Workshop on Information Systems for Performance Indicators

October 4, 9:00 a.m.

Sanford Berg

Director of Water Studies
Some Thoughts

Spare us from cowardice that shrinks from new truths;
Spare us from laziness that is content with half-truths; and
Spare us from arrogance in thinking that we know all truth.
Public Utility Research Center

**Research**  Expanding the body of knowledge in public utility regulation, market reform, and infrastructure operations (e.g. benchmarking studies of Peru, Uganda, Brazil, Japan, and Central America)

**Education**  Teaching the principles and practices that support effective utility policy and regulation (e.g. PURC/World Bank International Training Program on Utility Regulation and Strategy, January 2011)

**Service**  Engaging in outreach activities that provide ongoing professional development and promote improved regulatory policy and infrastructure management (e.g. in-country training and university collaborations)

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Information Systems for Performance Indicators

- Thank UNHabitat, CWWA, and CBWMP
- Establish baseline information for EU Proposal
- Data Coordinators from Sixteen Utilities
- Preliminary Results (29 items)
- Primarily Water, future: Wastewater
- Workshop for Prioritizing and Refining Data Collection
- Workshop for Sharing information system expertise
- Eight Illustrative Charts—Very Preliminary
1. Total number of customers

- Antigua
- Bahamas
- Barbados
- Belize
- BVI
- Cayman
- Curacao
- Dominica
- Jamaica
- Martinique
- Nevis
- St Lucia
- St Marteen
- Trinidad & Tobago
2. Workers per 1000 connections
3. Workers per 1000 connections per total water delivered
4. Ratio total cost / total revenues
5. Total operating costs / total water delivered

- Jamaica
- Bahamas
- BVI
- Belize
- Cayman
- Nevis
6. Coverage / Total Water delivered
7. Percentage residential customers per total / total customers

- Nevis
- Cayman
- Martinique
- Curacao
- Barbados
- BVI
- Antigua
- St Lucia
- Bahamas
- Dominica
- Trinidad & Tobago
- Jamaica
- St Marteen
8. Percentage desalinated water / total water delivered

- Cayman
- BVI
- Curacao
- Bahamas
- Antigua
- Barbados
- Nevis
- Jamaica
Future Data Collection

- Expand the number of Utilities

Prioritize Data Collection
- Unaccounted for Water
- Rate Structures
  - Cross Subsidization?
  - Financial Sustainability?
  - Encourage Conservation?
- Service Quality
- Wastewater
- Internal Governance
## Governance

### Institutional Arrangements: Water and Sanitation Sector

*World Bank Working Paper 58, 2005*

<table>
<thead>
<tr>
<th>Country</th>
<th>Private Participation</th>
<th>Independent Regulation</th>
<th>Policy that tariffs should cover costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antigua &amp; Barbuda</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Dominica</td>
<td>N</td>
<td>N</td>
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</tr>
<tr>
<td>Grenada</td>
<td>N</td>
<td>N</td>
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<tr>
<td>St. Kitts</td>
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<tr>
<td>Barbados</td>
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<td>Dominican Republic</td>
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<td>Guyana</td>
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<td>Jamaica</td>
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(The reader is referred to the original report for footnotes regarding the categories)
Lessons from Coordinators

1. Data Manager Commitment (strategic value, tool for company & regulator)
2. Data Manager Continuity (formalize role, support IBNET, capacity building--CariWOPs)
3. Centralized vs. Decentralized Systems (avoid Information Empires)
4. Benefits of Detailed Data (trends, incentives)
5. Data Definitions and Benchmarking Objectives
Lessons Continued

6. Operational Data (manage what you measure)
7. Other Data Sources (water resources, social statistics, local conditions: density, topology)
8. Information Technology and Management (IT necessary but *not sufficient*; supply chain)
9. Transparency and Public Policy (comparisons create pressures, promote reform)
10. Methodologies and Capacity-Building: beyond Key Performance Indicators (KPIs)
Consumers of Information

Regulatory Commissions (responsible for policy implementation in the sector: internal consensus?)

Government Sector Ministries (charged with policy development)

Government Treasuries (addressing fiscal issues)

International Investors (bond, equity, and strategic management teams)

Service Providers (state-owned enterprise or privately owned)

Un-served Citizens (rural and urban poor)

Current and Future Customers (trade-offs)

Multilaterals, donors, and NGOs (as a potential infrastructure project donors/funding agencies)
Observations

✓ It is better to have an approximation of the “right” performance indicator than a precise calculation of an irrelevant number: benchmarking is an art and a science.

✓ The CariWOPs Platform represents an valuable resource for the Caribbean.

✓ The EU Proposal is an important catalyst for change.

✓ “Believing is seeing.” Data collection, analysis, interpretation, and dissemination are key activities within utilities, so continued capacity-building is essential.

✓ “If we are not changing the way we work, we could end up just where we are going.” (Chinese Proverb)
Extensions: Information, Conflict, and Sector Performance

1. Authority Conflicts: lack of clarity of roles

2. Cognitive (Factual) Conflicts: disagreements regarding current or historical facts and causal linkages

3. Value Conflicts: conflicting priorities and different weights on outcomes

4. Interest Conflicts: stakeholders benefit differentially from decisions

(from Shabman, 2005)
Utility will spend $700,000 in OPEX.

