Performance assessment and benchmarking

IBNET as tool
for utility management and policy decisionmakers

Caroline van den Berg
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Access to performance data is key

- One of the critical factors of successful utilities is ACCOUNTABILITY.
- No accountability without performance measurement.
What is IBNET?

- IBNET started as an initiative to collect data on performance of WSS utilities to improve policy dialogue in the mid-1990s.
- Since then, it has developed in three separate products that can be found at [www.ib-net.org](http://www.ib-net.org).
What is IBNET?

1. **IBNET Toolkit** is a suite of software and guidance documents to help utilities compile, analyze and share performance information.

2. **IBNET website** includes a searchable database with indicators from more than 2500 utilities from more than 80 countries:
   - Toolkit can be downloaded in different languages
   - Database – with indicator search mechanism and reporting formats
   - A section with links and resources to assist measurement and benchmarking

3. **IBNET helpdesk**
Basic principles of IBNET

- Focus on utilities and their organizations, while also of use for governments, consumer regulators, consumer organizations, donors
- Easy to implement tool, focusing on a basic set of performance indicators
- Low cost tool
- Learning by doing approach
- Information on indicators is easily accessible – sharing lessons between utilities
Where does IBNET get its data?

- Brazil: Federal ministry of cities
- UK, Chile and Bulgaria: national regulator
- Moldova and Romania, and Africa: national/regional water utility associations
- Hungary and Czech Republic: research institutes of the water utility associations
- Russia: independent research institute
- International regional associations: OECD, SEAWUN and in Latin America ADERASA:
  - Mexico, Philippines, Vietnam, parts of Africa, and Eastern Europe and Central Asia: Bank projects
- Publicly accessible websites
What IBNET can tell you?

騰 Understanding utility performance on the basis of a set of objective indicators:
  - performance of the individual utility over time
  - performance of the individual utility with other utilities operating in the sector, or similar utilities elsewhere in the world

騰 Analysis to see how the performance of the utility and/or the sector can be improved upon

騰 Advanced research and comparisons:
  - comparison of utility performance (benchmarking)
  - development of new indicators that reflect the specific utility needs/sector needs
  - frontier and productivity analysis
IBNET Website: www.ib-net.org
Utility managers and IBNET data

- Common language for technical and financial staff
- Performance assessment:
  - Set-up baseline: where are we now?: detecting weaknesses
  - Set-up performance objectives: where we want to go?: setting priorities and targets
  - Performance monitoring: are we getting there?
- Advocacy – detect what impedes progress and what has to be done to overcome the impediments
- Comparisons between utilities, best practices, tool for analysis
## Utility Scorecard

### Utility Report

**Costa Rica, Costa Rica National Utility, AyA (Utility Code: 999071)**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Water Coverage (%)</td>
<td>94</td>
<td>97</td>
<td>97</td>
</tr>
<tr>
<td>2.1 Sewerage Coverage (%)</td>
<td>38</td>
<td>35</td>
<td>32</td>
</tr>
<tr>
<td>4.1 Total Water Consumption (l/person/day)</td>
<td>233</td>
<td>180</td>
<td>208</td>
</tr>
<tr>
<td>4.7 Residential Consumption (l/person/day)</td>
<td>N/A</td>
<td>144</td>
<td>165</td>
</tr>
<tr>
<td>6.1 Non Revenue Water (%)</td>
<td>N/A</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>6.2 Non Revenue Water (m3/km/day)</td>
<td>N/A</td>
<td>39.0</td>
<td>68.0</td>
</tr>
<tr>
<td>8.1 % Sold that is Metered (%)</td>
<td>N/A</td>
<td>90</td>
<td>15</td>
</tr>
<tr>
<td>11.1 Operational Cost W&amp;WW (US$/m3 water sold)</td>
<td>1.29</td>
<td>0.43</td>
<td>0.16</td>
</tr>
<tr>
<td>12.3 Staff W/1000 W pop served (W/1000 W pop served)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>18.1 Average Revenue W&amp;WW (US$/m3 water sold)</td>
<td>1.32</td>
<td>1.58</td>
<td>0.58</td>
</tr>
<tr>
<td>23.1 Collection Period (Days)</td>
<td>9</td>
<td>22</td>
<td>30</td>
</tr>
<tr>
<td>23.2 Collection Ratio (%)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>24.1 Operating Cost Coverage (ratio)</td>
<td>1.02</td>
<td>3.63</td>
<td>3.55</td>
</tr>
</tbody>
</table>
Benchmarking utilities: Operational Cost Coverage Ratio – multi-city, large utilities
Policymakers and IBNET data

- Determine the status of the water sector on the level of utility and province/district/state
- Present directions for improvement in financial and technical aspects of sector performance
- Use data results as a tool to determine allocation of public resources (including targeting)
- Set national performance into an international context
### Colombia

