

Editorial

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The practice of incorporating environmental factors into conflict prevention strategies has become a trend to achieve sustainable peace. The relation between natural resources and conflicts is multidimensional. Disputes over shared resources can instigate new conflicts or intensify ongoing political or economic conflicts. This necessitates pragmatic solutions especially with the growing belief that one of the ways to prevent conflicts is to develop innovative measures for mutual utilization of resources between parties in conflict. These cooperative resource development strategies would enable conflicting parties to work together to achieve shared interests and thus initiate trust-building measures.

Based on this conviction, various initiatives on local, national and international levels have shaped conflict prevention attempts with particular focus on resources that shape the daily life of people in conflict. At the heart of crucial daily needs that have shaped conflicts everywhere in the world is water. Water attains more focus in conflict prevention techniques in the Euro-Med region due to large shortages in water supply and decline in water quality. Crucial water shortages in the region, a history of political conflicts, and weak financial resources have been obstacles for promoting water sharing and development policies. Instead, various regional and international actors developed initiatives that respond to growing water demand in the context of shortage and hostility in the region.

This issue of ConflictINFOCUS addresses the concerns related to water shortage and conflict prevention in the Euro-Med region. Monitoring EU developments in relation to water, Daniela Pioppi's article analyzes recent initiatives on water between the EU and other regions. In particular, it describes the EU Water Initiative and the cooperation with southern partners of the EMP.

Looking at global initiatives to respond to water challenges, Neven Bondokji's article "Water Crisis in the Middle East" analyses conflict related dimensions of water pricing in the Middle East context. These are analyzed against the background of previous water development initiatives in the region and possible alternatives to water pricing. Jan Selby's article underlines that the challenge of resolving the region's water problems is but one aspect of the broader challenge: how to transform the contemporary Middle East into a development trajectory that allows for increased intra-regional trade, investment and employment, for the political reform of rentier states. ■

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EU WATER POLICIES TOWARDS THE MEDITERRANEAN: A WATERED INITIATIVE?

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According to the United Nations, about 1.1 billion people on Earth do not have access to safe drinking water and about 2.4 billion people lack adequate sanitation. An estimated 6,000 children die each day from diseases associated with poor sanitation and hygiene and one in two hospital beds in the world is occupied by someone with a preventable water-borne disease. If current trends persist, by 2025 the demand for fresh water is expected to rise by 56% - more than is currently available.

In the last years, the growing awareness of what could be referred to as the 'global water crisis' brought the EU to take action to grant water security for the 21st century. In March 2002, the European Commission adopted a "Communication on Water Management in Developing countries"⁽¹⁾ and the European Development Council endorsed, on 30 May 2002, a *Common Resolution*⁽²⁾ on the same issue. The two policy papers acknowledged the importance of addressing the global challenge of growing scarcity and decreasing quality of water resources, particularly acute in developing countries, and were followed by the launching of the EU *Water Initiative* (EUWI)⁽³⁾ at the World Summit for Sustainable Development (WSSD) in Johannesburg in the summer of the same year. The initiative is designed to contribute to the achievement of the Millennium Development Goals (MDGs) and WSSD targets for drinking water and sanitation, within the context of an integrated approach to water resources management.

The EUWI is based on a participative multi-stakeholder approach. Various strategic partnerships in specific regions draw together government, civil society, private sector and other stakeholders. A number of working groups have been established either with a regional/thematic focus (e.g. Water Supply and Sanitation in Africa) or concentrating on crosscutting issues (e.g. Research, Finance). An advisory board and a steering group ensure coherence of all EUWI activities.

The Mediterranean region - one of the most water-scarce of the world - is an important component of the EUWI.⁽⁴⁾ The MED EUWI covers an area in which the fresh water supply is very unevenly distributed and in which demographic growth, together with economic development, generally increased water demand while water ecosystems remain very fragile. Moreover, regional conflicts make international water management and cooperation extremely difficult.⁽⁵⁾

In this context, the Med EUWI aims to better coordinate

future and already existing water programmes and projects, targeting a more effective use of existing funds and mobilisation of new financial resources.⁽⁶⁾ The MED EUWI focuses on the following themes:

- Water supply and sanitation, with emphasis on the poorest part of the societies
- Integrated water resources management, with emphasis on management of transboundary water bodies
- Water, food and environment interaction, with emphasis on fragile ecosystems
- Non-conventional water resources
- Transfer of technology, transfer of know how, capacity building and training
- Education

The Med EU Water Initiative builds on and coordinates existing mechanisms, institutions and regionally led processes and initiatives in the Mediterranean, the most important of which is the Euro-Mediterranean Partnership.⁽⁷⁾

It is probably too early to give an evaluation of the Med EUWI. However, the impression is that while coordination structures and networks multiply with the positive effect of increasing public awareness on the urgency of the water issue, they still lack a clear political approach and strategy shared by all relevant actors. Through the MEDA or other cooperation tools, the EU is actually funding projects with a focus on water-related problems,⁽⁸⁾ but there isn't any Mediterranean water strategy emerging capable of overcoming, for instance, disputes and lack of cooperation within states. The one regional cooperation experiment - the Middle East multilateral working group on water resources - failed with Oslo.⁽⁹⁾

