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Watersheds and Problemsheds: Explaining the Absence of Armed Conflict Over Water in the Middle East +

By Tony Allen*

Miraculously, and above all silently, Middle East governments have been able to avoid the apparently inevitable consequences of their inherited water deficits, despite the fact that this is a life-and-death economic issue for them and their peoples. How these countries can continue to avoid such conflicts while fulfilling their needs is an important issue for the region.

Analysis based on watersheds has led to the misleading conclusion that water deficits will be the cause of major armed conflict in the Middle East. Yet water has not been even a minor element in a regional conflict scenario for over a quarter of a century.

Nevertheless, those suffering from water paranoia have cause for their concern. In the past 25 years the status of the region's water resources has significantly worsened. In 1970, the water needs of the Middle East and North African countries could be met from within the region. Until then, regional governments and their engineers had been able to mobilize supply-managing techniques to deliver new water to meet the requirements of municipal, industrial and agricultural needs. The demographically driven increased demands of the past 50 years have been unprecedented and forced the region into water deficit. Yet there has been no water war.

Ideally each individual needs a cubic meter of water (a ton) for drinking each year, about 100 cubic meters for other personal needs and 1000 cubic meters to grow the food that person consumes. Industry and especially services, are relatively minor users of water.

Every additional mouth, however, needs over 1100 cubic meters of new water every year and it is agricultural water needs that present the impossible challenge for Middle Eastern economies. The watersheds, including groundwater, of the region cannot meet the irrigation requirements.

There is also, however, an extremely important hidden source of water: "virtual water." Virtual water is the water contained in the food that the region imports. More water flows into the area as virtual water each year than flows down the Nile for Egypt's agriculture. The use of this virtual water obtained in the global trading system has enabled the political leaderships of the region to augment their respective inadequate water resources.

The global trade in food staples has proved to be a very accessible and effective system. Politicians and resource managers find this source far more attractive than stressful, even potentially disastrous, wrangling over local water with hostile neighbors. The strategic imperative of providing food for citizens has been met through access to politically stress free virtual water.

Thus, what many have failed to notice is that Middle East politicians have obtained the water they need outside their

indigenous hydrological systems and thus been able to avoid troublesome domestic and regional frictions. Miraculously and above all silently governments have been able to avoid the apparently inevitable consequences of their local water deficits.

The global trade in food staples has been particularly accessible for the past 50 years, even to poor economies, because competition by the generators of the global grain surplus -- the United States and the European Community -- brought down the global price of grain until the beginning of 1995. The past quarter-century, when Middle Eastern water conflicts have been most insistently predicted, was a period when grain importers enjoyed heavily subsidized virtual water. During the 1980s, grain was being traded at about US$100 a ton, despite costing about US$200 a ton to produce. The year 1995, however, witnessed a dramatic change in the grain market. Prices rose rapidly and by the spring of 1996 wheat was being traded at US$250 a ton. Since then, prices have fallen back to US$140 a ton, but there seems no likelihood that in the World Trade Organization (WTO) regime they will ever return to their lower late 1980s' levels.

The wheat price fluctuations of the mid-1990s emphasize the strategic importance of virtual water. Access to virtual water is achieved by developing economies strong enough to provide the purchasing power to trade on international markets. Intelligence on the status of the global capacity to meet future virtual water needs at affordable prices is an enormously important economic issue for Middle Eastern governments.

Such water policy priorities are easy to identify for outsiders but can become entangled in the political realities of a region where governments have very different perspectives and priorities. Great is the consequent frustration for the staffs of international agencies such as the World Bank who believe that many countries underestimate the importance of trying to influence global trade in staple foods. This author has been urging for some years that Middle East importers should act together as the pivotal force in the global grain trade, an ability made possible by their large-scale purchases since the region is, and will remain for the foreseeable future, the major grain importing region of the world.

The second water policy priority as seen from outside is the allocative efficiency of water use. In water-short circumstances, according to basic economic principles, water should be allocated to uses which bring the best return to water supplies. In agriculture, water should be allocated to crops which bring a sound return to water as well as sound economic returns to the economy. This means that high-value vegetables are more useful than livestock, at least livestock raised on locally grown fodder. At sector level, industrial use is more efficient than agricultural use. This policy is commonly referred to as demand management.

The third water policy priority is productive efficiency, which means achieving better returns to existing water uses. Investment and changes in management and technology are means by which improvements in productive efficiency can be achieved.

Middle Eastern governments prioritize water policy in exactly the reverse order despite the fact that productive efficiency requires investment but far less political risk. Allocative efficiency on the contrary, especially at the sector level, can only be very politically stressful. It involves shifting a crucial input -- water -- from an agricultural sector which brings a poor economic return to industry or services, where it brings a higher return. Governments have proved very reluctant to

handle the politics associated with such reallocation. In Israel, where the policy has been successfully implemented, it took over 20 years of debate to achieve sectoral water re-allocation.

Addressing the global virtual water priority by focusing on market intelligence and a regionally coordinated approach to trading in food staples has not gained a place on the water policy agenda in the region. The politics of water in the Middle East are driven by very deeply held belief systems. Water is central to a traditional agricultural way of life which is of direct importance to significant proportions of the populations of individual economies. More important it is perceived by influential majorities and key constituencies to be of crucial strategic significance.

Recent rises in the price of grain, and consequently of virtual water, should force a re-examination of the beliefs. But change will be slow and will take decades rather than years. Adjustments will be sufficient, however, to avoid water wars.

+An earlier version of this article appeared in Middle East Economic Digest: The Middle East in 1997, (London: Middle East Economic Digest, pp 14-16, January 1997.

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