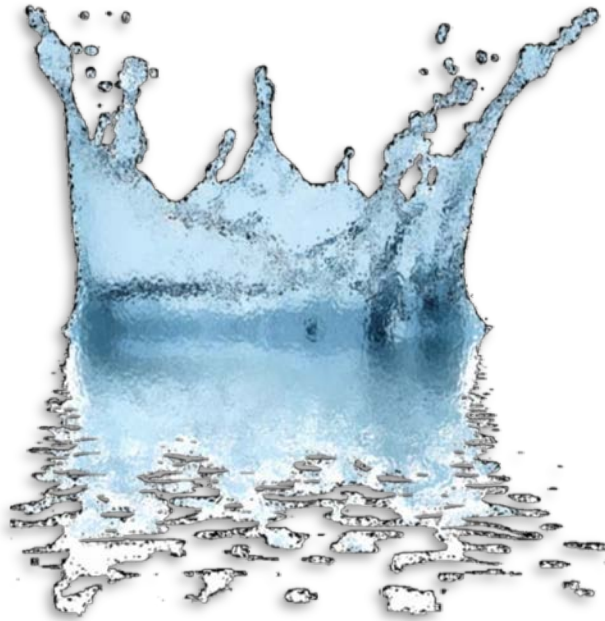


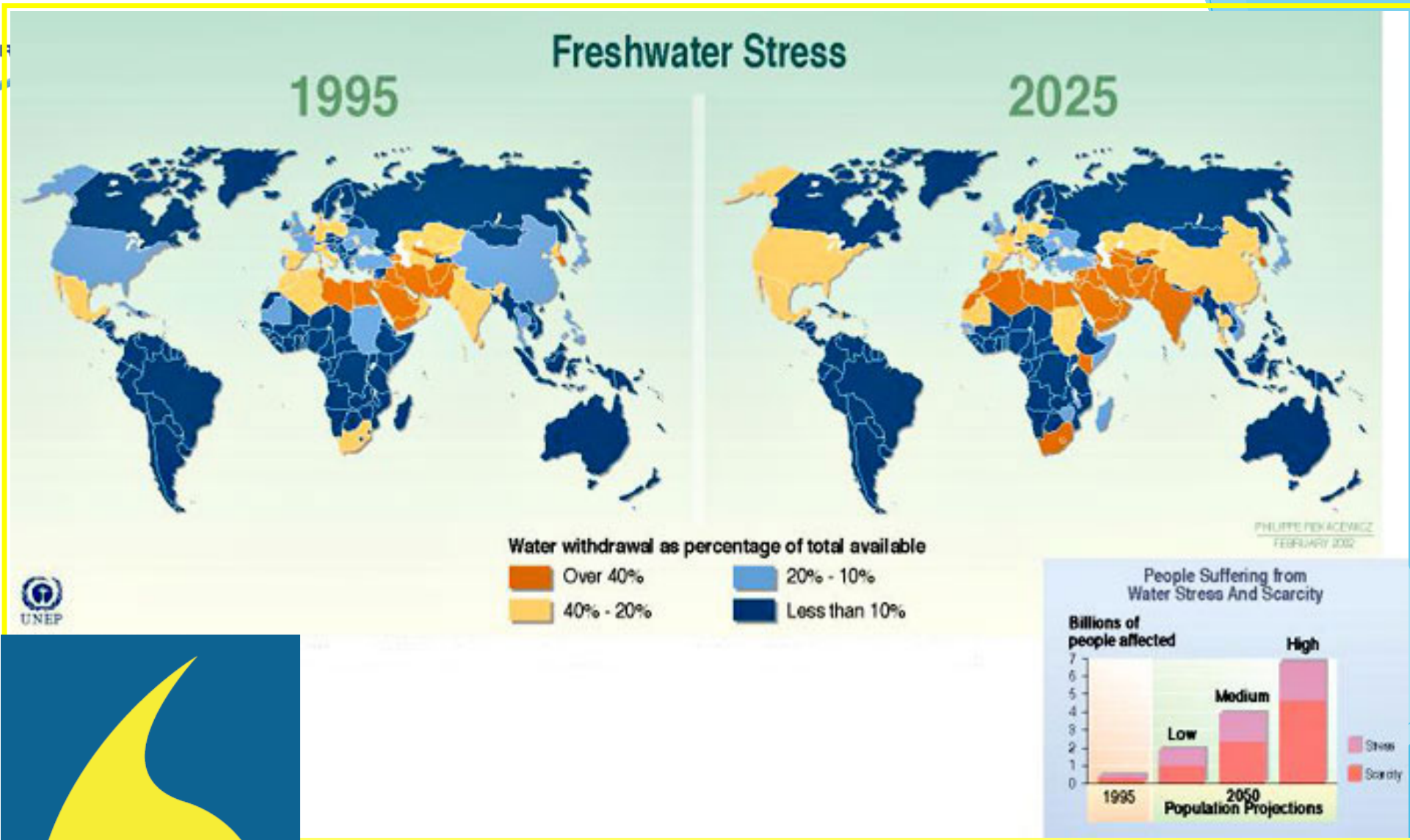
Policy principles, Red - Dead conduit and regional water solutions



