Water consumption in the United Arab Emirates (UAE) and the neighboring countries in the Arabian Gulf region is one of the highest per capita in the world despite location in arid climate and enormous population and development expansion. This situation has exerted immense stress on natural water resources (mainly groundwater) where exploitation is far beyond the available storage of aquifers. Consequently, the Gulf Cooperation Council (GCC) states through the GCC Water Unified Strategy has initiated comprehensive data collection, assessment and action plan and recommendations to conserve natural water resources in the region. Here a summary of the situation is presented with specific example from the UAE. The assessment using a variety of physical, chemical and isotopic indicators show that groundwater aquifers are depleted in all the region and the excessive exploitation has caused intrusion of saline water from both deep aquifers and the sea. Surface and groundwater recharge is also affected by the warmer climatic conditions through evaporation and fluctuated rainfall prediction. Changing groundwater level has also affected constructions of infrastructures and the agricultural sector. Among the many measures and policies to remedy the existing damage are; 1) initiation of governmental body responsible for the monitoring of groundwater and deploying needed actions (stop abstraction depending on aquifer condition) in some regions, 2) setting up educational campaigns that aim at increasing public awareness about the seriousness of water availability problems in the UAE, 3) implementation of technologies and practices that can help saving water consumption in terms of production, particularly in the agriculture sector, 4) revision of agricultural strategies and food security and the link to economic values and 5) possible pricing of groundwater. All these plans are aimed towards guaranteeing groundwater conservation for a sustainable life style in the region at present and in the future.