(1) European Commission, COM(2002) 132 final, Brussels, 12/03/2002 http://europa.eu.int/eur-lex/en/com/cnc/2002/com2002_0132en01.pdf

(2) European Development Council, 8958/02 (Presse 147), 30/05/2002 <http://register.consilium.eu.int/pdf/en/02/st08/08958en2.pdf>

(3) See website [www.euwi.net]

(4) The Med EUWI comprises the following Mediterranean partner countries: Algeria, Egypt, Jordan, Israel, Lebanon, Libya, Morocco, Palestinian Authority, Syria, Tunisia and Turkey and the following Southeastern European countries: Albania, Bosnia-Herzegovina, Croatia, Former Yugoslav Republic of Macedonia (FYRM), Serbia and Montenegro, Bulgaria and Romania.

(5) In the Mediterranean-Middle Eastern region there are three main water disputes, around the three main river basins: the Nile; the Jordan and the Tigris and Euphrates. See articles in this issue of *Conflict in Focus*.

(6) See the Mediterranean component of the EU Water Initiative on: <http://www.euwi.net/index.php?main=1&sub=1&tid=127>

(7) For an overview see MEDA water on: [<http://www.emwis.org>]

(8) *Ibid.*

(9) The multilateral track of the Middle East Peace Process started in 1992 and consisted of 5 working groups (water; environment; economic development; refugees; arms control and regional security). The working group on water resources was co-organised by the EU and Japan.

In addition, the EU Water Initiative has been heavily criticised by civil society groups, who are mainly concerned about the way European aid money and political influence is being used to promote water privatisation, rather than meeting real development needs in water and sanitation.⁽¹⁰⁾

The EU support for water privatisation is in line with broader international development policies. Just to mention a relevant example, the World Bank has found in “the weak performance of public utilities” the core of many problems in urban water supply and sanitation and has built its strategy on the “emphasis of private sector participation”.⁽¹¹⁾

Civil society groups argue, on the contrary, that water privatisation in the last decade has failed and that multinational corporations are ill equipped to deliver clean and affordable water to the poor. They also claim that the EU, as well as other international institutions, exercise pressure on developing countries to liberalise water services through trade negotiations, more to protect private sector interests than to foster sustainable development.⁽¹²⁾ In their view, the EU should instead promote the universal human right to water and champion a different approach to water and sanitation in Europe and in Developing countries.⁽¹³⁾

International water activists believe that the steps needed for a water-secure future include the adoption of a Treaty Initiative to share and protect global water, to guarantee water as an inalienable political and social right and, finally, to exempt water from international trade and investment regimes.⁽¹⁴⁾

Indeed, an enforced international legal framework for water granting an equitable access and distribution for all would also help in reaching a just and durable solution for Middle Eastern present and future water disputes. ■

(10) See the letter sent by a platform of civil society groups and associations to EU commissioner for development and humanitarian aid Louis Michel in occasion of the World Water Day, 22/03/2005. [<http://www.corporateeurope.org/worldwaterday2005.html>]

(11) As far as the MENA region is concerned see World Bank <http://lnweb18.worldbank.org/mna/mena.nsf/0/c9e83517ae931faf8525694400051ddc?OpenDocument>

(12) There are ten major corporate players now delivering fresh water services for profit. The two biggest are both from France (Vivendi Universal and Suez). In general, European companies control 95 % of global water industry. Maude Barlow; Tony Clarke, “Who Owns Water?” The Nation, 02/09/2002 [<http://www.thenation.com/doc.mhtml%3Fi=20020902&ts=barlow>]

(13) See Stefania Bianchi, “World Water Day: EU Urged to Stop Privatisation”, ipsnews, 21/03/2005 [<http://www.ipsnews.net/interna.asp?idnews=27948>]

(14) M. Barlow; T. Clarke, op. cit.



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WATER AND CONFLICT PREVENTION IN THE MIDDLE EAST

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Most expert and public discourse on Middle Eastern water issues assumes that the region's water problems are of great and increasing - if often under-recognised - geopolitical significance. It is often stated, for instance, that water has already been 'a principal cause' or 'major factor' behind the Middle East's inter-state conflicts, most notably the 1967 Arab-Israeli War.⁽¹⁾ It has regularly been claimed, by World Bank personnel amongst others, that water will replace oil as the Middle East's most important resource, and most regular source of conflict, in the twenty-first century.⁽²⁾ Moreover, it is also often argued that water cooperation is of such inestimable importance that cooperation in this area has the potential to 'spill over' into other more 'high political' areas, serving as a catalyst for deeper inter-state regional cooperation.⁽³⁾

Given the region's extremely high population growth rates and limited natural water resources, these prognoses might seem to have some merit. The good news is that they do not. Regional political leaders and agricultural lobbies, and many international experts too, routinely overstate and 'securitise' the importance of water scarcities - partly in a bid to justify or critique regional and sectoral allocations of water resources, or to attract development assistance funds, but for other reasons too.⁽⁴⁾ In Israel, for instance, the settlement movement likes to argue that the presence of settlements above West Bank aquifers plays a crucial 'national security' role in ensuring that the country has sufficient water resources.⁽⁵⁾ However, such claims are misleading in at least three respects.

