26 states and 1 Federal District: 5,561 municipalities

- total population: 174.6 million (100%)
- urban population: 141.9 million (81%)
- rural population: 32.7 million (19%)

Distribution of municipalities according to size:
- < 20,000 of inhabitants: 73%
- 20,000 - 100,000 of inhabitants: 23%
- 100,000 - 500,000 of inhabitants: 3.5%
- > 500,000 of inhabitants: 0.6%
provision of WS&S services is the responsibility of municipalities (Federal Constitution)

in case of integrated systems (serving two or more municipalities) there are different interpretations of the Federal Constitution

doubts are due to the absence of a regulatory and legal framework for the sector, and vice-versa
this year the Federal Government intends to approve a National Policy and a legal and regulatory framework for WS&S sector
each state has a public regional company, serving:

<table>
<thead>
<tr>
<th>Municipalities</th>
<th>Urban Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>Sewerage</td>
</tr>
<tr>
<td>3,921</td>
<td>828</td>
</tr>
<tr>
<td>70.5%</td>
<td>15.0%</td>
</tr>
<tr>
<td>Water</td>
<td>Sewerage</td>
</tr>
<tr>
<td>108.1 *</td>
<td>77.4 *</td>
</tr>
<tr>
<td>76.0%</td>
<td>55.0%</td>
</tr>
</tbody>
</table>

* million of inhabitants

the remaining municipalities (1,640) are served by local utilities; 47 with private concessionaires
there is no regulatory culture in the Brazilian WS&S sector.

operators are frequently their own regulators

there was no significant, consistent historical data about WS&S sector until the mid 90s

information had a secondary role; it was used only to run the systems
in the mid 90s the National Information System for WS&S (SNIS) was created under the auspices of the Water Sector Modernization Program (PMSS), a Federal Government of Brazil project financed by the World Bank
SNIS aims to promote:

- planning and implementation of public policies
- guidance in the allocations of resources
- assessment of utility performance
- management improvement through increased efficiency and effectiveness
- guidance in regulatory activities
- benchmarking and yardstick comparison
KEY FEATURES OF SNIS

- utilities provide the data
- the provision of data is not an obligation
- data encompasses WS&S services, including operational, managerial, financial and services quality information
- the utilities provide the data through tailored software package, which includes an automatic consistency analysis
- includes a complete Glossary of terms, concepts, definitions and measurement units, as well as formulae with which indicators are calculated
the universe covers nearly all the Brazilian populations

utilities present information in two ways:

(i) aggregated information on 279 utilities (regional and municipal), comprising:

- water supply data for **4,186 municipalities** (75% of all municipalities) in Brazil, representing 134 million people or 95% of urban population
- sewerage data for **968 municipalities** (17.5% of all municipalities), representing 101 million people or 71.0% of urban population
THE 2002 DIAGNOSTIC
Municipalities served by regional utilities – water supply

- Regional – 3,921 munic.
- Microrregional – 17 munic.
- Local – 248 munic.
- No data – 1,375 munic.
THE 2002 DIAGNOSTIC

Municipalities served by regional utilities – sewerage

- Regional – 828 munic.
- Microrregional – 6 munic.
- Local – 134 munic.
- No data – 4,592 munic.
THE 2002 DIAGNOSTIC
Municipalities served by regional utilities – water supply and sewerage

<table>
<thead>
<tr>
<th></th>
<th>WS</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional</td>
<td>3,921</td>
<td>828</td>
</tr>
<tr>
<td>Microrre</td>
<td>17</td>
<td>6</td>
</tr>
<tr>
<td>Local</td>
<td>248</td>
<td>134</td>
</tr>
<tr>
<td>Brazil</td>
<td>4,186</td>
<td>968</td>
</tr>
<tr>
<td>No data</td>
<td>1,375</td>
<td>4,593</td>
</tr>
</tbody>
</table>
(ii) desegregated information at the municipal level, comprising:

- water supply data for 1,821 municipalities (33% at all municipalities), representing 104 million people or 73% of urban population

- sewerage data for 592 municipalities (11% at all municipalities), representing 99 million people or 70% of urban population
SNIS has been compiled and published annually over an 8 period (1995 - 2002), accumulating 1 million data (200,000 aggregated and 800,000 desegregated).
CURRENT SNIS PRODUCTS / OUTPUTS

