

WATER IN THE ISRAELI-PALESTINIAN REGION

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Water in the basin of River Jordan and in the Israeli-Palestinian region

The whole area of the Middle East - including the hydrographic basin of River Jordan - is affected by severe water shortage whose causes mainly lie in the climate and environment conditions, but also in the political instability. This hinders the implementation of efficient infrastructure and management programs which would ensure the Palestinians the use of the water resource as appropriate to the development expectations of the country and the Israelis to safeguard the resource itself (which – as we know – the two peoples share in a very large part). This is an issue of both political and technical significance, so that the peace process may lead to the settlement of the water issue as well. In the following pages I will try to explain the reasons of this assertion, starting from the current status.



Arid landscape in the region of Negev

The water services in some areas of River Jordan basin and – in particular – in the West Bank and Gaza – are far from being efficient. Such lack of efficiency is also a severe holdup to the implementation of modern standards of development. Some urban settlements – even large ones – are supplied on a weekly frequency, for few hours a day, by tank truck or even bottles. The cause of such backwardness lies in the environment, but also in the anthropic impact. On a technical point of view, it is worth mentioning the prohibitive number of providers which manage the waterworks service and the plurality of subjects to whom the separate management of the different stages of the technological cycle of water is entrusted (18 of them in the sole Gaza Strip – 364 km²). These numerous, undersized bodies are affected by a consistent economic crisis and thus prevented from ensuring appropriate maintenance to the works and – even less – any technological and management modernization. This - added to the

lack of interest in the administration of the public affairs and to widespread delinquency - does not allow a management of the service as the standards of good practice would dictate it to be, i.e. efficient, effective and cheap to run at the same time.



Water procurement by cans in the Territories

This is not a judgment, rather, it is the alarm launched by the very providers of water in both the West Bank and Gaza (the *Palestinian Water Authority- PWA*¹) concerned with their facing an increasing demand of water in front of a progressive quality and quantity depletion. The PWA administrators denounce the factors which create difficulties in the management and – unlike what may be expected – the prevailing reasons seem not to be linked to the relationships with Israel. I am therefore reporting in full the communication of the Deputy Chairman of PWA-PA and Chairman of PWA in Gaza, Mr. R. El Sheikh during the international meeting organized in Turin (2007²):

Amongst the factors which are internal to the PA: 1- weak legislative system, inappropriate for the governance of water; 2- little attention paid by the Government in terms of proposals aimed at settling the water matter, which is instead considered a mere political issue related to Israel; 3- lack of water culture amongst the population; 4- lack of an integrated vision on the water issue by the different government institutions.

Amongst the external factors: 1- The Israeli raids in the Gaza territories divert resources from a earnest management program to deal - instead - with conditions of water emergency; 2- The international community of the donors is reluctant to keep the economic commitments and makes it impossible to proceed in a programmatic way with Governance actions; 3- the internal political conditions harm the external relationships, the social and economic scenario and – consequently – the economic terms of water management.

¹ The *Palestinian Water Authority* is the technical institution which governs water and reports – by Statute – directly to the PA Chairmanship. It is a programming body appointed to the governance of water and to the development of policies for the management of the resource, its planning and safeguard. Within the institutional framework of the Government, it plays the role of planning – i.e. Governance – institution between the political level (Council of Ministers and National Water Council), which develops the water policies, and the operational one, managed by the water national utility, the regional water utility, the local utilities and the consumers' associations.

² *The Geopolitics of Water*, ISPI-HYDROAID round table, Turin, March 26th 2007. The complete recording is available on www.hydroaid.it or www.radioradicale.it

Dr. El Sheikh concludes hoping that allocation planning terms will soon be identified for the water resource and underlines – in his correct, reasonable vision of engineer - that such terms can only be found in a joint vision (i.e. without any sterile claims) between the parties, and that only the definition of shared terms of governance and management may guarantee the use of water to both the Palestinian Authority and Israel.

Dr. El Sheikh, like other authoritative operators in the sector, proposes the search for the solution through region-wide cooperation. This topic shall be dealt with, but only after the reader is appropriately informed on the hydraulic and hydrologic status, so that he/she can appreciate its complexity.

