Effluents	Brackish water	TOTAL					
1999	6,219	1,467	278	0	166	170	1,915	696	89	0	37	126	759	278			58	35	0	0	1,915
2002	6,498	1,467	298	0	166	35	1,966	704	93	0	36	129	582	298	130	1,010	62	35	0	26	1,966
2005	6,789	1,467	403	355	166	26	2,417	784	103	0	37	140	530	403	129	1,062	70	35	300	26	2,417
2010	7,300	1,467	509	500	140	-75	2,541	886	110	13	44	167	530	496	96	1,122	81	35	200	50	2,541

1.3.3 Water prices

During the first 50 years of Israel's existence, water prices were based on the real costs of the water supplier and on price regulations according to the Water Law. Two failings of the system resulted. First, the shadow price of water was not taken into account in pricing. Second, water associations that provided water from surface water sources paid especially low prices that encouraged unchecked consumption.

Ever since the water crisis of the 1990's, and the establishment of the parliamentary commission of inquiry on the water economy, water prices were raised for all sectors. As part of the plan for revitalizing the water economy, it was decided in 2000 to raise water prices in order to encourage conservation and efficient use of water. Thereafter, water prices for domestic consumption rose by 0.5 NIS (11 US cents) per CM. This price hike did not lead to water conservation however (IUED, 2004) because the price raising policy actually hurt the public that did conserve water – the poor population. In the Economic Arrangements Law for 2001 it was proposed to raise prices for domestic consumption again, by NIS 0.23 (5 US cents) for every CM, uniformly for all domestic consumers, and not differentially in a manner that might have hurt poor consumers less. As a result the price of water for the thrifty consumer or poor

population were raised by 29 %, while prices for consumers who owned swimming pools rose by only 13 % during those same five years.

Guaranteeing minimum water supply at affordable prices

Though 99% of Israeli residents receive flowing freshwater into their homes, the issue of pricing and water quality remain of high concern. There is no allocation of water at affordable prices for a basic quantity for drinking, cooking and sanitation; and the quality of water supplied to homes does not always conform to even Israeli drinking water standards. The better off Israeli population has turned to purchasing water purification systems or buying bottled water for drinking and cooking.

Populations that do not receive flowing water to their homes regularly include: Bedouins in the unrecognized villages in the Negev; and residents of poor local authorities, the water supply of which is cut off by the water company MEKOROT in cases where the municipality fails to pay its water debt to the company. This happens rarely, but should be prohibited by law.

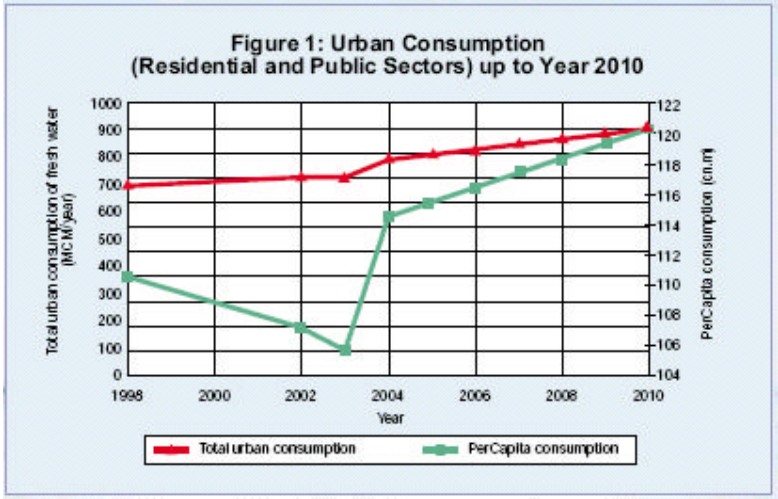
Conservation

At the national level there has been a lack of attention to water conservation as an alternative source of especially cheap water, as compared to the price of desalination. Installation of water-saving devices began only a few years ago in incomprehensive manner, and campaigns for water preservation have focused on the short term and therefore not been effective. In gardening conservation could bring about more than 50 % saving in consumption of water, which is estimated today at 180 CMMCM per year. The development of installations for the local treatment and recycling of gray/black water should be encouraged, and standards should be set for such installations. Recycling of gray water for flushing toilet and watering gardens could bring about a 40 % conservation of water consumption. Toilet flushing is currently estimated to constitute 40 % of domestic consumption. In addition, present techniques of home construction prevent percolation of rainwater into the ground, harming the recharge of the water table.

Urban and domestic water consumption

The disparities in consumption per capita are high and are parallel to the socio-economic indicators, such that in Savion, one of Israel's richest communities, average per capita consumption is 383 CM per year, whereas in Tel Sheva, a Bedouin community, the average per capita consumption is 29.1 CM per year.

Figure 2: Unsustainable Urban Consumption – a plan for water consumption of 120 CM per year (Israeli Water Commission, 2005)



Nature's right to water

Nature's right to water relates to supporting diverse natural ecosystems. The Israel Nature and National Parks Authority has done much to promote legislation in this area, and the Water Commissioner has recently recognized Nature's right to water and has allocated 50 MCM for the whole country. This amount is however too low, considering that 25-30% of original water flows are generally considered to be minimum flows to maintain stream and riverbed ecosystems. The Water Law that prohibits the diminishing of natural water sources needs to be enforced, as well as the upgrading of pest extermination standards around natural water sources and reservoirs which prohibit the use of harmful pesticides. As in other water-related topics the area of nature's right to water is lacking vigorous enforcement against industrial and commercial bodies, or agricultural and service bodies, who dump waste and effluents into river beds and water reservoirs.