Prof. Uri Shani, Head of RSDS Steering Committee

ODED FIXLER – Deputy Director General, Ministry of Regional Cooperation

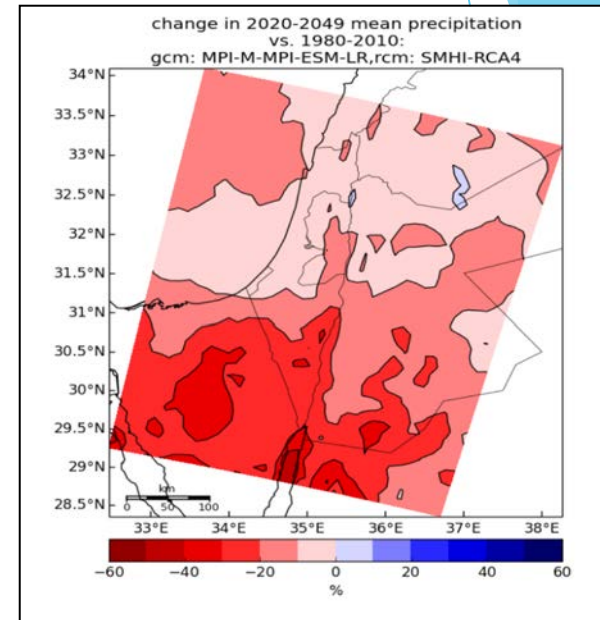
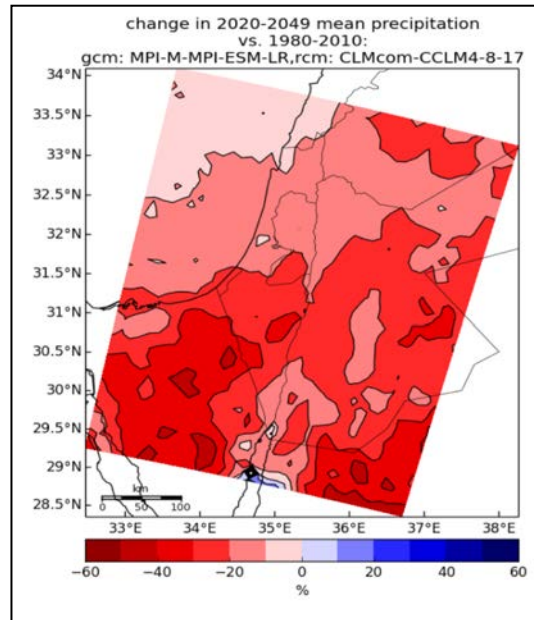
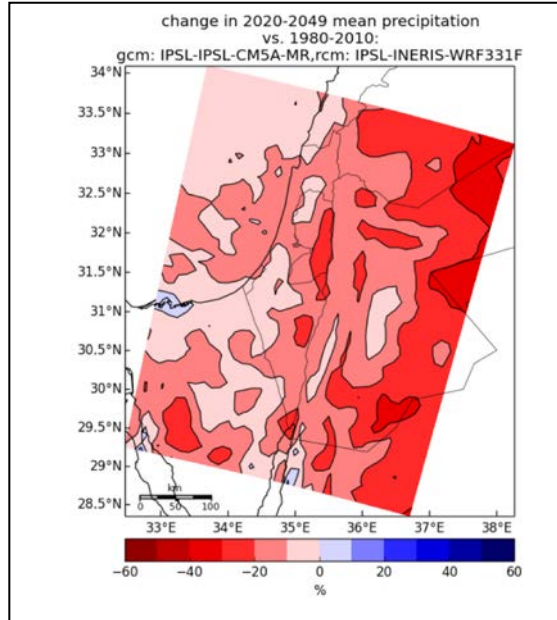
- Where ever there is an active water agreement between two neighboring nations – conflicts do not develop to a WAR
- Regional water solutions should include and optimize all available water resources in the region
- Use efficiency of the water is probably more important than newer resources. It is certainly more faster to apply and cheaper
- Population growth is a major factor to the increased demand
- Decreased precipitation due mostly to climate change is the main reason to decreased supply. However, water resources contamination and urbanization are important reasons as well
- The combination of increased demand with decreased supply is detrimental



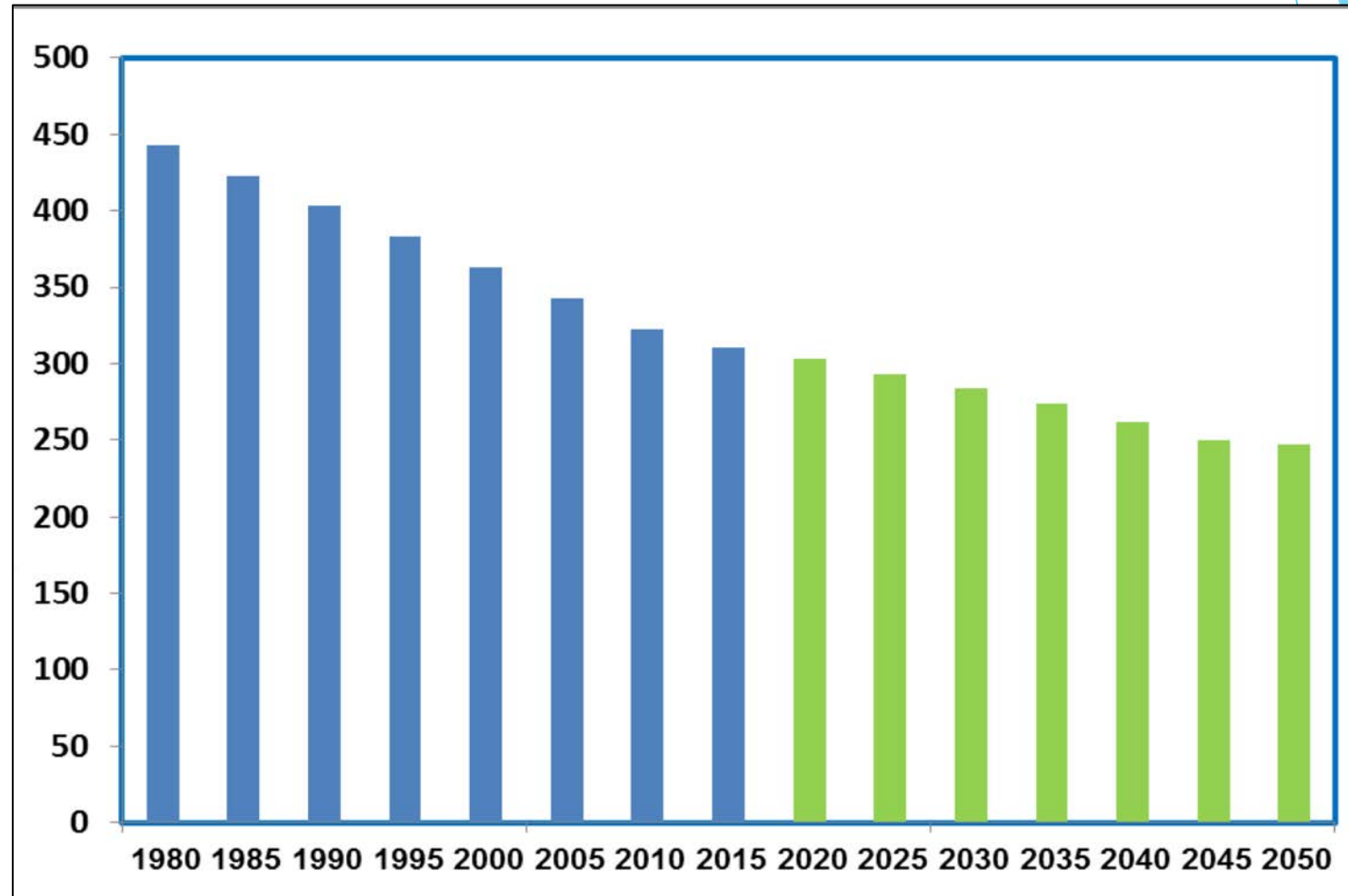
45%
of the world population will be living in countries chronically short of water by 2050

In the Middle East it is a well known reality!

