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BORDA Integrated management of used-water and sanitation

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Transforming Informal Settlements- towards more liveable urban spaces

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Urbanization trends

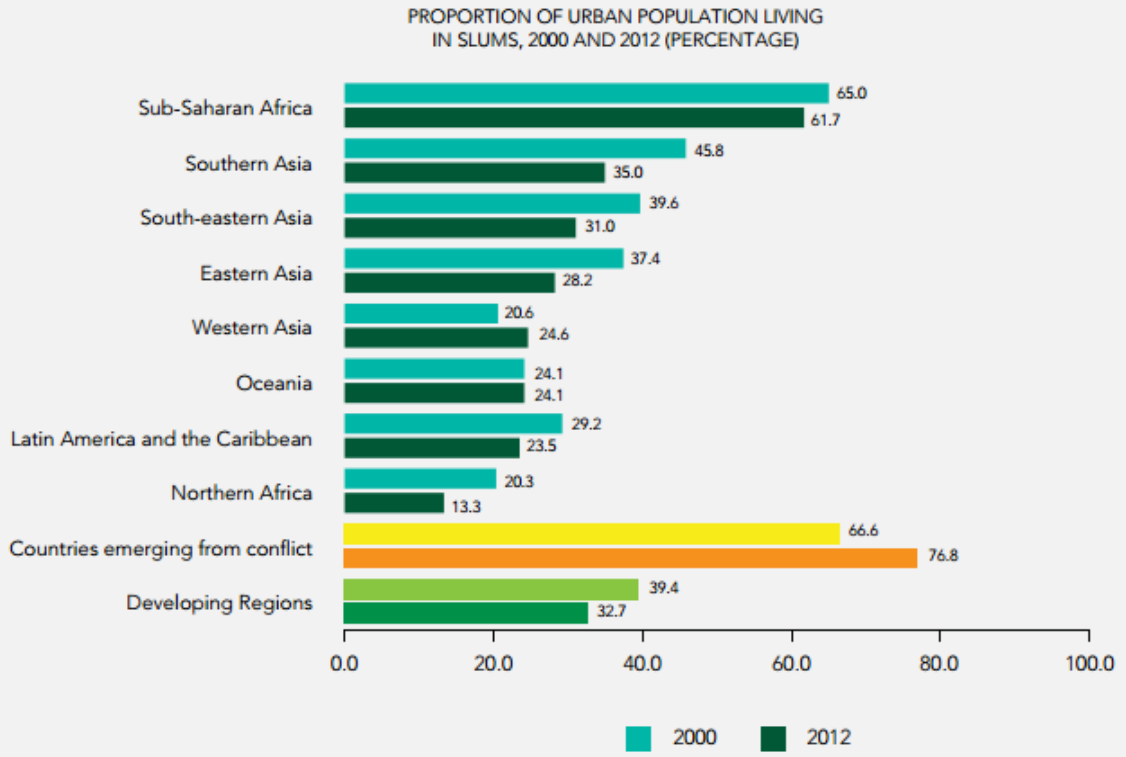
- Globally 54% or the worlds population reside in urban areas compared to 30% in 1950. By 2050 the world will be 66% urban
- Today the most urbanized regions include North America (92%) LAC (80%) Europe (73%)
- The least urbanized regions are Africa and Asia with 40% and 48% respectively and by 2050 this will change to 56% and 64%

Urbanization trends: where is it happening ?