1.4 Regulatory framework of water law

Though the legal framework regulating the water economy includes a large number of laws pertaining to all the areas mentioned above, implementation of the letter and spirit of the law is not always manifested.

1.4.1 Laws pertaining to the water economy

The Israeli Water Law

The Israeli water law outlines the principles according to which all water issues in the state are to be arranged. The law states that the water sources are owned by the public, are controlled by the state, and are intended for the use of its inhabitants and for the development of the country. The law states explicitly that every person has a right to receive water for his or her needs. The law also deals with the need to protect water sources and prevent pollution. The law states that pollution of water is a criminal

offence. The law places responsibility on the Water Commissioner to oversee production, consumption and supply of water.

The Public Health Ordinance

The Public Health Ordinance of 1940 describes potable water as "water intended for drinking, cooking, and the food industry – water designated to become a food ingredient or which has contact, or may come into contact with one of the materials present in food." The Public Health Ordinance of 1974 defines the required sanitation level for drinking water.

Prevention of Water Pollution

The prohibition against pollution of water is very general and inclusive. The law states that a person must avoid any action that involves polluting water or that might cause water pollution and that it is forbidden to dump or throw any material into a water source. The Minister of Environment is permitted to formulate regulations to prohibit water pollution and to protect water sources from pollution. The Water Commissioner has administrative authority to issue warrants against water polluters in order to stop the pollution. The penalty for polluting water is one year's imprisonment or a fine of up to NIS 268,000, ($61,327) and if the offence is a repeated one, imprisonment for 7 days and an additional fine of NIS 17,800 ($4,073) for each day the polluting activity continues. There is personal liability placed on managers and heads of municipal authorities. If there is a suspicion that a water pollution offence has been committed, the court is permitted – even before an indictment – to issue a temporary injunction against whoever is suspected of having caused the pollution, in order to prevent, stop, or reduce the water pollution. In cases were a person is convicted of an offence of water pollution, the court is permitted, in addition to any penalty, to oblige him or her to take the necessary steps to restore the previous state of affairs, and to pay for all the expenses incurred in cleaning the pollution and anything that was polluted as result of the offence.

The Local Authority Law (Sewage) from 1962 states that a local authority has the right – and according to the demands of the Minister of Interior – is required to install a sewage system and carry out works in building and installations in order to install the system. A sewage systems that was installed by the local authority is the property of the local authority. The local authority has the right to purchase the sewage in its jurisdiction or the rights to the sewage. A local authority is required to maintain its sewage system in proper working order, to the satisfaction of the health authority. A local authority has the right to permit the owner of property outside its jurisdiction to connect to its sewage system. A local authority has the right to sell its sewage in accordance to the instructions and conditions that were set down in the Water Law, as long as the health authority is satisfied that the sewage will not become a public hazard. A local authority has the authority to oblige a property owner to install the sewers, according to the proportion that is determined in the bylaws. A local authority is permitted, in its bylaws to impose a sewage toll for the maintenance of the sewer system. The head of the local authority is permitted to require from a property owner to install a private sewer or that it be repaired or connected to the public sewer, and is permitted to carry out these works itself and collect the payment from the property owner, in the event of non-compliance with the requirement. Anyone authorized by

the local authority is permitted to enter any property to inspect the implementation of the law in construction.

Water and Sewage Corporation Law

This new law creates a legal framework for the development of a two-phased process which begins with the removal of the water department of the local authority and transferring it to a municipal water and sewage corporation, which in the second phase can be sold into private hands. This private body will then control the municipal water system, sell water to consumers, collect payment, and collect and treat sewage. The law permits the local authorities to transfer ownership over its water and sewage facilities. The law may cause problems such as: the individual's right to water, water ownership, distributional justice, conservation, and the ability of the public to influence the decision making process.

Other water related laws

Nature's Right to Water: A year ago a law was passed which defines nature's right to water. Currently the law is not yet being implemented but preparations for implementation are underway.

Laws providing for public participation in policy making and enforcement: The policy of the Ministry of Environment is to encourage the public to take an active part in the improvement of environmental quality. One of the tools for accomplishing this goal is public enforcement. To this end, the Ministry took pains to see that the Water Law, in the section relating to water pollution, contains an instruction authorizing any person, and certain public bodies, who were directly damaged by a water pollution offence, to file suit against polluters in a criminal complaint (section 20:25 of the Water Law.) In addition, the Law for Prevention of Hazards (Civil Claims) allows the public to file civil lawsuits against polluters for creating environmental hazards, including pollution of water sources. Another legal tool at the public's disposal in the preparation of lawsuits against water polluters is the Freedom of Information Law. This law allows citizens to obtain information required for enforcement from the authorities in charge of preventing pollution.

Strengths and weaknesses

Though Israel has a highly developed legal system, the proliferation of laws under different jurisdictions, prevents holistic planning and impedes enforcement. (See institutional setting below).

