Jordan River Case Study
From Demise to Sustainability

Gidon Bromberg
EcoPeace Middle East

TAU, July 5, 2016
Transboundary River System

Lower part of Jordan River divides into three political areas:

**Israeli:**
Sea of Galilee to Yarmouk River

**Jordanian-Israeli:**
Yarmouk River to Bezek Stream

**Palestinian-Jordanian:**
Bezek Stream to Dead Sea
Cultural and Environmental Importance of the Lower Jordan River

- Rich in cultural, historical heritage
- Holy to Jews, Christians and Muslims
- Unique Ecosystem
- Meeting point for flora and fauna of three continents
- Migratory flyway for 500 million birds bi-annually
The Historical Lower Jordan River

- Average annual flow of over **1.3 billion cubic meters** including:
  - Upper Jordan: 540 mcm
  - Yarmouk: 480 mcm
  - Side Wadis: 280 mcm

- Supported a wide variety of habitats/rich biodiversity
The Mighty River Jordan
Consequences of the Conflict Mindset

The Great Water Grab

The Back Door Dump
The Demise of the Jordan River

- 95% of flow diverted
- Polluted
- Saline springs
- Sewage
- Closed Border Area
- Minefields, military checkpoints and fences.
Demise of the Dead Sea

- Dead Sea has lost 1/3 of surface area
- Dropping by over 1 meter every year
- Man made Tragedy of the Commons
Empowering River Constituents: Good Water Neighbors

Youth Water Trustees

Neighbors Path Tours
- Seeing is Believing

Teachers Training
- Env Peacebuilding Curriculum
Municipal Leadership
Involving Faith Leaders

Religion and Water, Religion and Peacebuilding - Educating faith leaders about the poor state of the river and the need for cross border cooperation

Interfaith networks – creating constituency of faith leaders to raise their voice & sign on to Covenant for the Jordan River
Media Attention

Raising awareness of the state of the River...

Media tours, site visits, “Big Jump” events... getting it on the public agenda
Create Higher Level Political Will

- **US Senate** Resolution supporting regional effort to rehabilitate the Jordan River passed unanimously November 2007
- **EU Parliament** Resolution 2010
- **Jordan Parliament** 2011 & 2012
- **PLC member** discussions 2011 & 2013
Invest in Research Based on Best Science:

- What River Do We Want? Environmental flows study.
- Where could the water come from? Analyzing water economies and potential sources for the required flows.
- Who can benefit? Economic study – jobs and livelihoods.
- Prepared Interfaith guides to the Jordan River.
- Peace Park studies.
- Launch first ever integrated regional master plan – hire RH/DHV.
Sustainable Development in the Jordan Valley

- Sustainable Urban, Energy and Infrastructure Development
- Effective Jordan Valley Governance
- Ecological Rehabilitation
- Sustainable Agriculture
- Sustainable Tourism and CH Development
- Sustainable Water Management and River Rehabilitation
- Pollution Control and Sanitation

Peace

Prosperity

Security
Major Challenges in the Valley

- **Pollution:** majority of wastewater is discharged untreated and not reused, solid waste is not management in a sanitary fashion, salt water is discharged into the basin

- **Water Management:** current water demands are not met; Jordan river has declined and is polluted

- **Agriculture:** water use efficiency, cropping pattern and post harvest options

- **Ecology:** basin and river ecology has drastically declined

- **Tourism and cultural heritage:** potentials are not utilized

- **Urban development and infrastructure:** are outdated and do not meet future requirements
Major challenges: Agriculture

Many agricultural areas of the Jordan Valley are faced with water shortages, particular in the southern parts of Jordan and in Palestine.

Overall irrigation efficiencies show substantial room for improvements. Locally generated wastewater is currently not used for agricultural purposes.

Post harvesting and agricultural marketing systems in the Jordan Valley show room for substantial improvements, leading to higher outputs per dunum, or per m3 water used.
Meeting the Strategic Planning Objectives

A Long list of 127 interventions for the Jordan Valley has been identified in cooperation with the key stakeholders, aiming at addressing the strategic planning objectives adequately. They totally represent in investment of 4.58 Billion USD until 2050 (excl. operations).
# Proposed Interventions in Agriculture