It must be set forth – first of all – that Israel, the Palestinian Territories (West Bank) and Jordan are hydraulically related to the basin of River Jordan which involves – even though in a lower percentage – also Lebanon and Syria (20% in total). The basin of River Jordan has an overall surface of little more than 18,000 km²; the main river bed, from the springs of the Dead Sea, has a length of approx. 230 km, and the average yearly flow rate of the River with all its tributaries is approx. 1500 Mm³. To grasp the insufficiency of the system, it is worth illustrating an example of our country, namely River Po: drain area approx. 71,000 km²; length approx. 600 km; average yearly flow rate 50,000 Mm³. A further difference lies in the climate conditions and precipitations: besides Lebanon, which enjoys abundant precipitations (up to 1200 mm/year), the other areas of the River Jordan basin are classified as arid (Kliot, 1994) with total yearly precipitations varying from 600 to 900 mm/year in the internal areas; from 300 to 600 mm/year on the coasts, down to approx. 100 mm/year and even less in the South and in Negev (as a comparison, the precipitations in Northern Italy are around 1,100 mm/year, evaporation and perspiration are such that direct comparison would make no sense).

As a result of the peace agreements signed between Jordan and Israel in 1994 (which establish criteria for supply between the parties), the water resources allocated to the territories on the right-hand bank of River Jordan (i.e. Israel and Palestine) are essentially River Jordan itself and its main tributaries in the high portion of the basin (upstream Lake Kinneret), besides the two main groundwater systems, on the coast and in the mountains. As a whole, the resources available to both Israel and the West Bank are estimated around 2,292 Mm³/year. On the other hand, the demand is 2,367 Mm³/year (data of year 2000) and increasing because of the demographic growth and welfare requirements (demand expected in 2010, 2,586 Mm³/year; in 2040, 4,813 Mm³/year; data supplied by MFA of Israel). This gives an overall deficit of approx. 75 Mm³/year for the whole area (if we consider the overall basin of the River Jordan Region, the current deficit is approx. 589 Mm³/year).

The intrinsic difficulties connected to the severe conditions of water shortage within the region are consistently worsening due to the world's climate changes, with increasing phenomena of desertification. Even today, Israel, Palestine and Jordan are affected by a WSI (water stress index) lower than 500, which is the minimum limit of survival in countries located in arid areas with a modern level of development; the WSI in the other countries of the Middle East is > 1000. In general, the trend is not improving; rather, the conditions are becoming worse. For instance, the data on demographic projections in the sole Gaza strip show a 50% linear growth of the population in 10 years as related to the current number of inhabitants (approx. 1,500,000- PWA data, 2007) and of approx. 16% in Israel in the same period of time. These data, read in a view of sustainability of the system (considered as a whole, i.e. social, environmental, territorial, economic and so on) are alarming. In the Gaza Strip, for example, which is certainly one of the most critical areas on a hydrologic point of view, and where a 4% increase of consumption is recorded every year, the sustainability – i.e. the natural capacity of

recharging – of the water table is approximately 90 Mm³/year. In the modern standards – considering Italy as a reference example - such availability of water would be sufficient for the civil, industrial, irrigation and energy requirements of population of a lower order of magnitude than the current one in Gaza. Nowadays, the water table is already exploited beyond its capacity of renewal, since some 150 Mm³/year are extracted (approx. 30% of which allocated to human consumption and the remaining quantity for agricultural and industrial purposes). This quantity provides the population with a *rated* average availability of 60 m³/year per head, i.e. approximately 1/4 to 1/5 of the availability in Israel - including the non-conventional resources – and in some of our regions affected by drought, such as Liguria and Sicily; to approximately 1/45 *rated* average availability in Italy; 1/18 of the one in Lebanon and 1/28 of the Syrian one (data: World Res. Inst, 1992; World Res., 1992-93; UNDP, 1994; Human Dev, 1994). In the Gaza Strip (taken again as an example) the population is likely to double within few years and this might simply lead to cutting by half the availability of water per head. This obviously does not refer to the sole drinking water, but also the one allocated to social and economic purposes. Most likely, selecting an example such as the Gaza Strip might lead to objections since - in the strict sense – the Gaza Strip has an almost autonomous aquifer (whose exchange with the adjacent systems is rather limited). Nevertheless, as the water issue in Middle East represents one of the most delicate elements in the policies of cooperation between the peoples, where the need for a fair sharing of the resources is accompanied by ancestral claims on land, the case of the Gaza Strip cannot be excluded from the reorganization program of the whole water system in the region, together with those areas which are directly involved in the basin of river Jordan, namely: Israel, Jordan, West Bank, Lebanon and Syria. In it also true that significant actions of territory policy cannot be developed as appropriate without the support and involvement of other countries, such as Egypt and Turkey, in a large scale action. To face this emergency, part of the water supply in Gaza – i.e. approximately 5 Mm³/year - is carried out by the *Mekorot* (i.e. the Israeli water utility) by means of a national water carrier system and as provided for the Gaza and Jericho agreements (1994).