The lack of appropriate national water policy

The Knesset's State Control Committee decided in 2000 that the deterioration of Israel's water economy was the result of the following: Lack of a national water policy – no master plan for water has been adopted by the Israeli government, and there has been no overarching approach to Israel's water issues. Based on the invitation of the Water Commission, master plans have been drawn up on several occasions. The most recent plan prepared was the master plan for the water economy for the years 2002-2021, published in June 2002. But the Israeli government never approved these plans. Only the sections relating to desalination were approved highlighting the piecemeal decision making approach-taking place.

The lack of one central authority and Enforcement

Authority is dispersed in such a manner that the Water Commissioner is responsible for most aspects of water management but lacks the power to enforce his policies. The tasks that the Water Commissioner is entrusted with by law are many, but the tools given to the Water Commissioner to enforce the Water Law and other regulations are few. In recent years the Water Commissioner has failed to advance several key policies. In 2001 he sought to cut back by 15 % the consumption of water in the local authorities. The Water Commissioner's plan to install water measuring devices in several pumping stations in the Jordan River; or, factories that are built within the buffer areas surrounding water production installations and wells was prevented. There are lawsuits concerning deviation from consumption quotas, but no authority to impose fines, and no criminal prosecution of offenders.

Depletion of water reservoirs

The government had allowed pumping beyond renewable levels so that the water tables have dropped below the red lines in three of its largest reservoirs (the Mountain Aquifer, the Sea of Galilee and Coastal aquifer).

Water Pollution

The quality of Israel's drinking water is constantly declining and may reach a point that endangers the supply of water of an adequate quality to the population.

Bill for Prevention of Water Cut-Offs

The Israel Union for Environmental Defence (IUED) has prepared a bill that proposes to prohibit the cut-off of water from the domestic sector. This proposal is in the process of legislation and has been put on the Knesset's table for the first reading.

1.5 Institutional settings and process

Israel has many governmental organizations that deal with water. Any process relating to water allocation or protection of water quality may relate to one or more of the following institutions:

1.5.1 The Government of Israel

The government of Israel sitting as the Cabinet is responsible for the appointment of the Water Commissioner, the approval of the Master Plan for the Water Economy, and leading strategic plans with decisive implications for the water economy, and approving water prices.

1.5.2 The Water Commissioner's Office

The Water Commissioner's Office is part of the Ministry of National Infrastructures, and plays a central role in formulation of Israel's water policy. The Water Commissioner is responsible for putting the Water Law, and other laws, into practice, and among its areas of authority are: protection of the water sources which belong to the state by law, prevention of water pollution, establishment of norms and rules for using water, authorizing corporations to establish and operate national and regional

water systems, licensing of pumping facilities, and pumping groundwater and rainfall and run-off water sources, budgeting and allocation of water for the different water consumers.

1.5.3 The Ministry of Finance

The Ministry of Finance plays a central role in the water economy: approval of budgets for various projects, monitoring of government expenditures, including responsibility for large tenders which issue directory from the Finance Ministry, such as tenders for the building of desalination plants.

1.5.4 The Ministry of Agriculture

The Ministry of Agriculture determines Israel's agricultural policy, and mediates between the Water Commissioner and the farmers concerning water allocations. The ministry represents the agricultural sector. Until a few years ago communities that were still defined as agricultural, despite the fact that the residents no longer farmed for their livelihood, continued to receive large water allocations and paid the lower agricultural water prices for most of the water they used.

1.5.5 The Ministry of Environment

The Ministry of Environment is responsible for the protection of natural resources and for preventing pollution of these resources, including water pollution and sewage treatment. The ministry deals with monitoring rivers, and enforcing water pollutions laws. Operational authority belongs to the Water Commissioner.

1.5.6 The Ministry of Health

The Ministry of Health is responsible for the quality of drinking water supplied to domestic consumers. The ministry underwrites standards for the quality of the provided water, is responsible for taking samples and testing water quality, and is authorized to disqualify water sources as a source of drinking water. In addition the ministry authorizes the Water Commissioner to allow irrigation with treated wastewater near residential areas or water sources, and is responsible for setting the sanitation criteria for water production, such as protective radiuses around wells, where all polluting activity is prohibited.

1.5.7 The Local Authorities' Water administration

This is an arm of the Ministry of the Interior which deals with development and restoration of water systems within the local authorities (Ministry of Interior). The administration's main areas of activity are the supply of water to every resident, guaranteeing water quality and reliability of the water supply, and conservation of water at the public and private level. The main activities carried out by the administration: initiating and monitoring the preparation of master plans for water within the local authority, initiating and preparing operational plans, and coordination between the local authorities and the various bodies that deal with water in the country (The Water Commissioner, the MEKOROT Company, etc.).

1.5.8 The Administration of Sewage Infrastructures

This body is responsible for developing sewage infrastructure in Israel, and acts as a government-appointed supporting body for the construction of various sewage treatment facilities. It monitors activities and allocates grants and loans according to various criteria.

1.5.9 The Foreign Ministry

The Foreign Ministry plays a role in issues that concern Israel's relations with its neighbours. The Foreign Ministry is partner to all the bilateral and multilateral activity regarding water.