- Most megacities are In the global south (China, India, Brazil)
- One in five urban dwellers live in medium sized cities or 1-5 million
- In 2014 close to half urban residents live in settlements smaller than 500,000
- The fastest growing agglomerations are medium sized cities and cities with less than 1 million in Africa and Asia
- Some cities have experienced population decline since 2000

Urbanization trends: where is it

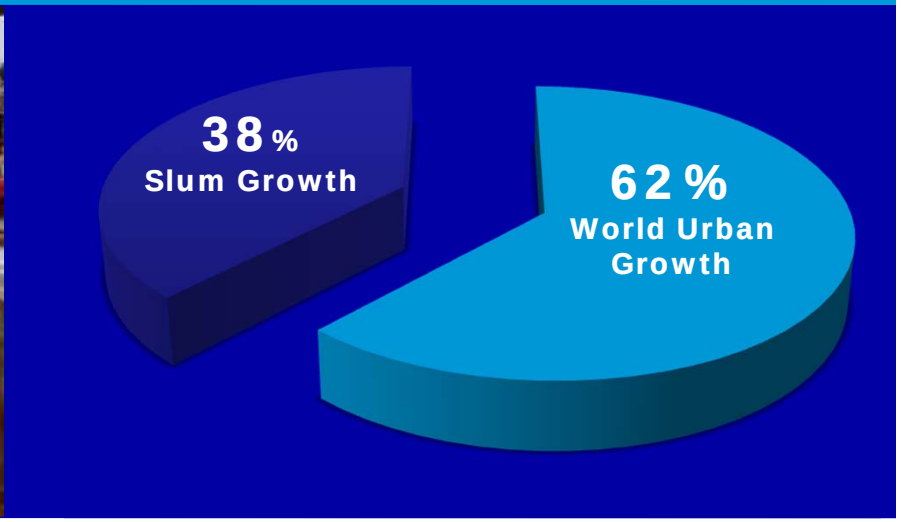
FIGURE 1.5 **PROPORTION OF URBAN POPULATION LIVING IN SLUM AREAS, 2000 - 2012**



Note: *Countries emerging from conflicts included in the aggregate figures are; Angola, Cambodia, Central Africa Republic, Chad, Democratic Republic of the Congo, Guinea-Bissau, Iraq, Lao People's Democratic Republic, Lebanon, Mozambique, Sierra Leone, Somalia and Sudan*

Source: *Source: UN-Habitat, 2013. Global Urban Indicators Database 2013*

The slum challenge



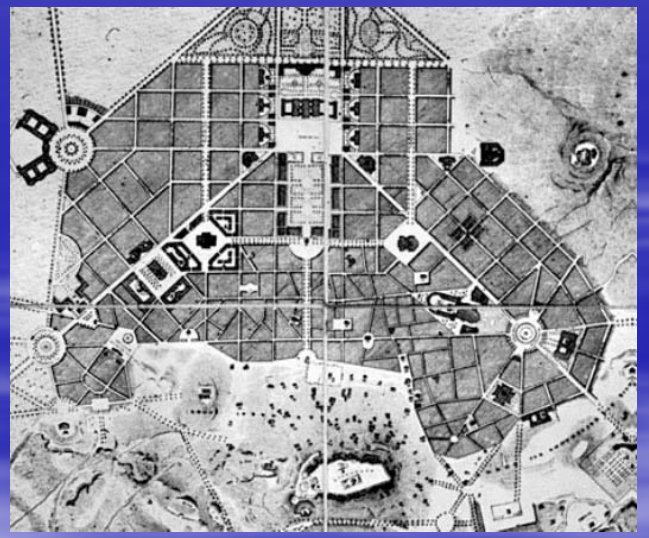
Unprecedented slum growth: **18 million** new slum dwellers per year during 1990-2001

Projected growth: **27 million** people a year (2005/20)

Slum growth = **38%** of the world's urban growth

URBAN Definitions

- Urban is a “technical” definition and many smaller urban areas are not captured (the situation could be worse !)
- Inequalities will increase (true globally) The smaller urban areas who have less resources and where there is uncontrolled urbanization will be most at risk from the inability to deliver services
- For slum dwellers and the disadvantaged good management of the domestic and peri-domestic environment combined with improved lifestyles will be the most effective way to improve health and will reduce the burden on the poor



Consequences for Basic Services Provision

- Focus attention on the development of systems for smaller urban cetnres and agglomerations.
- Provision of services can drive urbanization patterns. Urban sprawl its bad for service provision (network costs)
- In addition to high income and middle income areas, many urban centres have intra-urban slums, low income peri-urban areas, satellite small urban centres. Service levels will often need to vary to cater for this.
- Development of institutional and financing models for slum and low income populations. Delegated Management Models. Engagement of Civil Society as part of the solution, not the problem