The aforementioned *Mekorot Water Supply co* is part of the Israeli water governance system, together with the *Water Commission* and *Water Council*. The water governance system in Israel is relatively simple on both the institutional and operational points of view: as stated in the *Water law* of 1959, water is a social good; the state is the guardian of the Country's water reserves, which then cannot belong to any private institution. The state exerts its power through the Ministry of Infrastructures, which entrusts the planning of the use of water resources to an extraordinary commissioner (i.e. the *Water Commissioner* and its staff, the *Water Commission -WC-*). The activities of the WC are monitored by another inter-ministry commission, the *Water Council*, to which the *Water Commission* is to report. The Israeli water utility is the *Mekorot*, which manages the national system for water procurement and supply. The system consists of the main line of the *Israel's national water carrier - developed* in 1964, which transfers water from Lake Kinneret to the desert of Negev - and of a secondary distribution system.

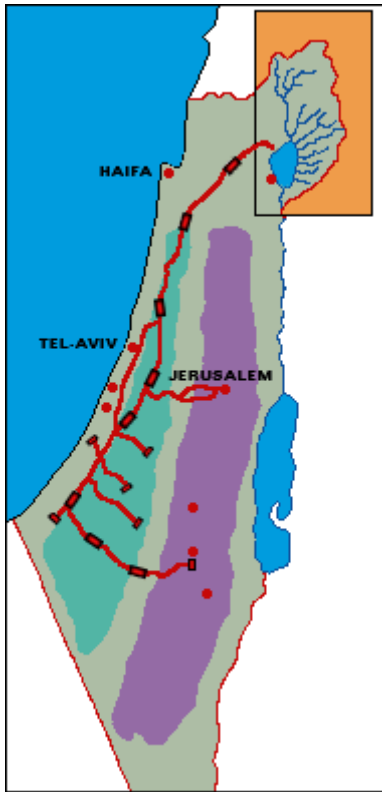


Figure: Outline of the National Water Carrier

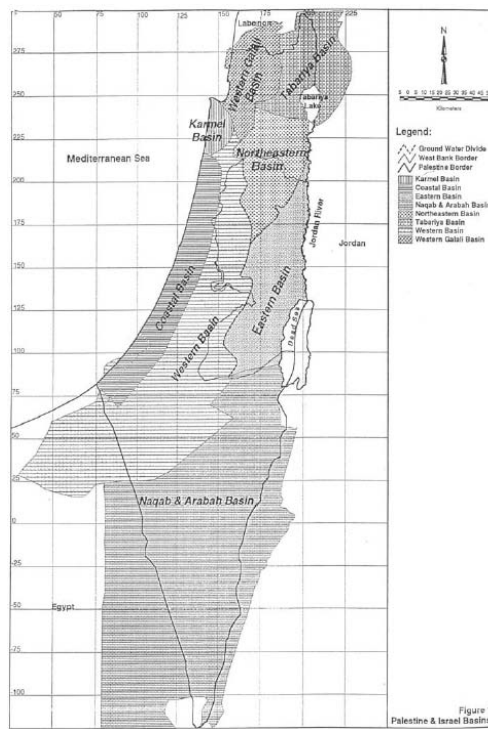


Figure Main Groundwater resources: (Coast Plain; Mountain Aquifer-Eastern, Northeastern, Western-, Kinneret)

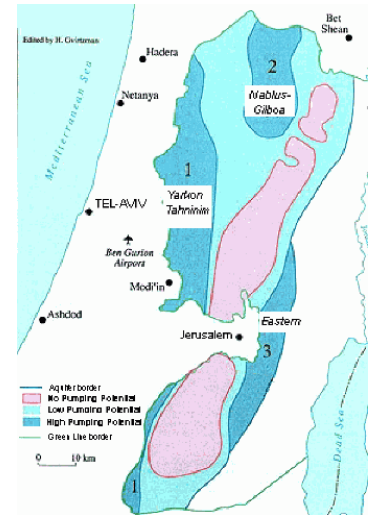


Figure: main groundwater resources in the West Bank

The main line has a maximum capacity of approx. 1 Mm³/day; from the initial 195 Mm³/year of the 1960's, peaks of some 500 Mm³/year are reached nowadays. The main supply reservoir is lake Kinneret, which laminates the water of river Jordan (160 Mm³/year, data of 2001). Other main sources of supply are the springs and extraction wells of the mountain aquifer: Yarqon - Taninim- (332 Mm³/year, data of 2001) and the wells of the coast plain, even though the latter shows poor quality (493 Mm³/year, data of 2001). A significant contribution to water availability in Israel are also non conventional water sources such as treated waste (approx. 200 Mm³/year, data of 2001); the desalination plants for both seawater and brackish groundwater (approx. 500 Mm³/year, data of 2002).