1.5.10 The Joint Israeli Palestinian Water Committee

A committee created according to the Oslo Agreements, which includes representatives of equal rank and number from Israel and the Palestinian Authority. The committee's functions are to examine and approve the erection of water pumping facilities, water supply facilities, and water treatment installations in all areas of the Palestinian Authority. In reality Israel has veto power in this committee to approve or disallow all new water projects in the Palestinian Territories.

1.5.11 The MEKOROT Water Company

The MEKOROT Water Company deals with the production and supply of water to various consumers and supplies more than 60 % of Israel's water needs. The company is a national water authority according to the Water Law and executes most of the development budget pertaining to water works. The Company is completely government owned. In 2004 a process of restructuring was begun, whereby MEKOROT will be split up into three companies. The purpose of the division is to separate between the water supply activities, which are a natural monopoly, and between activity which is ostensibly competitive, such as the construction of purification plants.

1.5.12 Water Associations

Associations of groups of consumers, usually from the agricultural sector. On the operational level, the associations build pumping installations, buy water from the MEKOROT company and sees that water is supplied to its members. The associations are represented in all the institutions – working face to face with the Water Commissioner to arrange water allocations for its members, receiving grants for building water installations, and functioning as a pressure group in the matter of its members' water rights, including the regionally varying water prices (in special cases).

1.5.13 The Water Council

The Water Council is a statutory body that was created to advise the Minister of Infrastructure about water issues, and has a structural majority which supports the agricultural sector's position. The Water Commissioner coordinates the activity of the Water Council, which means that the Water Council is not really the final authority in its area of activity. Within the framework of the Law for Representation of

Environmental Groups it was recently decided that environmental groups will have a representative on the Water Council.

1.5.14 Local Authorities

The local authority is in charge of supplying water to its residents. The local authority either pumps the water itself or buys it from suppliers and sells water to its residents (according to a license by the Water Commission). The local authority is responsible for the entire water supply system and also for the collection of sewage and its treatment. Over the past few years a process of incorporation of the municipal water departments has been underway and responsibility for water issues has been transferred away from the local authority.

1.5.15 Water Corporations

Water Corporations are bodies that are responsible for providing water to the residents of local authorities according to the Law of Water and Sewage Corporations. The corporations are taking over the local authorities responsibilities for managing and supplying water within the local authority. At the end of the process there will be 30 water corporations that will manage all of the water issues in the local authorities. Should the Finance Ministry achieve its objectives, after the process of incorporation, the corporations will be privatized, and the entire realm of water management within the local authorities will be in the hands of the private sector.

1.5.16 The Authority for Public Services (Water and Sewage)

The authority was created in 2003 as a governmental monitoring authority whose goal was to ensure that the provision of water and sewage services by the water corporations that are to be created within the local authorities will offer a suitable level of service, quality, and reliability, at reasonable prices, and with the intention of conserving water and protecting water sources, public health and environmental quality.

1.5.17 Drainage Authorities

Drainage authorities are responsible for the maintenance, planning, restoration and regulation of rivers in its jurisdiction. The authorities' treatment of the rivers is aimed at preventing flooding and flood damage, according to the Drainage Declaration of 1996.

1.5.18 Tahal and other private companies

Tahal (Water Planning Company for Israel) was a government corporation from its inception in 1952 until it was privatized in 1996. It dealt with planning the national water economy and was responsible for drawing up a master plan for the water economy. Ever since it was privatized, Tahal continues – together with other planning companies – to carry out planning works at the level of master plans and at the operational level, on behalf of the Water Commissioner.

1.6 Principal stakeholders, their roles, interests and conflicts

Israel's water economy is characterized by conflicts of interest between different stakeholders:

The Ministry of Finance vs. the Agricultural Lobby

The Ministry of Finance is working toward cancelling the water allocations for agriculture and the subsidizing of agriculture through water prices. The Ministry is pushing toward a management policy based on purely economic considerations (Parliamentary Commission of Inquiry, 2003). The Agricultural Lobby takes a value-driven view of agriculture, and fears that no new forms of subsidy for agriculture will emerge, and therefore is unwilling to give up the subsidy through water pricing. In addition, the water allocation to agriculture gives farmers control over state assets, which they are not prepared to give up.

The Finance Ministry vs. the Environment Ministry and environmental NGOs

The Finance Ministry is over interested in the growth of GDP, and therefore activities that do not conform to this goal, are not priority considerations. Therefore, allocation of water to nature, as long as there is no proof of its contribution to the GDP, has no value. Environmental groups oppose this view, and see conservation of nature as having value for the residents of Israel, tourism development and future generations, and do not accept the purely economic view, that everything is measurable in monetary terms. It should be noted, however, that increasingly environmentalists are monetarizing environmental costs as part of environmental policy making.

Health Ministry vs. the Water Commissioner

The Water Commissioner is interested in the development of wastewater treatment installations and widespread use of treated wastewater. For the sake of protecting wells and because of the existence of various types of ground contamination, the Health Ministry sets standards that the Water Commissioners considers to be too high.

The MEKOROT Water Company vs. the Water Associations

MEKOROT and the water associations compete over provision of water to various consumers. A local water association reduces the number of MEKOROT's clients.