Firstly, because water is a renewable and tradable resource, the region is not necessarily constrained by its limited volume of 'natural water resources'. Indeed, 'conventional' national water budgets are already being supplemented in a variety of 'unconventional' ways.⁽⁶⁾ Wastewater can be reused (as 'grey water') or treated (even to drinking water standards). Sea and brackish water can be desalinated. Water can be imported in bulk through pipelines, tankers and even giant plastic bags.⁽⁷⁾ Most significantly, Middle Eastern states can ameliorate their water shortages through the bulk import of food staples grown outside the region, and the consequent re-allocation of local supplies to higher value municipal and agricultural uses. Existing imports of 'virtual water' embedded in food staples are already such that many

Middle Eastern states, amongst them Israel and Egypt, are as dependent on water resources originating outside the region as on those originating within it.⁽⁸⁾

Second, because the costs of both shipping and desalination are generally declining (in absolute terms but especially relative to economic product), such unconventional sources of water are becoming ever-more economically viable. To give but one example, Israel's first major desalination plant has just started operating, and by the end of the year will be producing 100 million cubic metres of water per year (equivalent to 15% of the country's domestic consumption) at a cost of only \$0.52 per cubic metre.⁽⁹⁾ Within a few years, this and three further plants will be producing a planned 400 mcm per year, roughly equivalent to the amount that Israel currently exploits from trans-boundary Israel-West Bank aquifers.⁽¹⁰⁾ The water from the first of these desalination plants alone could, if made available to the Palestinians, resolve Palestinian water shortages in the West Bank for many years (current Palestinian consumption in the West Bank is less than 150 mcm per

- (1) John Cooley, 'The war over water', *Foreign Policy*, No. 54 (1984), p. 3; Thomas Naff and Ruth Matson (eds.), *Water in the Middle East: Conflict or Cooperation?* (Boulder: Westview, 1984), p. 44.
- (2) See World Bank Vice President Ismail Serageldin's comments in *Financial Times*, 7 August 1995; quoted in Mustafa Dolatyar and Tim Gray, *Water Politics in the Middle East: A Context for Conflict or Cooperation* (London: Macmillan, 2000), p. 8; and also, inter alia, John Bulloch and Adel Darwish, *Water Wars: Coming Conflicts in the Middle East* (London: Victor Gollancz, 1993), p. 198; and Paul Simon, 'In an empty cup, a threat to peace', *New York Times*, 14 August 2001.
- (3) See for example Daniel Hillel, *Rivers of Eden: The Struggle for Water and the Quest for Peace in the Middle East* (New York: Oxford University Press, 1994), p. 283; Aaron Wolf, *Hydropolitics Along the Jordan River: Scarce Water and its Impact on the Arab-Israeli Conflict* (Tokyo: United Nations University Press, 1993), p. 3.
- (4) On 'securitisation' see especially Barry Buzan, Ole Waever and Japp de Wilde, *Security: A New Framework for Analysis* (Boulder: Lynne Rienner, 1998).
- (5) See for instance Martin Sherman, *The Politics of Water in the Middle East: An Israeli Perspective on the Hydro-Political Aspects of the Conflict* (London: Macmillan, 1998).
- (6) The notion of 'natural resources', and the distinction between 'conventional' and 'unconventional' supplies, are social constructions, reflecting levels of economic and technological development: see Selby, *Water, Power and Politics in the Middle East*, pp. 32-9.
- (7) See for instance Hugh Pope, 'Water in a bag', *Middle East International*, 8 June 1990.
- (8) Tony Allan, *The Middle East Water Question: Hydropolitics and the Global Economy* (London: IB Tauris, 2000).
- (9) Sharon Kedmi, 'Ashkelon desalination plant finally open for business', *Ha'aretz* (English edn.), 5 August 2005.
- (10) Amiram Cohen, 'Work commences on desalination plant', *Ha'aretz* (English edn.), 12 August 2003.

year). In such strictly economic terms, water is a political non-issue.

Third and finally, water wars arguments mistake the significance of water to regimes and ruling elites. Oil has been such a focus of conflict in the Middle East and elsewhere not because regimes (or indeed opposition groups) have wanted to mitigate shortages faced by oil consumers, but because oil is such a potent source of revenues for state-building, for economic development, and for achieving or consolidating political power. In these senses water is very different from oil: it does not bring revenues to the state (if anything, it is a burden on state coffers), its control is not an important source of political power, and in any case ruling elites tend not to be the ones who suffer from water shortages.⁽¹¹⁾ Moreover, with agriculture's contribution to the region's economies in steep decline (in terms of its contribution to GNP, to export earnings, and to employment), farming lobbies are tending, reluctantly, to become less important, such that local regimes are now less likely than ever to go to war out of defence of agricultural interests in water supplies. Add to this the fact that in each of the region's three main river basins there is a hegemonic state which combines US support, dominant economic and military power, and hegemony over basin-wide water resources (this applies to Israel in the Jordan Valley, Egypt in the Nile, Turkey in the Tigris-Euphrates), and it can be asserted that inter-state water wars are now less likely than at any time since the creation of the modern Middle Eastern state system.⁽¹²⁾

Of course, this does not mean that questions of conflict and cooperation over water resources are unimportant, merely that the real challenges of conflict prevention and transformation lie elsewhere than the chimerical threat of inter-state water wars. Two such challenges stand out in particular.

