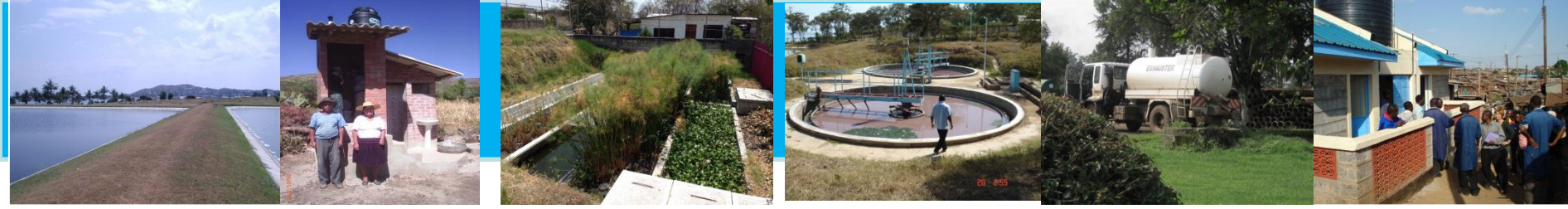




UN  **HABITAT**
FOR A BETTER URBAN FUTURE





5th AFRICA WATER WEEK

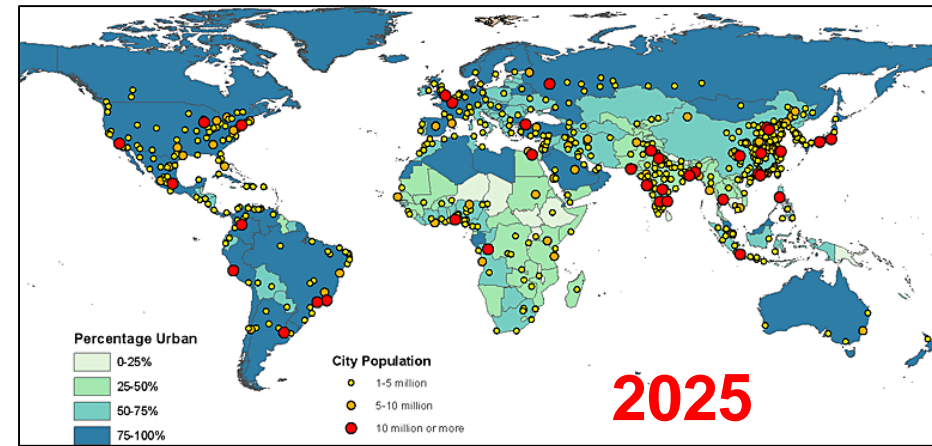
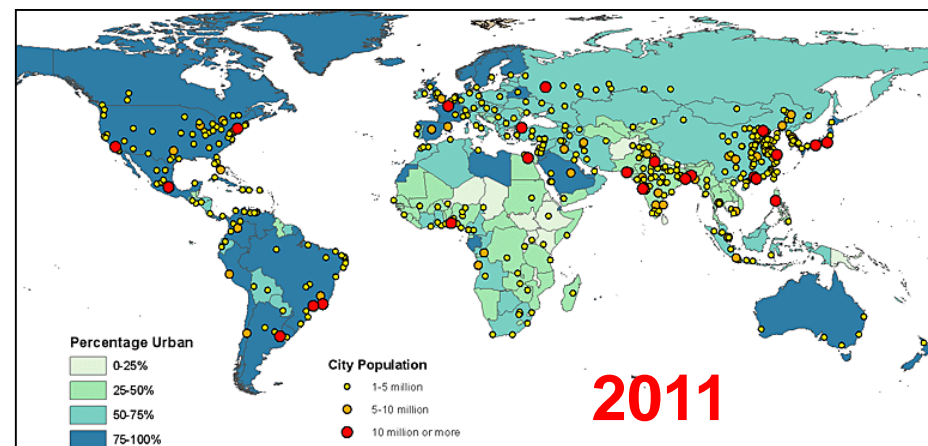
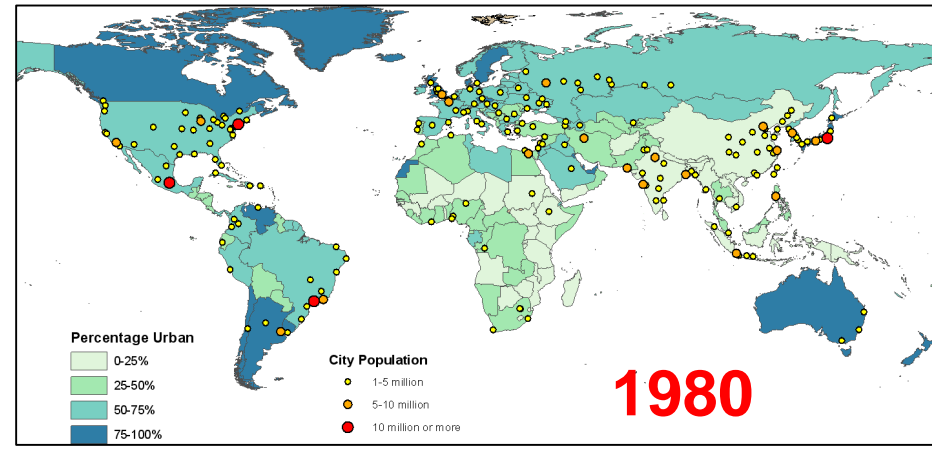
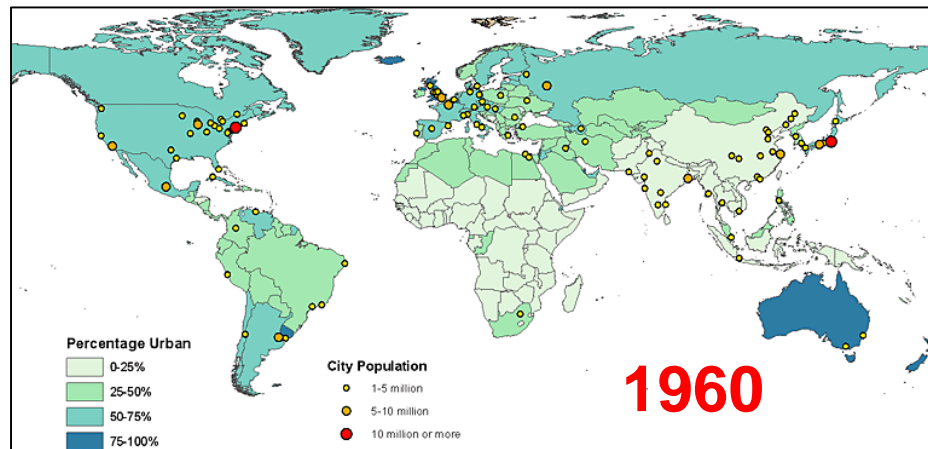
SUB-THEME: WASTE WATER MANAGEMENT AND WATER QUALITY