Of no lower importance is the political and economic peace-oriented planning Israel is setting up to reduce the tensions related to the water demand, being aware of the vital role of water and of the water requirements of an independent state in view of a final agreement with the Palestinians. Israel has planned to compensate its current deficit³ through the purchase of significant quantities of water from Turkey (40 to 50 Mm³/year at the cost of approx. 1.5 US\$/m³), which would be transferred to its shores by sea freight. Such solution is not simple on either the economic or strategic points of view: the cost of water would be very high and

³ The water resources available to the territories on the West (Right-hand) bank of River Jordan (namely, Israel and Palestine) are essentially River Jordan with its main tributaries in the highest portion of the basin (upstream Lake Kinneret) and the two main aquifer systems; the coastal aquifer and the West Bank one. The overall amount of resources available on the Left-Hand bank (i.e. Israel and West Bank) are estimated to be 1850 Mm³/year against an overall demand greater than 2000 Mm³/a (1998) and consistently increasing because of both the demographic pressure and the increased demand for well-being. This results in an overall deficit in the region of approx. 150 Mm³/year.

subsequently affect the users and the development; strategically speaking, the availability of the resource in a territory which is already part of an international water basin will depend on a third state on the basis of economic agreements.

The other technological challenges, which derive from some precise policy addresses, are: reduction in the consumption of freshwater in agriculture (down to 33% by 2010⁴); creation of new water by desalination of sea and brackish water (from the current 57Mm³/year to 362Mm³/year by 2008, and to 500Mm³/year by 2010⁵); refilling of the aquifer by treated water in order to contain the salinity intrusion⁶; combined cycle of water for fish farming and agriculture.

On the other hand, the management of water in the Palestinian territories is more complex. Like in Israel, water is considered a social good, and the highest authority for the guardianship of water is the Palestinian National Authority which exerts the water governance function through to the Palestinian Water Authority⁷ (PWA).

Before 1993, Israel had the full control on water and no well had been managed by the Palestinians since 1967. Only after the Agreements of Oslo (September 13th 1993) and Cairo (May 4th 1994, the latter also called “Gaza and Jericho agreement”), the Palestinian Authority (then PLO) started to take back the management of the water resource. Whereas in the largest part of the territory the management just relates to distribution and supply, in the Jericho and Gaza districts – which are subject to drought and located downstream the Israeli areas of exploitation – the Palestinian Authority became autonomous also as related to abstraction^{8,9}. The Palestinian Authority became also autonomous, in 1995 and in West Bank, for the exploitation of the Eastern Aquifer¹⁰ for a maximum amount of 50 to 60 Mm³/year. However, in the case of the West Bank, as in the Gaza and Jericho districts, the Israeli extractions (mainly focused on the North-West mountain aquifer) have not varied their amount in favor of the Palestinians even though they are ensuring, in compliance with the agreement of Oslo II, a share of drinkable water to the territories of West Bank and Gaza at an agreed price and through Mekorot. The values initially defined for 1995 through 2000 were 80Mm³/year to the West Bank (Samaria and Judea) and 5 Mm³/year to the Gaza Strip. The agreements have been kept in the Gaza Strip – even though with significant fluctuations – but a striking reduction was applied in the West Bank after the first months (today the delivery by Mekorot is approximately 36Mm³/year).

The current situation of the abstraction from wells and springs in West Bank is certainly inadequate as compared to the demand, in particular in agriculture and in the civil sector: even though we cannot express a reliable figure because of the unevenness of data supplied by the

⁴ Israeli Water Commission data, 2002: freshwater consumption in agriculture: 1970, 80%; 2000, 50% 2002, 41.4%; 2010, 33.7%.

