

Bridging Domestic Supply Water Demand Gap in Gaza Strip-Palestine

Ahmad Al-Yaqubi, Palestinian Water Authority, **Amjad Aliawi**, House of Water and Environment and **Ziad Mimi**, Member IWRA, Water Studies Institute, Birzeit University, Palestine

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 is limited to that available from the part of the coastal aquifer. 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. 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. 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 brackish water desalination are the main components of the domestic water management plan that will have overall beneficial impacts on the socio-economic aspects.

Keywords: water demand management, Gaza Strip, water resources management

Introduction

Water is the most precious and valuable natural resource in the Middle East in general and in Gaza Strip in particular. It is vital for socio-economic growth and sustainability of the environment. Gaza Strip is in particular crisis situation that requires immediate and concerted efforts to improve the water situation in the term of quality and quantity. Demand greatly exceeds water supply. In addition water quality is very poor and the aquifer is being over pumped. Very limited water supplied for domestic use is potable quality. About 70% of the total pumped water is used for agricultural purposes.

This paper presents an overview of the water resources as well as the current and future water balance for the Gaza coastal aquifer through efficient and sustainable water resources management in terms of quality and quantity. The problem is expected to grow and will need new resources to minimize the water deficit and to improve the ground water quality. Producing additional water through desalination facilities becomes eminent.

Through various studies, which tackle the strategic planning for water resources, it is concluded that Gaza Strip will need to develop both seawater and brackish ground water desalination to meet the demand up until the year 2020.



Full report/document is not available online