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Water Coverage (%)</td>
<td>88</td>
<td>89</td>
</tr>
<tr>
<td>2.1 Sewerage Coverage (%)</td>
<td>82</td>
<td>83</td>
</tr>
<tr>
<td>4.1 Total Water Consumption (l/person/day)</td>
<td>146</td>
<td>142</td>
</tr>
<tr>
<td>4.7 Residential Consumption (l/person/day)</td>
<td>116</td>
<td>112</td>
</tr>
<tr>
<td>6.1 Non Revenue Water (%)</td>
<td>45</td>
<td>44</td>
</tr>
<tr>
<td>6.2 Non Revenue Water (m3/km/day)</td>
<td>91.1</td>
<td>87.6</td>
</tr>
<tr>
<td>8.1 % Sold that is Metered (%)</td>
<td>86</td>
<td>92</td>
</tr>
<tr>
<td>11.1 Operational Cost WBWW (US$/m3 water sold)</td>
<td>0.48</td>
<td>0.53</td>
</tr>
<tr>
<td>12.3 Staff W/1000 W pop served (W/1000 W pop served)</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>18.1 Average Revenue WBWW (US$/m3 water sold)</td>
<td>0.70</td>
<td>0.81</td>
</tr>
<tr>
<td>23.1 Collection Period (Days)</td>
<td>241</td>
<td>220</td>
</tr>
<tr>
<td>23.2 Collection Ratio (%)</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>24.1 Operating Cost Coverage (ratio)</td>
<td>1.43</td>
<td>1.51</td>
</tr>
</tbody>
</table>
Sector Scorecard

Sector Report
Colombia (COL) for 2004
23.2 Collection Ratio (%)
Understanding the Linkages in Performance

Moldova: consumption and price

Moldova - Operating Cost Coverage Ratio
Hidden costs in the water sector

Bulgaria:
hidden cost of water (US$ constant 2001 prices)

2000 2001 2002 2003

NRW losses | collection failures | average cost recovery price
Using data in policymaking: the case of Brazil

Brazil:
- SNIS set up in 1994 and developing since then
- The role of SNIS in the new Water Law 2007: information as a pre-requisite for access to public resources

Netherlands:
- Role of the national water association
- Use of benchmarking as an alternative to regulation
Regulators and IBNET

- Determine the status of the water sector on the level of utility: efficiency as a special focus
- Use data results as a tool to set tariff adjustments
- Use data as a tool for setting performance targets
- Set national performance into an international context
Setting performance targets

Operating Cost Coverage Ratio between 2001 and 2004

Quintiles of Utilities

- Q1 (Worst)
- Q2
- Q3
- Q4
- Q5 (Best)

Ratio

2001
2004
2001 - Average
2004 - Average
Economies of scale are not always occurring

<table>
<thead>
<tr>
<th>Country</th>
<th>Economies of scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>1.02</td>
</tr>
<tr>
<td>Romania</td>
<td>1.05*</td>
</tr>
<tr>
<td>Moldova</td>
<td>1.21*</td>
</tr>
<tr>
<td>Vietnam</td>
<td>1.16*</td>
</tr>
</tbody>
</table>

Source: Nauges and van den Berg,
Conclusions

By providing access to comparative information key stakeholders will get the information to do their jobs better:

– Utility managers and employees can identify areas for improvement, adopt realistic targets and—not least—convince authorities of the need for change;
– Governments can monitor and adjust sector policies and programs;
– Regulators can ensure that customers get value, and providers have incentives to perform;
– Customer groups and NGOs can exercise “voice” in an informed way;
Conclusions (2)

IBNET:
- Use of IBNET as a tool with a tested methodology with adjustments and expansions
- Sharing data to ensure that learning and communication can take place
- We hope to ensure your participation in IBNET – directly or indirectly so that we can help to improve the sector to provide better and more universal access to its services
IBNET Website: www.ib-net.org

For more information, suggestions, please contact

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or

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Issues in IBNET

Data collection issues:

- Use of standardized data definitions and data tools to ensure comparability of data within and between countries
- Find partners that can collect data and ensure future data collection efforts
- Data quality requires a lot of attention:
  - Capacity building with data collecting agencies: process takes time
  - Control mechanisms to check on inconsistencies in the collected data

Need for follow-up on data collection with analysis of collected data
Shandong vs. Brazil

Unaccounted-for water losses in % in 2004

Average

large cities

Shandong

Brazil
Shandong vs. Brazil

Unaccounted losses in m3 per km of network

Average
Large cities

Shandong
Brazil
NRW.. Money down the drain!

<table>
<thead>
<tr>
<th></th>
<th>Developed countries</th>
<th>Eurasia (CIS)</th>
<th>Developing countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>US$ billion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical losses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial losses</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Developed countries**: 2.5 billion (Physical), 2.5 billion (Commercial)
- **Eurasia (CIS)**: 1.0 billion (Physical), 1.0 billion (Commercial)
- **Developing countries**: 5.0 billion (Physical), 5.0 billion (Commercial)