The Water Commissioner vs. the Ministry of Agriculture

The goal of the Water Commissioner is to protect water sources, and the Ministry of Agriculture works to supply water, with less of an emphasis on protecting water sources. The cutbacks in water allocations that are mandated during dry years delivers a shocking blow to the agricultural sector, especially because during dry years there is a need for more irrigation. The Water Commissioner is also interested in cancelling water subsidies, and the Ministry of Agriculture or the farmer's lobby have objected.

The private sector vs. the government of Israel

The companies who deal with desalination of water have asked the Water Commissioner to make a commitment to purchase larger amounts of water and at

higher prices, as an economic safety net. Even if the state doesn't need the water, it will buy it anyway.

The Public Services Authority (Water and Sewage) vs. the water and sewage corporations

The role of the authority is to formulate criteria and prices for water and sewage services provided by the water corporations. In addition, its role is to supervise and monitor the activity of the corporations as far as services to the public are concerned. As a supervisory authority, there is a structured conflict between the Public Services Authority and the bodies it supervises, who are interested in as little supervision as possible, and want approval for prices to be as high as possible, with standards as low as possible. The Authority is still a fledgling body, and the number of water corporations that have been privatized is small, and therefore it is difficult to assess the degree of conflict.

Local Authorities vs. the government of Israel

Self-production is 50 % cheaper than buying from the national water system. Because of the condition of the Coastal Aquifer the Water Commissioner is drawing up a plan for rehabilitation of the aquifer. As a consequence of this plan it will be necessary to reduce pumping which is mostly carried out by the local authorities that are then obliged to purchase water from the MEKOROT Company.

The Water Commissioner vs. the Ministry of Environment

There is a struggle over authority between the Water Commissioner and the Environment Ministry, because there is an incompatibility between the bearers of authority, the areas of responsibility and management, especially on the subject of water quality.

2 Meeting the UN concept

The United Nations Committee on Economic, Cultural and Social Rights passed a decision in November 2002 in relation to a covenant on Economic, Cultural and Social Rights. This framework includes a number of guiding principles in relation to the right to water. In Israel this concept is not know, neither by the public nor by decision makers.

Nevertheless the Basic Right to Water is incorporated into Israel's national water policy as reflected in the Water Law, which states that every person has a right to receive water for his or her basic needs. In fact, 99 % of the residents of Israel receive running water of a reasonable quality to their homes.

However, there are two sectors of the population who do not receive a regular supply of water. Some 75,000 Bedouin residents of the "unrecognized villages" who are not connected to the national water pipeline because the State of Israel does not recognize their right to settle on the site where they live. In addition, the national water company MEKOROT sometimes disconnects the drinking water for the entire municipality, in cases where the water debt of the local authority has not been paid to the company. All the residents have their water cut off even if some paid their private water debt in full.

2.1 Laws which implement the UN concept

Several laws relate to the principles that exist in the UN Covenant on Economic, Social and Cultural Rights. The Water Law states that water sources are a public asset, under state control, and intended for the use of its residents and development of the land. The law explicitly states that every person is entitled to receive water for his needs. The law also deals with the need to protect water sources and prevent their pollution, and polluting water is defined as a criminal offence. The Public Health Ordinance of 1940 describes potable water as "water fit for occasional drinking, water intended for drinking, cooking, and the food industry – water designated to become a food ingredients or which has contact, or may come into contact with one of the materials which is in food." The Public Health regulation of 1974 defines the proper sanitation level for drinking water.

Strength and weaknesses

The central weakness regarding drinking water to citizens of Israel is the supply of water to the unrecognized Bedouin communities. Part of the Bedouin community, which resides in 46 unrecognized villages in the Negev is denied the basic right to water because the State of Israel does not recognize the right of these citizens to live where they are living, and hopes to relocate them to another spot. More than 75,000 residents do not receive a water allocation, and the availability of water is low. In order to connect to the pipeline the residents of the unrecognized villages must receive a permit to connect from the MEKOROT Company. The Israel Land Administration (ILA) is supposed to recommend to the Water Commissioner whether or not to approve a request to connect, however in effect, without the permission of the ILA the Water Commissioner does not approve water connections for consumers.

In a High Court decision from February 2003 the right of the villagers to water was recognized. In response to the High Court ruling more than 10 requests to connect to running water were submitted from various villages, but not one request has yet been approved. Even after the connection the villagers will have to pay for the pipes by themselves, which may result in private connections that will not serve the entire community, causing internal disparities and inequity.

Physical access

The Water Law entitles all to the basic right of access to water. For some 99 % of Israel's population good physical access exists, i.e. homes are connected to the municipal or national supply grid. There are two essential supply problems; the connection of the unrecognized Bedouin villages to the national grid, and the use of water cut offs to communities that have not paid their water debts to the national water company –MEKOROT.

Non-discrimination

There is structural discrimination built in to the entire system of water allocations for agriculture in Israel. The system is based on a historical water allocation that was in practice in 1960. The water allocation system changes every year based on government decisions and the policies of the Water Commissioner and of the Ministry of Agriculture, but the allocations are still based on an historical division. The result is a discriminatory system, where landowners receive broad access to water, and the discrimination that is built into the land allocation system automatically expands to discrimination in terms of water allocation. It is the Arab Israeli agricultural sector that is for the most part discriminated against through this practice.

