

AN INTEGRATED APPROACH TOWARDS IMPLEMENTING WATER RESOURCES MANAGEMENT IN NORTH AFRICA

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ABSTRACT

Northern Africa is the driest region of the continent and is characterized by its limited water resources associated with a higher vulnerability to the risks from climate. Today, the available conventional renewable water resources from surface and groundwater are already not enough to sustain the water demand. Besides existing challenges to water management under scarcity and rapidly growing population and urbanization, climate change will impact on the availability and demand for water resources and water services. This calls for better characterization and analysis of water resources availability and demand, especially in such highly vulnerable regions like the Northern Africa region. This paper provides a clear picture of the status of water resources and an evaluation of the progress made so far by the Northern African countries to address the challenges related to sustainable water resources.

It treats principal aspects of water resources while providing (i) an assessment of water resources development (ii) an evaluation of water resources utilization - supply and demand - by main sectors (domestic, agriculture, and industries), emphasizing the usage in urban and rural areas. Particular attention has been given by the region governments to improve access to water by focusing on water governance, institutional, technical and economic solutions. In the last decade, all the sub region countries have taken the challenge to improve water resources management by adopting water policies through a master plan for sustainable water resource management. These policies are different across the various countries, and its effective implementation requires a significant commitment among all the partners of the water sector

The paper concludes with selected policy and technical recommendations pertaining to water resources development and management and to the increase effectiveness of water use and demand in the Northern Africa region.

Some recommendations have been formulated into four key areas: adaptive actions and resource governance, raising awareness and capacity building, research and assessment; and cross-sector collaboration and cooperation.

On all levels we as, scientists' academicians, have to work together with various leaders from state and local levels and both public and private sectors to form various networks and shape research and politics priorities and craft new tools to sustain our precious water resources.

Keywords: *Water resources, Adaptive management, Water framework, North Africa, Environment, Sustainability*