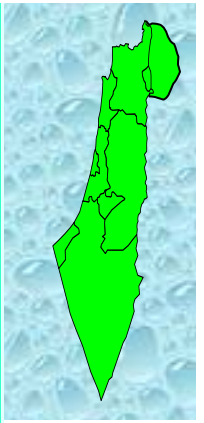
THE IMPACT OF DESALINATION

ISRAEL

AND

THE PALESTINIAN AUTHORITY



DR. Y. DREIZIN

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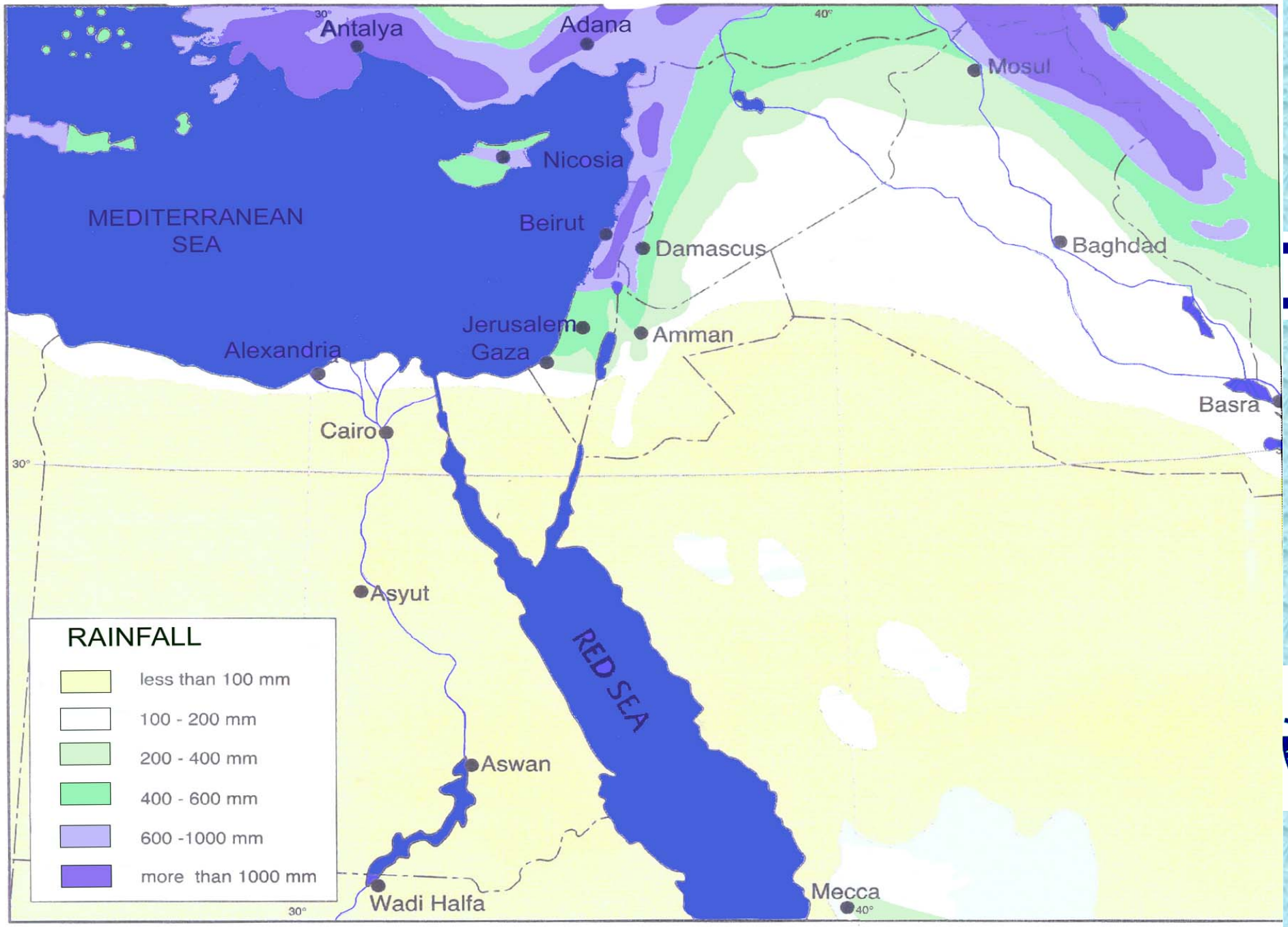
Planning division **Water commission** **Ministry of infrastructure**