⁵ "The Parliamentary Committee of Inquiry on the Israeli Water Sector, Report headed by MK David Magen, Jerusalem, June 2002"

⁶ STATE OF ISRAEL MINISTRY OF NATIONAL INFRASTRUCTURES, 2003: WATER COMMISSION HYDROLOGICAL SERVICE, HYDROLOGICAL YEARBOOK OF ISRAEL 1999/2000, ISSN 0073-4217 JERUSALEM 2003

⁷ Set by the “Declaration of Principles on Interim Self-Government Arrangements” between Israel and PLO on September 13th, 1993, OSLO I

⁸ Subject districts are in any case served by the presence of Mekorot to guarantee the settlements in the areas.

⁹ Provided that, as stated in Annex II- Article II (B.31,a) "All water and sewage (...) systems and resources in the Gaza Strip and the Jericho Area shall be operated, managed and developed (including drilling) by the Palestinian Authority in a manner that shall prevent any harm to the water resources"

¹⁰ On a hydrological point of view, the Eastern Aquifer is scarcely connected to the other mountain aquifers and is characterized by brackish water.

different (Palestinian) sources, because of both the absence of a monitoring network throughout the territory and lack of univocal definitions, the deficit must in any case amount to some tens of Mmm³/year.

Less uncertainty lies in the delivery of water (mainly for civil uses). The status, updated to 2003, in West Bank is summarized in the table and scheme hereinunder. The data show that more than 50% of the water supply depends on Israel, whilst the remaining share is managed autonomously as regards both abstraction and distribution (approximately 30Mm³/year). The table also shows that the distribution of water in the territories is very heterogeneous: there are areas where the conditions are not critical, taking into account that several industrial and agricultural outlets are not counted in the average supply per person (because of the lack of monitoring), whereas other areas do not reach the minimum quantity per head established by the WHO (i.e. 50 l/day per inhabitant).

District	Population	"water carrier" Mekorot	Local municipal wells	Springs	Wells managed by PWA	Other wells for agricultural purposes	Total supply	Average supply per head
	X 1,000	Mm ³ /year	Mm ³ /year	Mm ³ /year	Mm ³ /year	Mm ³ /year	Mm ³	Liters/person/day
Jenin	248.2	2,052	1,608	0.10	—	0.473	4.233	47
Tobas	45.4	0,12	0,416	0.18	—	—	0.716	43
Tulkarem	164	0,265	3,847	—	—	1.184	5.296	88
Nablus	319.5	2,244	4,821	2.337	—	0.037	9.439	81
Qalqilia	91.1	0,335	2,481	—	—	1.177	3.993	120
Salfeet	60.4	1,299	—	0.228	—	—	1.527	69
Jericho	41.1	1,042	—	1.27	—	0.038	2.35	157
Ramallah	270.9	8,668	2,192	—	—	—	10.86	110
Jerusalem	145.4	7,025	—	—	0.062	—	7.087	134
Beithlehem	170	5,162	1,014	—	1.585	—	7.761	125
Hebron	507.6	7,831	1,313	—	2.348	—	11.492	62
Total	2007.6	36,043	17,692	4.115	3.995	2.909	64.754	86 average

Table: water supply in West Bank, data from the PWA supply report 2003.

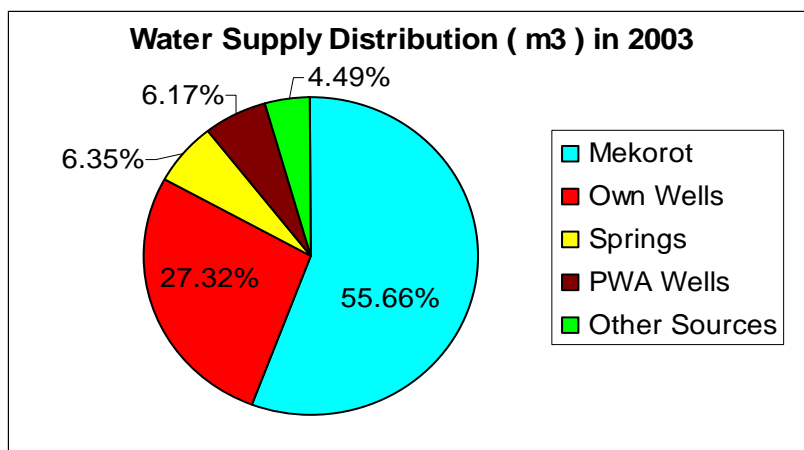


Figure: Water supply in West Bank, data from PWA Supply Report 2003.

