

# Overview

This report is the fifth in a series of Flagship Development Reports that highlight key challenges facing the Middle East and North Africa Region. This volume aims to show how water is integrated into the wider economic policies of the countries of the region. For that reason, it brings water issues to non-water specialists, addressing a multi-sectoral audience. The report will outline actions that can further a broad reform agenda within the current political and economic climate.

## The Problem

Even the most casual observer of the Middle East and North Africa (MENA) region knows the countries are short of water.<sup>1</sup> Despite its diversity of landscapes and climates—from the snowy peaks of the Atlas mountains to the empty quarter of the Arabian peninsula—most of the region’s countries cannot meet current water demand. Indeed, many face full-blown crises. And the situation is likely to get worse. Per capita water availability will fall by half by 2050, with serious consequences for the region’s already stressed aquifers and natural hydrological systems. As the region’s economies and population structures change over the next few decades, demands for water supply and irrigation services will change accordingly, as will the need to address industrial and urban pollution. Some 60 percent of the region’s water flows across international borders, further complicating the resource management challenge. Finally, rainfall patterns are predicted to shift as a result of climate change.

Are countries in MENA able to adapt their current water management practices to meet these combined challenges? If they cannot, the social, economic, and budgetary consequences could be enormous. Drinking water services will become more erratic than they are already, cities will come to rely more and more on expensive desalination and during droughts will have to rely more frequently on emergency supplies brought by tanker or barge. Service outages will put stress on expensive

network and distribution infrastructure. In irrigated agriculture, unreliable water services will depress farmers' incomes. The economic and physical dislocation associated with the depletion of aquifers or unreliability of supplies will increase and local conflicts could intensify. All of this will have short- and long-term effects on economic growth and poverty, will exacerbate social tensions within and between communities, and will put increasing pressure on public budgets. This report aims to suggest ways in which, within their current political and economic realities, countries can make changes to lessen these problems.

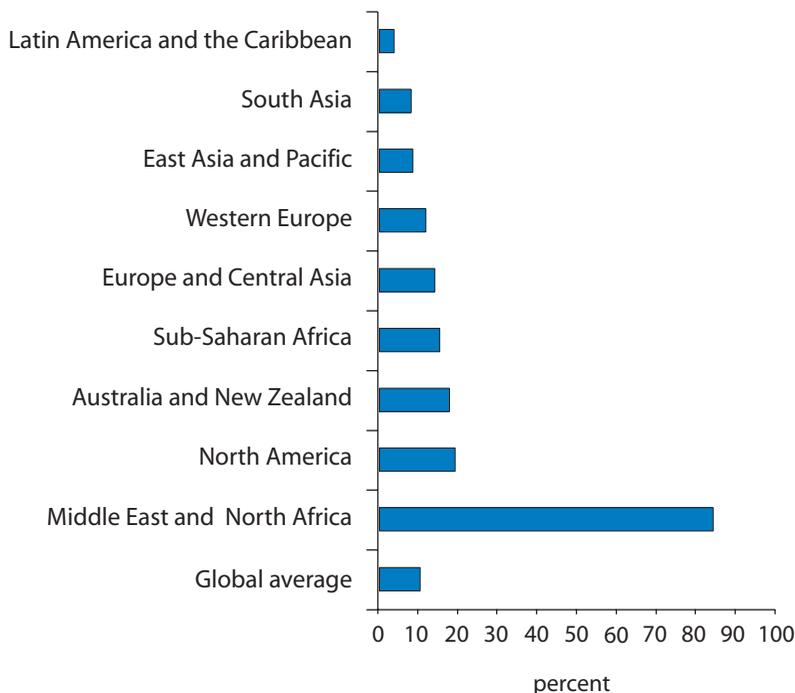
In most MENA countries, water policy, whether explicit or implicit, has undergone three phases. The first phase evolved over millennia. Societies across the region grew while adapting to the variability and scarcity of water. They developed elaborate institutions and complex structures that helped the region spawn some of the world's oldest and most accomplished civilizations. The second phase emerged in the twentieth century. As their populations and economies grew, governments increasingly focused on securing supply and expanding services. The public sector took the lead in managing huge investment programs. Indeed, the region's rivers are the most heavily dammed in the world in relation to the freshwater available (figure 1), water supply and sanitation services are relatively widespread (figure 2), and irrigation networks are extensive. When low-cost drilling technology became available in the 1960s, individuals began tapping into aquifers on a scale that overwhelmed the capacity of regulators to control the extraction. As a consequence, MENA is using more of its renewable water resources than other regions. Indeed, MENA is using more water than it receives each year (figure 3).