A first challenge involves optimising forms of regional inter-state cooperation over water resources. At present, cooperation is everywhere bilateral rather than multilateral, follows strategic alliances (this applies most obviously to the planned water transfer from Israel to Turkey, which is but a component of their military alliance, and is tied to arms purchases),⁽¹³⁾ and reflects regional power disparities rather than common interests (thus Israeli-Palestinian water relations involve little more than a dressing up of 'domination' as 'cooperation', as to a lesser degree do Israeli-Jordanian relations).⁽¹⁴⁾ The only embryonic case of multilateral trans-boundary water cooperation is the World Bank-led Nile Basin Initiative, but this has so far achieved little.

Optimal water management demands the involvement of all riparian states within a river basin, or better still, of all relevant regional parties. In the first case, basin-wide coordination is a necessary prerequisite both for the resolution of disputes over allocations and rights

to trans-boundary water resources, and for efficient integrated resource management (for instance, a dam higher up the Nile would involve much less water loss through evaporation than does the current High Dam at Aswan).⁽¹⁵⁾ In the second case, regional cooperation would open up interesting possibilities for inter-basin transfer from water-rich states. For example, the optimal scenario for the Jordan basin would involve Israeli domestic needs being increasingly met through desalination; a much larger proportion of Palestinian and Jordanian needs being met from the Jordan River and West Bank aquifers; and the remainder of basin-wide needs being met through the import of water, via canal, from the Ceyhan and Seyhan rivers in southern Turkey (this water could flow downhill all the way, without being pumped, and would also allow the replenishment of the Dead Sea).⁽¹⁶⁾ Such a scheme would be both environmentally and economically more sustainable than a 'Red-Dead canal', for which Israel, Jordan, the Palestinian Authority and World Bank have recently agreed to undertake a feasibility study.⁽¹⁷⁾ Unfortunately, the chances of it being realised are negligible at present given Israel's predilection for bilateral and unilateral solutions, and given that such a scheme would necessitate the involvement of Syria and Lebanon.

A second and equally important challenge concerns the internal water politics of Middle Eastern states. Current discussions of water conflict and cooperation focus almost exclusively on the inter-state arena, ignoring the fact that violent conflicts perennially take place in water-stretched areas over access to and control of local supplies. Across the region, water is being shifted out of small-scale agriculture, and instead to higher value agribusiness and municipal uses, leading to water scarcities and disputes in many rural areas. Water supplies are also often irregular in (especially the poorer parts of) many Middle Eastern cities. Local regulation of the water sector is often weak, and consequently water theft and black markets in water supplies are thriving: farmers often disconnect their water metres or make

(11) Selby, 'Oil and water: the contrasting anatomies of resource conflicts', *Government and Opposition*, Vol. 40, No. 2 (2005), pp. 200-224.

(12) Selby, 'The geopolitics of water in the Middle East: fantasies and realities', *Third World Quarterly*, Vol. 26, No. 2 (2005), pp. 329-49.

(13) Herb Keinon, 'Deal to buy water from Turkey finalised', *Jerusalem Post*, 23 July 2003; Konuralp Pamukcu, 'Water trade between Israel and Turkey: a start in the Middle East?' *Middle East Policy*, Vol. 10, No. 4 (2003), pp. 87-99.

(14) 'Dressing up domination as 'co-operation': the case of Israeli-Palestinian water relations', *Review of International Studies*, Vol. 29, No. 1 (2003), pp. 121-38.

(15) John Waterbury, *The Nile Basin: National Determinants of Collective Action* (New Haven: Yale University Press, 2002).

(16) Boaz Wachtel, 'The peace canal project: a multiple conflict resolution perspective for the Middle East', in Jad Isaac and Hillel Shuval (eds.), *Water and Peace in the Middle East* (Amsterdam: Elsevier, 1994), pp. 363-73.

(17) Gal Nissim, 'Red-Dead Sea canal feasibility study agreement expected today', *Globes*, 9 May 2005.

illegal connections to pipelines in order to irrigate their fields, while water merchants often extract water illegally from water networks before re-selling it by tanker to the very same communities from which it has been stolen.⁽¹⁸⁾ These contexts are already a breeding ground for violent local conflicts between neighbours, neighbouring communities and different users, especially in rural areas where traditional customary law is being eroded and where state regulatory powers remain thin.⁽¹⁹⁾ Little is known about and more research is required on this subject. However, given that social inequalities are increasing across the region, that rural areas are being progressively marginalised, that states are under pressure to liberalise and downsize, and that water supplies are increasingly stretched and costly, then it is likely that such local, internal water conflicts will become more and more serious.

Of course, these domestic issues cannot be isolated from the broader question of Middle Eastern development.