WASTE WATER MANAGEMENT IN URBAN CENTERS – AN OVERVIEW

Presented by
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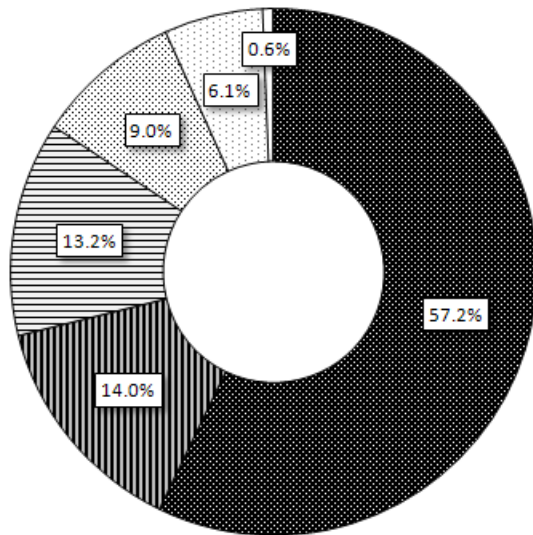


As the world urbanizes at an increasingly rapid rate the problem of waste water management is becoming a predominantly **urban** problem



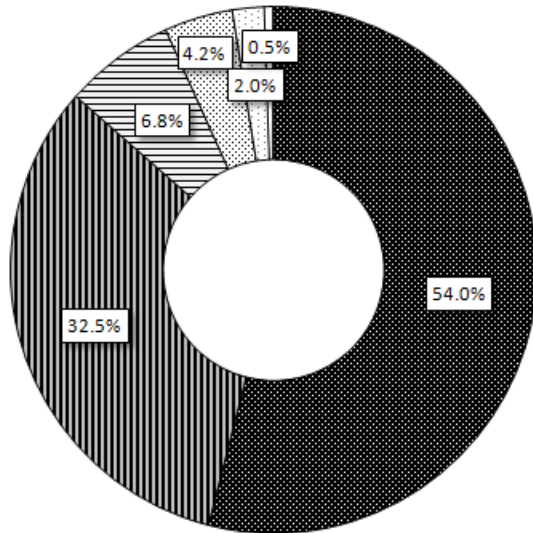
The world urban population is expected to increase by 72% by 2050, from 3.6 billion in 2011 to 6.3 billion in 2050.

