Global Water and Health

University of Washington

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“Water Supplies in Developing Countries, The West Africa Water Initiative as an Example”

Presented by
Braimah Apambire, Ph.D.
World Vision United States
The Numbers: Unmet Basic Human Needs for Water

- About 1.1 billion out of the World’s 6.5 billion people still lack access to improved water supply
- Global coverage for water was 82%
- 88% of diarrheal disease in developing countries is attributed to unsafe water supply or inadequate sanitation and hygiene
Population Without Access to Improved Water Supply: 2004

Population (millions) without improved drinking water sources by region in 2004

- Eastern Asia: 302
- Southern Asia: 226
- South-eastern Asia: 98
- Western Asia: 18
- Latin America and Caribbean: 50
- Commonwealth of Independent States: 21
- Developed regions: 13
- Oceania: 4
- Northern Africa: 13
- Sub-Saharan Africa: 322

> Nearly 50% of the people worldwide without access to improved drinking water are in Eastern Asia and Southern Asia. Another 30% live in sub-Saharan Africa.
Access to Improved Water

Source: Meeting the MDG Drinking Water & Sanitation Target: A Mid-Term Assessment of Progress. 2004. UNICEF and World Health Organisation
Population Without Access to Improved Sanitation: 2004

Population (millions) without improved sanitation by region in 2004

2.6 billion people unserved globally

- Western Asia: 31
- South-eastern Asia: 183
- Southern Asia: 955
- Eastern Asia: 761
- Latin America and Caribbean: 125
- Commonwealth of Independent States: 48
- Developed regions: 7
- Northern Africa: 35
- Sub-Saharan Africa: 463
Access to Improved Sanitation

Source: Meeting the MDG Drinking Water & Sanitation Target: A Mid-Term Assessment of Progress. 2004. UNICEF and World Health Organisation
Common
Water-related diseases

- Drinking contaminated water transmits water-borne fecal-oral diseases such as cholera, typhoid, viral hepatitis, dysentery, and dracunculiasis (guinea worm).
- Insufficient quantities of water, lack of proper sanitation and hygiene lead to water-washed diseases such as trachoma, worm infections.
- Water-based diseases: schistomiasis (bilharzia),
- Water-related Vector-borne diseases such as malaria.
Clean Water and Sanitation
The First Essential Step

Establishing and maintaining a source of safe, clean water is the first step in breaking the cycle of poverty.

“The first and best medicine”

Without access to this critical resource, people in developing nations have virtually no chance of leading healthy, productive lives.
To improve the health and well-being of people

- Contaminated water and poor sanitation contribute to 80 percent of all disease in the developing world
  - 2.2 to 5 million die annually from preventable water-related diseases
  - A child dies from a water-related illness every 15 seconds

Three top priorities are:

- Provision of sufficient quantities of safe water
- Basic sanitation arrangements
- Promotion of good hygiene behaviors
- IWRM

The term ‘sanitation’ refers to excreta disposal, vector control, solid waste disposal and drainage.
Benefits of Safe water supplies, basic sanitation and hygiene

- **Health**
  - Improved water supply reduces diarrhea morbidity by 21%
  - Improved sanitation by 37.5%
  - Washing hands at critical times by 35%
  - Adding point-of-use treatment by 45%
  - Reduced trauma due to improved health
  - Eradication of guinea worm, elimination of trachoma, bilharzia by 77%
  - Arsenic and fluoride

- Several other benefits (poverty, time savings, economic activities, improved schooling for girls, higher status for women etc)
The Contributions of Safe Drinking Water and Sanitation in Achieving the MDGs

<table>
<thead>
<tr>
<th>Millennium Development Goal</th>
<th>Contribution of Water/Sanitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDG 1 Eradicate extreme poverty and hunger</td>
<td>30%</td>
</tr>
<tr>
<td>MDG 2 Achieve universal primary education</td>
<td>30%</td>
</tr>
<tr>
<td>MDG 3 Promote gender equality and empower women</td>
<td>20%</td>
</tr>
<tr>
<td>MDG 4 Reduce child mortality</td>
<td>30%</td>
</tr>
<tr>
<td>MDG 5 Improve maternal health</td>
<td>45%</td>
</tr>
<tr>
<td>MDG 6 Combat HIV/AIDS, malaria and other diseases</td>
<td>25%</td>
</tr>
<tr>
<td>MDG 7 Ensure environmental sustainability</td>
<td>&gt;50%</td>
</tr>
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</table>
The West Africa Water Initiative (WAWI)

- Public Private Partnership with 14 members
- Partnerships are very important now because of the change in funding for development (20% public and 80% private)
WAWI PARTNERS

