



# Water Security and Growth: The case of the Middle East and North Africa Countries

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## **Water Security and Growth: The case of the Middle East and North Africa Countries**

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Today, the challenge of water security is global, and growing. Achieving and sustaining water security, in both developed and developing countries, is likely to increase in complexity and priority—not only as climate change intensifies, but also as the demands of economic growth increase. While most developed countries invested heavily in water security, often starting early on their path to growth, most of the world’s developing countries remain relatively water insecure.

The dominant threats to water security vary geographically and over time. Relative risks to populations vary globally: South Asia has the largest global concentration of population at risk of all water-related hazards; the Middle East and North Africa (MNA)<sup>2</sup> stands out as having the highest percentage of the population facing scarcity and the only region where risks are still growing; and Sub-Saharan Africa has the highest percentage of population without access to water and sanitation.

What is clear is that water security is not a stagnant goal, it is a dynamic process affected by changing climate, political set up, growing economies, and resource degradation. Moreover, as social, cultural, political, economic priorities and values evolve, water security will evolve with them. This note argues that in the MNA countries, instead of water security becoming an impediment to growth and factor in conflicts, water for growth and water security can be a factor of prosperity and peace.

### **Water Security**

The water supply crisis—a decline in the quality and quantity of freshwater—is perceived by many experts to be one of the top global risks in terms of likelihood and impact. On the other hand, water insecurity acts as a drag on growth and poses a threat to human well-being and ecosystem health across a range of measures. However, all successful efforts to enhance water security involve the simultaneous and integrated development of infrastructure and institutions.

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<sup>2</sup> Defined for the purposes of this brief to include Algeria, Bahrain, Djibouti, Egypt, Kuwait, Qatar, Iran, Iraq, Israel, Jordan, Lebanon, Libya, Mauritania, Morocco, Oman, Saudi Arabia, Syria, Tunisia, United Arab Emirates, West Bank & Gaza, and Yemen.

Most definitions of water security, tend to highlight issues of access, equity, environmental quality, and adequate quantities of water for populations to live well. They tend not to focus on violent conflict concerns, except for the MNA region where water security has a long history of military, tensions as well as human and security dimensions. This exception is because water security has certainly entered into all political scenarios in the MNA region and in my opinion well intensify as the geo-political scene evolves among countries.

### **The case of the Middle East and North Africa countries**

The MNA countries face enormous political, economic and social challenges. The region is stagnating. The pickup in economic activity that started in mid-2016 was moderate (2.6%) in 2017<sup>3</sup> due to slower growth in MNA's oil exporters. Growth prospects is projected to improve in 2018 with overall growth exceeding 3 percent. Nevertheless, MNA's overall growth levels are half of what they were before the 2011 Arab Spring.

Many MNA countries have made progress in recent years, but still represents a puzzle. The percentage of poor people, already low, was declining in all economies, except Yemen. Not only did MNA countries reach the Millennium Development Goals related to poverty reduction and access to infrastructure services (especially, drinking water and sanitation, and internet connectivity), but they made important strides in reducing hunger, child and maternal mortality, and increasing school enrollment. Inequality of opportunity declined in some countries. Thus, the road toward the Sustainable Development Goals is well traced.

Now, however, further progress is challenged by the region's underlying population dynamics, political instability, wars and conflicts, limited economic diversification, low oil prices, lower fiscal revenues and currency shortages, weak export performance, and limited integration in the global economy.

Against the backdrop of this ominous economic situation, the availability of water must be an absolutely critical aspect of the growth infrastructure and strategic development framework of any country in the MNA region. In no other region of the world is water as important to growth, development, and security, and as it is in MNA. Water security and growth policies can—indeed must—be mutually reinforcing if the aspirations of MNA countries and their peoples for a better tomorrow are to be realized.

### **DWINDLING WATER RESOURCES: A THREAT TO GROWTH AND SECURITY**

MNA countries is home to 6% of the world's population and less than 2% of the world's renewable water supply. Worldwide, the average water availability is close to 7,000 cubic meters per person per year, whereas in the MNA countries, only around 1,200 cubic meters per person per year is

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<sup>3</sup> World Bank. MENA Economic Monitor, October 2017. Washington D.C.

available.<sup>4</sup> In fact, it is the world's driest region with several countries being among of the world's most water scarce countries including, Algeria, Bahrain, Kuwait, Jordan, Libya, Oman, the Palestinian Territories, Qatar, Saudi Arabia, Tunisia, the United Arab Emirates, and Yemen.