Change in 2020-2049 mean precipitation vs. 1980-2010 in 3 different climate models

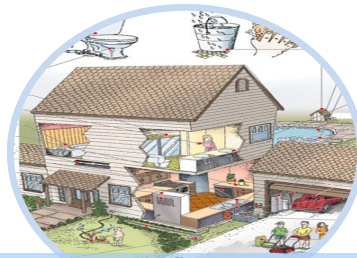


Observed (in blue) and projected (green) Incoming water into Lake kineret by ensemble of climate models



Israel Water Sector - Visit Card

Annual Water Supply
2 billion m³



8.5 million
residents



200,000 Ha irrigated
fields
To 14,000 farms



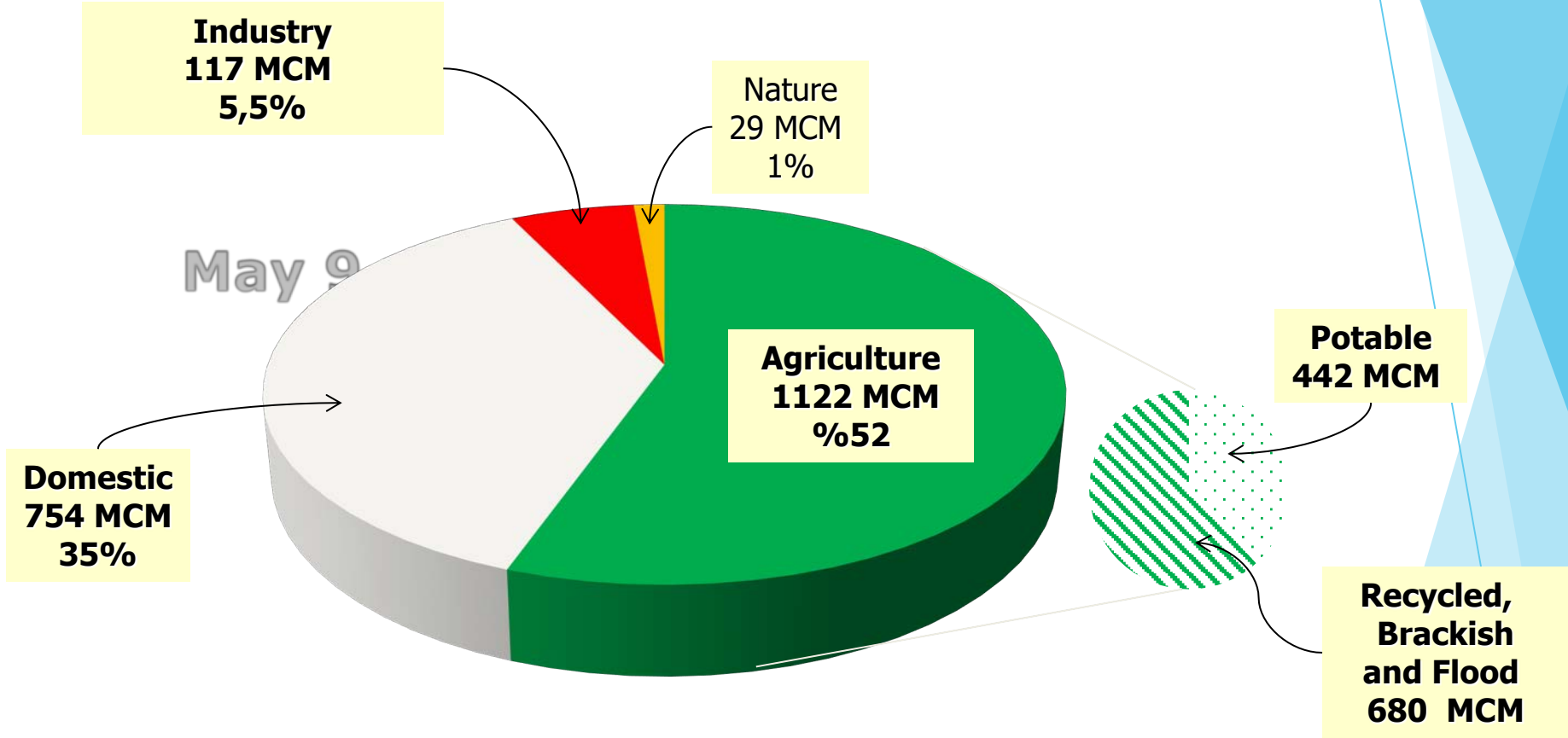
Over 1,000 Industrial
plants



Annual financial volume
2.5 billion \$

Water Consumption in Israel

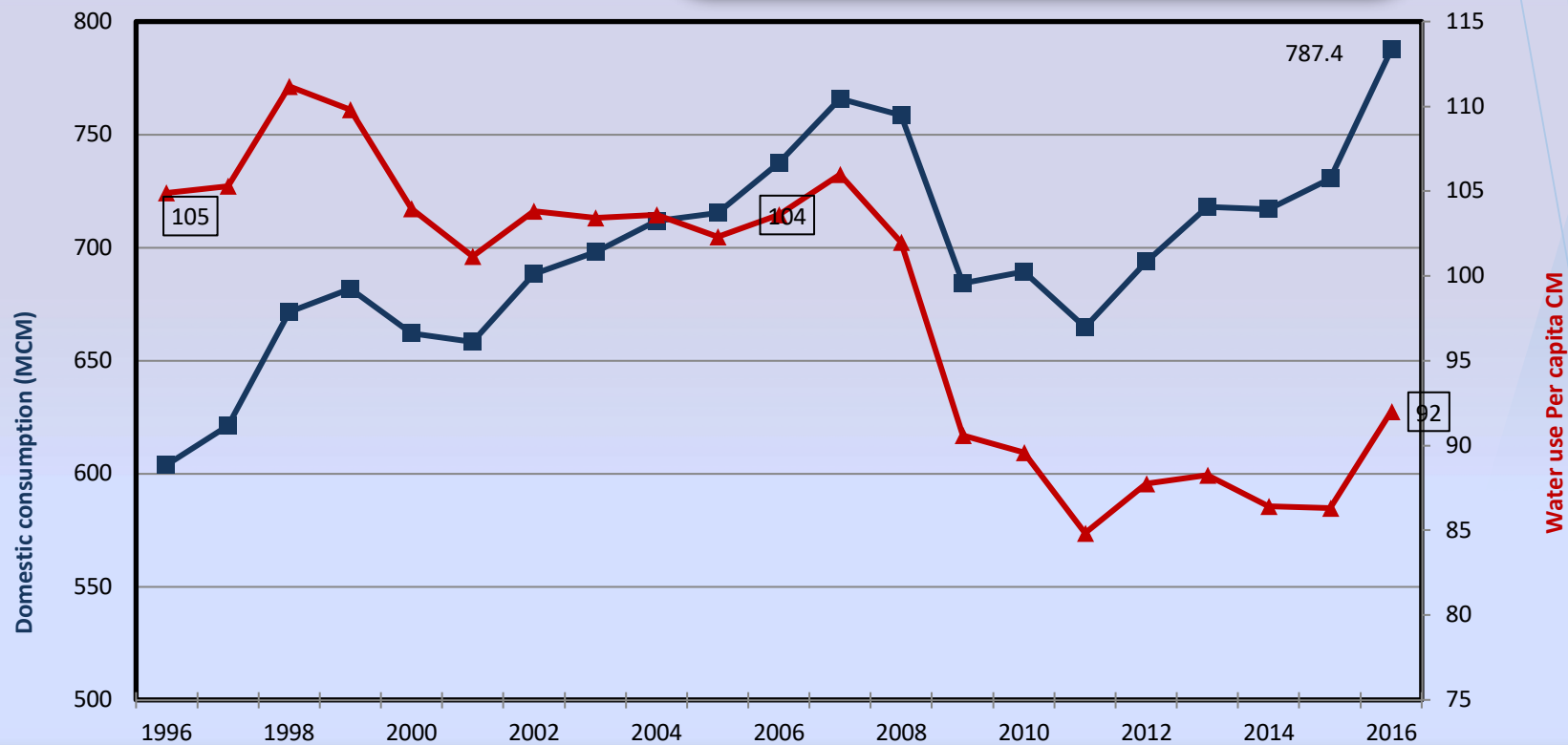
According to sectors



Total: 2142 MCM

Supply to PA – 61 MCM (West Bank) + 5 MCM (Gaza Strip) Supply to Kingdom of Jordan – 54 MCM

