FIT FOR PURPOSE:

“water and sanitation in an urbanising Africa”

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STRUCTURE

Urbanisation

1. Fit for purpose 1: Global Definitions - urban
2. Fit for purpose 2: Global Definitions - JMP
3. Fit for purpose 3: Human resources
4. Fit for purpose 4: Water Safety

Summary
Post 2015: Universal access, sustainability and equity

Goal 6: Ensure availability and sustainable management of water and sanitation for all

• By 2030 achieve universal and equitable safe and affordable drinking water for all

• By 2030 achieve access to adequate and equitable sanitation and hygiene for all, and open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
Urbanisation: the future!!


Source: World Urbanization Prospects the 2011 Revision

BY 2050 - 64.1% (developing) and 85.9% (developed world) – urban (UN projections).
Africa urbanisation

**Figure 1.3: Projected African Relative Total and Urban Population Growth Rates (Per Cent, Thousands, Decade Intervals)**

Source: Calculated on the basis of World Urbanization Prospects: The 2011 Revision, UNDESA, New York, 2012

*Projections.*
Rural-Urban Migration is a reality but are we the victims of our own success?

Predicted probability of out-migration of young adults as a function of access to improved water supply (n=1912, adults 15–30 years) - ETHIOPIA

HEADLINE NEWS IN 2012

The MDG drinking water target has been met

FIGURE 1: Trends in global drinking water coverage, 1990-2010, projected to 2015
What is the story behind these numbers?
China is a sleeping giant. Let her lie and sleep, for when she awakens she will astonish the world.

Napoleon Bonaparte, 1803

Source: Mail and Guardian South Africa 2006
Africa has been growing in importance as a destination for Chinese FDI

Source: OECD report 2014 (Freemantle/ Stevens, Standard Bank, 2010 based on World Bank sources)
China vs World Bank investment in Africa's infrastructure sector (in billions $)

Source: OECD report 2014 (Freemantle/Stevens, Standard Bank, 2010 based on World Bank sources)
Summary

- The 2030 goal is to have “universal water supply and sanitation access”
- By 2030 – 50% of Africa will be urban (World Urbanization prospects 2011)
- China is now a larger investor in the African infrastructure than the World Bank

1. Are we as a WASH community ready to engage in urban centres?
2. Are we prepared for engagement with China?
3. Are our global definitions and indicators applicable to this change?
4. Are Chinese investments beneficial to national human resources development?
5. Are we “fit for purpose” to address this challenge?
Definition of “urban”: what do we mean by urban?

Three definitions are commonly used and produce varied results:

1. **Politico-administrative Government** estimates – administrative data
2. **Statistical estimates** are often based on EA (Enumeration Areas) of used by NSOs - JMP
3. **OECD Density based** urban perspective treating urban as a spatial or territorial concept (persons/km$^2$)

Urban Definitions - Tanzania (OECD 2002)
Travel time 1984 Source: Schmidt and Kedir (2009)
Travel time 1994 Source: Schmidt and Kedir (2009)
Travel time 2007 Source: Schmidt and Kedir (2009)
Ethiopia: Percent Population connected to Urban Agglomeration

Source: Schmidt and Kedir (2009)
Does the urban definition cover all water and sanitation users?

- Need to revise urban definitions
Global Definitions
Measuring progress towards the MDGs

Use of the following facilities:

**IMPROVED SANITATION**
- Flush or pour-flush to:
  - piped sewer system
  - septic tank
  - pit latrine
  - Ventilated improved pit (VIP) latrine
- Pit latrine with slab
- Composting toilet

**IMPROVED DRINKING-WATER**
- Piped water into dwelling, yard or plot
- Public tap or standpipe
- Tubewell or borehole
- Protected dug well
- Protected spring
- Rainwater collection

Use of the following facilities:

**UNIMPROVED SANITATION**
- Flush or pour-flush to elsewhere (that is, not to piped sewer system, septic tank or pit latrine)
- Pit latrine without slab/open pit
- Bucket
- Hanging toilet or hanging latrine

**UNIMPROVED DRINKING-WATER**
- Unprotected dug well
- Unprotected spring
- Cart with small tank or drum
- Tanker truck
- Surface water (river, dam, lake, pond, stream, canal, irrigation channel)
- Bottled water

Shared facilities of any type
No facilities, bush or field
URBANIZATION: Ethiopia

1. Ethiopia: Population = 92 Million (18% urban)

2. Urban Population doubled in last 35 years @ 4.1%

   1. overcrowding, shortage of services, unemployment (children and orphans)

