

Net@



KEREN HAYESOD קרן היסוד
UNITED ISRAEL APPEAL

Introduction Water Management in Israel

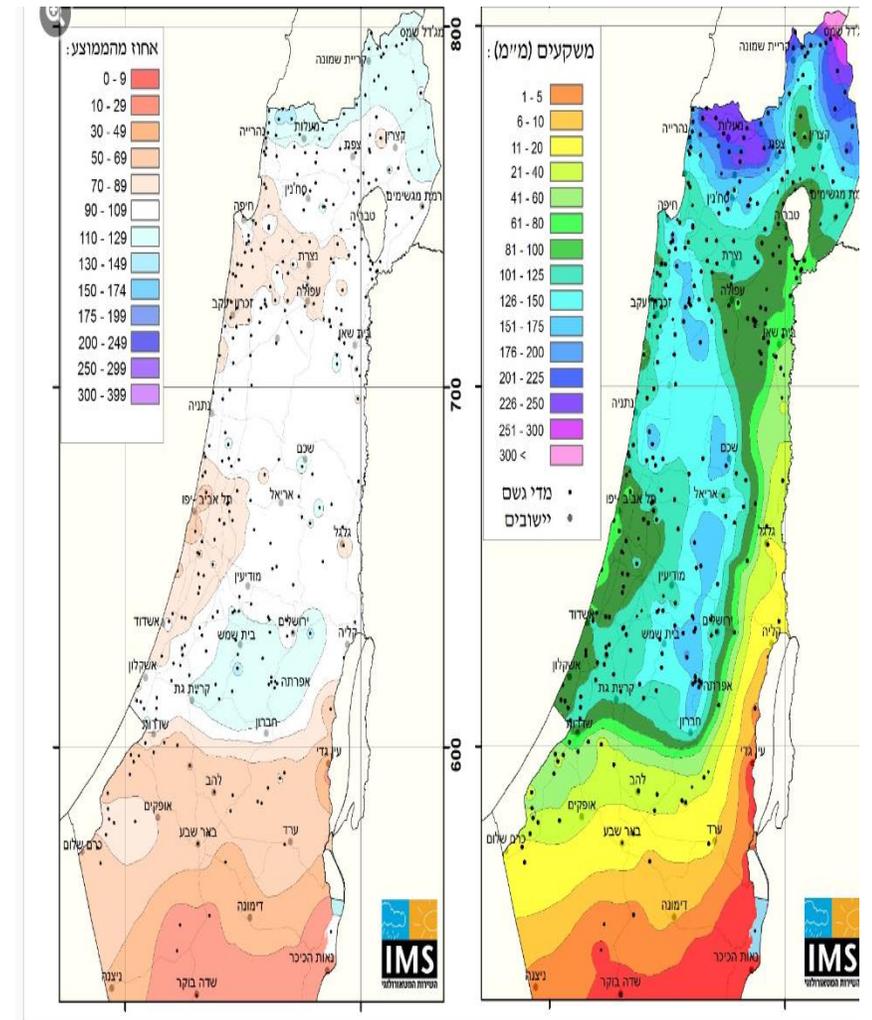
Dr. Tamir Arviv

Public ownership and government management of water

- **1959 Israel Water Law**, all of the water found in Israel is common property.
- **The Water Authority** – the regulator of water supply and sanitation.
 - Planning and Management
 - Regulation
 - Allocation of water for different uses