Advocating a three pronged approach to urban development

- **Urban Rules and Regulation**
  Adequate planning rules and regulations are a prerequisite to the design, production and management of efficient and equitable & healthy human settlements

- **Urban Planning and Design**
  The quality of urban planning and design has a determining impact on the value generated by human settlements through efficient and equitable public space, streets and buildable areas

- **Municipal Finance** Efficient and transparent municipal finance systems are key to investments maintenance and management of the city. They should ensure redistribution of benefits generated by urban endogenous development

So what are the critical Issues ?

- Lack of identity of the unserved. NOT recognised. NOT part of urban estimates NO “official” address. NOT recognised as a critical part of the city economy. Needs Better Monitoring (SDG opportunities)
- Lack of an integrated approach to water, sanitation, drainage and solid waste management (need better Models for both dense slums and small towns)
- Lack of an institution and/or political will to adopt and scale-up good financial business models (Which Institution ??)
- Health Epidemics don’t distinguish between rich and poor and rapidly proliferate in environments with poor infrastructure (Ebola)

Lake Victoria Small Towns Project – The Context

- Circa 250 smaller urban centres Population typically between 10,000 and 150,000 persons
- Commercial/marketing centres with large daytime/market day population figures
- Lack Aid & Government support
- Features that are both urban and rural which presents challenges in service delivery
- Spontaneous and ad-hoc development rather than planned
- Urbanization trends that exceed national averages

Programme objectives

Support pro-poor water and sanitation investments in the secondary urban centres in the Lake Victoria Region.

Build institutional and human resource capacities at local and regional levels for the sustainability of improved water and sanitation services

Facilitate the benefits of upstream water sector reforms to reach the local level in the participating urban centres

Reduce the environmental impact of urbanisation in the Lake Victoria Basin

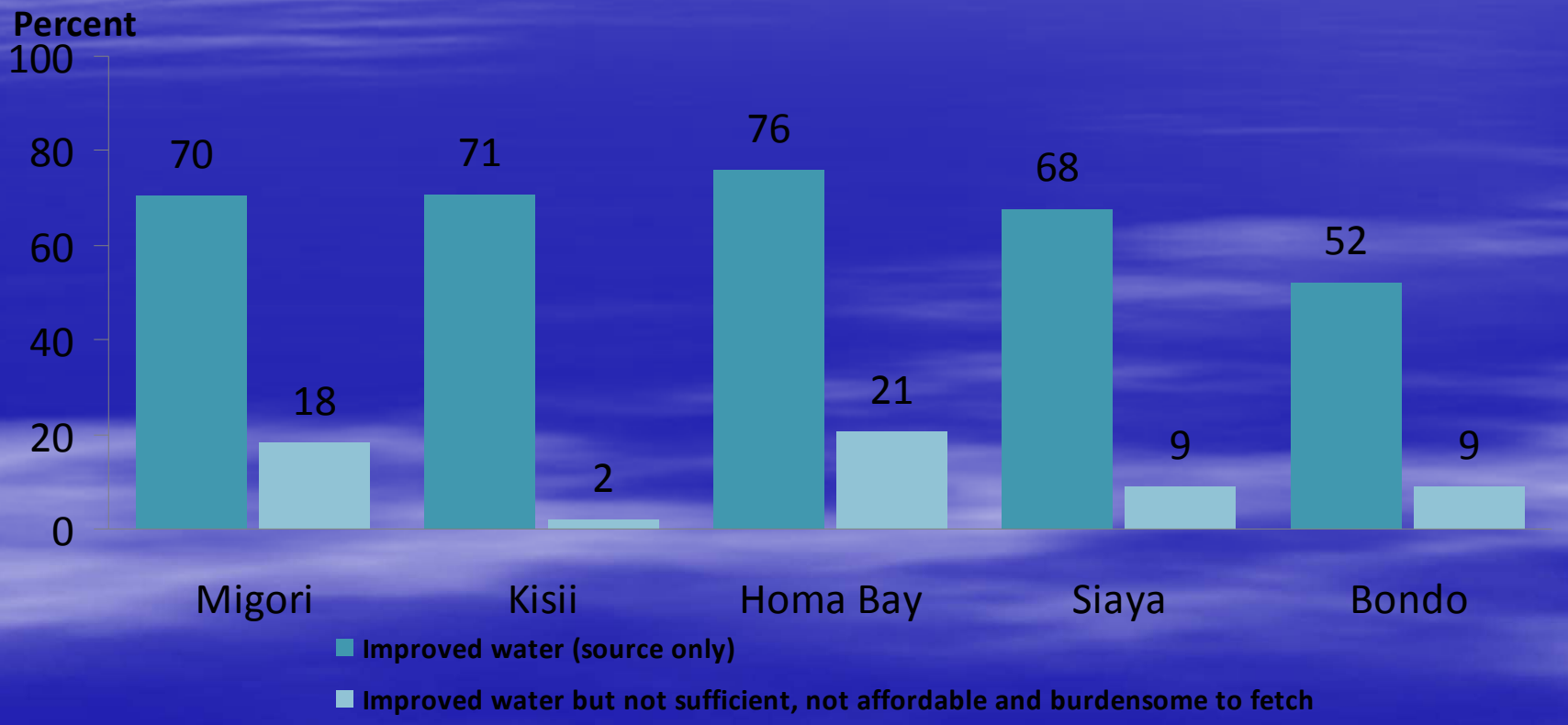
Small Towns – The Challenges in Service Provision - 1