The lack of evenness in delivering the service is reflected – besides the difficult management by the central authority – in the application of different tariffs throughout the territory. They vary for each municipality (e.g. from a minimum of 4.5 NIS/m³ in Dura to a maximum of 51 NIS/m³ in Bir Zeit). There are manifold reasons, variously interwoven to one another depending upon the local conditions (K. Issa, 2004¹¹), namely : a) the Mekorot supplies have a high cost for the Palestinian standards; b) high energy costs (prevalingly diesel) for abstraction – mainly from the deep aquifer – and for the treatment processes; c) damage to the infrastructures because of war actions; d) actual and assumed network losses of some 40%, which reflect on the tariffs; e) high variation in staff cost in the different local utilities; f) arbitrariness by the local administrations in collecting the bills in order to safeguard the political consensus; g) delinquency by approx. 50% of the users, with an obvious repercussion on the share of the paying population. All this generates a status of permanent financial crisis for the providers which – in a sort of vicious circle – are unable to invest in order to improve the service and reward the users to make them responsible in the management of a social good.

The shortage of water (in volumetric terms) adds up to the progressive qualitative impoverishment of the resource. This phenomenon is not strictly connected to the West Bank and Gaza territories, but involves the whole Israel and Palestine area because of the following factors: 1- massive use of fertilizers and non treated waste water in agriculture; 2- lack of sewers in the territories; 3-saline intrusion. The concentration of nitrates (NO₃), sulphates and chlorine compounds in the water table has now reached warning levels. Almost the whole Israeli coast is characterized by concentrations greater than 45 mg/l of NO₃ (it is worth noting that 50 mg/l is the drinkableness threshold set by the WHO) and 250 mg/l of Cl. Similar conditions are recorded in the West Bank, in particular in the Hebron district. In the Gaza Strip, the samples show sites with concentrations of NO₃ up to 500 mg/l. Pollution by nitrates, sulphates and chloride has also reached lake Kinneret, i.e. the main surface of water resources for irrigation, which recorded - in the last years - saline concentrations variable between 300 and 230 Cl- mg /l (2004, Markel¹²) resulting in a progressive impoverishment of the irrigated lands and percolation of brackish water into the aquifer. Because of the severe effects nitrates have on health, they are to be removed from the water intended to drinking purposes. This involves significant investments and cost increase for the final user which cannot be afforded by a large portion of the population. Because of the general financial status of the Palestinian providers, such plants cannot be built and then - in order to face the drinking and household uses - the territories resort massively to either bottled water or supply by tank truck whose cost per unit of volume – even though it varies depending upon the free market criteria as well as on the area and reference period - is far higher than the one of the water treated and distributed by the network (in 2005, for instance, the cost of water supplied by thank truck varied from 10 NIS/m³ in Hebron to 35 NIS/m³ in the North of the Gaza Strip).

The salination of the water table is a further obstacle to the use of water for drinking and agricultural purposes and calls for the carrying out of brackish water desalination plants in the former case and – in the latter – the adoption of specific techniques for salt dampening. It also requires the adoption of measures to counteract such penetration, such as the injection of freshwater into the aquifer. Salinity intrusion is due both to natural causes and to the inversion

¹¹ K. Issa, 2004: Economic value of water used for domestic in West Bank Palestine, Options méditerranées, series A: Mediterranean Seminars, n. 65, Editors: A. Hamdy, R. Monti

¹² D. Markel, 2004: Monitoring and managing Lake Kinneret and its watershed, northern Israel, a response to environmental, anthropogenic and political constraints, , Options méditerranées, series A: Mediterranean Seminars, n. 65, Editors: A. Hamdy, R. Monti

of the piezometric gradient generated by excessive extractions in the coastal areas. Such phenomenon is critical mainly because of its size, which nowadays involves groundwater reserves far from the coast, with severe consequences for the productivity of the crops and increased cost for potable water treatment.

Regional cooperation – the sole viable response to settle the water issue

After this outline on the complexity of the water systems within the region, we must revert to Dr. El Sheikh's vision of basin scale management to settle the controversies relevant to water. As it has been documented, the greatest part of the water reserve in the Israeli and Palestinian region – in terms of both volume and control of the sources - is managed by Israel. Throughout my years of activity on this matter, I have perceived that there is no preclusion by Israel to commit the management of their own water share to the PA, but – rather – great concern that the management, control and operational activities the Palestinians are able to set up today would not be efficient enough to ensure the safeguard of the scarce resources so that both parties can enjoy them. At the same time, there is also the awareness that a solution must be found, in particular in the perspective of an independent state. Awareness of the institutional, legislative and infrastructural weakness is spread also amongst the proficient engineers of the Palestinian Water Authority, of the 'House of Water and Environment' and amongst the researchers of the Palestinian Hydrology Group. They certainly have a claiming attitude on the control to the access to water and on the shares of water of Israeli supply in order to overcome the consistent status of emergency, but there is an equally determined will – also because of legitimate pride – to attain a joint long-term management of the resource with Israel.

