SUB-SAHARAN AFRICA: WATER AND SANITATION OVERVIEW

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ARD, Incorporated
ORGANIZATION OF THIS PRESENTATION

I. Overview of Water and Sanitation Conditions in sub-Saharan Africa
II. Challenges and Opportunities for Improving Water and Sanitation in Urban and Peri-urban Areas
III. Challenges and Opportunities for Improving Water and Sanitation in Small Towns and Rural Areas
IV. Regional and International Partnerships for Improving Water and Sanitation
I. OVERVIEW OF WATER AND SANITATION CONDITIONS IN SUB-SAHARAN AFRICA
More than 1 in 3 Africans residing in urban areas lack access to adequate water and sanitation services—in rural areas, the situation is even worse.

Direct economic losses related to treatment of water-related disease and loss of economic activity in sub-Saharan Africa total $28.4 billion annually, about 5% of region’s cumulative GDP.

Sub-Saharan Africa is least likely region of the world to meet the Millennium Development Goals (MDGs) for water or sanitation.
ACCESS TO SAFE DRINKING WATER: PROGRESSING IN SEVERAL COUNTRIES, BUT LAGGING BEHIND MUCH OF REST OF WORLD

Source: WHO and UNICEF 2004
MAJORITY OF UNSERVED POPULATION IN RURAL AREAS

Populations Without Access to Improved Drinking Water Source in 2004

Source: WHO and UNICEF 2006
CARRYING WATER: A MAJOR COST IN HUMAN AND ECONOMIC TERMS

Overall average for Africa: 29 minutes

Average time spent going to the water source, fetching water and coming back
- Less than 10 minutes
- Between 10 and 19 minutes
- Between 20 and 29 minutes
- Between 30 and 39 minutes
- Between 40 and 50 minutes
- Data missing

Number of people requiring half an hour or more going to the water source, fetching water and coming back
- 50,000,000
- 25,000,000
- 5,000,000

## PROGRESS BEING ACHIEVED IN SOME COUNTRIES, BUT VARIES WIDELY

### Countries that increased coverage by at least 25% between 1990 and 2002*

<table>
<thead>
<tr>
<th>Country</th>
<th>Drinking Water Coverage (%)</th>
<th>% increase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1990</td>
<td>2002</td>
</tr>
<tr>
<td>Tanzania, United Republic of</td>
<td>38</td>
<td>73</td>
</tr>
<tr>
<td>Chad</td>
<td>20</td>
<td>34</td>
</tr>
<tr>
<td>Malawi</td>
<td>41</td>
<td>67</td>
</tr>
<tr>
<td>Angola</td>
<td>32</td>
<td>50</td>
</tr>
<tr>
<td>Central African Republic</td>
<td>48</td>
<td>75</td>
</tr>
<tr>
<td>Ghana</td>
<td>54</td>
<td>79</td>
</tr>
<tr>
<td>Eritrea</td>
<td>40</td>
<td>57</td>
</tr>
<tr>
<td>Mali</td>
<td>34</td>
<td>48</td>
</tr>
<tr>
<td>Kenya</td>
<td>45</td>
<td>62</td>
</tr>
<tr>
<td>Namibia</td>
<td>58</td>
<td>80</td>
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<tr>
<td>Mauritania</td>
<td>41</td>
<td>56</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>39</td>
<td>51</td>
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<tr>
<td>Uganda</td>
<td>44</td>
<td>56</td>
</tr>
<tr>
<td>Cameroon</td>
<td>50</td>
<td>63</td>
</tr>
<tr>
<td>Rwanda</td>
<td>58</td>
<td>73</td>
</tr>
</tbody>
</table>

* Table includes countries that increased coverage by at least 25% between 1990 and 2002. Countries with coverage higher than 80% in 1990 were not included, even though they may have increased coverage levels significantly. Nor does it include countries that may have made significant progress but for which data were insufficient to estimate a trend.

