



Singapore International Water Week 2022
Theme 4: Cities of the Future
Session 4.5 Water Master-Planning for Cities

Citywide Inclusive Sanitation

A Systems Change for Urban Sanitation Master-Planning

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2018

City population
10 million or more
5 million to 10 million
1 million to 5 million

2030

2030

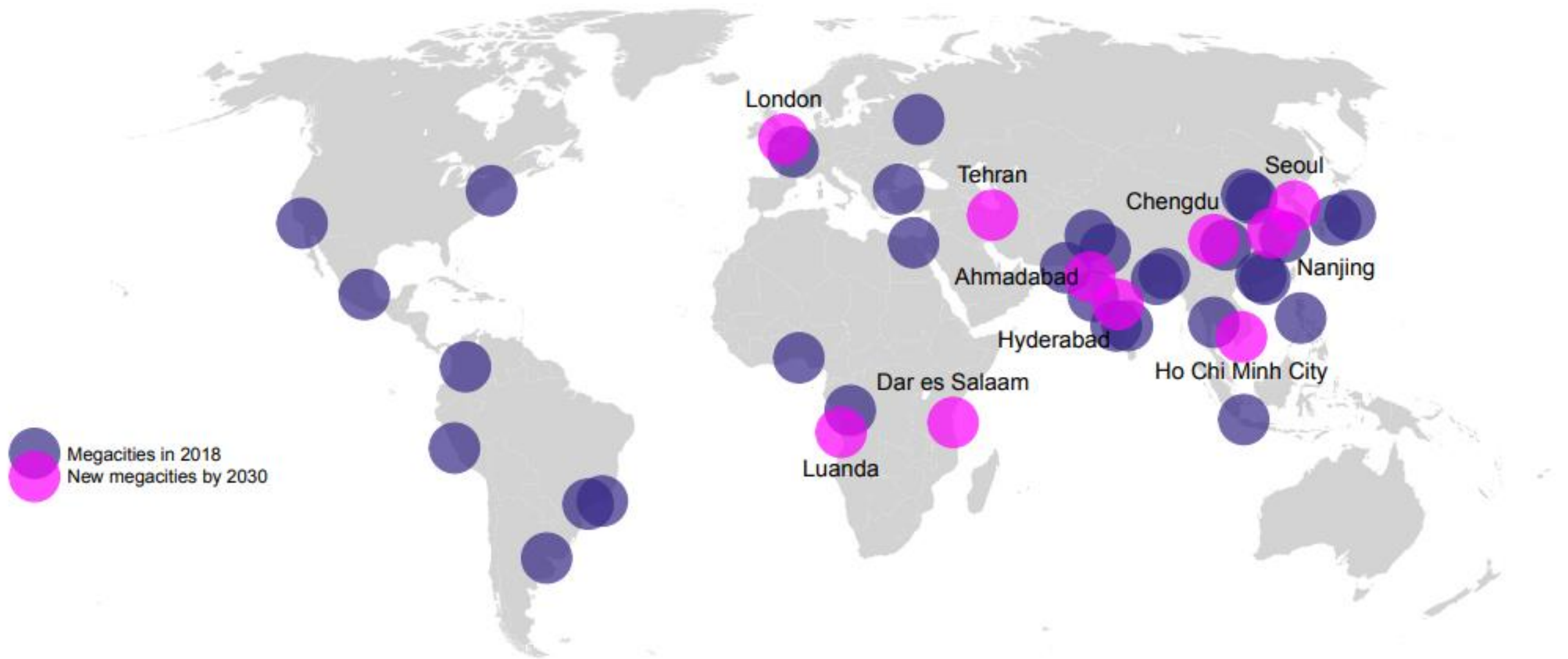
City population
10 million or more
5 million to 10 million
1 million to 5 million