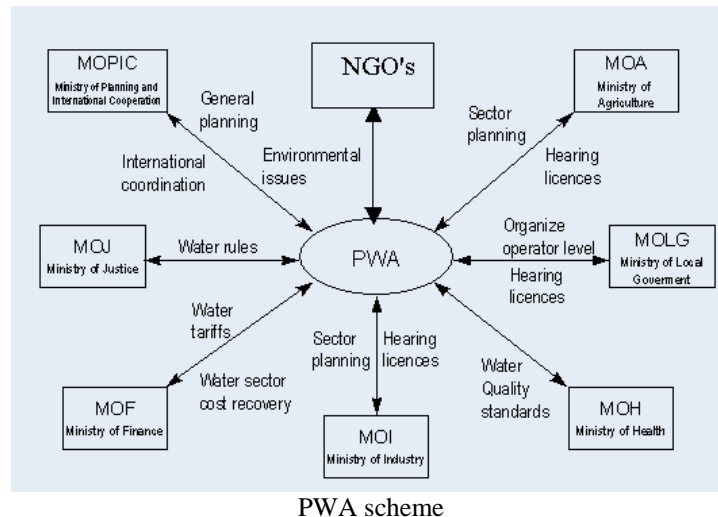
The perspective of a joint management between the Parties is no utopia, and the search for a concrete solution started long ago through a process of regionwide technical cooperation. Whatever technical solution is found, its implementation will always depend on a political solution by which the Palestinian territories will have their identity as a State with all the legislative and administrative references required to the programming and planning of the water resource. This is what all the sector operators believe, to include – just as an example: R. Aviram (2007), F. Kawash, J. Keidar (2004), A. Aliewi (2005), S. Libiszewki (1995) and several others¹³.

¹³ R. Aviram, 2007: Regional cooperation on water issues: a model of parallel tracks. Round table "Geopolitics of Water" Hydroaid, Turin, March 26th 2007; internet version www.hydroaid.it and www.ispi.it ISPI policy brief n.55.

F. Kawash, J. Keidar 2004: Regional water data banks project multilateral working group on water resources. , Options méditerranéennes, series A: Mediterranean Seminars, n. 65, Editors: A. Hamdy, R. Monti

A. Aliewi ,2005: private communication

S. Libiszewki, 1995: Water Disputes in the Jordan Basin Region and their Role in the Resolution of the Arab-Israeli Conflict. ENCOF Occasional Paper No. 13.Center for Security Policy and Conflict Research/ Swiss Peace Foundation. Zurich/ Berne, August 1995. Internet version, <http://www.fsk.ethz.ch/encop/13/en13.htm>.



As it often the case in controversial, complex situations, the perspective varies whether one decides to look at the dark side or at the bright one. If we want to look at the bright side, even though Oslo agreements I and II did not grant the wish of the full water independence of the Palestinian population, they enabled to set up two important reference realities which did not exist before, namely: the Palestinian Water Administration Authority, appointed to the governance of water (today Palestinian Water Authority -PWA-) and the Israeli-Palestinian mixed commission called Joint Committee for Economic Cooperation which – amongst other themes – deals with water and – in particular – with the right to water and fair use of the resource between the parties (Members of the Joint Committee are the Israeli Water Commissioner and the Chairman of PWA on the Palestinian side). These two realities have legitimated the Palestinians on the processes related to water and – in particular – have offered interlocutors to the international community – besides Israel – in the bilateral and multi-lateral processes.