Source: WHO and UNICEF 2004
HOWEVER, REGION NOT ON TRACK TO ACHIEVE MDG FOR SAFE DRINKING WATER

ACCESS TO IMPROVED SANITATION: LAGGING FAR BEHIND REST OF WORLD

RURAL AREAS LAG BEHIND URBAN AREAS IN ACCESS TO IMPROVED SANITATION

Populations with Access to Improved Sanitation

Source: WHO and UNICEF 2006
REGION FAR BEHIND IN ACHIEVING MDG FOR SANITATION

Source: Op Cit
WHILE MAJORITY LIVE IN RURAL AREAS, EXPLOSIVE URBAN GROWTH RAPIDLY CHANGING SITUATION

Sub-Saharan Africa Urban & Rural Population Growth Trends (Millions)

Rural Population Increment 2000-2030 = 141
Urban Population Increment 2000-2030 = 367

Source: UN-World Urbanization Prospects 2003
II. CHALLENGES AND OPPORTUNITIES FOR IMPROVING WATER AND SANITATION IN URBAN AND PERI-URBAN AREAS
WATER UTILITY SERVICE IN THE REGION: AN INTRODUCTION

• Both the poor and the not-so-poor receive inadequate services—or no service at all—from water utilities, with less than half the population served by public utilities.
• Public utilities have been unable to expand to keep up with the enormous growth in urban populations.
• The percentage of urban residents having household water connections actually fell from 45% to 36% between 1990 and 2004.
UTILITIES STRUGGLING TO PROVIDE RELIABLE SERVICE TO EXISTING CUSTOMERS

- Low cost recovery
- Poor service delivery
- High non-revenue water

Utilities

Existing Customers
ACCESS TO PIPED WATER IS LOW....

Source: WUP 2003
…while connection costs are high relative to income.

GIVEN THESE ISSUES, IT IS UNSURPRISING THAT RATE OF NEW CONNECTIONS HAS STAGNATED OR DECLINED IN FACE OF INCREASING DEMAND

Source: World Bank 2005
(1) Improving quality of service to networked customers;

(2) Expanding network service coverage to more customers;

While......

(3) In the interim, improving service delivery provided by small service providers (SSPs) of water and sanitation services.
REFORMS AT MULTIPLE LEVELS MAY BE REQUIRED

Policy, Regulatory and Legal Reforms

Sector Reforms

Utility Reforms
KEY FEATURES OF SUCCESSFUL REFORMS

- Autonomy and accountability of the water utility,
- Incentives for reform; penalties for failure,
- Progressive performance standards, and
- Cost reflective pricing.

Our cases: Armenia, Australia, Brazil, Bulgaria, Chile, Colombia, Côte d’Ivoire, Czech Republic, Egypt, Estonia, France, Germany, Hungary, Indonesia, Jordan, Latvia, Lithuania, Malaysia, Morocco, Netherlands, Poland, Romania, Russia, Senegal, Singapore, South Africa, Spain, Sweden, Thailand, UAE, Uganda, UK, US, Ukraine, Vietnam, Zambia.
HOW SUCCESSFUL REFORMERS ACHIEVE THESE OBJECTIVES

**OBJECTIVE**

- Autonomy & accountability of the water utility
- Incentives for reform; penalties for failure
- Progressive performance standards
- Cost reflective pricing

**HOW SUCCESSFUL REFORMERS ACHIEVE THESE OBJECTIVES**

- Decentralization
- Corporatization & corporate governance reform
- An effective regulatory agency
- Incentive-based operating contracts
- Private sector participation
- Shift from capital grants to sustainable financing mechanisms
In some sub-Saharan Africa countries, regulatory authorities have done an excellent job of establishing regulatory frameworks to transition utilities toward financial viability, e.g.:

- **Mozambique** - Water Regulatory Council (CRA);
- **Senegal** - SONES - Contract Regulator and State Holding Company; and
- **Zambia** - National Water Supply and Sanitation Council (NWASCO).
REGULATORY REFORM: TARIFF REFORMS NOT NEW TO REGION, BUT IMPROVEMENTS NEEDED

Source: WUP 2003
• Restructuring water service delivery to the appropriate scale and scope;
• Establishing autonomy, accountability, and incentive-based performance through corporatization; and
• Employing performance-based management and service contracting.
WHICH AFRICAN COUNTRIES HAVE UNDERTAKEN WATER SECTOR REFORMS?