One half of MNA's population lives under conditions of water stress. Most countries have mobilized almost all available surface water, and many major rivers do not reach the ocean. Moreover, with the population expected to grow from around 300 million today to around 500 million in 2025, per capita water availability is expected to halve by 2050.<sup>5</sup>

Water resources are being depleted under the insatiable pressure of rapid population growth and the accompanying demands of urbanization and irrigated agriculture. World Bank estimates indicate that eleven countries in the MNA region are already having to withdraw 100 percent or more (sometimes substantially more) of their renewable water resources each year.<sup>6</sup> Meanwhile, in several countries per capita renewable water availability is less than 500 cubic meters a year. This is the level at which water becomes a hurdle to growth, and beyond which water scarcity becomes a key concern in people's lives and begins to affect the development process.

Moreover, Climate change, bringing greater climate variability and more frequent and severe droughts and floods, will exacerbate the already precarious situation created by chronic water scarcity. The MNA region is home to 5 of the top 10 countries at risk from the impacts of climate change<sup>7</sup>. By 2030 the effects of climate change will have reduced renewable water resources by another 20 per cent through declining precipitation, rising water demand as temperatures mount and expanding seawater intrusion into coastal aquifers levels rise and groundwater overexploitation continues. conditions imposed by physical scarcity.

Within the next thirty years, most countries in the region will have crossed that barrier and will be experiencing more water shortages. Apart from being used as a political tool, water scarcity can also be one of the triggers for violent conflict.

Several countries that have already crossed the water hurdle have shown extraordinary resilience in dealing with scarcity. Nevertheless, the potential for a worsening water crisis in the region, exacerbated by consequences of climate change, is real and brings water security to the front line. Addressing it is absolutely critical for the region's future. Otherwise, a destructive and self-reinforcing vicious circle will emerge, where water shortages begin to constrain growth. In

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<sup>4</sup> Water Resources Research. Groundwater depletion in the Middle East from GRACE with implications for transboundary water management in the Tigris-Euphrates-Western Iran region. February 2013. Study prepared jointly by NASA and the University of California Irvine.

<sup>5</sup> World Bank. Water, Food Security and Agriculture Policy in the Middle East and North Africa region, July 2006.

<sup>6</sup> World Bank. MENA Development Report. Making the Most of Scarcity, 2007. Washington. D.C.

<sup>7</sup> United Nations Development Programme. Water Governance in the Arab Region. Managing Scarcity and Securing the Future. 2013.

turn, slower growth means that less investment capital will be available for providing the water needed for rapidly expanding populations and the economic activity required to support them. This will further constrain growth, degrade the quality of life (especially for the poor), and possibly exacerbate social tensions, to the point where the whole development process in the MNA region over the next few years is jeopardized.

Though water scarcity may not be the main determinant trigger of conflict, it can exacerbate tense relations and compound other underlying factors to spark violence. Many would argue that, taking into consideration the challenges to sustainable peace and the history of tense bilateral and multilateral relations and on-going political mistrust among MNA countries, increasingly scarce water resources could result in the next wave of heightened tension and conflicts in the region. Additionally, the region's migration crises are adding to the water stress in several migrant-hosting countries and could potentially be another source of instability.

But it is also possible to imagine a brighter scenario, whereby not a vicious circle but a virtuous spiral is brought into play in the MNA region. This scenario would support both greater water availability where it is most needed and more rapid economic growth in the short and medium term. In turn, growth would secure water availability over the long term. Water security and water for growth would be mutually reinforcing and both could serve as factors for peace and stability.

Creating this virtuous spiral will depend on each country in the region adopting and translating into action a new and integrative approach that brings together policies for sustainable water resource management and policies for fostering economic growth and water security, and that emphasizes much more the conceptual complementarities and practical linkages between them. Let me briefly illustrate what I mean.

### **VIRTUOUS SPIRAL: WATER FOR GROWTH, GROWTH FOR WATER, WATER FOR PEACE**

Water policies in MNA countries have traditionally emphasized supplying users' needs at minimal prices. When populations were small and largely rural, and when food security was a national strategic priority, it made sense to focus on supply enhancement in line with predominantly agricultural requirements. Today, agriculture accounts for nearly 85 percent of MNA's total water use, but only for an average of about 13 percent of regional GDP<sup>8</sup>. And agricultural water is inefficiently used in terms of the crops it supports. For example, growing a ton of irrigated grain in the MENA region can require up to 1,500 cubic meters of water. Assuming the opportunity costs of \$1 per cubic meter, the "water cost" of that ton of grain is \$1,500. But today's efficient international grain markets can deliver imported wheat at around \$180 a ton. The value-added of water used in industry and the service sector is far greater than that of irrigated agriculture. And diverting some water usage out of the agriculture sector into industry and service sectors would greatly increase the "earnings" of a cubic meter of water.

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<sup>8</sup> World Bank. Water, Food Security and Agriculture Policy in the Middle East and North Africa region, July 2006.

Inefficient use of water is not confined to agriculture. More than three quarters of the populations in MNA countries now have access to clean water and improved sanitation, although service is often not continuous. Many countries have completed major investments in water storage infrastructure and have invested heavily in expanding irrigation systems. Yet, about half of all municipal water in MNA is lost---for example, to leakages in delivery networks.

