



## منتدى التغيرات المناخية

Forum sur les changements climatiques  
Climate Change Forum



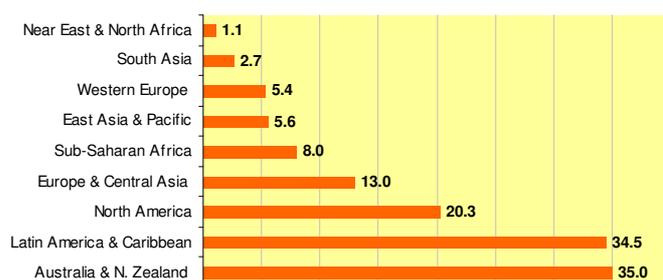
## Water Management in the Near East and North Africa

Water - the resource itself as well as the irrigation and water supply services derived from it - is important for every country. In the NENA region, the most water-scarce region of the world, good water management matters even more than it does elsewhere. Water management problems are already apparent in the region. Aquifers are over-pumped, water quality is deteriorating, and water supply and irrigation services are often rationed - with consequences for human health, agricultural productivity, and the environment. Disputes over water lead to tension within communities, and unreliable water services are prompting people to migrate in search of better opportunities.

Water investments absorb large amounts of public funds, which could often be used more efficiently elsewhere.

The challenge is escalating as the region's population continues to grow, per capita water availability is set to fall by 50% by 2050, and if climate change affects weather and precipitation patterns as predicted, the NENA region may see more frequent and severe droughts and floods.

### Actual Renewable Water Resources per Capita, by region



Source: FAO AQUASTAT data for 1998-2002

Water professionals across the region recognize the need to focus more on integrated management of water resources and on regulation rather than provision of services. The region has seen some major advances, but on the whole, the progress has been slow. Why?

One important reason is that countries have delayed tackling many important water reforms, such as reducing subsidies that

encourage inefficient water use. The changes have been too politically unpalatable; in part because accountability to the public has been weak. The voices of some groups – women who carry water from standpipes, children who get sick from poor sanitation, environmentalists who campaign to make water management more sustainable – are not sufficiently heard in the decision-making processes. Another reason is that some of the most important factors affecting water outcomes lie outside the responsibilities of traditional irrigation, water supply, and environmental agencies. Factors such as trade, energy pricing, real estate, credit, and social protection, have a real impact on farmers' decision what to grow and how to irrigate and on investors' decisions about development of new commercial schemes. If policies outside the water sector give farmers and businesses little incentive to use water well, it is not possible to tackle the problem through water sector reforms alone. Water management is not just a sectoral issue, to be dealt with by the region's excellent irrigation, water supply, and water storage technicians. Rather it is a shared development challenge, one that requires attention from a range of perspectives.

The situation requires fundamental changes inside and outside the water sector. Water can not be used efficiently without some economic reforms outside the water sector. This means reform of the non-water policies that drive water use – agricultural pricing, trade, land markets, energy, and public finance. Good water management will also require changes within the sector – reduction of overall levels of water extraction to levels that are environmentally sustainable; development of equitable, flexible, and efficient systems to allocate water between competing users; and development of water financing policies that are socially, financially, and economically sound.

As populations and economies grew in the region, the scale of water management efforts increased. NENA countries made considerable progress securing supply. Most countries made great advances in water resource management towards the end of the XXth century. With the advent of modern construction and treatment technologies, the scale of organization and investments increased exponentially. The public sector played a leading role in managing huge investment programmes. The approach was two-pronged: first, to store as much surface waters economically and technically feasible and use it for household and industrial purposes; second, to secure food supply through domestic production.

**Renewable Water Resources Withdrawn, by region**

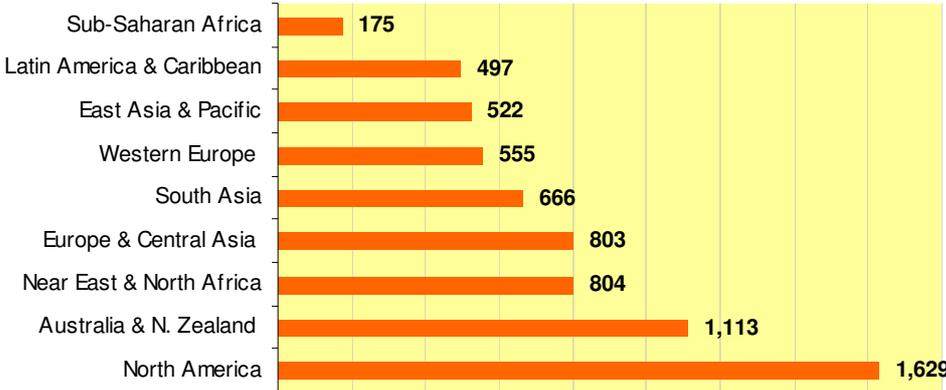
Region	Median of national percentages of total renewable water resources withdrawn	Average of national percentages of total renewable water resources withdrawn	Regional percentage of total renewable water resources withdrawn
Near East & North Africa	114.8	337.8	72.7
South Asia	15.9	22.9	25.1
Western Europe	4.8	9.6	10.3
East Asia & Pacific	3.0	8.0	9.4
North America	1.6	5.8	8.0
Europe & Central Asia	10.9	24.2	6.2
Australia & N. Zealand	2.8	2.8	3.2
Sub-Saharan Africa	1.7	6.0	2.2
Latin America & Caribbean	1.1	7.4	1.4

Source: FAO AQUASTAT data for 1998-2002

Today, the most NENA countries have a capacity to store a large share of surface water through major capital investments in dams and reservoirs.

Because surface water supplies are unreliable or insufficient, individual users, helped by low-cost drilling technology, began pumping water from aquifers on a large scale. NENA uses a far larger share of its renewable water resources than any other region of the world.

**Total Renewable Water Resources Withdrawn per Capita, by region**



Source: FAO AQUASTAT data for 1998-2002

NENA countries have made considerable advances dealing with their water problems. They have addressed all three levels of scarcity: (i) scarcity of accountability for achieving sustainable outcomes, (ii) scarcity of organizational capacity, and (iii) scarcity of the physical resources, but advanced most in tackling the scarcity of the physical resources and scarcity of organizational capacity. Further progress is needed to improve accountability in the sector to help form a bridge between citizens and governments or service providers, bringing them information, voice, and access to justice.

**References:** Making the most of scarcity: accountability for better water management results in the Middle East and North Africa, The World Bank, 2007