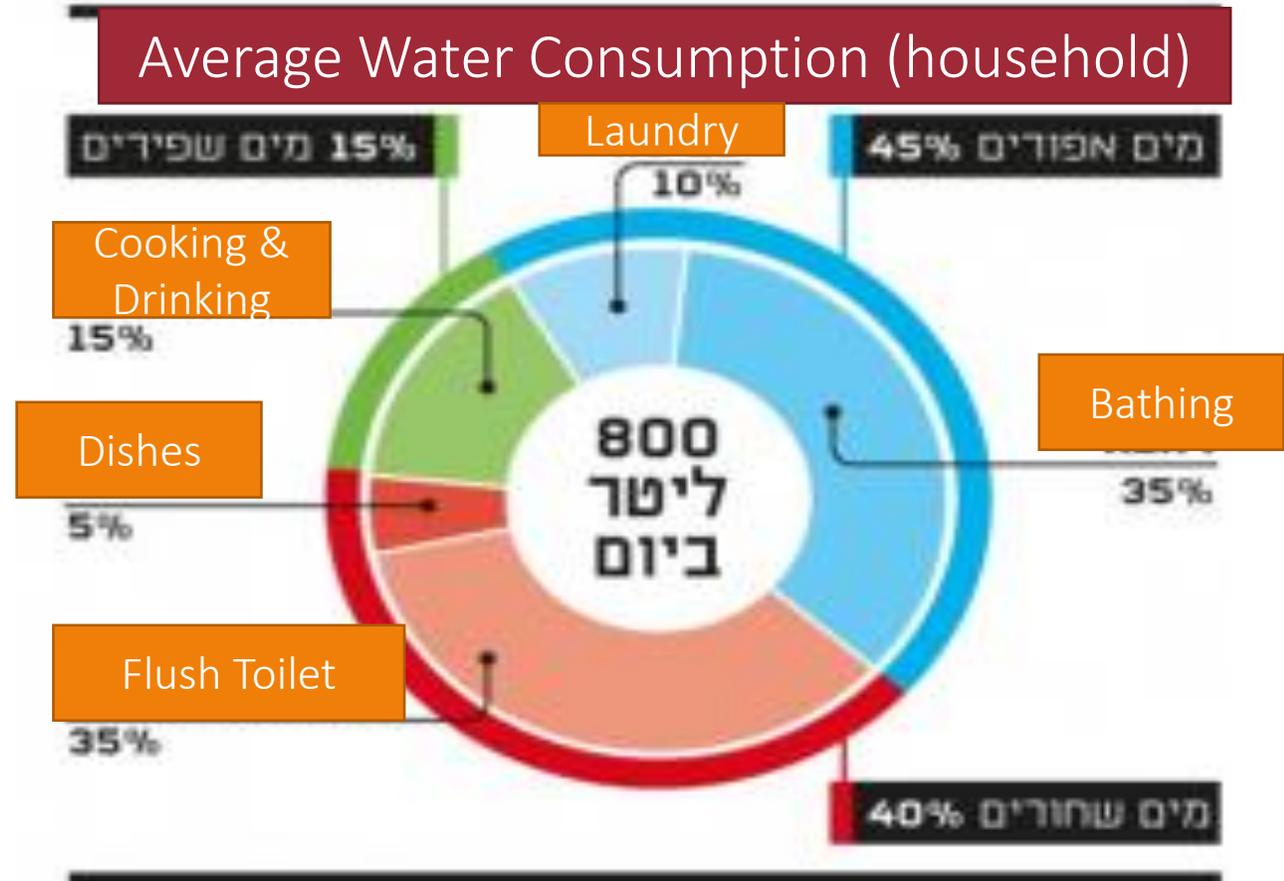
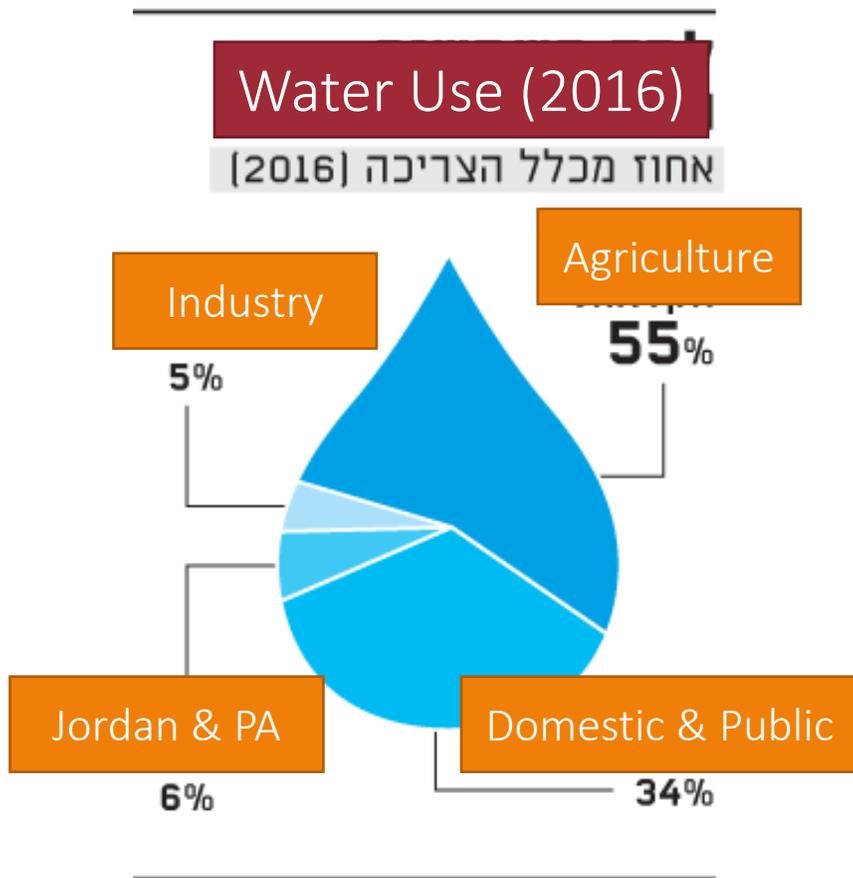
Water Management in Israel - Challenges