- data base
- software for data collection
- diagnoses of services provision coverage and performance
- annual overview of service provision coverage and performance
- ongoing expansion of glossary of technical terms and indicators
- Internet site (average access 4,000 visits/month)
- interactive software for manipulating historical data series
SNIS USERS

- governments (federal, state and municipal)
- WS&S utilities
- regulatory agencies
- water industry (suppliers, services provide, consulting firms, contractors)
- universities and research institutions
- financial institutions
- international development institutions (IRDB, IDB, JBIC, KFW and others)
“one-off” tool to monitor and supervise utility performance in the country, through:

- *performance assessment* by utilities on their development and comparison with others

- *government control*: state and municipalities government demand performance improvements from their utilities

- *transparency*: society demands information on service provision (general public, media, politicians, NGOs, etc.)

the federal government has started to use SNIS in order to help *prioritizing financing*
Figura 4.5
ÍNDICE DE MICROMEDIÇÃO RELATIVO AO VOLUME DISPONIBILIZADO, ÍNDICE DE PERDAS DE FATURAMENTO E CONSUMO MÉDIO PERCAPITA DE Água
PRESTADORES DE SERVIÇOS REGIONAIS E MICRORREGIONAIS

<table>
<thead>
<tr>
<th>ÍNDICE DE MICROMMEDIO E PERDAS (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumo médio per capita de água - I22</td>
</tr>
<tr>
<td>Índice de micromedição relativo ao volume disponibilizado - I10</td>
</tr>
<tr>
<td>Índice de perdas de faturamento - I13</td>
</tr>
</tbody>
</table>
SNIS APLICATIONS - government control

Figura 4.1
ÍNDICES DE ATENDIMENTO DE ÁGUA E DE ESGOTO EM RELAÇÃO À POPULAÇÃO URBANA
PRESTADORES DE SERVIÇOS REGIONAIS E MICORREGIONAIS
(percentual)

[Bar chart showing indices of water and sewage service coverage in relation to urban population for different regions.]

Índice de atendimento urbano de água - I23
Índice de atendimento urbano de esgoto referido aos municípios atendidos com água - I24
Figura 4.3

DESPESA TOTAL COM OS SERVIÇOS POR m3 FATURADO E TARIFA MÉDIA PRATICADA
PRESTADORES DE SERVIÇOS REGIONAIS E MICRORREGIONAIS
(reais/m3)

Despesa total com o serviço por m3 faturado - IO3
Tarifa média praticada - IO4
Média da despesa total com o serviço por m3 faturado
Média da tarifa média praticada
Figura 4.2
MARGEM DA DEX E DA DTS NA RECEITA OPERACIONAL DIRETA
PRESTADORES DE SERVIÇOS REGIONAIS E MICRORREGIONAIS
(percentual)

Margem da DEX na receita operacional direta - 130
Margem da DTS na receita operacional direta - 1112
FURTHER FIELDS OF RESEARCH THROUGH SNIS

- efficient use of water
- leakage control
- cost comparisons among and within regions
- economic performance
- quality of service provision
- international comparisons
CONCLUSIONS (I)

- The building up of a national information data base takes time.
- Although a collective undertaking, it needs leadership and coordination.
- Although the voluntary mechanism has worked relatively well, incentives and obligations to improve responsiveness and accuracy of data are important.
- The system has become the facto natural yardstick for the Brazilian water industry.
SNIS allows Brazil to take its benchmarking to a regional and international level.

Once such a system is established, it becomes self-perpetuating (resistance to its momentum becomes counter-productive).

Information in the public domain for anyone’s analysis and use.

Other complementary systems (financial, regulation, local) could use SNIS as their basis.
Confira aqui as versões do Diagnóstico e Visão Geral, uma importante fonte de informações sobre o setor de saneamento do Brasil!