1. UGANDA: National water corporation plus delegated management contracts.
2. ZAMBIA: Effective national water regulatory agency plus various private sector participation contracts.
3. MOZAMBIQUE: Effective national water regulatory agency, regional asset management agencies, plus leases.
4. CÔTE D’IVOIRE, SENEGAL, NIGER: National lease contracts combined with national water companies.
5. SOUTH AFRICA: Corporatized regional water companies and various forms of private sector participation.
6. MOROCCO: Combination of a national water corporation and leases in major cities.
7. GHANA: National management contract.
8. NIGERIA: State-level management contracts.
EXAMPLES OF ALTERNATIVE SUCCESSFUL MODELS

• Uganda: Corporatization & PSP
  – Form national water corporations.
  – Delegate management contracts with former employees.

• Côte d’Ivoire, Senegal: Lease Contracts
  – Form national water corporations.
  – Let long-term lease contracts with large private operators.

• South Africa: Regionalization, Corporatization & PSP
  – Allow variety of regional water companies to be formed.
  – Use leases and concessions in some, and governance improvements in others.
UGANDA: DELEGATED AREA MANAGEMENT CONTRACTS

• **Summary of the problem:** Decline in infrastructure because of political instability, corruption and decapitalization.

• **Type of contract:** 57 “Delegated Area Management Contracts” between National Water and Sewerage Corporation (NWSC) and private operators.

• **Results:**
  -- Uganda-wide, since 2000, private operating contracts with 10 private operators now cover 57 towns and cities in Uganda.
  -- Connections tripled, coverage increased from 48% to 70% from 2000-2006; NWSC now has a 140% coverage of O&M costs; revenues increased 200%; non-revenue water down from >60% to 30%.

• **Lessons learned:**
  -- Strong **incentives should be directly linked to performance** work.
  -- **Local operators** will bid if terms are attractive.
  -- **Corporatization** is a key part of the process.
  -- Clear, progressive **performance targets** are needed.
  -- **Short contracts** should be used initially.
  -- **Employees gain** by allowing them to bid and become operators.
Uganda NWSC provides fee-based professional consulting services to neighboring utilities:

- Since 2003, NWSC has had a variety of contracts with utilities in Kenya, Tanzania and Zambia, executed through NWSC’s External Services Unit—autonomous consulting arm of the utility.
- **Scope**: advisory, commercial and customer care/IT, block mapping, laboratory services, performance improvement programs, institutional development.
- **Modes**: capacity building, systems, continuous specialist assistance, special services.
- **Consultancy contracts**:
  - Short term (typically 1-3 years), and
  - Fixed fees for services.
SENEGAL: PERFORMANCE-BASED CONTRACTING AND LEASING

Source: World Bank 2004
WHILE UTILITY REFORMS SHOW POSITIVE RESULTS, NUMEROUS OBSTACLES REMAIN TO EXPANDING SERVICE TO POOR COMMUNITIES/INFORMAL SETTLEMENTS

- Network extension costs;
- Real and perceived issues of customer willingness and ability to pay;
- Land tenure and property rights issues; and
- *Ad hoc* physical layout and construction standards.
### SMALL SCALE PROVIDERS (SSPs) CRITICAL TO URBAN WATER AND SANITATION DELIVERY SYSTEM

<table>
<thead>
<tr>
<th>City</th>
<th>Population Supplied by Public Utility</th>
<th>Population Supplied by SSPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dar es Salaam, Tanzania</td>
<td>46%</td>
<td>39%</td>
</tr>
<tr>
<td>Nairobi, Kenya</td>
<td>50%</td>
<td>50% (including 60% of urban poor)</td>
</tr>
<tr>
<td>Khartoum, Sudan</td>
<td>33%</td>
<td>95% of poor residing in informal areas</td>
</tr>
</tbody>
</table>

Source: Loughborough University 2004
TYPICAL URBAN WATER DISTRIBUTION SYSTEM IN REGION