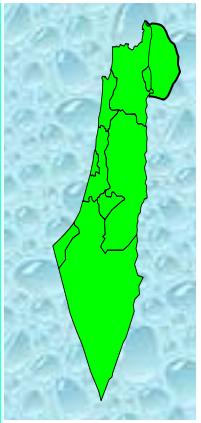
The Desert Strip in the Middle-East



Water Commission

Israel Water Sector Development

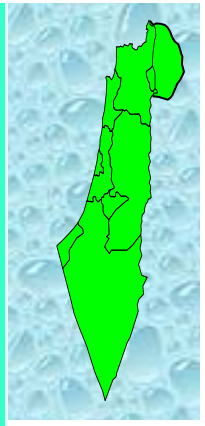
Inherent Problems



- Rise in standards of living and demand for water
- Global changes in climate
- Increased supply of water to Israel's neighbors
- Deterioration in the quality of water sources
- Decrease in natural recharge to groundwater aquifers as a result of urbanization

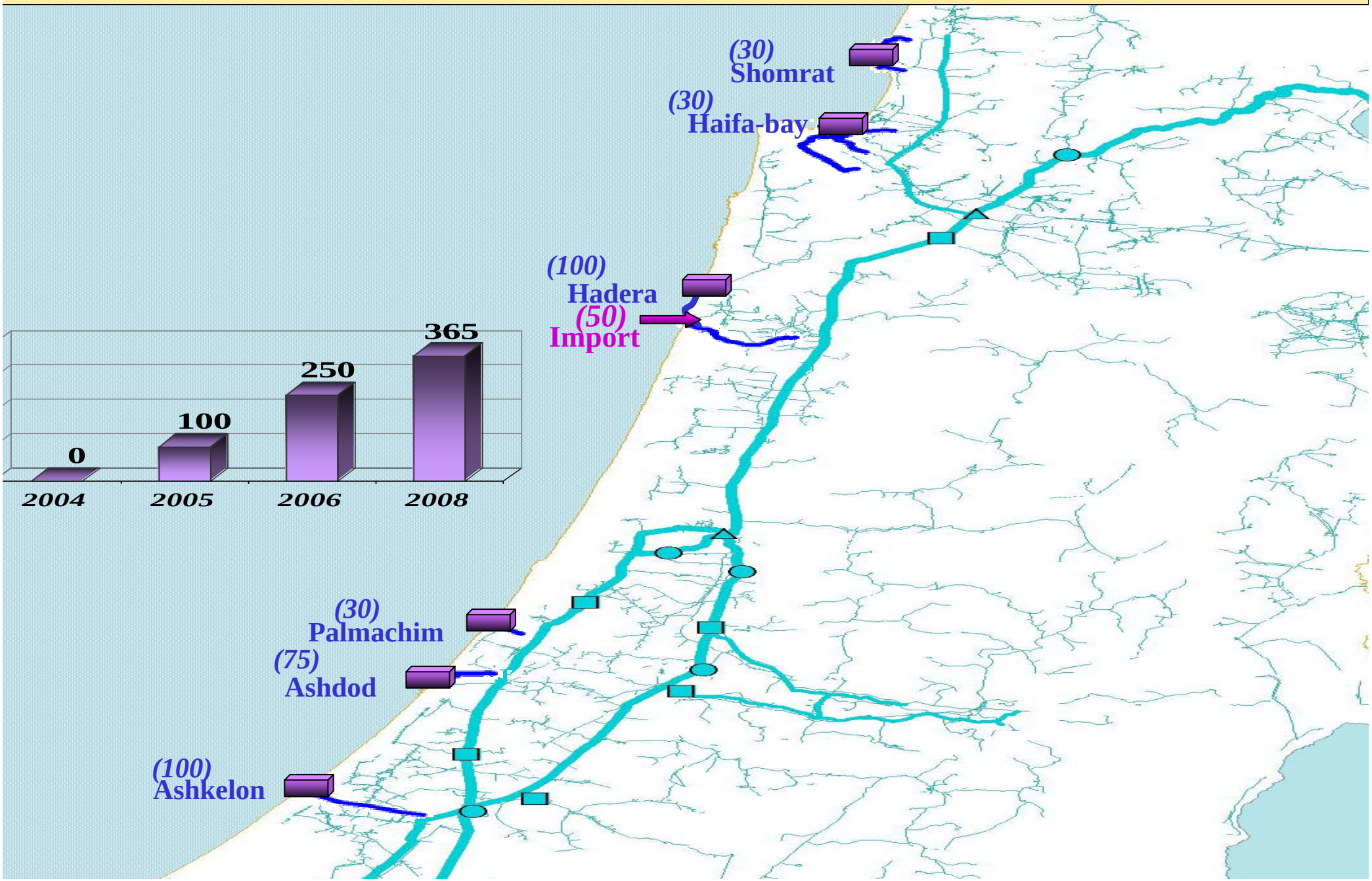
Israel Water Sector Development

Further Problems

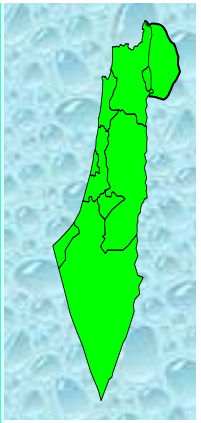


- Probable successive drought years
- Continued exploitation of natural water resources, causing their depletion
- Delays in the introduction of desalination
- Delays in adjustment of demand and water prices to the desalination age
- Fulfillment of obligations for supplying water, as required by international agreements

Development of sea water desalination plants along the national system



Introducing Sea Water Desalination
Main Impact

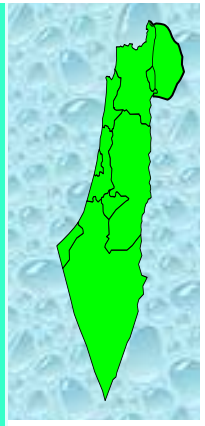


- Prevention of shortage in water supply
- Improvement of water quality

  Freshwater

  Effluents
- Better handling of unpredictable changes
- Better regional and local management

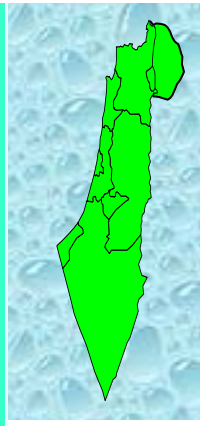
Cooperation on future needs
The Palestinian Authority



