

THE WATER ISSUE: THE MAIN PAST, PRESENT AND FUTURE CAUSE OF CONFLICT IN THE MIDDLE EAST

A közel-keleti, izraeli-palesztin béketárgyalások egyik fő kérdése a kezdetektől fogva a vízforrások, a víz feletti ellenőrzés. A vízbiztonsággal összefüggő konfliktusok a közel-keleti, különösen pedig a tágabb közel-keleti térségben tehát egyáltalán nem új keletűek, gondoljunk csak itt például az 1964. és 1967. közötti időszak izraeli-szír összecsapásaira a Jordán forrásvidékének uralmáért. A globális felmelegedés és az ezzel járó éghajlatváltozás „csak” felgyorsította ezeket a folyamatokat, kiélezve a korábban is meglévő konfliktusokat. Kedvező fordulat, hogy követendő példákat is lehet már látni, mint pl. Izrael és Törökország, valamint Izrael és Jordánia hidropolitikai kooperációja. Azonban a térség szükséges vízellátását hosszú távon csak a regionális együttműködés, valamint a technológiailag fejlettebb megoldások jelenthetik.

Control over water resources and water has been one of the key issues of the Middle East peace talks between Israel and the Palestinian authority since the very beginning. The conflicts related to water security in the Middle East region and particularly in the border region of the Middle East are not at all recent developments; it is enough to refer to the clashes between Israel and Syria in 1964-1967 for control over the source region of the Jordan River. Global warming and the related climate change have ‘only’ accelerated these processes, adding edge to the conflicts which had existed before. A favourable turn of events is that examples to be followed can already be witnessed, e.g. the hydro-policy cooperation between Israel and Turkey as well as between Israel and Jordan. However, the long-term water supply necessary in the region can only be achieved through regional co-operation and solutions that are technologically more advanced.

For years stability in numerous countries and regions has been at risk due to conflicts erupting due to the water resources. The Middle East conflict between Israel and the Palestinians is essentially related to water. Water is an elixir of life and cannot be substituted by anything else. Water is a life or death issue. Water is not only the source of life but also the source of survival. This is the case all over the world, but it is a problem that the people in the Middle East live through on a day-to-day basis, because water is not available in sufficient amounts.

As far as drinking water is concerned, the Middle East is one of the most deprived regions of the world. Not counting the states of the Arabian Peninsula, the most arid areas of the region include Israel, Jordan and the Palestinian Territories, where the annual rainfall is rarely above 300 mm.¹ All these points show how important a role the River Jordan has in the water supply of the region. For millennia the River Jordan – consisting of a number of smaller and larger tributaries (Hasbani, Dan, Banias, Yarmouk, etc.) – has always been regarded as the number one water source in the Middle East, regardless of the rulers of the area.

The confrontation related to its use and exploitation intensified after 1948, i.e. the year of foundation of the State of Israel, which to this very day has been an acute focus of crisis in the Middle East embedded in the deeper Arab-Israeli conflict with its origins in religion, ethnicity and civilisation. Israel declared its independence on May 14, 1948. After a war lasting for almost a year, the source of the River Jordan remained under Israeli control, however, to the south the vitally important water resources fell under the exclusive control of Syria and Jordan.

¹ Zoltán Grünhut: A Jordán-folyó és vízgyűjtőjének szerepe a közel-keleti konfliktusban (The role of the River Jordan and its water basin in the Middle East conflict) -<http://www.publikon.hu/htmls/tanulmányok.html?ID=45&essayID=208>, letöltve: 2009. november 02.

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In the 3rd conflict, the Six-Day Arab-Israeli war (1967), Israel occupied the Golan Heights, the West Bank of the Jordan and the entire territory of Jerusalem. With the occupation of the western and northern parts of the Golan Heights, Israel acquired a perfect position to control the Yarmouk River and gained supremacy along the full stretch of the Banias and the Jordan.²

In this way, at least one-third of Israel's resources originate from a disputed territory. The Dan, Hasbani and Banias rivers originate in the Golan Heights and discharge into the Sea of Galilee and the Jordan River. It is highly unlikely that the Syrians would give up their claim, when they do not have sufficient water themselves. There are huge aquifers on the West Bank, under the hills of Judea and Samaria where rainwater accumulates seeping through the soil and then passing over to Israel; in the final negotiations, the Palestinians will not willingly give up the right to the control of the water resources.