The third phase is just beginning, at the cusp of the twenty-first century. In some countries, governments and populations are starting to see that the approach of securing supply is reaching its physical and financial limits and that a switch toward water *management* is needed. They are slowly changing to a new approach, which considers the entire water cycle rather than its separate components, using economic instruments to allocate water according to principles of economic efficiency and developing systems that have built-in flexibility to manage variations in supply and demand.

A series of technical and policy changes to the water sector in most MENA countries is needed if the countries are to accelerate their progress in the third phase of water policy and avoid the economic and social hardships that might otherwise occur.<sup>2</sup> These are well known to water specialists in the region. The changes include planning that integrates water quality and quantity and considers the entire water system; promotion of demand management; tariff reform for water supply, sanitation, and irrigation; strengthening of government agencies;

**FIGURE 1**

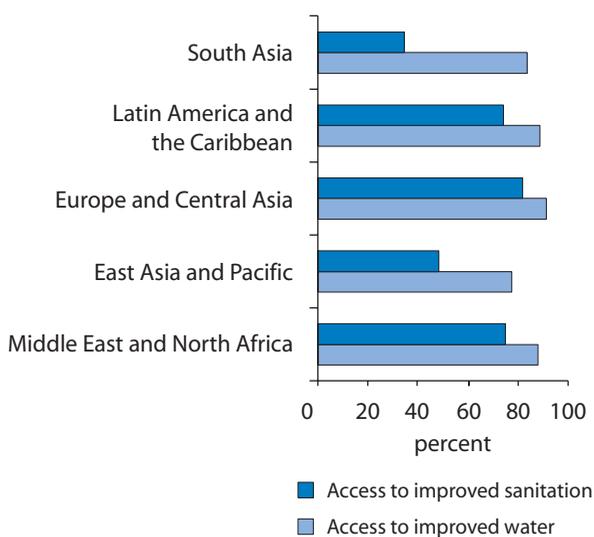
**Proportion of Regional Surface Freshwater Resources Stored in Reservoirs**



Sources: FAO AQUASTAT; IJHD 2005; ICOLD 2003.

**FIGURE 2**

**Access to Improved Water Supply and Sanitation by Region, 2002**

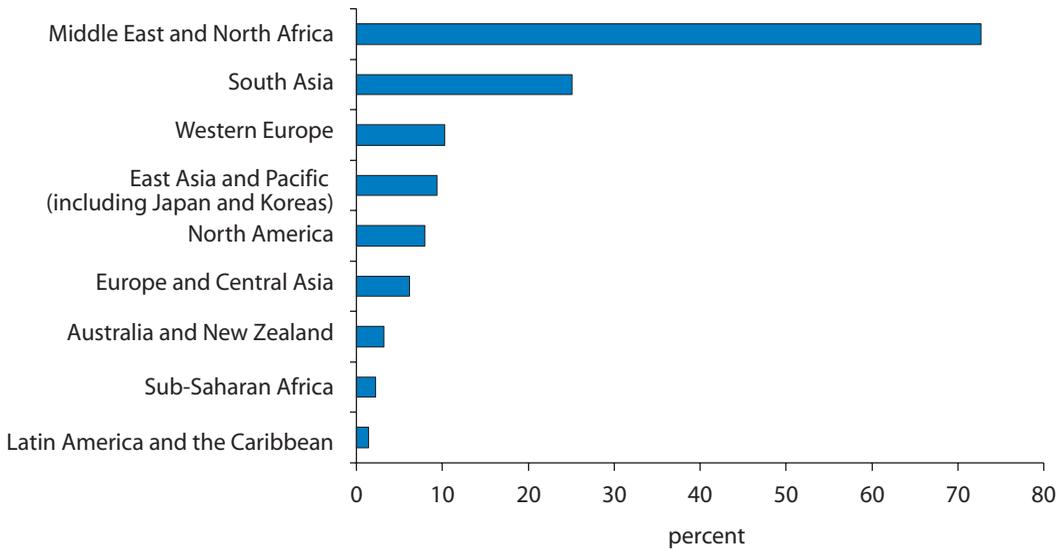


Source: World Bank World Development Indicators database.

Note: Definitions of improved water supply and sanitation appear in endnote 3 to chapter 2.

FIGURE 3

### Percentage of Total Renewable Water Resources Withdrawn, by Region



Source: Compiled from FAO AQUASTAT data for 1998–2002.