With $300,000 in CAPEX, the utility claims it can provide

3000 new connections OR

Produce an increase of “six points” in the water quality index, OR

Be at another point on the Frontier (A, B, or C).
1 Authority Conflict

“Authority” conflicts reflect different views regarding where decisions will or ought to be made.

Who decides?

✓ Jurisdiction may not yet be assigned or the issue might be addressed by multiple agencies.
✓ Stakeholders will go jurisdiction-shopping—selecting the agency or the level of government most likely to support its interests in policy design and implementation.
✓ Appeals procedures within the judicial system can delay implementation. In such situations, benefits delayed are (effectively) benefits denied.
✓ Issues include: Finance Ministry vs. Water Ministry, Environmental Regulator vs. Sector Regulator
Authority Issues Facing Managers and Policy-makers

Who decides where to expand networks?
Who funds network expansion?
Who determines when prices are financially sustainable?
Who monitors water quality?
Who sets water quality standards?
Who decides environmental requirements?
Who makes water resource allocation decisions?

Number Of New Connections

<table>
<thead>
<tr>
<th>Change in Index of Water Quality</th>
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<tbody>
<tr>
<td>1</td>
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<tr>
<td>5000</td>
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Conflict Resolution: Authority and Governance

- Clarify Governance: Seek Changes in the Law—legal clarity

- Promote Cooperation among Sister Agencies: avoid turf wars and limit political interference (short term versus long term perspectives)

- Establish Task Forces to Address Issues

- Educate the Courts and Promote Transparency

- Improve Appeals Procedures

- Encourage Citizen Awareness
2. Cognitive Conflicts

✓ “Cognitive” conflicts are disputes over facts: “What is?”

✓ For example, How many new connections can be made with $300,000?

✓ Technical disagreements reflect cognitive conflicts. Such conflicts can be reduced through comprehensive data collection and analysis.

✓ Information Systems for Performance Improvement Plans
With $300,000 in CAPEX, NGO claims the utility can provide

- 5000 new connections
- Produce an increase of “10 points” in the water quality index,
- Be at another point on the Frontier (D, E or F).
Conflict Resolution--Facts

✓ Benchmarking Studies:
  – Input Data (physical and monetary)
  – Output Data (connections, water delivered, continuity, quality)
  – Performance Indicators (trends, comparisons, targets)

✓ Financial Sustainability Studies
  – Income Statements
  – Balance Sheets
  – Cash Flow Statements

Examine Incentives and Estimate time to reach “the” frontier
3. Values Conflicts

✓ "Values” conflicts are more ideological in nature, reflecting the different preferences or values of groups. What should be?

✓ Is there a political consensus over the weight assigned to particular outcomes, especially outcomes involving non-monetary impacts?

✓ Targets: Preferred outcomes depend on citizen attitudes.
Values Issues

Once the utility is on the Frontier . . . Should more than $300,000 be invested?

Which Target: D? E? F?
Does meeting the target promote social justice?

How should we prioritize environmental objectives?
Conflict Resolution--Values

✓ Public Education
  – Publish Performance Comparisons
  – Identify Trade-offs
  – Reports to the Legislature

✓ Promote Citizen Participation
  – Regular Updates
  – Citizen Advisory Boards

Limit the Rhetoric: Articulate a Vision
Facts Provide the Context
4. Interest Conflicts

✓ “Interest” conflicts reflect the differential impacts of policies on various stakeholder groups: “Who benefits from the policy?”

✓ If the situation is actually a zero-sum game, one group benefits at another’s expense (unless there is compensation).

✓ Special Interests: when the beneficiaries of a particular policy are concentrated (and per capita benefits are high) the beneficiaries will lobby.

✓ If losers are diffuse (and the per capita damages are low), the result is a policy that benefits well-organized stakeholders—even when the costs to the losers outweigh the benefits to the winners.
Pipe suppliers want to sell pipe. IT providers want to sell systems. Unions seek particular work rules. Should more than $300,000 be invested? What should prices be to different groups? Un-served citizens want “D” for unserved connections. Current Customers want “F” for current customers. Which Group has Political Power? Would some recommendations lead to being inside the “frontier”? Which change in index of water quality affects the number of new connections?
Conflict Resolution--Interests

✓ Do not pretend there are no conflicts
  – View from the Balcony—step back from stakeholders

✓ Take a Leadership Role in Identifying Benefits and Costs
  Eg. OFWAT and EU Environmental Standards
  – Collected compliance cost information from utilities
  – Presented costs of meeting targets: current deadline vs. delay

Politicians make Final Decision (Accountability)
Companies and Other Groups can provide Leadership in Conflict Resolution
Conflict Resolution Matrix

Addressed By Research

Technical Work

Conflict Over Facts

Conflict Over Distribution of Gains & Costs

Adaptive Work

Conflict Over What is important

Conflict Over Jurisdiction or Authority

Addressed by Engaging People with Adaptive Challenges in Research And Dialogue

From Mark Jamison
Additional Observations

Water problems are managed . . . Not solved.

“Everyone is entitled to their own opinions, but not to their own facts.” (Alan Greenspan)

Evidence-based decision-making is grounded in reality rather than fantasy or rhetoric.

A danger of quantitative studies: “If you torture the data enough, it will confess.”

Therefore: “Experts should be on tap, not on top.” (Winston Churchill)
Point your browser to http://www.regulationbodyofknowledge.org