Therefore, as a result of the negotiations to be carried out with Syria and the Palestinians more than a third of the currently available water resources may fall under Syrian and Palestinian control.

Syria will probably not agree to Israel retaining control over the strategically important water resources of the Golan Heights. In fact, the dispute between Syria and Israel that the Jewish state should withdraw to the international border of 1923 or to the border of June 4, 1967 actually revolves around the water issue. The international border would be ten metres from the Sea of Galilee, while the line of June 4, 1967 would be on the seashore.

In this latter case, under international law Damascus could claim one-half of the water reserves of the Sea, as in this case the border would be along the centre line of the body of water. At the present moment Israel satisfies one-third of its water requirements from the River Jordan, with the Hasbani, Dan and Banias rivers that feed it originating in the Heights. Should the Golan Heights return to Syrian control, with that a substantial part of Israel's water resources would return to Syria, which needs the water itself as its rate of population growth is very high, the population may double by 2020.³ Even today it happens that Damascus rations water consumption by its citizens.

'Without water Syria would be like a thirsty wolf, which could be dangerous,' stated Arnon Soffer, head of the Geography Department of Haifa University.

The water issue is not only a problem for Syria and Israel, but demands a central position in the final settlement with the Palestinians. Up to now, 25% of Israel's water originated from the east bank of the Jordan.⁴ The aquifer is located under the hills of Judea and Samaria and it knows no boundaries. The Palestinians demand that the water that falls onto the hills on the West Bank should be theirs, even if the water after percolating into the ground flows into Israel through underground rivers, streams and fissures. Furthermore, they also claim that they have a moral right to the water as Israel used most of the water over thirty years, while a much smaller volume was supplied to the Palestinians. According to hydrology professor Gwirtzman of the Hebrew University, the per capita water consumption in Israel was 108 cubic metres per year, while only 35 cubic metres were provided for each Palestinian citizen.⁵ However, Israel claims that it built these reservoirs starting at the end of the 19th century, in the final days of the Turkish occupation, and then continued construction during the British mandate, well before the Six-Day War of 1967.

The stakes are enormous, water being of immense significance for both peoples. For the Israelis, without water there would be no agriculture, no orange plantations and there would be no return to the land. The Palestinians are also linked

² Zoltán Grünhut: A Jordán-folyó és vízgyűjtőjének szerepe a közel-keleti konfliktusban (The role of the River Jordan and its water basin in the Middle East conflict) - <http://www.publikon.hu/htmls/tanulmanyok.html?ID=45&essayID=208>, letöltve: 2009. november 02.

³ Hetek, László Hechs: Víziány a Közel-Keleten (Water shortage in the Middle East), Jerusalem, December 04, 1999, (III/48), http://www.hetek.hu/hatter/199912/vizhiany_a_kozel_keleten, letöltve: 2009. november 02.

⁴ Hetek, László Hechs: Víziány a Közel-Keleten (Water shortage in the Middle East), Jerusalem, December 04, 1999, (III/48), http://www.hetek.hu/hatter/199912/vizhiany_a_kozel_keleten, letöltve: 2009. november 02.

⁵ Hetek, László Hechs: Víziány a Közel-Keleten (Water shortage in the Middle East), Jerusalem, December 04, 1999, (III/48), http://www.hetek.hu/hatter/199912/vizhiany_a_kozel_keleten, letöltve: 2009. november 02.

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to agriculture and this way of life, to the land which they 'lost or gambled away', so for them water is also a symbol of sovereignty. According to specialist at the Bar-Ilan University, Amikam Nachmani, this dispute is about who should have the huge deficit. The population in the region is set to increase by such a rate over the coming decades that the water will satisfy neither the Palestinian nor the Israeli requirements. 'You can discuss ownership of the water resources, however, this will not help us or the Palestinians,' said the professor of political sciences, specialising in water issues. 'Both the volume and the quality of the water are declining. I have no doubt that we shall retain the right of control over water, however, this will not solve our problem or the problem of the Palestinians,' he added.⁶ According to Gershon Baskin, head of a joint Palestinian-Israeli research and information centre, the solution is the not the distribution of water resources but their shared use.