From Source to Household: How the Water Market Works in African Cities

Areas supplied by network water supply or local networks

- Main piped network
  - Private HH connection
  - Illegal connection
  - Public standpipe
  - Private standpipe

- Standpipe Manager
  - Borehole with small local network
  - Boreholes and HP

- Medium to high income households supplied by network water (10-30%)
- Low income households who collect and pay for water (10-30%)
- Medium to high income households who have water delivered (5-50%)
- Very low income households who do not have access to alternative suppliers (5-30%)

Outlying settlements in peri-urban or non-networked urban areas

- River
- Spring
- Well
- Some owners ask for payment
- Neighborhood reseller

Source: WUP 2003
PIPED SERVICE HAS LOWEST PRICE BY FAR

Source: WUP 2003
Formal commercial relationships need to be established through:

- Contracting, and
- Licensing.
LICENSING: COMPLEMENTARY TOOL TO CONTRACTING

SSP licensing programs are in place in a number of sub-Saharan African countries:

- Standpipe operators (e.g., Burkina Faso, Mali, Mauritania and Mozambique),
- Truckers associations (e.g., Ghana), and
- Re-sellers (e.g., Côte d’Ivoire).
NUMEROUS EXAMPLES OF UTILITY-SSP PARTNERSHIPS IN SUB-SAHARAN AFRICAN CITIES

- **Benin**: Société Beninoise d’Eau et de l’Electricité (SBEE): Purchase agreements with SSPs.

- **Zambia**: Lusaka Water and Sewerage Company (LuWS): Licensing agreements to SSPs to deliver service.

- **Kenya**: Nairobi Water and Sewage Company (NWSC): Formation of water kiosk association to bring one voice to utility-SSP partnership.

- **Côte d’Ivoire**: National Water Company (SODECI): Licensing water resellers to deliver to areas where the company cannot legally operate.
III. CHALLENGES AND OPPORTUNITIES FOR IMPROVING WATER AND SANITATION IN SMALL TOWNS AND RURAL AREAS
KEY DISTINGUISHING CHARACTERISTIC: SERVICE DELIVERY PROVIDERS

- Small towns (<5000) and rural areas are not served directly by networked systems.
- Therefore, unlike urban and peri-urban areas, alternative service providers are central to water and sanitation delivery.
SMALL TOWNS AND RURAL AREAS RELY ON DIFFERENT SERVICE DELIVERY MODELS THAN URBAN AREAS

- **Community-Based Organizations (CBOs):**
  Community management is currently the dominant model.

- **Private Small Service Providers:**
  Dominant in urban areas, but rapidly gaining prominence in rural sub-Saharan Africa.

- **Households as Self-Service and Neighborhood Providers:**
  Dominant in many rural areas.
COMMUNITY-BASED MANAGEMENT MODEL: DECENTRALIZATION TO LOCAL COMMUNITIES

Example: Transition of Ghana’s Rural WSS Sector

- **1990**: Management of Ghana’s rural water supply sector was completely centralized within the national Ghana Water and Sewerage Corporation.

- **1990-2000**: With assistance from World Bank and other donors, sector decentralization to communities was achieved:
  - Independent Community Water and Sanitation Agency (CWSA) established to facilitate transfer of management to communities, provide training and technical assistance to communities and manage construction of water and sanitation facilities;
  - Private operators mobilized to conduct O&M and water point construction activities under contract with CWSA; and
  - CBOs assumed management responsibility through a phased process.

- **Today**: With continued donor support, CWSA transferring contracting responsibilities to CBOs.
COMMUNITY MANAGEMENT MODEL MAY NOT BE TOTAL ANSWER FOR EVERY COMMUNITY

Many CBOs suffer from:

• Lack of capacity, despite initial efforts by implementing agencies to provide training;
• High turnover – trained people lose interest or move out of the community;
• Long periods of inactivity during which skills are forgotten and commitment dwindles;
• Internal squabbles and corrupt practices that are hard for a small community to resolve;
• Difficulties in raising funds; and
• Inability and lack of equipment to handle major repairs or to access repair services.
THEREFORE, THE SECOND MODEL IS BECOMING MORE PROMINENT: CONTRACTING PRIVATE SSPs

A number of options are being pursued in the region, spanning the entire spectrum of CBO participation:

1. **Contracting Between Water Authority and CBOs:**
   
   *Mali:* Contract between National Water Directorate (NWD) and local user’s associations—associations function as management contractors; maintenance services provided by NWD to the associations.