Access to information

There are several mechanisms that oblige the authorities to bring information to the public. The requirement to report water quality in the local authorities, the Freedom of Information Law which requires authorities to reveal information. The Municipalities Ordinance (clause 238b) mandates reports on the quality of water to be provided to the public. On the other hand, obtaining information pertaining to national water policies from the Water Commissioner's office is very difficult. The Water Commission does not even have a web-site, and obtaining information from the Water Commissioner according to the Freedom of Information law is often a lengthy process. Sometimes it is necessary to petition the High Court of Justice to receive information from the Water Commissioner, as the Water Commissioner considers water data to have national security interest.

Water for Food and Hygiene

Within the borders of the State of Israel, in the unrecognized villages, some 75,000 residents do not receive running water in their homes. Though water is provided in mobile containers, unrecognised Bedouin communities are prevented from developing irrigated agriculture and at times the authorities destroy their rain fed agricultural produce. In addition, the cutting off of water from local authorities who do not pay their debts unduly punishes the population that has nothing to do with the conflict between the local authority and the MEKOROT company. Since the poor local

authorities in Israel include many villages and towns belonging to the Arab sector, this situation disproportionately harms the Arab population.

Water per household (Right for Adequate Housing)

99 % of residents of the State of Israel receive fresh water into their homes. This fact should be qualified by the case of the Bedouin population in the unrecognized villages, who do not have running water or sewage collection but are also subject to their homes being demolished.

Right to gain a living by work

Many farmers in Israel have lost their livelihood as a result of changes in water management policies. Support for the agricultural sector should not be based on subsidized water but on grants recognizing the stewardship role farmers can play in protecting the land.

Management of available sources

Current management of the water economy is not sustainable - no approved master plan exists, the major focus is placed on supply side management through the development of desalination plants, while the budget for water conservation is negligible. There is insufficient enforcement of regulations on re-inserting water in the ground water aquifers, on intensive agriculture, or use of treated wastewater. Because sustainability is not a factor in the Israeli water economy the human right to water in Israel cannot be guaranteed from the perspective of water supply (both availability and price) and water quality.

Returns of funds from water services

At the level of the local authorities, a process of privatization of municipal water corporations has begun with the goal of creating a self-contained water economy from the fiscal point of view. Ultimately private companies will control and manage the water economy throughout the urban sector. At the national level the national water company is going through a process of splintering and privatisation. NGOs and recently the Minister of Interior have objected to this approach.

2.2 Evaluation of UN criteria

Criterion	Current statistics and / or situation	Comments
Availability of sufficient and continuous water supply	99% central and continues water supply; 1% non connected comprises mainly population of non recognised and poor villages (see non-discrimination); Water cut-offs by MEKOROT in cases when the local authority has not paid its debt to the national company Natural water resources were constantly overused during the last decades Ongoing privatisation of municipal water supply and within the development of additional water resources, e.g. desalination of sea and brackish water, waste water treatment, water import	Connection of the remaining portion of population required regardless internal political resistance; Water resources use must be limited to the sustainable yield of the resource taking into account the equally shared water rights of Israel's Arab neighbours and right's of nature to water; Stringent demand management, incl. Approved Master plan, implementation of regulations for recharging water, intensive agriculture, re-use of treated waste water, Full Cost pricing etc. needs to be enforced in order to decrease water demand of all sectors, particularly the agricultural sector Comprehensive regulation and related institutions need to be enforced to guarantee an affordable basic water supply for all and appropriate sewage treatment Over dependence on desalinated sea water in the short term creates a false sense of water security and hampers ingenious development of water saving systems and other demand side management policies.
Water Quality	Water quality does not always meet Israeli standards for drinking water, which are less stringent then EU and US standards;	Water quality decreases due to over-pumping of aquifers, flow of raw sewage, intensive use of fertilizers in agriculture, unchecked

	Consistent decline in the quality of water in Israel during the last decades causing an increase of bottled water consumption to very high prices	industrialization, and fuel leaks; A more frequent and severe system of water quality standards and pollution prevention enforcement is needed.
Accessibility of water, water facilities and services		
Physical Access	Legally guarantied basic right of physical access to water (Israeli water law); 99% of population connected to central supply system with no restriction in water quantity; Water allocation to agricultural and industrial sectors per quota; Population groups which own large areas of land receive preferential water allocations	The agricultural sector receives a disproportionate water allocation relative to their contribution to the GDP; reallocation necessary
Economic access	Water prices for residential water use comparatively low, but no granted allocation of a basic amount of water enforced by law; Residential water prices are within the affordability level (Increasing Block Prices, less than 2% of average family income needs to be spend on water);	Water cut offs should be prohibited by law both against individuals and municipalities Over reliance on desalination will lead to portions of the public unable to pay for water bills unless a basic amount of water is subsidized at affordable prices.
Non-discrimination	Discrimination between users: no central water supply to population in unrecognised Bedouin villages and populations within poor (mainly Israeli-Arab) local authorities; Discrimination between uses: structural discrimination in water allocation between different sectors	Water supply to non recognized villages in an unconditional manner; Use of cross sector subsidies to supply poor local authorities; Reallocation of water to different sectors based on social needs and economic evaluation of the GDP contribution of each sector
Access to information	Comprehensive information allocation system enforced by	Complete implementation of the Freedom of Information