Excessive reliance on the public sector remains the rule rather than the exception. Public spending on water accounts for between 1 and 5 percent of GDP in the region, and as much as one quarter of public capital expenditure. Yet much of the public spending does not always generate the expected benefits. Investments are often poorly sequenced (dams with no irrigation infrastructure to exploit the stored water), and, in some cases, suffer technical problems. Utilities cover their operational and management costs in only a few countries in the region, resulting in underinvestment in maintenance and lack of cost recovery.

How do these problems, and possible actions to redress them, link up with strategies for national economic growth? Water and growth policies could work together for socio-economic development in MNA, and specifically a different approach to water provision could enhance growth and security prospects. Here is how.

Central to the growth prescription for the next decade is the idea that the region needs to integrate with and compete successfully in the global economy. This means actively promoting a dynamic private sector that can produce and export competitively. Private sector-led growth requires greatly increasing investment in the sector, and supporting it with well-educated and trained human capital. But given limited resources, a policy where agriculture would give up some of its water is also called for, while taking into account food security concerns and the needs of those depending on agriculture for their livelihoods. Agriculture could still thrive, by adopting much more intensively water saving technologies such as drip irrigation (which allows up to twice as much to be produced with as little as half the water usage of traditional irrigation methods). There is a great deal of room to improve irrigation efficiency by introducing advanced irrigation systems and technologies. The use of technologies could lead to increased productivity and improve the economic situation and wellbeing of farmers. In addition, agricultural water prices could gradually be raised, to relate them more closely to the costs of supply, and to deter uneconomic usage.

Such a reorientation of water policy would in turn reinforce growth prospects, both by helping to avert a potentially growth-inhibiting water supply crisis and by reallocating water to higher value industrial and service uses--and hence enhancing the prospects for internationally competitive private sector manufacturing and service, in line with the core growth prescription. Obviously, the broader growth strategy would need to include provision of training programs to equip young people with the skills required by the private sector and safety nets to protect the most vulnerable.

Water losses in municipal supply systems in MNA countries average 30 percent or more in some countries. These losses must be cut to increase efficiency and reduce costs as well as to conserve water resources. While these improvements themselves have costs, the net investment savings would increase the pool of capital potentially available for direct private sector investment, and for upgrading the physical infrastructure (including water delivery networks) needed for dynamic private sector growth. Investment in new sources of water supply for the next decade will be

needed. Less water-intensive agriculture, loss reduction in municipal systems and new investment in water supply and delivery could help expand water availability for household use, including safe sanitation. This would help cut down the human capital costs of impaired household health and in turn create a more healthy and productive workforce.

The complementarities between sensible water policies and requirements for dynamic private sector growth do not stop here. Water for Growth strategies can avert a supply crisis and raise water's value-added in national economies, and hence its contribution to growth. In addition, Growth for Water strategies could ultimately resolve regional water shortages—because thriving economies can afford to use more less conventional mechanisms such as desalination and waste water recycling to supplement freshwater supplies. This could only become the norm if strong programs for water conservation and reallocation first succeed in eliminating the water hurdle to growth. But the idea of supply enhancement being constrained only by economic affordability, rather than by absolute limitations on resource availability, is not a pipe-dream. As an example, Malta is a small open economy which is chronically short of freshwater, but which has successfully used economic growth to supply 70 percent of its water needs by desalination.

Together, Water for Growth and Growth for Water strategies can lead to Water for Prosperity and Peace, by better managing resources to reduce scarcity and competition over access and use. Rather than being a potential trigger for conflict, water could come to be seen as a valuable resource on which progress depends and its efficient use and conservation a collective responsibility.

## **CONCLUSION**

There are strong synergistic linkages between water, growth and security policies in the MNA region. If countries adopt water policies that support growth – and several countries have already done it - rather than ones that risk jeopardizing it, the resulting growth could in turn eventually resolve the region's water needs. However, It requires a new and radical approach to water resources management.

To realize better and sustainable water management for achieving strong economic growth, we must do more to enhance the role of the private sector and civil society. Actions by governments and the international community are only part of the solution to solve the most serious water challenges. Under an effective policy and regulatory framework, the private sector could play a greater role in supplying cost effective and quality water service and in harnessing and developing new technologies that enhance water security. Civil society and the media also have important contributions to make. Much greater public information is needed to educate people about the availability of water resources and the costs and consequences of water use and practices. Participation and empowerment of users and poor people needs special attention to understand the most acute water problems they are suffering and to bring about sustainable water management that will help meet their needs.

In short, both MNA countries and the international community need to comprehend water as a political, economic and security issue in the region that plays a profound role in the future of the region and its development, and take more concerted actions now. Business as usual is not an option.