Water is a biological necessity, but it is also an economic commodity, such that water shortages could be readily overcome if there were sufficient infrastructure investment and ability to pay for water (in addition to improved governance). In this sense, the challenge of resolving the region's water problems is but one aspect of the broader challenge: that of how to transform the contemporary Middle East away from its dependence on oil, war and external capital, and instead towards a development trajectory that allows for increased intra-regional trade, investment and employment, for the political reform of rentier states, and for improved human development. ■

(18) Selby, *Water, Power and Politics*, ch. 7; Selby, 'The geopolitics of water', pp. 343-4; Julie Trottier, *Hydropolitics in the West Bank and Gaza Strip* (Jerusalem: PASSIA, 1999).

(19) See for instance 'Thirst for water and development leads to conflict in Yemen', *Choices: The Human Development Magazine* (UNDP, March 2003).

WATER CRISIS IN THE MIDDLE EAST: PRICING NOT A SOLUTION

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In the last few decades, resource depletion and climate change challenges began to alarm communities on the local and international levels. Various actors developed policy proposals to control mismanagement, while other actors resorted to power in order to have sustainable access to natural resources. As a result, the depletion of environmental resources and its relation to security concerns started to replace traditional concepts of national security. After defining environmental security and other related concepts, this paper will discuss water scarcity in the Middle East and a number of proposed water cooperation projects in the region. The paper will discuss in detail water pricing: the concept that has been recently adopted by the World Bank to manage and reduce water scarcity on a global level. The paper will refer to major aspects of this option in relation to the Middle East context and then highlight its major conflict related aspects. The paper concludes by supporting two alternative cooperation projects that have been discussed in the region.

With the rise of a number of conflicts over shared resources, the term environmental security emerged as a reflection of parties' willingness to use force to secure access to or control over resources. Environmental security refers to "a field of inquiry that seeks to determine whether or not traditional notions of security (which emphasize countering military threats with military power) should be adapted to include threats posed by population growth and diminishing quantity and quality of environmental goods and services"⁽¹⁾. Given the increasing scarcity of natural resources and competition over access and control, countries redefined national security to encompass environmental aspects. Countries started waging wars and using military force to restore rights over resources or to control new natural resources. Of all resources, water -mostly fresh water rather than ground water- became a matter of steady concern given its linkages to food security, economic development, and of course human survival. Affected by this rise of security concerns in environmental aspects, conflict over water resources started shaping foreign policies of states in what is known as water diplomacy. Water diplomacy refers to the manner that water-needs shape and determine the foreign policy options of different states.

Several factors collaborate in what makes water diplomacy a defining factor for political tensions in the Middle East. Tensions in the region⁽²⁾ have generally revolved around the three main river basins: the Nile, the Jordan

River, and the Euphrates and Tigris basins. Except for the Jordan River, Middle East rivers originate from non-Arab countries whose development projects affect the water flow to downstream Arab states. The region faces severe water scarcity. A water scarce country is one with less than 1000 cubic meters per capita. The list of water scarce countries in MENA already includes fourteen countries and is expected to cover eighteen countries by 2025 including Egypt, Syria and perhaps Iraq⁽³⁾. Jordan, West Bank, Gaza and Israel are already facing severe water shortages. Water is not only scarce, but is also mismanaged, wasted, and utilized in water-intensive economic activities. Population growth and increasing demand on water exacerbates the problem. For example, the annual population growth in Jordan is 2.66%, Egypt is 1.99%, and Syria is 2.38%⁽⁴⁾. The rate of population growth in Israel is 1.29% mainly due to waves of Jewish immigrants⁽⁵⁾. Because of high demand, shortages of fresh water, relative depletion and pollution of ground aquifers, and the long conflict in the region, a number of experts investigated water aspects of Middle East conflicts and potentials solutions.

Generally the literature on water scarcity, conflicts, or cooperation is divided into two trends. Some authors argue that water conflicts will define future tensions in the Middle East given power imbalances and previous water conflicts in the region⁽⁶⁾. Others believe that countries will avoid water conflicts to save the already depleted and polluted resources and, thus, they support the view that water cooperation will increase in momentum. A number of bilateral and regional cooperation plans were also discussed including intra-Arab development projects of fresh and ground water. Turkey and Israel have

- (1) Schwartz, Daniel and Singh, Ashbindu. "Environmental Conditions, Resources, and Conflicts: An Introductory Overview and Data Collection." Nairobi: UNEP, 1999. p. 6.
- (2) In this article, Middle East refers to the countries of Egypt, Syria, Lebanon, Jordan, Iraq, West Bank and Gaza, and Israel.
- (3) Darwish, Adel; "The Next Major Conflict in the Middle East? Water Wars," Lecture given at the Geneva Conference on Environment and Quality of Life, June 1994. p. 1-2
- (4) UNDP and Regional Bureau for Arab States, Arab Human Development Report 2004: Towards Freedom on the Arab World. New York, UNDP: 2004. Table 6, p. 238.
- (5) <http://worldfacts.us/Israel.htm>
- (6) The major water conflict was the 1967 war that started over unilateral development and diversion of Jordan River water by both Israel and Arab countries. In 1963 Israel started pumping Jordan water to the Negev desert. Arab countries responded by starting a regional water development plan and blocking water flow of two branches of Jordan River. With the end of the war, fresh water supplies in Israel increased by 50% through controlling Golan Heights. Tensions between Syria, Lebanon, and Israel over waters in Golan Heights and Litani River have been constant. Similar tensions exist between Turkey, Syria, and Iraq and between Egypt and Ethiopia.

