CRISES IN GAZA

- Gaza Strip - the most densely populated place on the planet (2 million inhabitants in 364 Km²), cut-off from the world, is at a crises point with an unprecedented human disaster about to unravel.

- To meet the water demand, the entire water supply depends on the Costal Aquifer, more than 190 MCM/Year is abstracted, while the replenishment is less than 55 MCM/Year.
CURRENT SITUATION
**Objectives:**

a. Enhancing the integrated management and sustainable development of the water resources.

b. Improving the quality, continuity and reliability of water supply services as well as ensuring equitable water distribution.

c. Improving the wastewater services and structure (collection, treatment and reuse).

d. Developing water sector institutions to reinforce good governance within an integrated legal and institutional framework.

e. Improving the financial sustainability of the water utilities and water service providers.

**Results:**

(i) Improved and increased access to sustainable-piped water services in selected urban areas in WB&G,

(ii) Strengthened water resources institutional management,

(iii) Improved efficient and viable water supply service delivery management,

(iv) Treated wastewater made available for reuse.

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**SDP**

To improve water security by enhancing the water and wastewater services delivery through integrated and sustainable management.

**WSDP**

Increasing access to improved quality and efficiency of water supply and wastewater services provision in selected areas and strengthening the capacity of the selected water sector institutions at the national and local levels.
## Domestic Water Demand 2020 & 2035

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Water Demand at Source MCM/year</th>
<th>Water resources MCM/year</th>
<th>Delivered to Customer MCM/year</th>
<th>System efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Groundwater</td>
<td>Mekorat</td>
<td>Sea Water Desalination</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MCM/year</td>
<td></td>
<td>STLV</td>
<td>Regional</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MCM/year</td>
<td>l/c/d</td>
</tr>
<tr>
<td>2025</td>
<td>2,570,198</td>
<td>140</td>
<td>60</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>2035</td>
<td>3,625,519</td>
<td>198</td>
<td>55</td>
<td>20</td>
<td>13</td>
</tr>
</tbody>
</table>
GCDP Overview
Associated Works Overview
<table>
<thead>
<tr>
<th>Program Items</th>
<th>Cost (EUR)</th>
<th>Cost (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Desalination Facility</td>
<td>270</td>
<td>303</td>
</tr>
<tr>
<td>1.1 Desalination Plant (SWRO)</td>
<td>185</td>
<td>207</td>
</tr>
<tr>
<td>1.2 Power Plant</td>
<td>85</td>
<td>95</td>
</tr>
<tr>
<td>1.2.1 Reciprocating Dual Engines</td>
<td>40</td>
<td>45</td>
</tr>
<tr>
<td>1.2.2 PV Roof</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>1.2.3 PV on Ground Structure</td>
<td>25</td>
<td>28</td>
</tr>
<tr>
<td>1.2.4 Wind Turbines</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>1.2.5 Grid Connection</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>2. Associated Works</td>
<td>160</td>
<td>179</td>
</tr>
<tr>
<td>2.1 North - South Conveyor</td>
<td>130</td>
<td>146</td>
</tr>
<tr>
<td>2.2 Non-Revenue Water Reduction</td>
<td>30</td>
<td>34</td>
</tr>
<tr>
<td>3. Operation Subsidy for Five Years</td>
<td>46</td>
<td>52</td>
</tr>
<tr>
<td>4. Consultant for Supervision</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>5. International Management Firm</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>6. Program Management Local</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>7. Contingences (5%)</td>
<td>25.1</td>
<td>28.2</td>
</tr>
<tr>
<td>8. TF Management Cost (2.5%)</td>
<td>12.6</td>
<td>14.1</td>
</tr>
<tr>
<td><strong>Total Investment (1 Euro = 1.122 US$)</strong></td>
<td><strong>540.7</strong></td>
<td><strong>607.4</strong></td>
</tr>
</tbody>
</table>
CURRENT SITUATION
NRW = 40%

Technic al Losses

Commercial Losses

No Reliable data available on the share of each component (refer to IWA Water Bulk Water System Monitoring Plan)

Detailed Design of 3 DMAs (Pilot Areas)

NRW Management Strategy

ONGOING ASSOCIATED WORKS TASKS (FEBRUARY 2017)

NRW reduction management plan

TARGET YEARS

Year 2020
NRW: 31%

Year 2025
NRW: 26%

Year 2030
NRW: 20%

Year 2035
NRW: 20%
STANDARD IWA WATER BALANCE (WB)

1st Step: Tentative WB as per existing situation

2nd Step: Diagnosis and Assessment of the system

3rd Step: Action Plans for Short Term Period

4th Step: Action Plans for Long Term Period

On-the-Job Training and WB monitoring
SHORT TERM ACTION PLANS
1. Install new Bulk Water meters
2. Replace existing customer meters
3. Install new customer meters
4. Improve billing collection efficiency
5. Upgrade operation and management
6. Install pressure controllers
7. Install control valves
8. Identify/Remove illegal connections

EXPECTED FINANCIAL IMPLICATIONS: 34 Million $

LONG TERM ACTION PLANS
1. Upgrade NRW services department
2. Procure leak detection equipment
3. Improve leakage and losses control
4. Rehabilitate water network, as needed
5. Identify and design DMAs
6. Connect all the facilities to SCADA
7. Address awareness activities
8. End customers management policy