In the view of the experts it would be necessary to consider ways to create new water resources. The real solution would not be the transportation of water in huge tanks from Turkey or building under-sea pipelines – which have been constructed by Israel and Turkey since 2000 – however, desalination plants must be set up to produce fresh drinking water from the salty sea water. However, the problem with this though is the very high price.⁷

Today one cubic metre of water, transported from Turkey by tankers (including purchase, ship rental, transportation expenses, energy costs of pumping into the pipelines, etc.) costs about 0.6-0.7 dollars for Israel. This is roughly one-half of the amounts that the desalination of one cubic metre of seawater would cost using solar power, which is the cheapest possible solution.⁸

So, the real, long-term solution would mainly be the production of fresh drinking water from salty seawater using a more modern, cost efficient technology.

Moreover, to complement and enhance this research, after defence spending, most of the state R&D funds are channelled into the development of water conservation, drip-type irrigation methods, and the country is the world leading exporter of these irrigation technologies. Through computer-controlled micro-irrigation, not only can the amount of water used be reduced to as much as one-tenth,⁹ but the spreading of sodic spots can also be prevented. In order to create lasting peace in the region, this method and technology must be shared with the Palestinians, the know-how must be transferred and they have to be assisted in spreading the technology.

The Palestinians argue that they do not have the funds for this, and the water resources of the West Bank are sufficient for them and they would transport water from there to the Gaza strip. Israel makes the point that a joint project would be financed by the international community, while Israel alone would not receive funding. Germany was already prepared to finance a joint project, but the Palestinians were not ready to take part in the cooperation so the German funds were lost. The Palestinians want to obtain control over water and they believe that no sustainable Palestinian state can be established without controlling the water sources of the West Bank. In Israel, the only solution is to reduce the water amount provided for agriculture, which is 50% of the annual demand.¹⁰ However, this is not a simple issue as agriculture also has ideological importance: ten per cent of Israeli society makes their living from agriculture; therefore, it is essential that the country retain the water resources. But, if it wants to retain the territories important for security reasons, the Jewish settlements and the water resources as well, what would be left to give to the Palestinians?! Also in the future State of Palestine agriculture is expected to be the main source of income.

⁶ Hetek, László Hechs: Víziány a Közel-Keleten (Water shortage in the Middle East), Jerusalem, December 04, 1999, (III/48), http://www.hetek.hu/hatter/199912/vizhiany_a_kozel_keleten, letöltve: 2009. november 02.

⁷ Hetek, László Hechs: Víziány a Közel-Keleten (Water shortage in the Middle East), Jerusalem, December 04, 1999, (III/48), http://www.hetek.hu/hatter/199912/vizhiany_a_kozel_keleten, letöltve: 2009. november 02.

⁸ Zoltán Grünhut: A Jordán-folyó és vízgyűjtőjének szerepe a közel-keleti konfliktusban (The role of the River Jordan and its water basin in the Middle East conflict) - <http://www.publikon.hu/htmls/tanulmanyok.html?ID=45&essayID=208>, letöltve: 2009. november 02.

⁹ NépszabadságOnline, Miklós Hargitai: Hová lett a víz (Where has the water gone), August 9, 2009 http://www.nol.hu/tud-tech/20090808-hova_lett_a_viz, letöltve: 2009. november 02.

¹⁰ Hetek, László Hechs: Víziány a Közel-Keleten (Water shortage in the Middle East), Jerusalem, December 04, 1999, (III/48), http://www.hetek.hu/hatter/199912/vizhiany_a_kozel_keleten, letöltve: 2009. november 02.

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All this clearly shows that there can be no peace in the Middle East without the water issue being settled. A reasonable solution acceptable to all the stakeholders and based primarily on the use of natural water sources could only be created through regional cooperation.¹¹

There have been positive steps forward and agreements towards cooperation in the region. The first such agreement was reached by Israel and the Palestinian Liberation Organisation in May, 1994. The 'Oslo-1' agreement¹² (or Gaza and Jericho agreement) included a water declaration that was only marginal and included no specific numbers, leaving the detailed elaboration to a specific agreement concluded a year later as 'Oslo-2'.¹³ This regulation is still in force today, however, because of the return of violence, Israel has repeatedly claimed that the agreement is no longer in force.