Note: The figure shows the sum of withdrawals across all countries in a region, divided by the sum of all the renewable water available in each country.

decentralizing responsibility for delivering water services to financially autonomous utilities; and stronger enforcement of environmental regulations. These changes should help governments make the transition from a focus on supply augmentation and direct service provision to a concentration on water management and regulation of services.

Most countries are making considerable technical, policy, and institutional progress within the water sector. MENA is home to some of the best hydraulic engineers in the world, the region manages sophisticated irrigation and drainage systems, and has spearheaded advances in desalination technology. Across the region, governments are implementing innovative policies and institutional changes that are already showing promising results. Governments in some cities have shifted from direct provision of water supply services to regulation of services provided by independent or privately owned utilities. In many countries across the region, farmers have begun managing irrigation infrastructure and water allocations. Some governments have established agencies to plan and manage water at the level of the river basin. To implement the new policies, most governments established ministries that manage water resources and staffed them with well-trained and dedicated professionals.

Yet, these efforts have not led to the expected improvements in water outcomes. Resource management remains a problem in most MENA

countries. Water is still allocated to low-value uses even as higher-value needs remain unmet. Service outages for water supply services are common, even in years of normal rainfall. People and economies remain vulnerable to droughts and floods; over-extraction of groundwater is undermining national assets at rates equivalent to 1 to 2 percent of GDP every year in some countries; and environmental problems related to water costs between 0.5 and 2.5 percent of GDP every year. Despite the region's huge investments in piped water supply, many countries experience poor public health outcomes. In 2002, diarrhea caused 22 deaths per 100,000 population in MENA countries (excluding the Gulf countries, Israel, and Libya), compared to 6 in the Latin America and the Caribbean region, which has similar income and service levels. Much of the investment (both capital and operating costs) is met by the public purse, which allocates between 1 and 3 percent of GDP per year. Public spending on water could be far more efficient. For example, many countries subsidize services for which consumers are able and willing to pay, which reduces the incentive for service providers to improve services. In addition, the governments of many countries often invest in large water resource management and resource mobilization schemes that do not bring the expected economic returns or for which cheaper alternatives exist.

Two primary reasons account for the lack of results. First, the changes have been partial. Most countries have not yet tackled some of the most important reforms, because they have proved politically untouchable. The reasons vary with the context in each country, but, in most cases, politically important groups have opposed the changes. Certain powerful groups benefit from subsidized services or existing allocations of water and want to maintain the status quo. Those who would benefit from reforms—farmers, environmentalists, and poor households on the edges of cities—have not been able to form effective lobby groups. In some cases, they did not have enough information about the problem. In others, they lacked organization, or could not access the necessary channels to communicate with the authorities. In addition, the strain on public finance was not always apparent. The ability to defer maintenance on much of the large infrastructure, the fragmentation of water into several subsectors, and non-transparent budgeting procedures all masked problems and meant that the true costs often did not attract the attention of finance ministries or the public. Many of the benefits of reform come over a long time horizon whereas the costs tend to be immediate. Perhaps most important, the region has not experienced the kinds of major economic or natural resource crises (such as fiscal crisis, droughts, floods) that can lead to general acceptance that the reforms are necessary and that the overall benefits will be great enough to justify the social, economic, and political difficulties involved.

The second reason that reforms have often not led to the expected improvements is that some of the most important factors that affect water outcomes are outside irrigation, water resource management, and water supply and sanitation. Policies that deal with agriculture, trade, energy, real estate, finance, and social protection, and that affect overall economic diversification may have more impact on water management than many policies championed and implemented by water-related ministries. For example, cropping choices are a key determinant of water use in agriculture (which accounts for some 85 percent of the region's water use) and they are affected far more by the price the farmer can get for those crops than by the price of irrigation services, which is typically a very small share of a farmer's costs. The price of agricultural commodities is, in turn, determined by a range of nonwater policies such as trade, transport, land, and finance.

## The Potential Opportunity

Factors driving the politics of water reform in the region now appear to be changing in ways that could lead to better water outcomes. The changes are often small and isolated but may represent a potential constituency for reform. For example, a few former opponents of reform are beginning to lobby for better services. Small groups see economic opportunities from trade, tourism, and other sectors. These opportunities require a change in water services, for which these groups are willing to pay. In addition, new groups, such as environmental lobbies, are forming. New constituencies for water reform are growing within governments, too, as finance and economic ministries begin to assess the full costs of the infrastructure and services currently maintained by the public purse. These changing circumstances suggest an opportunity for reform.