also contemplated some development projects the most ambitious of which is the Peace Pipeline. The idea behind it is to utilize “Turkish” water, Israeli hydrotechnology, Arabian Gulf oil wealth, and in another proposal Egyptian cheap labor to construct pipelines carrying water from Turkey to Middle Eastern and Arabian Gulf countries. The project failed due to Arab fears of vulnerability to changes in Turkish policy towards Arab states, the military alliance between Turkey and Israel, and the high construction and maintenance costs involved. Cooperation plans between Arab countries have also failed because of weak implementation policies. One example of these projects is the utilization of Hammad ground aquifer between Saudi Arabia, Iraq, and Jordan⁽⁷⁾. Other cooperation efforts have either failed or presented weak outcomes excluding Turkish-Israeli cooperation of selling water to Israel through tanks by sea.

The concept of purchasing water emerged globally to respond to water scarcity and has developed to encompass goals of controlling wastage of water and mismanagement. The definition of environmental security cited above would lead to this economically driven concept currently sponsored by the World Bank. The definition refers to natural resources as “environmental goods and services”. The alternative backed by the World Bank derives directly from the market value of natural resources as tradable goods and services. Based on this conception, water is a good to be owned, priced, and sold; water resources can be privatized like other sectors. On a global level, this would entail that water scarce countries purchase their water needs from water rich countries and, thus, water markets⁽⁸⁾ will be on the rise.

The economic basis for this argument has been laid out earlier by agricultural economies in water scarce countries. While each country in the Middle East addresses food security challenges through growing water-intensive crops like wheat and grain, the arid climate and water shortage prevented establishing self-sufficient agricultural sectors. Countries were encouraged to restructure the agricultural sector shifting to less water-intensive crops, import water-intensive products from water rich countries, and shift to industrial economies. Thus, applying the logic of comparative advantage, particularly that agriculture consumes 80% while the industrial sector consumes around 11.5% of water resources in the region⁽⁹⁾. With this approach, countries followed virtual water dynamics. The term virtual water refers to water consumed in water-intensive products⁽¹⁰⁾. If countries are to import water-intensive products, they are saving their scarce water resources to be used rather in domestic and industrial sectors. Arab countries use up to 87% of water resources in agriculture⁽¹¹⁾ while it makes up to 70% of Israel’s water consumption⁽¹²⁾. These resources are generally used in economically unsound agricultural activities⁽¹³⁾. Since virtual water presents a rational trade off, some countries in the region follow this approach. For example, Egypt agricultural water

consumption in 1994 decreased by 12.6 milliard m³ compared to 1993 figures and by 14.7 milliard m³ compared to 1992⁽¹⁴⁾.

The economic dynamics involved in virtual water along with the rise of privatization efforts, opened venues for water pricing currently backed by the World Bank to substitute traditional water development methods. Pricing would entail withdrawing government subsidies for water consumption and increasing prices of water use in domestic, industrial, and agricultural sectors. Proponents argue that if pricing prevails, water waste and mismanagement would decline resulting in an increased water availability. This argument attains validity with studies revealing that more than 50% of water resources in the region are wasted in poor water management systems. World Bank also attempts through this step to strengthen public-private sector partnerships. In the World Bank’s vision, the public sector will set policies for structural changes that support water development while the private sector will get management contracts that differ in duration and responsibilities⁽¹⁵⁾. Water resources would be owned by one entity that sells water to populations. On regional and international levels, this implies that water scarce countries purchase their water needs.

Although pricing may reduce water consumption by sound management, conflict risks remain high due to the economic pressures it places on developing countries with weak economies. Pricing also implicates political vulnerability since the main concern for Arab governments is food security. Dependency on water supplies from other countries will, therefore, insinuate possibility of using water as a political weapon just as has been the case with water resources in the region.

- (7) Al Tamimi, Abed Al Malik. *Arab Waters: Challenges and Responses*. Beirut: Center for Arab Unity Studies, 1993 (Arabic) p. 31-32
- (8) Kemper defines a water market as an arrangement in which holders of water rights trade them with each other or with outside parties. Kemper, Karin E. “Markets for Tradable Water Rights”. 2020 Focus 9 (Overcoming Water Scarcity and Quality Constraints), Brief 11, October 2001.
- (9) Rabi’ Al Emam, Husam Al Dein. *World Bank and Water Crisis in Middle East*. Abu Dhabi: Emirates Center for Studies, 2004 (Arabic) p. 78-79
- (10) Jobson, Suki. *Water of Strife: the Geopolitics of Water in the Euphrates-Tigris and Jordan River Basins*. Briefing paper No. 4 Middle East Programme, the Royal Institute of International Affairs, December 2003. p. 2
- (11) Euro-Arab Center for Studies (EACS). *Arab Water Security Conference*. Paris: EACS, 2000. p. 79-83
- (12) Lonergan, Stephen C. and Brooks, David B. *The Role of Fresh Water in the Israeli-Palestinian Conflict*. Canada: International Development Research Centre (IDRC), 1995. Chapter 3, p.4
- (13) One example is Israel’s water consumption in 1985 when 95% of Israel’s water was used in agriculture while its share to GDP figured 3% only. Jobson, p. 8
- (14) Khaddam, Munther. *Arab Water Security: Realities and Challenges*. Second Edition. Beirut: Center for Arab Unity Studies, 2003. p. 82
- (15) For information on types and differences between these contracts, see Rabi’ Al Emam. p. 68-71

One can cite in this regard, the January 1991 tensions between Syria and Turkey when the latter blocked flow of Euphrates for one month to fill Ataturk Dam, part of its ambitious Greater South Anatolia Development Project (GAP). Experts believe, though, that Turkey used Euphrates flow to warn Syria against its political support for Kurdistan Worker's Party (PKK).