Destaques

1. Prorrogação do prazo do Processo de Chamada Pública de Projetos
2. Personalize suas pesquisas no banco de dados do SNIS
3. Pesquisa de Opinião sobre os Diagnósticos Anuais de Água e Esgotos
4. Textos para discussão: "Drenagem Urbana" e "Documentos Técnicos sobre Perdas de Água (PNQDA)
5. Dimensionamento das Necessidades de Investimentos para a Universalização dos Serviços de Abastecimento de Água e de Coleta e Tratamento de Esgotos Sanitários no Brasil
6. Apresentação da Secretaria Nacional de Saneamento Ambiental – SNSA
9. Portaria do Ministério da Saúde para controle e vigilância da qualidade da água
Thank you!
The 2002 Diagnostic: Brazil – Urban Water Coverage

Brazil
North
Northeast
Southeast
South
Center-west

91.7%
The 2002 Diagnostic:
South – Urban Water Coverage

Brazil
North
Northeast
Southeast
South
Center-West

98.9%
The Diagnostic: North – Urban Water Coverage
The 2002 Diagnostic:
Pará State – Urban Water Coverage

Brazil
North
Northeast
Southeast
South
Center-West

63.4%
The 2002 Diagnostic:
Brazil – Urban Sewerage Collection Coverage

Brazil
North
Northeast
Southeast
South
Center-West

50.4%
The 2002 Diagnostic:
Southeast – Urban Sewerage Collection Coverage

70.7%
The 2002 Diagnostic:
Sao Paulo State – Urban Sewerage Collection Coverage

Brazil
North
Northeast
Southeast
South
Center-West

84.3%
The 2002 Diagnostic: North – Urban Sewage Collection Coverage

Brazil
North
Northeast
Southeast
South
Center-West

8.5%
The 2002 Diagnostic: Brazil – Treatment Ratio of Sewerage Produced

Brazil
North
Northeast
Southeast
South
Center-West

[Map showing regions of Brazil with a treatment ratio of 27.3%]
The 2002 Diagnostic:
Northeast – Treatment Ratio Sewerage Produced

Brazil
North
Northeast
Southeast
South
Center-West

39.7%
The 2002 Diagnostic:
Bahia State - Treatment Ratio Sewerage Produced

Brazil
North
Northeast
Southeast
South
Center-West

63.7%
The 2002 Diagnostic: 
Brazil - Treatment Ratio of Sewerage Collected

Brazil
North
Northeast
Southeast
South
Center-West

54.0%
The 2002 Diagnostic: Brazil – Operational Revenues Total

Brazil
North
Northeast
Southeast
South
Center-West

R$ 13.5 billion
The 2002 Diagnostic:
Southeast - Operational Revenues - Total

Brazil
North
Northeast
Southeast
South
Center-West

R$ 8.2 billion
The 2002 Diagnostic:
São Paulo State - Operational Revenues - Total

R$ 5.2 billion
(SABESP R$ 4.0 billion)
The 2002 Diagnostic:
Brazil – Total Expenses

Brazil
North
Northeast
Southeast
South
Center-West

R$ 14.1 billion

Only 6 regional utilities have expenses lower than revenues (CAERN; CAGEPA; CESAN; SABESP; SANEPAR; SANESUL)

Among local utilities, this occur in 26% of municipal utilities (most of them do not accounting DPA)
The 2002 Diagnostic: Brazil - Investments

- **R$ 2.8 billion**
- 50% are in Southeast Region
- Own Funds - 56%; Onerous - 26%; Not onerous - 18%
- Water – 1.1 billion; Sewage – 1.2 billion; Others – 0.5 billion
The 2002 Diagnostic:
North - Investments

Brazil
North
Northeast
Southeast
South
Center-West

R$ 0.13 billion
The 2002 Diagnostic: Southeast - Investments

Brazil
North
Northeast
Southeast
South
Center-West

R$ 1.4 billion
The 2002 Diagnostic:
São Paulo State - Investments

Brazil
North
Northeast
Southeast
South
Center-West

R$ 0.9 billion
(SABESP 0.7 billion)
The 2002 Diagnostic: Brazil – Unaccounted for Water

A little decrease comparing to 2001 (0.1 percent)
Average by Region ranges from 34.0% to 57.6%
Considering regional utilities, this range is from 71.3% (CAERD/RO) to 21.6% (CAESB/DF)
The 2002 Diagnostic: Brazil - Employment

159.2 thousand of employees

Own – 68%; Outsourcing – 32%

There are employment coming from indirect activities