In addition, governments in several countries are also implementing or contemplating reforms outside the water sector that could improve water outcomes. Again, the changes do not represent a consistent trend across the entire region, but rather are small pockets of reform. Increased trade in agricultural products, consideration of new policies to govern social protection or agricultural price support, reforms of banking and insurance, and development of telecommunications and information technology, could all have important effects on water outcomes, either directly or indirectly. The impacts of broad social changes such as urbanization, increased education levels, and empowerment of women are also likely to play a role. These broad social changes affect the nature and type of water services people want, the relative priority they give to some forms of environmental protection, and affect people's ability to

communicate their requirements to the relevant authorities. The circumstances vary, but several of these changes indicate a potential for reforms that might not have been possible in the past.

The potential for reform can only be turned into reality if public accountability mechanisms are in place. If they are not, the benefits of change may be captured by a well-connected few, which could maintain or even worsen the current situation.

## Steps Toward the Goal

This report argues that water need not be a constraint to economic development and social stability in MENA. In fact, strong and diversified economies are themselves likely to give governments more political space for the reforms necessary to improve water management. Household, commercial, and industrial water uses represent only 10 to 15 percent of a country's water needs, with agriculture and the environment accounting for the rest. Almost every country of the region, therefore, has sufficient water to supply its population with drinking water, even given burgeoning urban populations. Economic diversification and growth could lead to more employment opportunities outside agriculture, and allow the region's farmers to consolidate and concentrate on high-value crops. By importing a larger share of food needs, countries could release more water into the environment, reducing pressure on aquifers and maintaining basic environmental services.

The path toward a situation in which water management is financially, socially, and environmentally sustainable involves three factors often overlooked in water planning processes:

- Recognizing that reform decisions are inherently political rather than trying to separate the technical from the political processes. This will involve understanding the factors that drive the political dynamics of reform, analyzing where those drivers might be changing, and sequencing reform activities accordingly. Reforms will need political as well as technical champions.
- Understanding the centrality of nonwater policies to water and involving nonwater decision makers in water policy reform.
- Improving accountability of government agencies and water service providers to the public. Governments and service providers must see clear consequences for good and bad performance. To achieve this, transparency is essential so that the public knows why decisions are made, what outcomes they can expect, and what is actually achieved.

Good accountability also requires inclusiveness—allowing a wide set of stakeholders to be involved in decision making.

Some countries in the region have taken steps to approach water management in this way, and with promising results. In Morocco, the King, the Prime Minister, and the Ministry of Finance have all become champions of water reform. Several countries (Algeria, the Arab Republic of Egypt [hereafter referred to as Egypt], the Republic of Yemen [hereafter referred to as Yemen]) have begun explicitly addressing nonsectoral audiences and presenting analysis that shows the impacts of poor water management across the economy. Many countries have local experiences with improving accountability and stakeholder involvement in decision making about water management and services, through involving users in planning and service delivery decisions as well as by collecting and publishing data on water outcomes.

These promising steps can be scaled up. Because the solutions are specific to each country or basin context, no blueprints for change can be produced. However, certain actions can help improve the climate for reform. One important step would be to promote education about the multisectoral aspects of water management, with a particular focus on the region's water challenges. A second step would be to invest in data collection and the tailoring of that data to the needs of policy makers from several sectors. Technical information on water balances and water quality is important for accurate policy making. Additional information is needed to demonstrate to nonwater professionals how water impacts their areas of interest. Ministries of finance are more likely to push for reform if they have accurate information about the efficiency of public spending on water, for example. Trade negotiations are more likely to lead to good water outcomes if the negotiators know how different scenarios might play out on the resource.

The region can meet its water management challenge. Coping with scarcity and high variability in a context of rising populations and changing economies will involve some difficult choices and painful changes. Yet, the small steps seen recently in several MENA countries indicate that it can be done. By seeing water reform in the context of the political economy and working with the multisectoral nature of water management, additional reforms can be tackled. By introducing changes even at the local level that improve accountability to the public, reforms can bear fruit and generate improved economic, human welfare, environmental, and budgetary outcomes.

## Endnotes

1. In this report, the Middle East and North Africa region consists of Algeria, Bahrain, Djibouti, Egypt, the Islamic Republic of Iran (hereafter referred to as Iran), Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Malta, Morocco, Oman, Qatar, Saudi Arabia, the Syrian Arab Republic (hereafter referred to as Syria), Tunisia, the United Arab Emirates, West Bank and Gaza, and Yemen.
2. The term “water sector” as used here includes water resource management, irrigation services, and water supply and sanitation services.