Domestic and per Capita Water Consumption

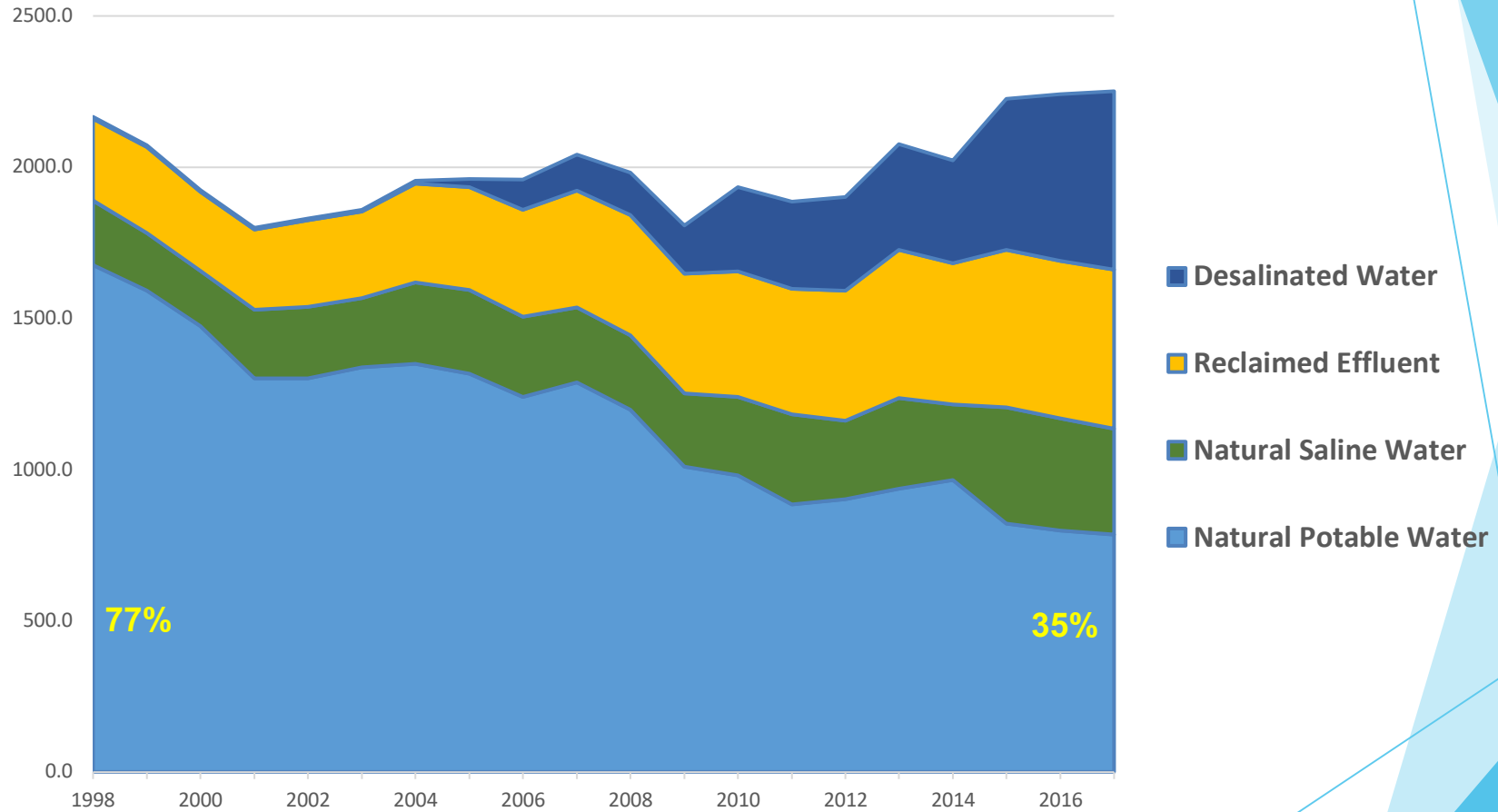


From Water Wars to Cooperation in the Middle East

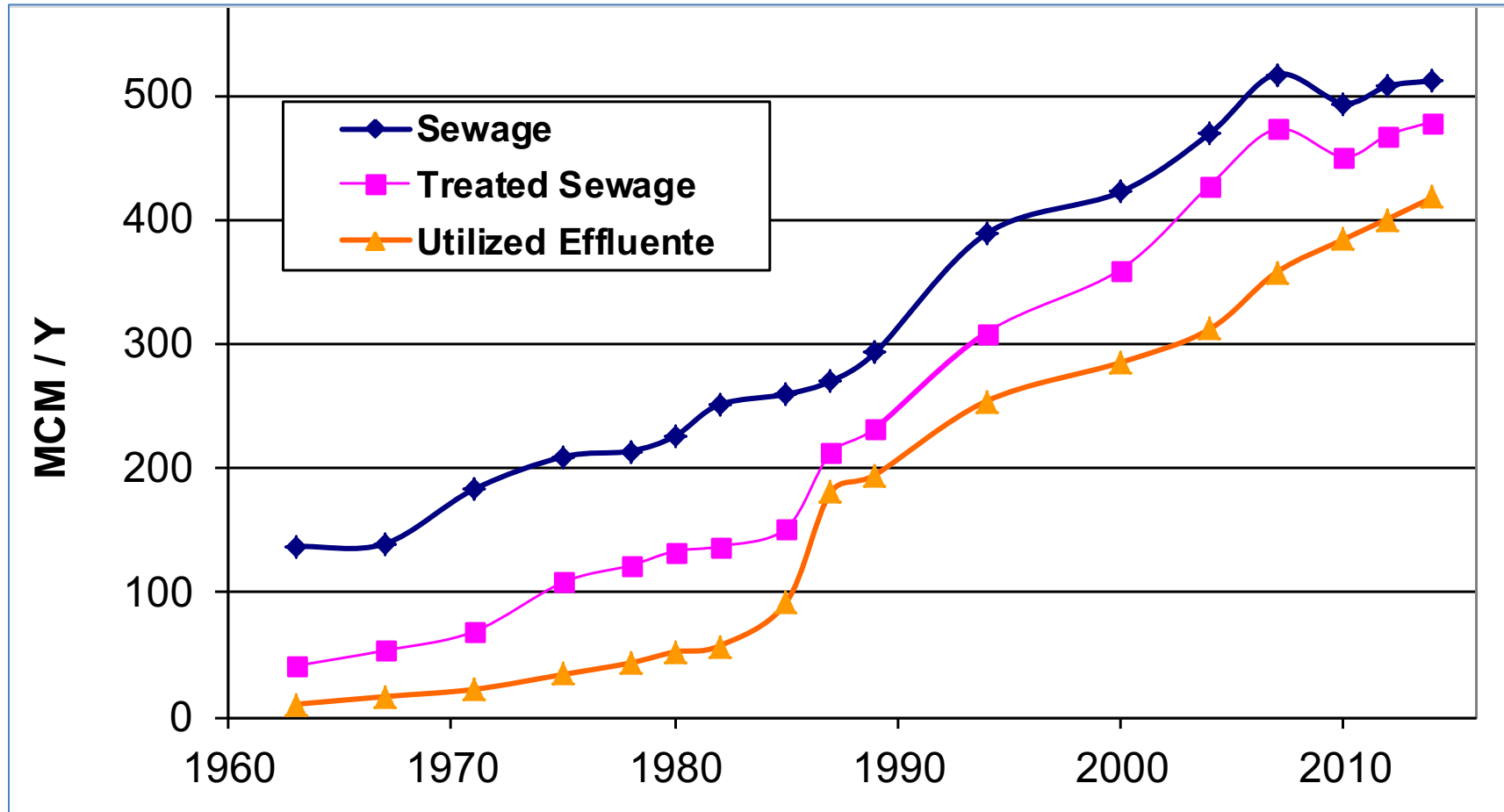


Education and Children Water - Campaign

Water Supply by Resources (MCM) in Israel 1998 - 2017