- The water sector reform process is relatively new, emerging from a centralized water sector structure
- Infrastructure is run down and dilapidated no major investment, for decades
- Ancient Infrastructure (asbestos cement pipes and GI pipes in corrosive soil conditions - are common)
- High rates of leakage and revenue Many illegal connections.

Small Towns – The Challenges in Service Provision - 2

- Little or no extension of the distribution networks outside the main administrative/CBD (usually less than 30% and sometimes even less than 15% of the town)
- Heavy dependence on informal and unregulated water vendors and/or water from “community” water sources,
- High rates of water borne diseases that are common in small towns.

Access to Water in Kenyan Towns



Sufficient < 20L/cap/day **Affordable** <10% of income **Burden**: < 30mins

Baseline Performance Indicators for Selected Utilities 2010

Performance Indicator	BUWASA	Gusii	South Nyanza	SIBO
Water Produced (m3/d)	N.A	N.A	1733	583
Unaccounted-For Water	**58.9%**	**61.6%**	**67.0%**	53%
Revenue Collection (per month) – US$	24,923	12,773	5,194	2,987
O&M Expenditures	31,032	27,917	14,285	3,920
Working Ratio (Expenditure/Revenues)	1.25	2.2	**2.75**	1.31
Meters Installed	2720	696	800	390
Metering Efficiency	58%	14.8%	50%	67%
Staff Productivity (Staff/1000 connections)	14	10.6	16.8	14

Interventions

- Rehabilitation of existing water & sanitation systems
- Extending service coverage to the un-served using Pro-poor approaches
- Increased capacity for solid waste management and drainage
- Improving local capacity for revenue collection to local private sector utilities
- Development of urban planning tools includes provision for water, sanitation, sold waste management and drainage

Capacity Building on Utility Management- The Key Areas

- Water Demand Management
- Billing and revenue collection
- Customer Care
- Block Mapping
- Procurement of immediate supplies and equipment (e.g, water quality testing kits, bulk meters, computers, software)

Capacity Building Programme – the Impact (GWASCO)

Performance Indicator	Before	After
Water Produced (m3/d)	**N.A**	**2,778**
Unaccounted-For Water	**61.6%**	**40.7%**
Revenue Collection (per month) – US$	**12,773**	**21,133**
O&M Expenditures	**27,917**	**22,423**
Working Ratio (Expenditure/Revenues)	**2.2**	**1.06**
Number of metered connections	**696**	**1,676**
Metering Efficiency (%)	**14.8%**	**29%**
Staff Productivity	**10.6**	**8.5**

Has this worked long-term ?

