Capacity building in the water sector: Creating and developing training centers for water professionals

Newton de Lima Azevedo
Governor of the World Water Council
XVI World Water Congress, Room: Cozumel 5, Cancun, Mexico
9h-10h30, Tuesday 30th of May 2017
PRINCIPLES GOVERNING THE DESIGN OF TRAINING CENTERS IN THE WATER SECTOR (I):

1. The Center positions itself as a *service provider* specialized in its areas of competence, linked to the water sector.

2. The Center’s *business strategy* is based on the demand for capacity building in the sanitation sector.

3. Commitment to meet *market expectations* in terms of demand and need.

4. Offer differentiated training in the market, with *practical approaches* and real situations.

5. Application of the concept of *Pedagogical Engineering*.

6. *Managers* of the Center with profiles and abilities to exercise their functions.
PRINCIPLES GOVERNING THE DESIGN OF TRAINING CENTERS IN THE WATER SECTOR (II):

7. Trainers and Instructors of the Center with specific differentiated characteristics to carry out the training attributions.


9. The Center should take a leadership position in the modernization of the water sector.

10. The Center as a complementary service provider.


12. Contribute to the construction of a policy for professional efficient and sustainable training in the sector.
A REALITY IN BRASIL:

• Low wastewater treatment index: only 37% of generated wastewater is treated;

• Low personnel productivity index: 55% of water and wastewater services operators, have the indicator below 400 connections/employee\(^1\);

• High non water billed index: 33% of water and wastewater services operators (49% of urban population), have the non water billed index above 30%;

• Low cash sufficiency index\(^2\): 47% of water and wastewater services operators (32% total population), have the index lower than 1,00.

\(^1\)Connections (water + wastewater) per employee

\(^2\)Reserves / (OPEX + debt service+ taxes)

SOURCE: SNIS 2014
EVOLUTION OF THE NUMBER OF EMPLOYEES (IN THOUSANDS)

(1) BNDES R$ 10 million increase in civil construction = 530 direct and indirect jobs

Source: SNIS 2014
Actual situation in Brazil: the principal actions in capacity building are concentrated in the strategic and tactical levels.

Little and isolated actions exist. Insufficient for today’s and future demands.
TRAINING, CAPACITY BUILDING AND QUALIFICATION IN WATER AND WASTEWATER

New associates

Destined, principally, to employees in water in Brazil and LATAM

Water Governance
Brasilia, DF

Technical Operational
São Paulo State
## INITIAL WATER GOVERNANCE COURSES

<table>
<thead>
<tr>
<th>THEME</th>
<th>COURSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MANAGEMENT OF RAINWATER AND FLOOD RISK</td>
<td>Flood risk prevention</td>
</tr>
<tr>
<td></td>
<td>Basin and alternative techniques: Construction</td>
</tr>
<tr>
<td>INDUSTRIAL WATER REUSE AND RECYCLING</td>
<td>Hydrological efficiency in the industry</td>
</tr>
<tr>
<td>IRRIGATION AND WASTWATER REUSE IMPROVEMENT PRACTICES</td>
<td>Reuse of Wastewater in irrigation</td>
</tr>
</tbody>
</table>
### INITIAL TECHNICAL-OPERATIONAL COURSES

<table>
<thead>
<tr>
<th>THEME</th>
<th>SUBTHEME</th>
<th>COURSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATER</td>
<td>Losses and leakages</td>
<td>Improvement of the Efficiency of Distribution Networks: strategy and organization</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Search for leakage and buried pipes</td>
</tr>
<tr>
<td></td>
<td>Treatment</td>
<td>Water Treatment operation: fundamental basis (level I)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Water Treatment operation: clarification and disinfection (level II)</td>
</tr>
<tr>
<td>WATER / WASTEWATER</td>
<td>Automation</td>
<td>Operation and maintenance of telemetry, telemanagement, automation and protection systems</td>
</tr>
<tr>
<td></td>
<td>Pumps and Stations</td>
<td>Maintenance of stations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stations in wastewater networks</td>
</tr>
<tr>
<td>WASTEWATER</td>
<td>Treatment stations</td>
<td>Technical management</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wastewater Stations Operation – level 1</td>
</tr>
</tbody>
</table>
THANK YOU!