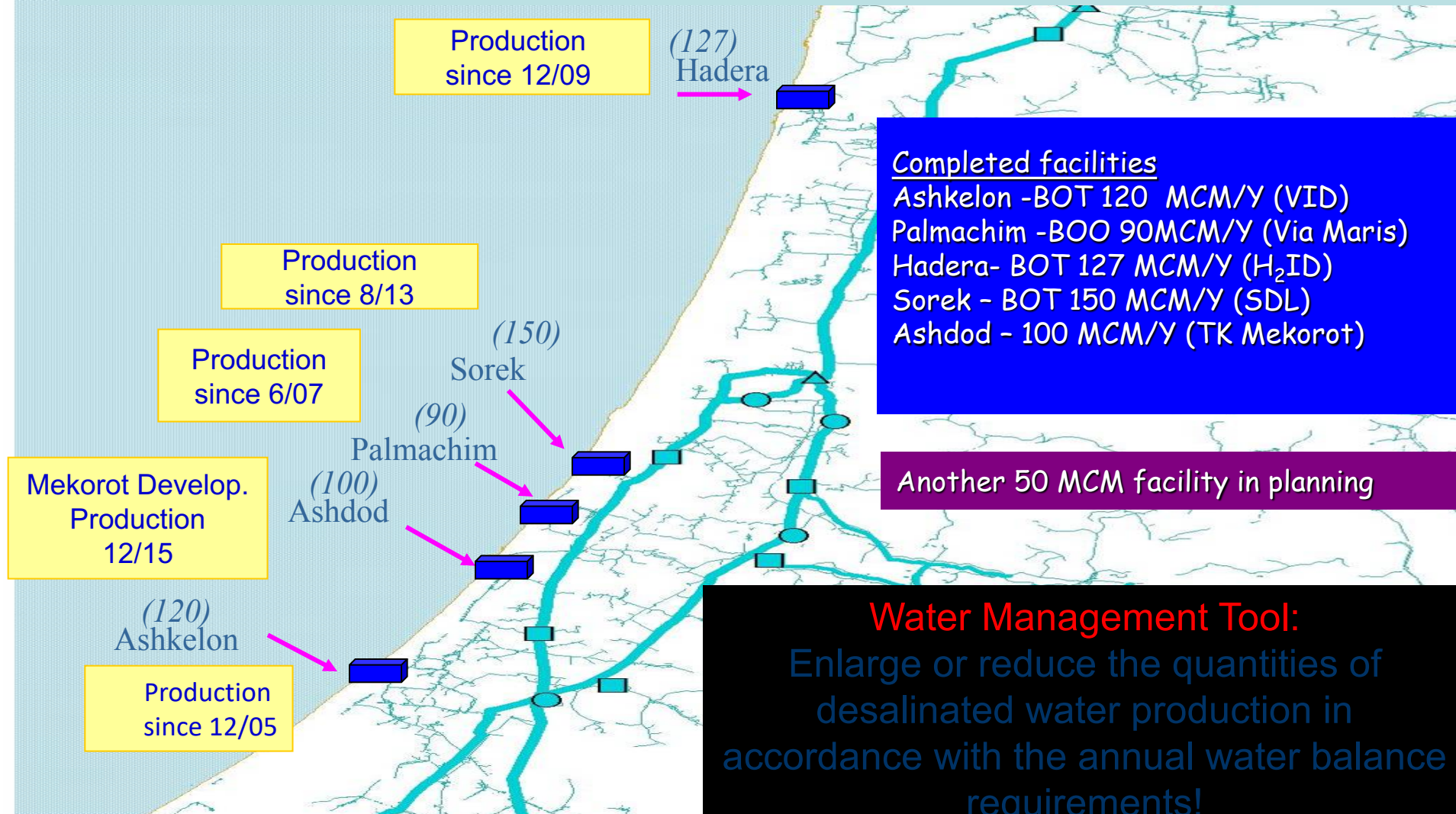


Wastewater & Reclaimed Wastewater in Israel



Sea Water Desalination

In accordance with the Government decisions since 2001 large scale seawater desalination facilities are being built:



The shrinking of the Dead Sea

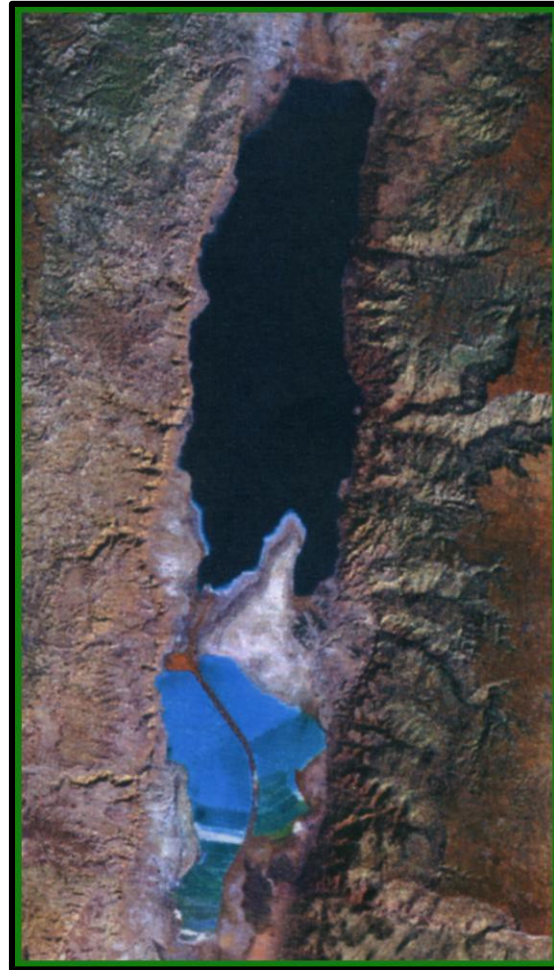
2006



- 390 m

~1020 km²

1960



- 420 m

~ 635 km²

2050



Computer
projection




- 550 m

~ 520 km²

Jordan, the Palestinian Authority and Israel agree to initiate the RSDS FS

May 9, 2005



9 May 2005

Mr. Christianne J. Poortman
Vice President
Middle East and North Africa
The World Bank, Washington, DC

Dear Mr. Poortman:

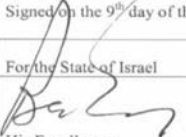
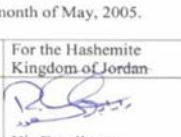

The Terms of Reference (TOR) for the Feasibility Study and Environmental and Social Assessment of the Red Sea – Dead Sea Water Conveyance Project have been prepared and finalized with technical assistance from the World Bank. We are pleased to inform you that the three beneficiary parties, the Hashemite Kingdom of Jordan, the State of Israel, and the Palestinian Authority are satisfied with and are in agreement with content of the Terms of Reference.

A copy of the final Terms of Reference is herewith submitted to the World Bank for due diligence review and eventual endorsement. Upon completion of the World Bank due diligence process, we plan to jointly announce finalization of the Terms of Reference and outline the next steps leading to financing and implementation of the Feasibility Study and the Social and Environmental Assessment. This announcement will take place at a special session of the World Economic Forum – Dead Sea, on May 22, 2005. We are pleased to note that you will be present at this event.

We request the World Bank to coordinate donor financing and to manage implementation of the Feasibility Study and the Social and Environmental Assessment as stipulated in the TOR. We understand that the World Bank Policies and Guidelines regarding the Safeguards, financial, and procurement aspects of conducting the Feasibility Study and Environmental and Social Assessment will apply.

We look forward to continued cooperation with the World Bank in studying the feasibility of this important project.

Signed on the 9th day of the month of May, 2005.

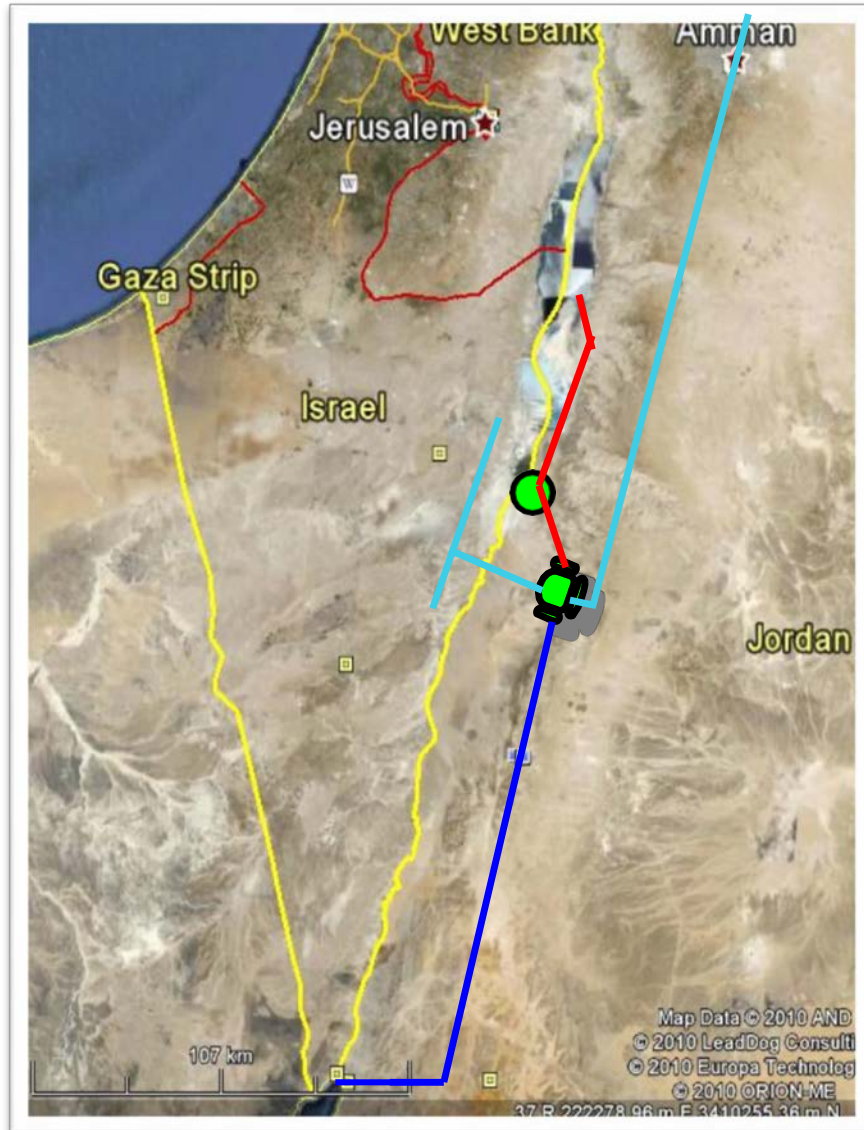
 For the State of Israel	 For the Hashemite Kingdom of Jordan	 For the Palestinian Authority
His Excellency Benyamin (Fouad) Ben-Eliezer Minister of National Infrastructure	His Excellency Raed Abu-Soud Minister of Water and Irrigation	His Excellency Ghassan Al Khatib Minister of Planning

Attachment: Final TOR and Minutes of Meeting.