On an international level, pricing imposes serious questions on international laws regulating water rights and national sovereignty concerns. A number of international laws and conventions regulate agreed-upon principles of river water as shared resources between all riparian states. But if water becomes a priced commodity, it is likely then that some countries -particularly those with economic and military superiority in the region- will violate these principles. The Helsinki Rules on Uses of the Waters of International Rivers also stipulate in Article IV that "each basin state is entitled, within its territory, to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin". However, if the World Bank -an international organization- is promoting pricing, this very right is abused. If upstream states are to sell water flowing in their lands, the reduction in flows to down stream states protected by the "reasonable and equitable" phrase, as vague as it is, will certainly push these states to contemplate the use of military force to restore their legitimate shares of surface fresh water sources. Pricing would further undermine the fragile international law regulations on shared water resources.

Interstate conflicts are certainly a matter of concern given military and technical superiority of non-Arab states in the region that have been developing water projects ignoring the rights of riparian Arab states. Turkey is the water tank of the region, a NATO member, and has used water in the recent past as a tool for political pressure. Yet, what exasperates Arab states is its strategic alliance with Israel, who owns hydro technology and military excellence. A clear example of this strategic trap is the military alliance signed in 1996 that was followed immediately by agreements to sell water from Turkey's south to Israel by sea. While in Africa, Israel's cooperation with Ethiopia alarms Egypt which draws 95% of its Nile water from Ethiopian lands. Ethiopia uses Israel's hydro technology expertise for water development projects on Nile upstream sources in exchange for allowing the Falasha Jews to migrate to Israel⁽¹⁶⁾. Nevertheless, it's unlikely that Arab countries will resort to force. In fact a number of experts have stated that Arab countries cannot afford a military conflict mainly due to power imbalances. These experts believe, however, that Israel may resort to military work to obtain more water particularly with the unquestionable US support to its policies.

Intrastate conflicts would surface once pricing is imposed in areas of agricultural activity concentration. These

conflicts can result from economic pressures on farming communities, who cannot afford any increase in costs of production, especially that in all developing countries there is a tradition of providing water for agricultural consumption for free. In Egypt, water scarcity and disagreement over use of wells resulted in the death of 37 farmers, injury of 190 and the arrest of some 325 farmers in violent events in rural areas between 2000 and 2004⁽¹⁷⁾. In these cases water prices were out of question. But in such a water-tense situation, it is legitimate to argue that pricing will only add to an already tense situation with probable cases of water stealing and inability to pay. Local conflicts of a larger scale may also be inflicted by discriminative policies. In Jordan, many opinion makers and activists have raised concern and objection to recent government decision to increase water prices in the last quarter of 2005 to cover pumping and maintenance costs. The population in the south of Jordan has already expressed discontent over government plans to transfer waters of the Disi Aquifer in the south to the country's center. They assert that transferring water in this form without designing development projects for the south will deprive one segment of the population from their share in national development efforts⁽¹⁸⁾. If this discontent increases over this water-transferring project, and if water prices increase, conflicts may re-erupt in the south of Jordan. This becomes a major concern if one considers the precedents of such uprisings in south Jordan over government policies and increases in prices of oil and bread in the last two decades.

US hegemony over World Bank policies in the Middle East context intensifies conflict-producing dimensions of water pricing. Arab countries and activists have joined other activists around the world in opposition to water privatization policies⁽¹⁹⁾. These activists believe that pricing is another step toward privatization of resources empowering ill-balanced globalization efforts. Yet in the Middle East context, pricing seems a dire option in light of water's political, economic, and ideological significance to the Middle East conflict. In addition, US hegemony over World Bank policies, World Bank discriminative policies in water development projects in the region⁽²⁰⁾ and growing anti-American sentiments

(16) On Israel cooperation with Ethiopia, see Hussein, Fathi Ali. *Water and Political Files in the Middle East*. Cairo: Madboli library, 1997 (Arabic) p. 158-166 and Khalil, Mahmoud. *Water Crisis in Middle East and Arab and Egypt National Security*. Cairo: Academic Library, 1998 (Arabic) p. 105-7

(17) Land Center for Human Rights. "Water as Source of life: No for Selling Water" 26/12/2004.

(18) Towaisi, Basim. "Disi Water: Scarcity Management and Provinces Development" *Al Ghad Daily*, 10/3/2005.