2. **Contracting Between CBOs and Private Service Providers:**
   
   *Senegal:* Service contracting between CBOs and private sector providers.

3. **Contracting Between Water Authority and Private Service Providers (no CBO participation):**
   
   *Tanzania:* Direct contracting between district governments and private operators.
THE THIRD MANAGEMENT MODEL: INDIVIDUAL HOUSEHOLDS

Households are the first point of service in many rural areas for:

- Individual and multiple use water supplies, and
- Sanitation and hygiene.

Social marketing: a key tool.
Example: Upgrading Family Wells for Multiple Uses in Zimbabwe

– In 1988, the Government of Zimbabwe launched a program directed specifically to rural households to promote and assist in improving family wells.
– The program focus was on marketing, technology demonstrations and on promoting the commercial value of water.
– By 2002, about 50,000 improved family wells had been installed at no cost to the government.

A major key to success: effective social marketing—emphasizing the commercial value of multiple water use to households.
Example: Scaling Up Sanitation in Ethiopia

- **Background**: Initiative launched by Government of Ethiopia in 2003 to increase installation and maintenance of latrines in Amhara, a region with 19 million people.

- **Results**:
  - 2003: Latrine construction rate of 100/year per district.
  - 2005: Latrine construction rate of 26,400/year per district.

- **Major Reason for Success** (**WHO**):
  Shift in approach from supply-driven strategy (distribution of latrines) to increasing demand (social marketing).
IV. REGIONAL AND INTERNATIONAL PARTNERSHIPS FOR IMPROVING WATER AND SANITATION
SELECTED KEY REGIONAL ORGANIZATIONS

• African Ministers’ Council on Water (AMCOW),
• Water Utility Partnership for Capacity Building in Africa (WUP), and
• African Water Association.
WORLD BANK REGIONAL PARTNERSHIPS

• World Bank/African Development Bank/Water and Sanitation Partnership (WSP) technical assistance partnership for sub-Saharan Africa: 17 target countries;
• Rural Water Supply and Sanitation Initiative (RWSSI): major partner with AfDB; and
• Trust Funds for Water and Sanitation Finance and Micro-Finance.
AFRICAN DEVELOPMENT BANK REGIONAL PROGRAMS

- Rural Water Supply and Sanitation Initiative (RWSSI);
- African Water Facility (AWF); and
- NEPAD Water Resources Management Program.
USAID REGIONAL PROGRAMS

Small-Scale Water Supply, Sanitation, and Watershed Protection:
  – West Africa Water Initiative (WAWI),
  – Community Watershed Partnership Program (CWPP), and
  – PlayPumps GDA.

Hygiene Education:
  – Hygiene Improvement Project (HIP).
Utility Governance and Reform:
  – Modeled along the lines of Eco-Asia and Blue Revolution Initiative.

Mobilization of Domestic Financing:
  – Pilot projects for mobilizing capital for water and sanitation infrastructure investments.
To date, MCC has signed nine Compacts with countries in Africa, of which a number have major water supply and sanitation components:

- **Ghana**: Rural water and sanitation
- **Lesotho**: Urban and rural water and sanitation
- **Mali**: Rural water supply in irrigated areas
- **Mozambique**: Urban and rural water and sanitation
- **Tanzania**: Urban water and sanitation
OTHER BILATERAL DONORS

• There are numerous bilateral donors active in the water and sanitation sector of sub-Saharan Africa, for example: DFID, GTZ, CIDA, FINIDA, DANIDA, and the Governments of the Netherlands and France.

• EU member country programs are coordinated through the Africa Working Group of the European Union Water Initiative (EUWI).


USEFUL RESOURCES (Continued)