Objectives of the Study Program as Determined by the 3 Governments

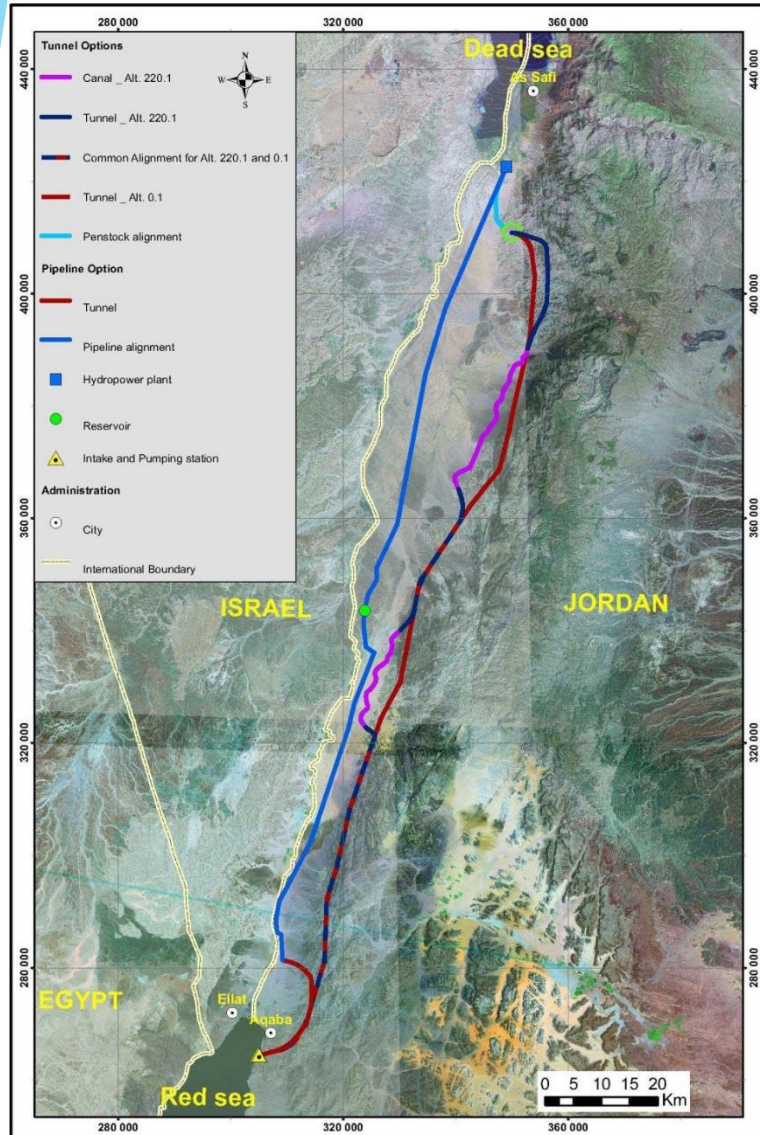
1. Save the Dead Sea from environmental degradation
2. Desalinate water/generate electricity at affordable prices for Jordan, Israel and the Palestinian Authority
3. Build a symbol of peace and cooperation in the Middle East

Red Sea Dead Sea Water Conveyance Project



- Pump ~ 2 BCM from the Red Sea
- Get ~ 0.9 BCM fresh water from desalination majority to Jordan and to a lesser extent to the PA and Israel.
- Discharge the outcome brine (~ 1.1 BCM) to the Dead Sea and stabilize its water level

Selection of the Route and analysis of the Environmental Effects on the Arava



- The open canal alternative was disqualified for environmental reasons and groundwater sensitivity
- Possible routes for tunnels and pipelines were defined. The pipelines are preferred because they offer more financial flexibility
- An earthquake risk assessment was performed. Technical solutions have been prepared for the possibility of leakage of seawater or brine into the aquifer. The impact on the ecosystem was assessed.
- In light of the dimensions and costs of the full project and in order to reduce risks, it was decided to carry out a pilot – Phase I is limited in its dimensions and costs.

Feasibility Study Results

RED SEA - DEAD SEA WATER CONVEYANCE STUDY PROGRAM
FEASIBILITY STUDY

Draft Final Feasibility Study Report

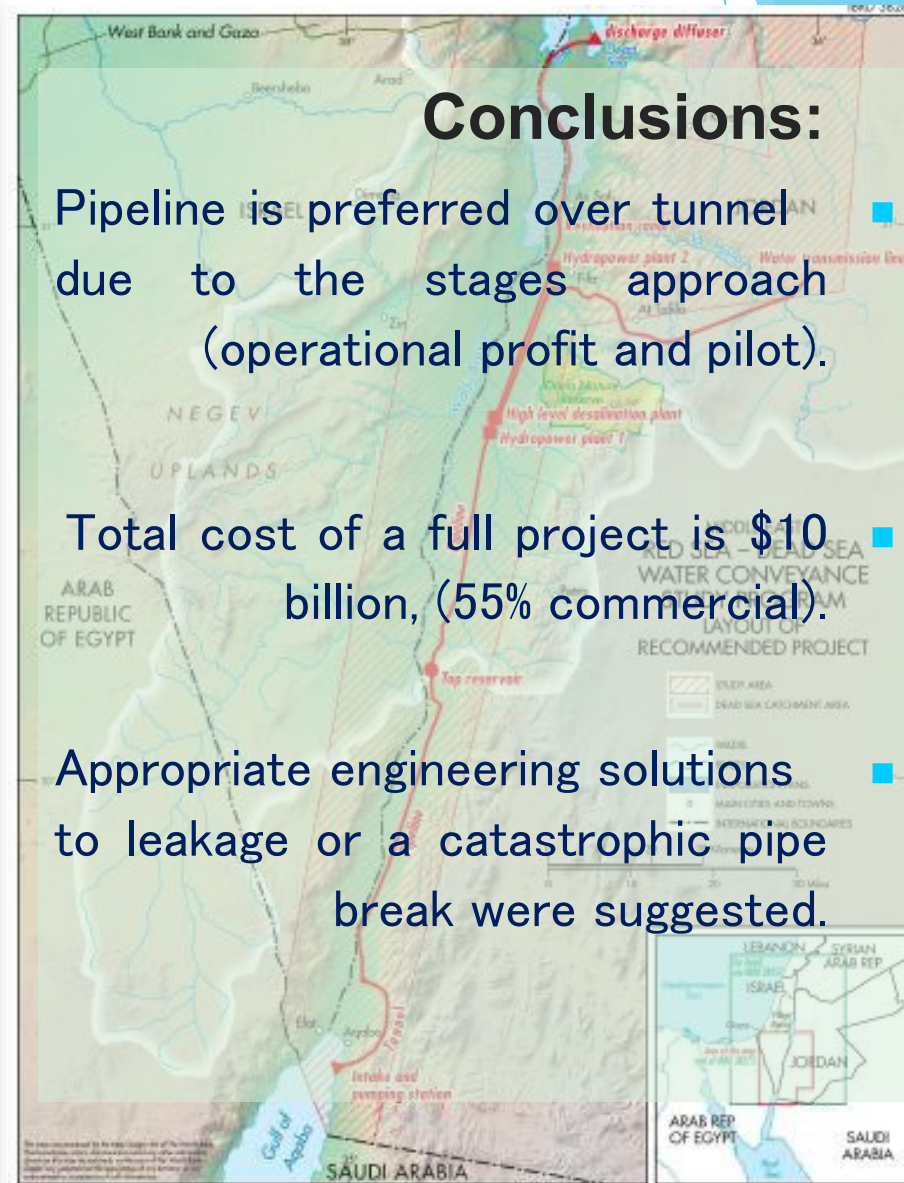
Summary

(Revised Version, October 14th, 2011)



Report No. 12 147 RP 04

October 2011



Conclusions:

Pipeline is preferred over tunnel due to the stages approach (operational profit and pilot).