(19) These include organizations from India, Brazil, South Africa, US, Thailand, France, Switzerland and the Netherlands. Abed El Men'em, Amer. "Rising Opposition Against Globalization in Water Forum in the Netherlands" CFD coverage on Second World Water Forum. (Arabic) available at www.cfdarchive.net

(20) A brief example is World Bank support to Turkey and Israel water development project that overlooks rights of downstream states and co-riparian states.

can inflame more conflicts in the region. These factors should be viewed with reference to increasing poverty and unemployment levels and political frustration with occupation powers in two countries of the region.

A balanced view can, however, be adopted from Islam's ruling on water management. Rabi' Al Emam refers in his book to some water development projects that were conducted during the time of the prophet and his explanation of Islam's ruling on the subject. In Islam water is considered a natural resource that is freely available to the public. However, if a person or a group (that is a private sector) digs a well or constructs a pipeline that person or group is entitled for a charge to be imposed on water used to cover the capital invested in constructing the water development or access facility⁽²¹⁾. Governments can adopt such a mechanism in a balanced method sensitive to poverty levels and agricultural needs in the region. This option can improve water management without depriving poor populations from their humane and moral right in access to water.

Water scarcity requires, nevertheless, more advanced cooperation efforts on a regional level. Since pricing is likely to ignite conflicts and past cooperation attempts have done little to introduce new trust levels between actors in the region, desalination and Red-Dead Sea canal seem to be the most appealing cooperative options. Desalination is preferable for a number of factors: It can substitute scarce fresh water sources; it saves infrastructure costs if constructed near consumption centers; it is faster to construct compared to other options. Costs of production per unit are low compared to the construction and maintenance of traditional water development options. More importantly, it does not implicate political, social, or legal conflicts⁽²²⁾. In view of these factors, desalination presents an acceptable trade off. Even a country like Jordan, with minimum coastal access to seawater compared to other countries in the Middle East, desalination remains a valid option. According to Hazem Al Naser, former Jordanian Minister of Water and Irrigation, desalination presents a preferable solution for water scarcity in Jordan since its costs are far less than those of importing water. He added in this regard that to revive Jordan River is technically impossible and costs involved are far beyond those of desalination⁽²³⁾. However, there are a number of needs to be addressed if desalination is to be adopted. Demands for trained technicians and for larger capacity and availability of desalination plants and training centers should be met⁽²⁴⁾. Desalination programs should also adopt a regional approach rather than the current national focus of desalination centers in the region.

Jordan, Israel, the PNA, and the World Bank have contemplated the idea of the Red-Dead Sea Canal and preparatory discussions and studies are already on the move. Outcomes of the Canal would include providing regular water flow south of the Dead Sea, increasing water levels in Dead Sea, installing power-generating

projects due to the 400m differences in altitude, utilizing hydropower for desalination, and expanding water flow on east-west sides for agricultural purposes. With these potentials, southern development of Jordan, Israel and the Palestinian state, once established, would prevail; it attains centrality given grievances of the south population in Jordan and the excessive demand on agricultural communities in south Israel where huge agricultural activities are aimed at attaining the Jewish dream of "making the desert bloom"!

Yet, this development potential requires cautious planning apart from feasibility studies⁽²⁵⁾ on legal and political dimensions to regulate shared water between Jordan, Israel and the Palestinian Authority to avoid the legal confusion imposed by the vague language in peace agreements signed between them in 1990s. Before investing in a huge water development project, legal rights should be stipulated and adhered to so that future conflicts are avoided. A committee of the three parties along with an ombudsman committee of some Asian, African, and European states is important. US involvement in this committee is best avoided due to its continuous imbalanced and one-sided policies in the region that will eliminate the neutrality sought in an international committee.

Red-Dead Sea Canal and desalination hold potentials to reduce the intensity of water scarcity and also to initiate regional cooperation in new understanding of water management to prevent any future conflicts in Middle East. Pricing can only ignite more conflicts mainly due to the size of the agricultural activity in the region and high poverty rates. It is here where water diplomacy can be used best. Middle East countries would shape their foreign policy options toward water cooperation to avoid confrontation at all levels. The political situation in the region with occupation forces in Palestine and Iraq, the rise of extremism in its most violent forms, and economic frustration on part of population are all symptoms of a coming disaster. Addressing cooperation is the only wise option left. If cooperation succeeds even in limited forms to share most vital resources between conflicting parties, we can at least prevent new conflicts from emerging if not introducing a new understanding of the ongoing conflicts in the region. ■

(21) Al Emam, p. 74-80

(22) "Water Security and the Arab World" (Arabic), available at <http://www.khayma.com/madina/watersave.htm>

(23) Al Naser expressed this view in water security meeting during World Economic Forum in May 2005. Khayyat, Hala. "Participants in Water Security Meeting Avoid Politics" Al Ghad Daily, 22/5/2005

(24) So far there are three desalination training centers (SWCC in Saudi Arabia, KISR in Kuwait, DWTRC in Libya), one power/water plant operator (Sogex Oman), and one country providing a graduate degree in desalination (Tunisia). Oman and Jordan are also setting plans for opening graduate programs too. Quteishat, Koussai. "Prospects of Water Desalination in the Middle East and Central Asia". Diving Into Implementation World Bank Water Week 2004. 25/2/2004

(25) World Bank will organize later this year a conference for donor countries to collect funding for the feasibility study.