- Governments, local Authorities & Communities
- Conrad N. Hilton Foundation (The main donor & Architect of WAWI)
- World Vision
- USAID
- UNICEF
- World Chlorine Council
- Cornell University (CIIFAD)
- Desert Research Institute
- Lions Club International Foundation
- WaterAid
- Winrock International
- UN Foundation
- International Trachoma Initiative
- Helen Keller International
- Carter Center
WAWI Program Location

- Project Area; Ghana, Mali & Niger
Program Location

- Ghana
- 8 Districts in the Northern Region
Program Location

*Mali*

- 9 Districts in the Segou Region
- 2 Districts in the Mopti Region
Program Location

- **Niger**
  - 3 Districts in the Zinder Department
  - 3 Districts in the Maradi Department

[Map showing Niger Republic and its districts]
### Improved Drinking Water Coverage (%)

<table>
<thead>
<tr>
<th>Country</th>
<th>2002</th>
<th>2004</th>
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<tbody>
<tr>
<td></td>
<td>Overall Coverage</td>
<td>Rural Coverage</td>
</tr>
<tr>
<td>Ghana</td>
<td>79</td>
<td>68</td>
</tr>
<tr>
<td>Mali</td>
<td>48</td>
<td>35</td>
</tr>
<tr>
<td>Niger</td>
<td>46</td>
<td>36</td>
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### Improved Sanitation Coverage (%)

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Key Elements of WAWI

Health

- Blinding trachoma is prevalent among more than one-third of children younger than 10 years of age in Mali and Niger.

- The highest trachoma prevalence in the world is in the Zinder Department of Niger: 62.7%

- Trachoma is a significant public health problem in some districts in the northern region of Ghana: 10% among <10s in Tamale and Savelugu Districts
Key Elements of WAWI

Health

- Of the 1,000 cases of guinea worm reported in Niger in 2000, 725 were in Zinder Department.
- 10% of WAWI target communities in Northern Ghana are guinea worm endemic.
- 40 percent under 5s in Mali and Niger have recurrent diarrhea.
Key Elements of WAWI

- Combined total population is 46.6 million
  - Ghana: 22.4 million
  - Mali: 11.7 million
  - Niger: 12.5 million
Key Elements of WAWI

- Funding Levels
  - $55 million
    - Hilton Foundation 40%
    - World Vision 40%
    - USAID 14%
Why WAWI and why in Ghana, Mali & Niger?

- Great need in the area
- Leveraging of resources and expertise
- Desire by CNHF to expand and replicate the high successes of the World Vision Ghana Rural Water Project
  - Strategies used and Lessons learned in GRWP
OVERALL GOAL: IMPROVE THE HEALTH AND WELL-BEING OF FAMILIES AND COMMUNITIES IN GHANA, MALI & NIGER

- **Objective 1:** To increase the access to sustainable, safe water and environmental sanitation to poor and vulnerable communities in rural and peri-urban settings.

- **Objective 2:** To reduce the prevalence of waterborne and water-related diseases, particularly trachoma, guinea worm and diarrhoeal diseases through the promotion of personal hygiene and environmental sanitation practices.

- **Objective 3:** To ensure ecologically, financially, and socially sustainable management of water quantity and quality.

- **Objective 4:** To foster an effective and replicable partnership framework for sustainable water and sanitation development and water resources management.
By 2008, partners expect to provide:

- Impact 500,000 people
- Minimum of 915 wells equipped with hand pumps, reaching over half a million people
- 100 alternative water systems
- 9,000 household and public latrines
- Develop Research and development Centers and train people
- Build Resource Centers
- Conduct participatory action research
Program Outputs-2

- By 2008, partners expect to provide
  - Education on trachoma and other water-related diseases
  - Local capacity developed
  - 1000s of adults, children and teachers will have been instructed in safe hygiene and sanitation practices
  - Train community members on management skills, development and literacy
WAWI, How sustainable?

- Long-term commitment of partners
  - The Hilton Fdn
  - The World Vision ADP concept

- WAWI is addressing a wide range of developmental issues to guarantee sustainability
  - Adequate water and sanitation
  - Community-led projects
  - Integrated water resource management
  - Addressing environmental concerns by Cornell and DRI-water budget/shed studies
  - Capacity building, including community O&M, monitoring of water quantity and quality
  - Income generation/Food security-Small-scale irrigation
Other Highlights

- Water Quality
- Gender
- Mainstreaming
- Small-holder irrigation
Other Highlights

- WATSAN in Disability
- IWRM
- M&E Plan
CONCLUSION

- The failure to meet basic human and environmental needs for water is the greatest development failure of the 20th century (Peter Gleick).
- Even if we meet the Millennium Development Goals for water, 34-76 million people will die of preventable water-related and sanitation diseases by 2020.
- We aren’t going to meet the MDG given current commitments. But new approaches, new solutions, and new ways of thinking are available.
Thank you!!!