	law regarding water quantity in use and water quality, but information access of the public is in practise often limited, although local authorities are requested to publish once a year information on water uses	Law by the Water Commissioner including public participation in the development of national water policies. Necessary to create an appropriate information system (e.g. web side).
Water for food	99% of Israeli population receives sufficient water for food since a central water supply is in place with the exception of unrecognised villages, where water is only supplied by tankers	Connecting the unrecognised villages to the central supply system taking into account the special water needs of the Bedouins due to their culture
Water for environmental hygiene (the right to health)	Public health problems seriously increasing due to poverty, the lack of central water supply and facilities for proper hygiene, and deteriorating economic conditions in unrecognised villages	Connecting the unrecognised villages to the central supply system taking into account the special water needs of the Bedouins due to their culture
Domestic water supply (right to adequate housing)	Inadequate housing conditions increasing due to lack of services, infrastructure and building destruction in unrecognised villages	Connecting the unrecognised villages to the central supply system taking into account the special water needs of the Bedouins due to their culture
Water for guaranteeing a livelihood (the right to gain a living from work)	Increasing enforcement of population in unrecognised villages to change their traditional way of living and adapt to the modern Israeli life due to insufficient water supply; Due to changes in water allocation to agriculture and increasing environmental pollution due to the flow of raw sewage Population primarily in rural areas is forced to adapt to changes in their livelihood without any governmental support;	Connecting the unrecognised villages to the central supply system taking into account the special water needs of the Bedouins due to their culture; Governmental support for transition into water-conserving agricultural sector activities, as well as transition into low-input agriculture that will reduce pollution from agriculture; Treatment of all wastewater from sources within Israel, but also from sources within the territories, what necessitates increasing cooperation with the PNA

2.3 Areas of concern and opportunities

Following the World Summit for Sustainable Development that was held in Johannesburg, South Africa, which was attended by the Water Commissioner, Israel took upon itself to prepare a strategy for sustainable development. The preparation of the strategy involves public scrutiny, and has helped create a dialogue between environmental organizations and government ministries. This process presents the best opportunity to presently influence decision making related to the Israeli water economy. The following are areas of concern identified in this dialogue process with opportunities for improvement identified.

2.3.1 Privatization of the water economy

Israel's water economy is undergoing a process of privatization, which will move the centre of gravity to the private sector. The process is occurring on several levels: increasing the potential of water production through desalination, water production and quality, supply of water and waste treatment. The regulator (esp. the Water Commissioner) is not growing stronger, and no processes of public participation have been initiated which would enable public monitoring. The result is that residents of local authorities are not at all aware of the process of incorporation and privatization of the local authorities' water economy, and discover it only in retrospect. In addition the public at large is not aware of the implications of the privatization of the water economy, and of the danger of transferring the management of such a vital resource to private hands.

2.3.2 Protection of water quality

Israel has begun a process of promoting the shutting down of waste dumps, proposing a higher standard for wastewater (the Inbar committee), building and upgrading waste treatment facilities, conditioning expansion of residential areas on providing sewage solutions, implementing a reform in the dairy farm industry, advancing regulations for pollution prevention, a plan for well reclamation, and provision of loans and grants for well reclamation.

However, points of concern in these areas exist: The Finance Ministry approves loans for treatment facilities that treat water to a secondary level of quality. The Finance Ministry does not approve grants for the upgrading and building of wastewater treatment facilities. The standard for wastewater recommended by the Inbar Committee was not approved (the Finance and Interior Ministries objects). The standards recommended by the Inbar Committee will reduce but not prevent pollution and salinization of water sources. Minimal enforcement of regulations for preventing the pollution of water sources exist. The Ministry of Health and the Water Commissioner permit irrigation with wastewater of inferior quality. Very few waste dumps have been restored. A system of permits exists to fertilize fields with polluted sludge effluents.

Opportunities may arise from the following cases: Cooperation between the Water Commissioner and the Ministry of the Environment to prevent pollution and solve existing pollution problems. Enforcement and legal action against polluters of water sources. A standard for purified wastewater of drinking water quality, requiring desalination. Incentives for switching to organic agriculture and the use of integrated

pest management systems. Accelerating the pace of well reclamation and treatment of water sources. Compensation, assistance and enforcement in industry and services to encourage clean manufacturing and service processes.

2.3.3 Ensuring drinking water supply of a decent quality for all

This means the obligation of ensuring a regular supply of drinking water of decent quality to all residents, the prohibition of collective water cut-offs to a community, establishment of advanced regulations on water quality and enforcing them, so that tap water can be consumed without endangering public health of any sectors of the population (infants, pregnant mothers, the elderly, the infirm, etc.).

2.3.4 Proper and obligatory treatment of water sources before water is supplied

The requirement to install and replace pipes that meet regulations that do not leak toxic materials into the municipal water system and into homes. Proper and obligatory treatment of water supply systems (reservoirs, pipes, faucets, etc.) Adoption of efficient water purification techniques that do not produce toxic or carcinogenic by-products, avoidance of use of chlorine and ammonia compounds. Prohibition of additives in the water supply, whose purpose is not to secure water quality, including fluoride. Monitoring water quality at the source, and in the water grid at appropriate intervals. Requirement of complete transparency about water quality information provided to citizens, and the sending periodical reports to citizens.