Total cost of a full project is \$10 billion, (55% commercial).

Appropriate engineering solutions to leakage or a catastrophic pipe break were suggested.

Figure 32.6a: General Layout of Recommended Project

Jordan, the Palestinian Authority and Israel sign MOM to implement RSDS-Phase I

December 9, 2013



Larry Silverman,
US State Dept.

HE Silvan Shalom,
Israel

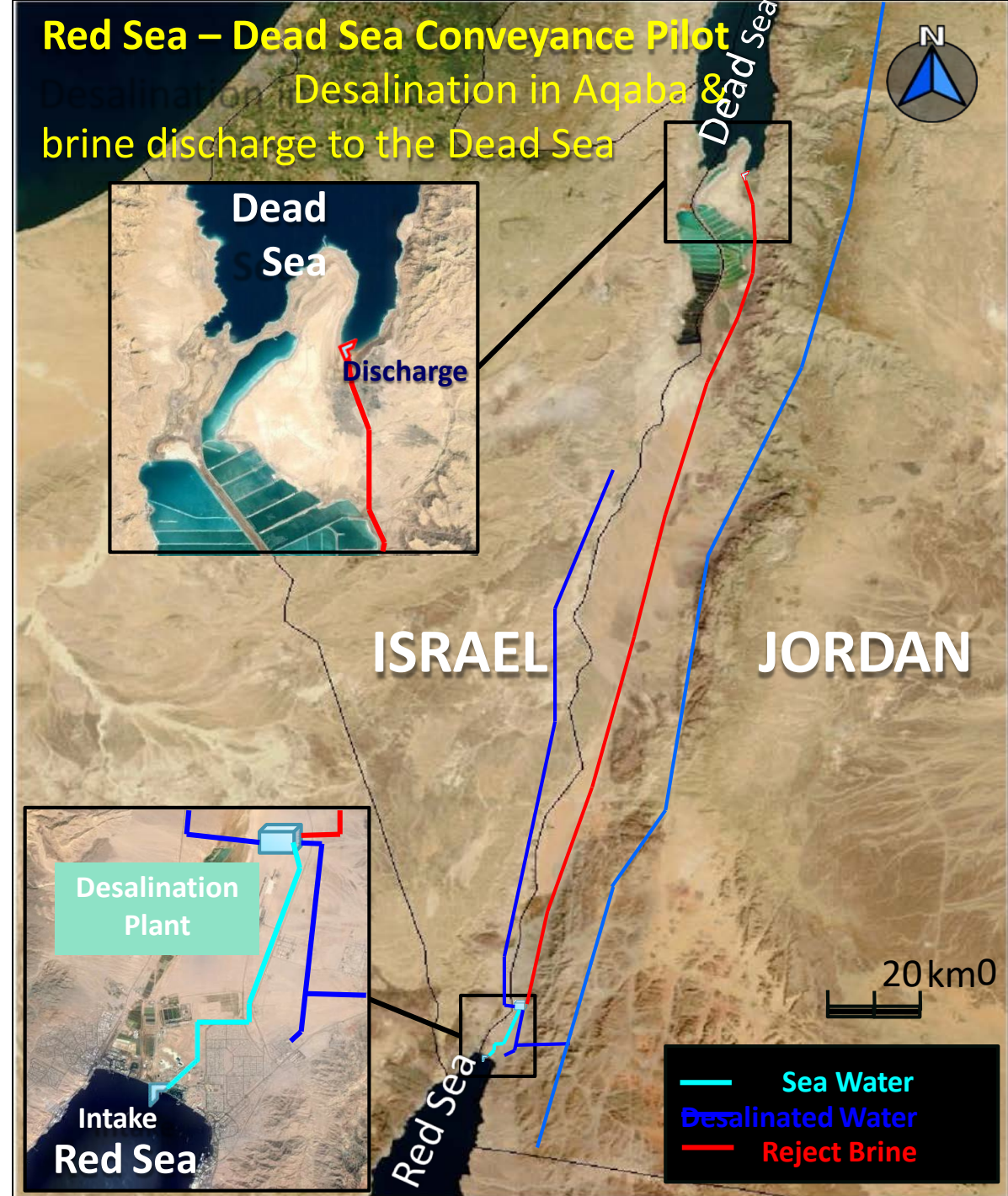
HE Hazim Naser,
Jordan

HE Shaddad Attili,
Palestinian Authority

Inger Andersen,
World Bank

Pilot/Phase I Project:

- Will produce drinking water faster
- Will enable the exploration of the impact on the Dead Sea at field scale
- Will initiate the project through a careful step, in order to minimize the environmental risks



Jordan and Israel sign RSDS Water Project (Phase I) Bilateral Agreement

February 26, 2015



The project involves the construction of a 65- to 80-million cubic meter capacity desalination plant in Aqaba, from which Israel will buy some 35 MCM of water annually for its south,

In return, Jordan will buy an additional 50 MCM of water annually from lake Kinneret, roughly doubling its current allocation to quench its increasingly thirsty north.

In addition, the agreement entails the construction of a 200-kilometer pipeline to carry brine from Aqaba plant to the shrinking Dead Sea.

The SWAP Deal:

- 35 MCM for Southern Israel
- 50 MCM for Jordan in the north
- 20–30MCM to the Palestinian Authority



Phase I

- Red Sea Intake capacity 300MCM
- Desalination plant with capacity of 65MCM – 35 for Israel and 30 for Jordan
- Discharge to the Dead Sea 235MCM
- 31 MW of HEPP
- BOT project managed jointly by Israel and Jordan



Status

- A preliminary screening process (PQ) was conducted to select consortiums that could participate in the tender process. 5 groups were selected.
- The draft tender documents (RFP) have been prepared detailing the objectives, the project description, the conceptual design, the parameters and the risks
- A Governmental decision must be approved in Israel before the tender is distributed.
- Complementary agreements to the G2G should be agreed, at least in principles, with the Jordanian government
- An examination of the possibility of supplying electricity from Israel should be completed