Amongst the multi-lateral ones, the most important is certainly the Jordan- Israel - Palestinian Authority process on water , the so-called *Middle East Multilateral Working Group* (MEMWG) which is part of the Middle East Peace Process and has worked uninterruptedly since 1992 – in spite of the Intifada’s and jointly with the donor governments (United States, European Union, Canada, Norway, France, England, the Netherlands and others) to the development of all those knowledge apparatuses which are required to the implementation of a unitarian management system. Amongst the projects in progress, we should mention the *Regional Data Banks* (RWDB). MEMWG is managed by an executive team (*the Executive Action Team – EXACT-* chaired by the United States) composed by government representatives of Jordan, Israel and PA. MEMWG is an opportunity for the parties to meet, discuss and plan a final agreement on water, almost to demonstrate that there are technical solutions which would enable everybody to benefit of the resources available. The solutions cannot certainly be trivial, since the conditions – even on the mere hydrological point of view – are complex, but the value to pay more attention to in this multilateral process certainly lies in the implementation of solidarity criteria at regional scale. It is therefore obvious – even though rarely mentioned – that the water issue in the basin of River Jordan is on its way to a technical solution.

All the projects developed by MEMWG are aimed at setting up the bases required for the management of water in the region to meet the legitimate demands of economic development of the region itself (in 2005, 40% of the population was unemployed; the revenue per head lowered of 46%; import and export diminished by a third, foreign investment by 60% and we may

assume that – on the grounds of the latest political vicissitudes – such conditions are even worse today). This constitutes also the basis for the peace process to find a substratum of interest by the population; the people and sector operators must not feel abandoned by the international community and - even more – by their own neighbors. To this purpose, it is worth making an effort to understand the complex dynamics of the relationships between the Israelis and the Palestinians. What is reported by the media is nothing but a minimum and – I regret to say it - factious fraction, even though true, because it helps the conflict status to become “intellectually chronic”. The relationships between the parties are certainly tense because they are linked to an uncertain surrounding status. On the other hand, they are lively and intense, since they are dictated by the consciousness of the mutual interdependence. There is therefore a consistent struggle to safeguard the relationships and – paradoxically enough, beyond the incursions of the Kassam rockets on one side and the terrorist attacks on the other one – to work together so that an atmosphere of trust is set up at least on the technical relationships.

Amongst the recent facts I could witness, I wish to mention the accidental collapsing of the waste water storage basin embankment in Gaza last March. This event caused a steep front wave which quickly propagated downstream, killing two children and making several casualties, besides generating unacceptable hygienic conditions and the risk of polluting the water table. The Chairmen of Gaza’s water systems, who was in Italy at that time, could hastily return to Gaza thanks to the involvement of the Israeli authorities, who also made themselves immediately available locally, with people and means, to face the disaster. Another remarkable fact occurred in 2004, when – in a meeting in Como – Israelis, Palestinians Lebanese’s, Syrians, Jordan’s and Egyptians were discussing to find a shared solution to the water issue of River Jordan, the Palestinian initiative for a second meeting in Jerusalem, aimed at defining the terms of regional extended cooperation, was rejected and deserted by the Arabian countries. And again, last July, with Gaza’s seizing by Hamas and the official silence which fell between the parties¹⁴, concern rose amongst the Palestinian water engineers that the supply of water from Israel could be withheld and reassurances were received – on an indirect way, from both WC and MoFA - that “Gaza would never remain without water”.

These facts and other ones lead me to think that foundations have been laid on both the human and technical points of view to create the conditions of mutual trust. On the political point of view, the Israeli-Palestinian issue will find a solution only the day both the Palestinians and the Israelis will take the situation into their own hands and – getting rid of ideological dependency factors and relieving themselves on the role of “center of the world”- will discuss for the search of a true solution aimed at peace in an earnest constructive relationship. Water offers encouraging experiences for the process to bring about results and I do believe that – even though a long path is still to be trodden to fill the technical and structural gap – in a future we will be able to speak about joint management of the resource. This will set the premises for other large points of divergence to be seen in a different way. A significant article was published in these days on the Jerusalem Post; it analyzed critically the matters related to Israel and the return of the Palestinian refugees, getting rid of many of the hypocrisies which have so far prevented to consider the conditions as they are (G. Baskin, 2007¹⁵). Furthermore, it is indispensable that the excessive disparity in terms of economy and welfare between Israel and the Palestinian Territories is somewhat reduced, in order to ensure durability to whatever compromise may be identified.

Conclusions

¹⁴ Conditions set in the Quartet: “no violence, recognize Israel and recognize all the agreements they signed”

¹⁵ G. Baskin, Peacemaking truth and lies, The Jerusalem Post Oct 22, 2007, internet version <http://www.jpost.com/servlet/Satellite?cid=1192380625954&pagename=JPost%2FJPArticle%2FShowFull>

Water as an element of health, development and peace.