- West Bank Integrated Water Resources Management Plan – USAID

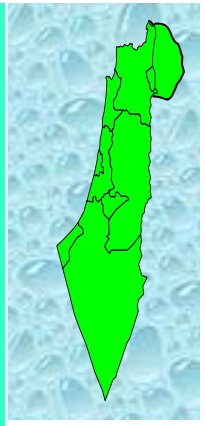
- Future Cooperation and Joint Management

Forecasting Future Water Supply to the West Bank
Basics



- Imperative that future supply be examined in the framework of planned management of overall utilization of all resources
- To integrate non-natural sources of water (desalinated water and reclaimed sewage effluents for irrigation)
- All natural sources of water are currently utilized and new sources should be developed

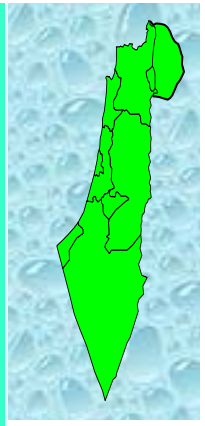
Forecasting Future Water Supply to the West Bank (cont.)



Future development is forecasted with consideration for:

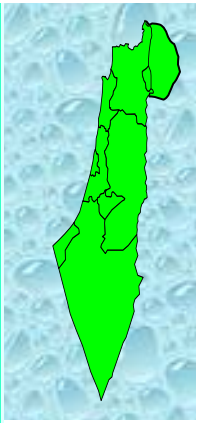
- Existing gap between demand and supply - 70 MCM/year
- Population growth
- Increase in per capita consumption
- Quantity of water allocated to agriculture – reclaimed sewage

Forecasting Future Water Supply to the West Bank (cont.)



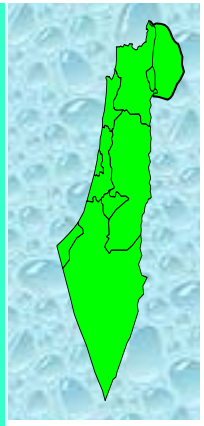
- Proper handling of water losses (currently above 40%)
- Rate of treatment of sewage and its reuse in agriculture
- Potential development based on the groundwater reserves in the eastern aquifer
- Development of desalination

Sea water Desalination for the West Bank



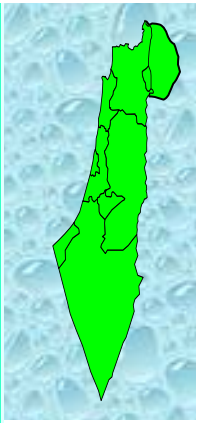
- Regardless of water rights issues
- Price is low
- Full Palestinian control