- In Uganda the model was adopted.An insfrastructure fund was set up to progressively increase small urban centres networks
- From 23 towns in 2011 to 110 towns in 2015
- Financed by a modest increase inwatre tariffs (5% per year)
- Business growth: 14.8% revenue growth from 2014
- (from NWSC Performance factsheet for 2015)
- Can the model be applied to used water and sanitation ????

Kibera Intergrated Water & Sanitation Project (demonstrating integrated urban development)

Background information on Kibera

- 7 Km Southwest of the city of Nairobi, within the city boundaries. 3.5 by 1.5 km, 250ha with densities > 2,000 / Ha. 13 Villages 500,000 to 700,000 inhabitants
- No formal road network directly hinders, economic development of the area
- Most lack access to clean water and sanitation facilities
- kiosks and stand pipes are the major sources of water

Background information on Kibera

- The pipelines are usually ruptured exposing water to contamination
- Pit latrines main form of sanitation these toilet facilities are commercialized and expensive
- No waste collection services poor access roads prohibits waste collection Waste gets swept into drains which empty into Nairobi Dam

Kibera: WATSAN main concerns identified by the community

- Improving access to water and sanitation Forming water and environmental sanitation - Facility Management Committees
- Improving the drainage systems: constructing lined drains
- Improving waste management by engaging the unemployed youth in urban slums in door to door collection and recycling
- Establishing resource centres to facilitate e-learning e.g. with computers and access to internet
- Improve the existing road network
- Building community capacities in health, hygiene, waste management and project management

Key achievements

- 7 sanitation facilities now accessible to 21,000 residents of Soweto East (showers and toilets) cost US $ 8 per capita) Each Facility Management Group collects on average – Ksh 46,800 (US $ 600) per month
- Construction of the 1.5 km tarmac ring road across Soweto East now well underway, 600m of improved drains constructed
- The youth-organised door to door garbage collection for 400 homesteads
- Waste recycling has become a source of income with the youth recycling waste paper for resale

Key achievements

- Capacities of Soweto East residents have been built especially in the areas of entrepreneurship and construction
- The Soweto Youth are now making fabricated bricks for supply to ongoing road construction
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- Most of the women who initially engaged in prostitution are now able to open small businesses (grocery shops)
- Fabrication of the non motorized bicycles for use in transportation by the youth

The Sustainable Development Goals: A good opportunity

- The SDGs present a real opportunity to link Urbanization and improvement in access to basic services
- The SDGs will be measure in all countries so a means has to be found to encourage all members states to participate at a level commensurate with their resources
- Everyone is worried about the cost of monitoring and how it will impact on budgets
- The indicators with the most usefulness with be those with clear outcomes and usefulness at national level

Experience from the Monitoring of the SDG for Water (GEMI initiative)

- Develop both **national and global monitoring** approaches which support one another
- **Definitions** need to be standardized. The indicators must be simple, easy to communicate and understand. Complex “index” type indicators were difficult to understand and measure and may not be relevant in particular country contexts
- **Encourge more collaboration** between the thematic and statistical community to ensure measuraility is practical and achievable
- **Proof of concept is needed**
- The **monitoring ladder** concept was widely supported
- **Data do exist** but remain un-reported. They can be disaggregated to improve attractiveness as a management tool
- Use of community-based and novel methods of data collection

Conclusions

- Understanding Urban is critical both typologies and their differing service needs, and how to monitor coverage/use more effectively
- The recognition of the poor and their official status and identity is very important. Good addressing needed !
- Good models are there and work but need some critical elements and the right institution to shift
- The SDGs can give us the new momentum needed if we rise up to the challenge