Israeli Prime Minister Yitzhak Rabin and King Hussein of Jordan signed an agreement similar to the Israeli-Palestinian agreements in October, 1994. Section 6 of the peace agreement provides a comprehensive approach, while Annex No. 2 gives details of the disputed water issues between the parties in a precise, specific wording of consensus. Annex No. 2 of the agreement defines exactly the manner and the volume of water that may be taken from the four main sources, i.e., the Jordan, Yarmouk, Tirat Zvi/Wadi Yabis, and Emek Ha'arava/Wadi Araba, divided into summer and winter periods. Furthermore, the parties placed great emphasis on the contractual regulation with respect to preventing various pollution and other damage, the protection of the established water systems, the development of sewage treatment, the acquisition of additional water resources to satisfy demand and the necessity of cooperation based on consensus.¹⁴

The population in the Middle East will grow from 42 million in 2008 to 71 million in 2050,¹⁵ which will considerably increase the demand for water in the area of food, the population and employment. According to the report from the International Institute for Sustainable Development (IISD) the Middle East governments and authorities, the civil society and the international community must jointly respond to the process of climate change and to the risks resulting from warming to peace and security in the region. These organisations must not only inform the local communities about the expected consequences, they must also actively contribute to the mitigation of the processes through the reduction of greenhouse gas emissions and cooperation in the utilisation of the divided resources.¹⁶

OUTLOOK

THE BORDER REGION OF THE MIDDLE EAST

Even according to the most optimistic forecasts, the population of the Arab countries – including the area from the Atlantic Ocean to the Persian Gulf, will grow from 227 million in 1990 to 446 million in 2025.¹⁷ Cooperation is an obvious step, but due to the situation it is still one of the most complicated steps to take among the countries of the region. The last conference on the subject was held in Beirut, where a committee was set up to promote cooperation. The member countries include Egypt, Jordan, Syria and Lebanon. Israel did not join the committee. Already in itself this fact reduced the effectiveness of the initiative. Opinions did not coincide. For this reason the two most important tasks for the forthcoming years relate to the following points: supplying a growing population from the water resources that are difficult to expand any further and the seeking of new options without the deterioration of water quality.¹⁸

¹¹ Hetek, László Hechs: Vízhiány a Közel-Keleten (Water shortage in the Middle East), Jerusalem, December 04, 1999, (III/48), http://www.hetek.hu/hatter/199912/vizhiany_a_kozel_keleten, letöltve: 2009. november 02.

¹² <http://www.jewishvirtuallibrary.org/jsourc/Peace/gjannex2.html>, letöltve: 2009. november 02.

¹³ <http://www.jewishvirtuallibrary.org/jsourc/Peace/iaannex3.html#app-40>, letöltve: 2009. november 02.

¹⁴ Zoltán Grünhut: A Jordán-folyó és vízgyűjtőjének szerepe a közel-keleti konfliktusban (The role of the River Jordan and its water basin in the Middle East conflict) - <http://www.publikon.hu/htmls/tanulmányok.html?ID=45&essayID=208>, letöltve: 2009. november 02.

¹⁵ June 08, 2009, <http://www.geographic.hu/index.php?act=napi&id=13493> (National Geographic Hungary), letöltve: 2009. november 02.

¹⁶ June 08, 2009, <http://www.geographic.hu/index.php?act=napi&id=13493> (National Geographic Hungary), letöltve: 2009. november 02.

¹⁷ Hetek, László Hechs: Vízhiány a Közel-Keleten (Water shortage in the Middle East), Jerusalem, December 04, 1999, (III/48), http://www.hetek.hu/hatter/199912/vizhiany_a_kozel_keleten, letöltve: 2009. november 02.

¹⁸ Hetek, László Hechs: Vízhiány a Közel-Keleten (Water shortage in the Middle East), Jerusalem, December 04, 1999, (III/48),

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WORLDWIDE PROBLEMS AND CONFLICTS BECAUSE OF THE SHORTAGE OF FRESH WATER

At present 4-6% of the population struggle with problems related to lack of water, however, for economic reasons, some 20% have no access to safe drinking water, primarily in the Middle East and Africa. At present almost 1 billion people live without safe drinking water, and 2 to 3 billion have no access to appropriate sewage drainage services. Distribution is extremely non-uniform; it is primarily the developing countries that are suffering from aridity and water shortage. According to forecasts by 2015 close to 3 billion people will be living in countries where there will be a lack of water.¹⁹ Those countries will be in the worst situation that, even today, is facing major difficulties, i.e. primarily the Middle East countries and some states in Africa.