<table>
<thead>
<tr>
<th>Code</th>
<th>Region</th>
<th>Project Description</th>
<th>Amount (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A01</td>
<td>REG</td>
<td>Jordan Valley Agricultural Water Efficiency</td>
<td>1,500,000</td>
</tr>
<tr>
<td>A02</td>
<td>REG</td>
<td>Jordan Valley Regional Coordination on Agriculture</td>
<td>6,300,000</td>
</tr>
<tr>
<td>A01</td>
<td>JOR</td>
<td>Jordan Valley Greenhouses Expansion Project</td>
<td>3,000,000</td>
</tr>
<tr>
<td>A02</td>
<td>JOR</td>
<td>Jordan Valley Extension Services Improvement Project</td>
<td>2,171,400</td>
</tr>
<tr>
<td>A03</td>
<td>JOR</td>
<td>Jordan Valley Drip Irrigation Improvement Project</td>
<td>12,690,000</td>
</tr>
<tr>
<td>A04</td>
<td>JOR</td>
<td>Jordan Valley Post Harvesting Support Project</td>
<td>2,326,500</td>
</tr>
<tr>
<td>A05</td>
<td>JOR</td>
<td>Jordan Valley Irrigation Efficiency Improvement Project</td>
<td>3,877,500</td>
</tr>
<tr>
<td>A06</td>
<td>JOR</td>
<td>Jordan Valley Authority Support Project</td>
<td>3,102,000</td>
</tr>
<tr>
<td>A01</td>
<td>PAL</td>
<td>Shifting in Cropping Patterns</td>
<td>800,000</td>
</tr>
<tr>
<td>A02</td>
<td>PAL</td>
<td>Rehabilitation and upgrading of water systems</td>
<td>17,000,000</td>
</tr>
<tr>
<td>A03</td>
<td>PAL</td>
<td>Water Right Policies and Regulation</td>
<td>150,000</td>
</tr>
<tr>
<td>A04</td>
<td>PAL</td>
<td>Operate and expand the Agro-Industrial Park</td>
<td>2,000,000</td>
</tr>
<tr>
<td>A05</td>
<td>PAL</td>
<td>construction of Agricultural Roads</td>
<td>1,000,000</td>
</tr>
<tr>
<td>A06</td>
<td>PAL</td>
<td>enhancement of Palm Production`</td>
<td>1,600,000</td>
</tr>
<tr>
<td>A07</td>
<td>PAL</td>
<td>Development and Support livestock Sector</td>
<td>3,995,000</td>
</tr>
<tr>
<td>A08</td>
<td>PAL</td>
<td>Support to Women organizations and Bedouin Communities</td>
<td>650,000</td>
</tr>
<tr>
<td>A09</td>
<td>PAL</td>
<td>Land Rehabilitation</td>
<td>152,000,000</td>
</tr>
<tr>
<td>A10</td>
<td>PAL</td>
<td>Strengthening of Extension Services</td>
<td>100,000</td>
</tr>
<tr>
<td>A11</td>
<td>PAL</td>
<td>Promotions of Farmers Cooperative</td>
<td>500,000</td>
</tr>
<tr>
<td>A12</td>
<td>PAL</td>
<td>Jordan valley Credit Program</td>
<td>1,098,000</td>
</tr>
<tr>
<td>A13</td>
<td>PAL</td>
<td>LEISA Research certification</td>
<td>525,000</td>
</tr>
<tr>
<td>A14</td>
<td>PAL</td>
<td>Establish an Agro-Industrial Zone in the Northern JV</td>
<td>12,000,000</td>
</tr>
<tr>
<td>A15</td>
<td>PAL</td>
<td>Hand over of Settlements Agricultural Lands</td>
<td>16,000,000</td>
</tr>
</tbody>
</table>

**TOTAL SUSTAINABLE AGRICULTURE**: 244,385,400
Master Plan for the Jordan River Basin: Vision and Objective

The Jordan River: Rehabilitated and Accessible, a regional symbol of peace and source of economic prosperity for Palestinians, Jordanians and Israelis together.

River is again the Natural Water Carrier – instead of pipes, canals and dams.

EcoPeace Middle East
Rehabilitation of Lower Jordan River ... Partially Underway

- Waste Water Treatment Plants built by our governments in Israel, Jordan, Palestine.
- Israeli commitment of 30m$^3$ clean water – 9mcm released today
- Kinneret Drainage Authority leads river bank rehabilitation
- Jordan and Israel create sub committee for Jordan River rehabilitation under terms of Peace Treaty
- Bakoura National Park Committee Created
- Master Plans in Israel / NGO Master Plans supported in Jordan and Palestine
Ecological rehabilitation: Restoring habitats

Log and branch habitats for birds

Rock habitats for turtles and snails

Newly-planted native species, gathered locally
The Jordan Valley from 2010 to 2050

GDP = 4 BUSD in 2010
- Jordan: 51%
- Israel: 35%
- Palestine: 14%

GDP is 73 BUSD in 2050
- Jordan: 41%
- Palestine: 31%
- Israel: 28%
We Welcome You to Join and Support these Efforts

For more information, please visit: www.foeme.org