Desalinated water from Hadera to the West Bank



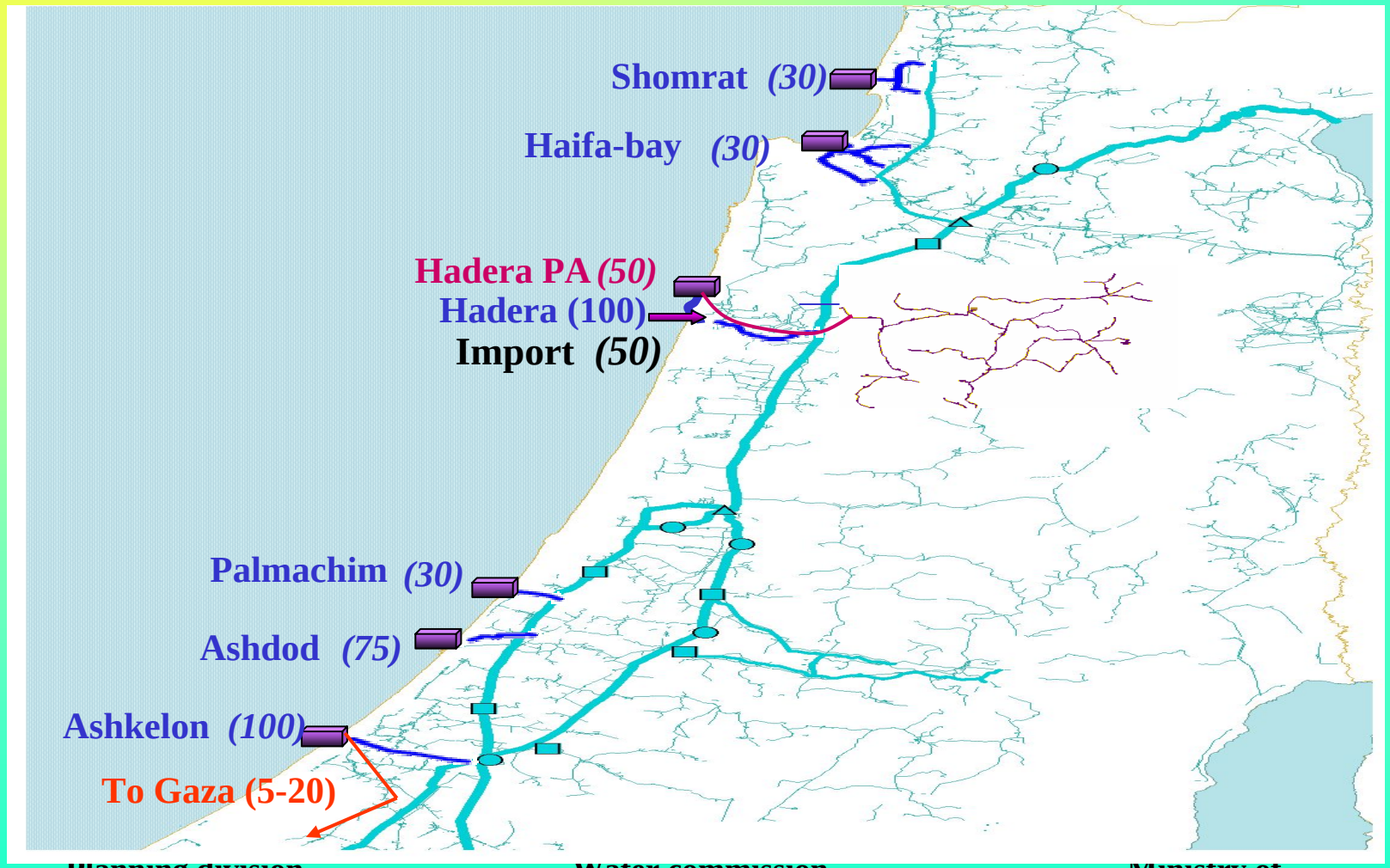
- To incorporate seawater desalination and expedite water supply to the West Bank in the area north of Ramallah
- To examine the possibility of constructing a desalination plant with a capacity of 50 MCM/year at Hadera
- Water will be supplied to a total population of more than one million.

Desalinated water from Hadera to the West Bank (cont.)



- Investment in the desalination plant is estimated at about US$ 110 million
- Investment in the transmission and distribution systems is estimated at about US$ 200 million
- The cost of water per cubic metre is expected to be about US$ 0.9
- The price of water is expected to be below US$ 0.3/CM
- Additional investment of US$ 150 million needed for plants for treating sewage generated as a result of supplying 50 MCM/year and systems for reclamation of the sewage for use in agriculture

Development of sea water desalination
Additional Water for Palestinian Authority



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