

SCENARIO DEVELOPMENT FOR 2050 FOR THE ISRAELI / PALESTINIAN WATER SECTOR

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Extended Abstract*

By the year 2050, the population of the land between the Jordan River and the Mediterranean can be expected to grow from approximately ten million to between 14 and 28 million people depending upon migration patterns and precise population growth rates. Approximately 2000 MCM of renewable water resources are available in the West Bank, Gaza and Israel. The allocation of these water resources between the two nations has yet to be agreed.

This paper, through the development of population growth scenarios, assesses what are the long-term implications in relation to water resources management of Israel and Palestine's expected population growth through to the year 2050. Scenarios considered are based upon the high, medium and low population projections of the United Nations Population Division and various migration assumptions. Scenarios at the lowest end of this range might occur as a result of a very rapid decline in fertility rates and a net out-migration of people. Scenarios at the highest end of this range would result from a relatively slow decline in fertility rates and a significant net in-migration of people to the West Bank, Gaza and Israel.

It is assumed that approximately 125 cubic metres of water per capita are required to support a high standard of living, including a modern industrial-service based economy; where natural fresh water supplies are insufficient, desalination can be cost-effective at meeting urban-industrial water needs in some situations, and food needs above what can be produced

* A copy of the full paper is available on request from the authors.

locally can, if necessary, be imported from global food markets.

Based on the scenarios considered and the requirement to have at least 125 cubic metres of water available per capita, the paper concludes that it is imperative that a more equitable distribution of the water resources of Israel and Palestine be achieved if an environmental and humanitarian disaster (in relation to water resources) is to be avoided.

However, assuming that a more equitable distribution of the available water resources is achieved, the situation appears to be manageable. With all scenarios considered, except a scenario of very high population growth occurring in the context of inadequate co-operation between Israel and Palestine, it is conceivable that the water resource needs of the entire population could be met. For all the scenarios considered, an integrated water resources system to manage the water resources of Israel and Palestine as a single unit is preferable from a water resources management perspective. This would also result in the lowest overall net economic and environmental cost since the use of desalination would be able to be minimised. However, even without a fully integrated water resources system, there is significant potential for the trading of water resources between Israel and Palestine that would be benefit to both parties, such as supplying recycled waste water in one area (for use in agriculture) in exchange for a quantity of drinking water elsewhere. From a water management and environmental perspective, the scenario of low population growth together with integrated management would be optimum, however population policy questions are well beyond the remit of water resource managers.