The government acts according to these principles in the following activities: A new committee was established to examine water quality standards, and the requirement to report to the public on water quality exists in the Municipal Ordinance.

On the other hand the government's activity contradict these principles in other ways: the MEKOROT Company shuts down water supply to communities because of debt. The existing drinking water standards permit supplying of water of unacceptable quality. A current guideline exists for purification with chlorine and similar substances, which leave chlorine residues. The requirement to add fluoride to water involves the addition of a toxic fluoride acid into the drinking water. Monitoring is performed infrequently. The price paid by mineral water companies is dramatically lower than the price the domestic consumer pays for the same water or water of lesser quality. Governmental ministries use water filters or mineral water at public expense, rather then drinking tap water.

3 List of NGOs

Table 6: Important NGOs engaged in national water policy issues and their contact information

NGO	Mission	Contact Information
Friends of the Earth Middle East	Education about protection of water resources in the Middle East – lobbying work about water quality protection.	Website: www.foeme.org Address: Nahalat Binyamin 85, Tel-Aviv 66102 Israel Tel: 972-3-5605383 Fax: 972-3-5604693 Email: info@foeme.org
Israel Union for Environmental Defence	The organization uses legal, scientific, and research tool to defend Israel's natural resources, prevent pollution, and removal of hazards and threats to public health.	Website:www.yarok.org.il Address: Nahalat Binyamin 85, Tel Aviv 66102 Israel Tel: 972-3-5669939 Fax: 972-3-5669940 Email: miri@iued.org.il
Life and Environment	Umbrella Organization for environmental groups, with 70 member organizations. Provides assistance, runs national project and represents the environmental movement in Israel.	Website: www.sviva.net Address: David Hamelech 1, Tel Aviv Tel: 972-3-6965223 Fax: 972-3-6965224 Email: sviva@sviva.net
Physicians for Human Rights	Works for human rights in general and the right to health in particular in Israel and in the occupied territories.	Website: www.phr.org.il/phr Address: Golomb 52, Tel-Aviv 66171 Israel Tel: 972-3-6873718 Fax: 972-3-6873029 Email: mail@phr.org.il

Paths to Sustainability Coalition	A coalition of organizations devoted to promoting a sustainable policy for Israel.	Website: www.kayamut.org.il Address: Nahalat Binyamin 85, Tel-Aviv 66102 Tel:972-3-5608788 Fax: 972-3-5604693 Email: heschel@heschelcenter.org
The Society for the Protection of Nature in Israel	Largest and most veteran environmental organization in Israel, works for sustainable development, promotes nature and environment issues.	Website: www.teva.org.il Address: Hashfelah 4, Tel Aviv Tel: 972-3-638874 Email:lishcha@spni.org.il
Zalul	Organization devoted to prevention of pollution of the sea and rivers.	Website: www.zalul.org Address: Abba Hillel Silver 16, Ramat-Gan Tel: 972-3-5762414 Email: info@zalul.org.il
Israel-Palestine Center for Research and Information (IPCRI)	Israeli-Palestinian research center which treats social and environmental issues in the Palestinian authority.	Website: www.ipcri.org P.O. Box 9321 Jerusalem 91092 Tel: 972-2-6769460 Fax: 972-2-6768011 Email: ipcri@ipcri.org
B'Tselem	The Israeli Information Center for Human Rights in the Occupied Territories.	Website: www.btselem.org Address: Hataasiyah 8, 4th Floor, Jerusalem 93420 Tel: 972-2-6735599 Fax: 972-26749111 Email: mail@btselem.org

4 List of donor activities of governmental and non-governmental organizations

Israel is considered a developed country and is therefore not eligible for donations from the international aid agencies and the World Bank. Israel's water economy is managed entirely from the State budget, State loans, the local authorities, and the private sector.

5 References and further information

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Heinrich Böll Foundation, Office Tel Aviv

The Heinrich Böll Foundation (hbf) is a political non-profit organization, affiliated with the German Green Party (Buendnis 90/ Die Gruenen) and funded by the Federal Republic of Germany.

The Foundation's primary objective is to support political education both within Germany and abroad, thus promoting democratic involvement, socio-political activism, and cross-cultural understanding.

The foundation's office in Tel Aviv was opened in 1998. Since its establishment, the office has been committed to nurturing the special relationship that exists between Israel and Germany. It is the representative of the values of the German Green party within Israeli society. In addition to its commitment to Israeli-German dialogue, the office focuses on strengthening Israeli civil society in four central areas:

- Environmental Protection and Sustainable Development
- Women's Rights and Gender Democracy
- Minority Rights
- Participation and Peace

Partner organizations of the Tel Aviv office are Israeli NGOs working in these areas spread throughout Israel.

Home page: www.boell.org.il

Friends of the Earth Middle East

Friends of the Earth Middle East (FoEME), is a unique organization that brings together Jordanian, Palestinian, and Israeli environmentalists.

Our primary objective is the promotion of cooperative efforts to protect our shared environmental heritage. In so doing, we seek to advance both sustainable regional development and the creation of necessary conditions for lasting peace in our region.

FoEME has offices in Amman, Bethlehem, and Tel-Aviv. FoEME is a member of Friends of the Earth International, the largest grassroots environmental organization in the world.

Home page: www.foeme.org