In view of all these points, water – just like the energy resources in the previous centuries and strategically important natural resources in short supply at any time in the course of history – will become the number one source of conflict in our century not only in the Middle East but also all over the world.²⁰

The possibilities of future conflicts are also underpinned by past experience. The population of the Earth increased close to threefold between 1950 and 2000, while fresh water resources did not grow. More than 450 water-related international conflicts were recorded in this period of time, of which 37 led to armed combat or bombings.²¹

At present Egypt shares the river Nile with nine countries, this river providing 97% of the citizens of that country with water in a region exposed to ethnic, economic and religious stresses.²² Armed conflicts have already broken out Africa between Senegal and Mauritania because of drinking water and this factor is continuously present in the Arab-Israeli, the USA-Mexico and the India-Bangladesh conflicts as well, or in the tense situations between Slovakia and Hungary for that matter. There are already signs that abundant water resources lead to the geopolitical revaluation of a country just like in the case of oil or natural gas. Turkey, for instance, a country supplying drinking water in tanker ships to Israel and the Arab oil monarchies, is becoming an increasingly important political player in the region.

Man uses about 60% of the accessible fresh water resources of the Earth and in the second half of the century this figure will go over 90%. Accordingly, today only local armed conflicts break out because of water, however, the UN predicts that regional or global war may also break out in 50 years due to water shortages. Syria's example points to a gloomy future, where 160 villages have been abandoned by their inhabitants in the past 2 years because of the drought caused by climate change.²³ In its report the International Institute for Sustainable Development states that even as a result of a slight degree of warming the flow rate of the Euphrates flowing through Turkey, Syria and Iraq may decrease by 30%, while the water volume of the Dead Sea will decline by 80% before the end of the century.²⁴ These points present risks to the peace in the region, accelerating rivalry and making it more difficult to achieve a peaceful solution between the long-standing oppositions.²⁵

http://www.hetek.hu/hatter/199912/vizhiany_a_kozel_keleten, letöltve: 2009. november 02.

¹⁹ <http://cegvezetes.cegnet.hu/2003/6/a-viz-a-jovo-globalis-kihivasa>,

http://www.playhold.com/www.ckke.hu/index_10309030.php, letöltve: 2009. november 02.

²⁰ NépszabadságOnline, Miklós Hargitai: Hová lett a víz (Where has the water gone), August 9, 2009 http://www.nol.hu/tud-tech/20090808-hova_lett_a_viz, letöltve: 2009. november 02.

²¹ Center for EU Enlargement Studies - Világ gazdasági Kutatóintézet: A gazdasági biztonságot befolyásoló egyéb (soft) tényezők, Környezeti terhelés, beleértve a víz elérhetőségét (környezeti biztonság) (Factors, that influence the economic safety, Environmental load, including accessibility of water (environmental safety), January 2007 http://vki3.vki.hu/kulkapcs/Kornyezeti_biztonsag.pdf, letöltve: 2009. november 02.

²² NépszabadságOnline, Miklós Hargitai: Hová lett a víz (Where has the water gone), August 9, 2009 http://www.nol.hu/tud-tech/20090808-hova_lett_a_viz, letöltve: 2009. november 02.

²³ NépszabadságOnline, Miklós Hargitai: Hová lett a víz (Where has the water gone), August 9, 2009 http://www.nol.hu/tud-tech/20090808-hova_lett_a_viz, letöltve: 2009. november 02.

²⁴ NépszabadságOnline, Miklós Hargitai: Hová lett a víz (Where has the water gone), August 9, 2009 http://www.nol.hu/tud-tech/20090808-hova_lett_a_viz, letöltve: 2009. november 02.

²⁵ NépszabadságOnline, Miklós Hargitai: Hová lett a víz (Where has the water gone), August 9, 2009 http://www.nol.hu/tud-tech/20090808-hova_lett_a_viz, letöltve: 2009. november 02.

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Unprecedented, rapid changes are taking place today: population growth, climate change, urbanisation, which all may lead to the complete exploitation of the available fresh water reserves.

Obtaining clean drinking water will be one of the greatest global challenges in the 21st century!

Kulcsszavak: vízforrások, vízbiztonság, regionális együttműködés, édesvízhiány

Keywords: Water sources, water security, regional cooperation, freshwater shortage

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