3. Strong rural → urban migration (CSA half of the urban population is made of migrants)

4. Worrying trend of low density rapid “informal” development → poverty in peripheral areas
URBAN DEPRIVATION – JMP 2014

Water coverage in urban areas (2012) / source JMP 2014

Urban Population without water coverage

WATER – improved water sources coverage in Urban Areas 97%
URBAN DEPRIVATION - WATER

URBAN POPULATION = 18,000,000 (JMP 2014)

WATER COVERAGE IN URBAN AREAS (2012) 97% = about 17,000,000 (JMP 2014)

PIPED INTO PREMISES 51% = 9,180,000
OTHER IMPROVED 46% = 8,280,000

URBAN POPULATION LIVING IN SLUM AREA (2007) 79.10% = about 14,000,000 (UNSD-MDG2011)

SERVICE DELIVERY → Quality, Affordability, Efficiency, Equity, Transparency
Percentage of population that spends more than 30 minutes per round trip to collect water, by wealth quintile.
Are the JMP urban definitions “fit for purpose?”

- Need to include price, waiting time and peri-urban users
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Human Resources

Source: UN HABITAT (2014)
15 country assessments in Asia and Africa (2013).
Study concluded that:

- Most countries do not have readily available human resource data, nor do they plan for human resources in the WASH sector.
- There is a huge gap in the education sector:
  - Technical and Vocational Training Institutes are only marginally represented.
  - University course are not tailored for “applied knowledge” required in changing developing world.
Changing need in an urbanizing Africa

Human Resources Need with skills in:
- Procurement
- Contracting
- Asset Management
- Supervision
- Regulation
- Manufacturing
- Urban Sanitation - technologies
## Contracting issues

- **Existing assets or new build?**
  - **EXISTING ASSET**
    - MANAGEMENT/ O & M
    - CONTRACT/ LEASE/ AFFERMAGE
  - **NEW BUILD (+EXISTING) ASSET**
    - DBO/ DBL / BOT / CONCESSION

- **Operator remuneration**
  - **TARIFF**
    - LEASE/ AFFERMAGE
    - MANAGEMENT/ O & M CONTRACT
  - **FEE**
    - CONCESSION/ DBL
    - DBO/ BOT
BOT (Build, Operate, Transfer) is a form of project financing, wherein a private entity receives a concession from the private or public sector to finance, design, construct, and operate a facility stated in the concession contract. This enables the project proponent to recover its investment, operating and maintenance expenses in the project (Source: UNIDO 1996)

BCBT (Build, Capacity Building, Transfer) is an alternative –full package version developed which better fits the principles of the BOT to the particular institutional framework of the WASH sector. BCBT differs from BOT by applying the approach of capacity building to the water utility in the first phase of operating the system after construction. The BCBT approach ensures a proper transfer of skills from the private contractor to the public operator while the property of the assets and the responsibility of service delivery remain to the latter. This arrangement represents also an advantage for the Client as the contractor, being required to be physically present on site during the post construction phase, is held accountable during the liability period in a tighter manner.
Do we have adequate and appropriate human resources?

- Need for more asset management, asset holder and regulatory skills
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Water Safety Plans
Where was JMP-RADWQ was applied globally?

- Nicaragua
- Nigeria
- Jordan
- Tajikistan
- China
- Bangladesh
- Ethiopia
Average noncompliance levels with microbial water quality guideline values by improved source type for the RADWQ studies (Source JMP, 2011)
Water Safety Plans for Urban Areas

FRAMEWORK FOR SAFE DRINKING-WATER

- Health-based targets (Chapter 3)
- Public health context and health outcome
- Water safety plans (Chapter 4)
  - System assessment
  - Monitoring
  - Management and communication
- Surveillance (Chapter 5)
- Application of the Guidelines in specific circumstances (Chapter 6)
  - Climate change, Emergencies, Rainwater harvesting, Desalination systems, Travellers, Planes and ships, etc.

SUPPORTING INFORMATION

- Microbial aspects (Chapters 7 and 11)
- Chemical aspects (Chapters 8 and 12)
- Radiological aspects (Chapter 9)
- Acceptability aspects (Chapter 10)
Are we addressing the water safety concerns in the emerging urban centres?

- Need to ensure water safety is a national, regional and urban performance indicator.
Summary

- Presented the urbanizing face of Africa

**FIT FOR PURPOSE 1: - Urban Definition**
- Revision of global and local definitions of urban

**FIT FOR PURPOSE 2: JMP Definition**
- Revision of JMP definitions of “urban service level”

**FIT FOR PURPOSE 3: HR**
- Tailor WASH education to “urban regulatory/facilitation role”

**FIT FOR PURPOSE 4: WSP**
- Water Safety Plans requires a renewed boost
QUESTIONS / COMMENTS

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