- Israel is one of the driest countries on Earth:
 - 70 percent desert
 - Rain falls only in the winter, and largely in the northern part of the country.
 - The quantity of precipitation in Israel is not constant over the years.
- Constant growth in the population, the standard of living, across the various sectors bringing a continuous rise in demand for water.



On the right: the rainfall amount in January 2021 (mm). On the left: the rainfall amount in January 2021 in

Water Management in Israel - Challenges



Water Resources

Supply of tap water in Israel is mainly based on:

- **Groundwater pumping** (mountain and coastal aquifer)
- **Surface water** (Kinneret lake, springs and rivers)
- **Desalinated seawater** (Mediterranean Sea and Red Sea)



Kinneret lake ('the sea of Galilee') provides the largest freshwater storage capacity along the Jordan River (164km). The Sea of Galilee drains into the Lower Jordan River, which winds further south through the Jordan Valley to its terminus in **the Dead Sea** (650km).

Reducing the demand for water

- Prices water to encourage efficiency
- Gives financial incentives for technologies that save water
- Discourages landscaping of parks or homes that consume fresh water
- Public campaigns for saving water
- Transforms agriculture to grow water-efficient crops
- Develops seeds that thrive with salty water



Increasing water supply: Seawater Desalination

- Most of Israel's drinking water is supplied by seawater desalination plants.
- The purpose of desalination is to remove salts from the water.
- Seawater is available in unlimited quantities and involves no dependency - neither on climate nor on political factors.
- The desalination plan began with the cabinet decision of August 3, 2000. 5 desalination plants were constructed over the years along the Mediterranean Sea, with total production capabilities of some 585 million cubic meters.



<https://www.youtube.com/watch?v=taMWUjda3fA>

Increasing water supply: waste water treatment / water recycling

- Treated wastewater is used primarily for agriculture
- <https://www.youtube.com/watch?v=twTe6J3IT4>



The Shafdan wastewater treatment plan

Increasing water supply: reusing runoff

► Surface runoff → The flow of water on the ground surface

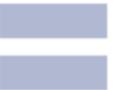


Flooding in Hadera

Israel news photo: Israel Police



Floods in Lod, on Sunday. Credit: Ilan Assayag



Increasing water supply: reusing runoff

An amendment to NOP1 (the National Outline Plan that unifies most other NOPs)

Measures include:

- ▶ Every new construction project must demonstrate its capacity to manage up to 75% of the maximum daily rainfall
- ▶ This should be achieved through the application of a variety of nature-based (as well as semi-nature-based) solutions:
- ▶

Canals	Lakes and basins	Terraces
Water squares	Infiltration basins	Injection wells
Wetlands	Green roofs	Rain gardens

Blue infrastructure – The benefits

- ▶ Prevents flooding
- ▶ Provides spaces for commerce, sports and recreation → improving the urban landscape and invigorating the urban economy
- ▶ Helps cities adapt to the climate crisis → restoring the urban wild, restoring groundwater reserves, mitigating urban heat islands and improving air quality
- ▶ Spaces for educational activities and community building

Park based lakes



Rishon Letzion



Deer Valley Park, Jerusalem

Wetland conservation



Lewinski Pond, Tel Aviv



Herzelia Park