

# **Domestic Water Demand Management in terms of quality and Quantity in Gaza Strip/ Palestine**

***Ahmad Al-Yaqubi<sup>(1)</sup>, Amjad Aliewi<sup>(2)</sup> and Ziad Mimi<sup>(3)</sup>***

<sup>(1)</sup>, Director of Water Resources Dir., Palestinian Water Authority, e-mail: [ahmadyaqubi@hotmail.com](mailto:ahmadyaqubi@hotmail.com)

<sup>(2)</sup> Director-General, House of Water and Environment, e-mail: [Amjad.Aliewi@hwe.org.ps](mailto:Amjad.Aliewi@hwe.org.ps)

<sup>(3)</sup> Director, Water Studies Institute, Birzeit University, e-mail: [zmimi@birzeit.edu](mailto:zmimi@birzeit.edu)

## **Abstract**

The Gaza Strip is located on the extreme edge of the shallow coastal aquifer that borders the eastern Mediterranean Sea. There is little rainfall and no reliable riparian flow, hence water supply for Gaza resident (about 1.3 millions inhabitants) is limited to that available from the part of the coastal aquifer that underlies its 365 km<sup>2</sup> of land, of which 165 km<sup>2</sup> still under occupation. Over exploitation of the coastal aquifer has resulted in continuous lowering of regional water levels and worsening of water quality. The greatest threats to existing water supplies are seawater intrusions and up coning of deep brine fossil water. There are serious water quality problems in the Gaza Strip Aquifer. Less than 10 percent of the aquifer's yield is water meeting the WHO drinking standard. The population of the Gaza Strip will grow to over two million by 2020, and the demands for water will far exceed the sustainable capacity of the aquifer. Continuous urban and industrial growth will place additional stress on the aquifer system, unless appropriate integrated planning and management actions are instituted immediately. It is evident that drastic action must be taken quickly to support its people in the future. In recognition of this worsening situation, Palestinian Water Authority (PWA) and the United States Agency for International Development (USAID) have jointly developed and begun implementation for managing the domestic needs. This paper presents overall guidelines for the management through year 2020, with associated investment requirements for infrastructure facilities to meet all goals and objectives. It has been estimated that a capital investment program of about US\$ 1.5 billion is needed to finance the implementation of such plan. It has been concluded that implementation of domestic management plan through Sea water desalination as well as the brackish water desalination are the main components of the domestic water management and that will have overall beneficial impacts on the socio- economic aspects.



Full report/document is not available online