Future urban expansion will be in less developed regions



1950-2011

- Asia
- ▨ Latin America, Caribbean
- ▤ Africa
- ▧ Europe
- ▥ Northern America
- Oceania



2011-2050

- Asia
- ▨ Africa
- ▤ Latin America, Caribbean
- ▧ Northern America
- ▥ Europe
- Oceania

- Virtually all of the expected growth in the world population will be concentrated in the urban areas of the less developed regions.
- In 2011, cities with fewer than 500,000 inhabitants accounted for about half of the world urban population, amounting to 1.85 billion
- Over the next twenty years the major population growth will be in smaller towns
- Smaller urban centres are where the capacity to develop sustainable wastewater management solutions is weakest

The Main features of urbanization in Africa

- Africa is now the continent with the fastest rate of urbanization
- The urban population (as a proportion of the total population) is now about **38%** and is projected to increase to **50%** in 2030 and **60%** by 2050
- One of the main features of the urbanization trends in Africa is the growth of slums (typically over 60% of the urban pop), increasing urban poverty and inequality, both in incomes and access to services
- Cities are growing **laterally**, largely, in an ad-hoc way, without proper urban planning, resulting in severe pressures on land and water resources



Implications for Waste Water Management

- Urbanization means higher volumes of domestic and industrial waste water and higher rates of storm water discharge
- Since waste water infrastructure has not kept pace with the rate of urbanization, municipal sewerage systems are usually limited or non-existent.
- On-site sanitation predominates leading to major problems of faecal sludge management (from pit latrines and septic tanks)
- In the informal settlements, environmental sanitation poses huge and growing problems. Both natural and man-made water courses often become waste streams, accommodating storm water, garbage, grey water, black water, faecal sludge from overflowing pit latrines, “flying toilets”, etc



The Gaps in Municipal Waste Water Management

- Low prioritization accorded to waste water management especially in the allocation of funds for investment
- Lack of a specific MDG target.
- Waste water is often subsumed in the water and sanitation debate. Coherent strategies and action plans for waste water management are therefore not well articulated
- Policies and institutional frameworks are often weak
- Cost-effective technologies for waste water collection and disposal have not been effectively demonstrated, especially in small towns and in informal settlements
- Not many success stories in building and operating municipal waste water systems



What is Needed?

- An SDG target on waste water management would be a good place to start, supported by effective monitoring systems (WHO/UN-Habitat/UNEP Initiative)
- Increased political/institutional support. Municipal utilities should be required to given greater priority to waste water development. **This is critical in urban areas.**
- A more systematic approach to the design, implementation and replication of pilot projects to apply cost-effective technologies e.g, low cost sewerage, biogas digesters, decentralized waste water treatments systems)
- More emphasis on faecal sludge management



Understanding the Technological Options

- In urban areas, there is no “one size fits all”. A range of options is needed
- The application of inappropriate technologies is common in Africa, resulting in high costs, under-utilized capacity, limited cost recovery and inadequate maintenance
- Waste water management starts at the household and community level and a range of technologies need to be applied from simple machines to empty pit latrines to sewers and waste water treatment systems
- Waste water management at the household and institutional level offers opportunities to reduce the demand on municipal systems and promote technologies based on resource recovery.



Waste Water Management in the Informal Settlements

- Congestion, space limitations, land tenure issues, low water consumption, poor drainage, and lack of access to sanitation, are components of the complex problem of waste water management in the informal settlements
- An incremental approach is often called for, beginning with “do-able” actions such as the provision of public sanitation linked to on-site treatment or public sewers
- Pit latrines are common and the need to adopt appropriate technologies for faecal sludge collection and disposal is critical
- Technologies and related business models to provide piped water and low cost sewerage to informal settlements need to be demonstrated (e.g EIB/UN-Habitat in Mwanza in Tanzania)



What are the Opportunities in urban areas?

- **Energy recovery** from human waste – e.g: the prisons in Rwanda, Kisii in Kenya, Bamako, Mali, etc
- **Re-use of waste water** for urban agriculture, gardening, landscaping
- **Small business development and job creation**, linked to waste water (e.g, emptying pit latrines, management of public sanitation in slums)



MAIN CONCLUSIONS - 1

- Rapid urbanization in Africa is a reality which has major implications for waste water management and water quality
- A large proportion of urban growth is taking place in small to medium sized towns where capacity limitations are strongest
- Urbanization is already leading to severe pressures on land and water resources
- The progressive expansion of congested slums offers special challenges, including the management of faecal sludge



MAIN CONCLUSIONS -2

- A range of institutional and technological solutions are called for, ranging from conventional sewerage infrastructure to de-centralized waste water systems, low-cost sewerage and small community-managed systems.
- As cities continue to expand, Governments and Local Authorities need to formulate comprehensive water management plans which include not only investments in conventional sewerage but also the full range of options appropriate for the different conditions in the city.
- Special attention needs to be paid to programmes which demonstrate the opportunities for resource recovery and schemes which promote employment



Thank You for Your Attention