

# Enhancing Water and Food Security in the Arabian Gulf

*H.E. Dr. Rashid Ahmad bin Fahad\**

It is my pleasure to welcome you to this conference being held under the patronage of His Highness General Sheikh Mohammed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi, Deputy Supreme Commander of the UAE Armed Forces and President of the ECSSR.

This event is particularly timely, not only because it comes a few days after World Water Day, but more importantly because water and food security are strategic issues of top priority in the GCC that have direct impacts on the region's development.

Environmental and climatic conditions across the GCC countries are very similar, and except for certain areas in the Kingdom of Saudi Arabia and the Sultanate of Oman, the GCC represents an arid part of the world with scarce natural water resources, lack of rainfall, high evaporation rates and poor soil. These characteristics are clearly reflected in the lack of renewable water resources and the limited amount of arable land in the region.

According to an assessment of the GCC water sector conducted by the World Bank in 2005, total water demand in the region increased from around six billion cubic meters (bcm) in 1980 to around 27 bcm in 2000, while annual renewable water resources per capital declined rapidly from 678 cubic meters (m<sup>3</sup>) in 1970 to 176 m<sup>3</sup> in 2000. Hence, one can only imagine the decline in per capita renewable water resources given the

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\* This presentation was delivered on behalf of H.E. Dr. Rashid Ahmad bin Fahad by H.E. Dr. Mariam H. Al-Shenasi, undersecretary at the UAE Ministry of Environment and Water.

pace of development in the GCC during the last decade, and under the added pressure of climate change.

The inability of groundwater to meet growing demand from various sectors has resulted in the adoption of desalination as a means to satisfy a significant proportion of the GCC region's water needs, alongside the use of treated wastewater for irrigation.

In light of projected increases in water demand, the GCC is planning to construct more desalination plants; it is expected that investment in this sector will total US \$100 billion between 2011 and 2016.

Irrigation for agricultural purposes is the primary source of water consumption, accounting for around 80 percent of total water use in the region. Furthermore, the over-exploitation of groundwater resources to meet the requirements of this sector has not only hastened their depletion, but also reduced their quality.

Various studies and reports attribute the adverse impacts of the agricultural sector on water resources to its dependence on traditional irrigation techniques, as well as generous government subsidies that encourage farming practices which focus on low-value crops, thereby failing to exploit valuable agricultural opportunities. Indeed, the National Strategy for Water Resources in the UAE states that less than five percent of groundwater is used in the production of economically viable crops.

Excessive water consumption is not limited to the agricultural sector. Urban water demand has more than doubled, resulting in a rate of per capita water consumption in the GCC that is among the highest in the world. Although this growth is mainly attributed to large increases in population, we must not overlook the disturbing tendency across the GCC towards irresponsible and wasteful consumption practices—particularly in terms of domestic use.

The GCC states have come to appreciate the adverse impacts of excessive water consumption across all sectors, and the related consequences for water and food security, and have therefore reviewed their water and agricultural policies accordingly.

In the UAE, where the agricultural situation is similar to that of the rest of the GCC, the concerned authorities have adopted a series of measures to achieve and sustain water security and to enhance food security as part of a clear and comprehensive national strategy. These

measures aim to amend institutional and legal frameworks in order to better conserve resources in accordance with the principles of integrated water resources management. They include the development of a national strategy to preserve water resources – which is currently being implemented – a comprehensive review of agricultural and water policies, and the formulation of a new approach to agricultural development aimed at achieving greater balance between water and food security, taking into account all economic, social and environmental considerations.

Given the projected growth in demand for desalinated water, which today accounts for about 40 percent of the UAE's water supply, particular attention has been paid to developing the desalination industry. The estimated capital investment required is expected to reach AED 51 billion by 2016. Plans have also been made to use nuclear or renewable energy to power desalination in order to reduce greenhouse gas emissions and mitigate the impacts of the desalination industry on marine ecosystems.

The UAE has also focused on increasing the use of treated wastewater, which constitutes about 10 percent of supply in the UAE, and has conducted studies on the possibility of expanding its usage beyond irrigation.

Other measures include discouraging irresponsible water consumption in various sectors, and especially in households. The UAE's policy in this regard is based on a mix of options including the adoption of a progressive water tariff system, the use of modern water-sparing technologies, and raising awareness of water conservation methods.

It is expected that these measures will be further enhanced and complemented in light of the UAE's "Green Economy for Sustainable Development" initiative, launched in January 2012.

As for enhancing food security, besides adopting more efficient agricultural development approaches, the UAE has paid significant attention to issues such as enhancing livestock production, preserving and developing fisheries, improving food safety and bio-security, developing the food industry and encouraging private sector participation in water and food security projects.

The pressures and challenges facing water and food security in the GCC – whether as a result of natural factors such as climate change or human factors such as excessive consumption and world food crises –

mean that efforts to develop a comprehensive regional long-term strategy for water and food security must be expedited. This need was enunciated both in the Abu Dhabi Declaration on Food Security for the GCC, issued in November 2010, and in the Abu Dhabi Declaration on Water in the GCC issued by the 31<sup>st</sup> GCC Summit in Abu Dhabi the following month. In both declarations the GCC countries expressed concern regarding the aggravation of water and food insecurity, and an interest in developing regional strategies to ensure water and food security.

Despite the fact that limited water resources and farmland may render water and food security elusive, the GCC states have a wide range of options, capabilities and experiences that make it possible. I hope that this conference, which has brought together a select group of experts and researchers, will discuss with the outmost candor all the pressures and challenges facing water and food security in the GCC countries, as well as the options available to face them, and the economic, social and environmental impacts of each. I am confident that the deliberations of this conference and its recommendations will support and bolster our efforts towards developing successful strategies to guarantee the GCC countries' water and food security.