ADB

**The world's cities are
growing in both size and
number**

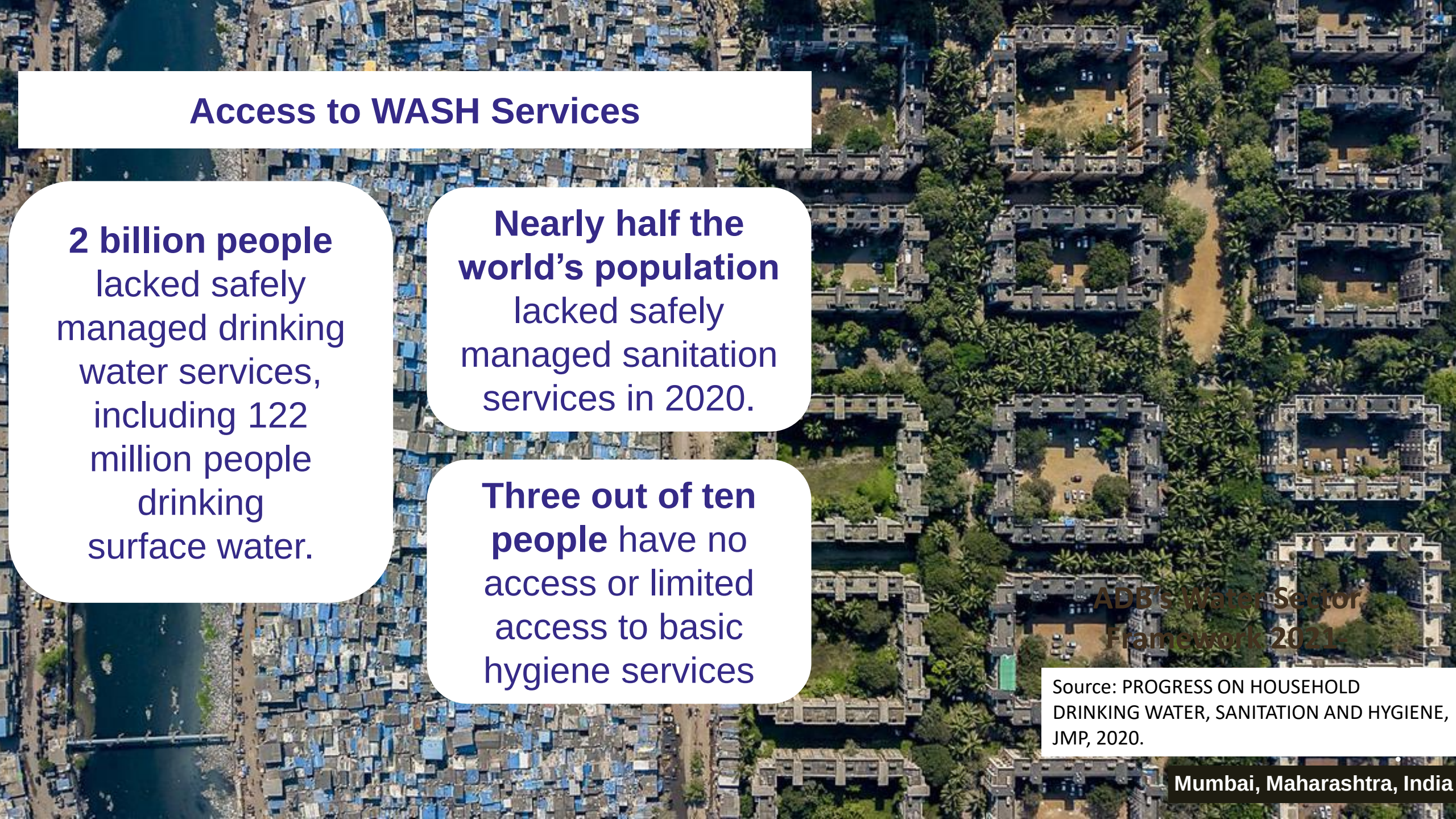
**Cities with 1 million inhabitants or
more, 2018 and 2030**

Source: United Nations (2018). The World's Cities in
2018—Data Booklet.



Source: United Nations (2018). The World's Cities in 2018—Data Booklet.

Most megacities are located in the global South



Access to WASH Services

2 billion people lacked safely managed drinking water services, including 122 million people drinking surface water.

Nearly half the world's population lacked safely managed sanitation services in 2020.

Three out of ten people have no access or limited access to basic hygiene services

ADB's Water Sector
Framework 2021-

Source: PROGRESS ON HOUSEHOLD DRINKING WATER, SANITATION AND HYGIENE, JMP, 2020.

Mumbai, Maharashtra, India

Urbanisation



© D. Crosweller

Ho Chi Minh City, Vietnam



© WSP staff

Dhaka, Bangladesh

Low-income housing



Jakarta, Indonesia



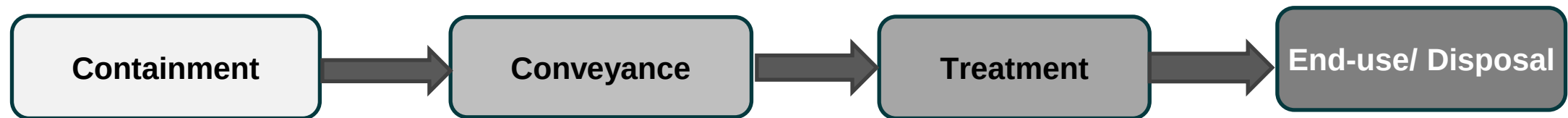
India

Sanitation Master Planning for Cities

What Needs to Change?

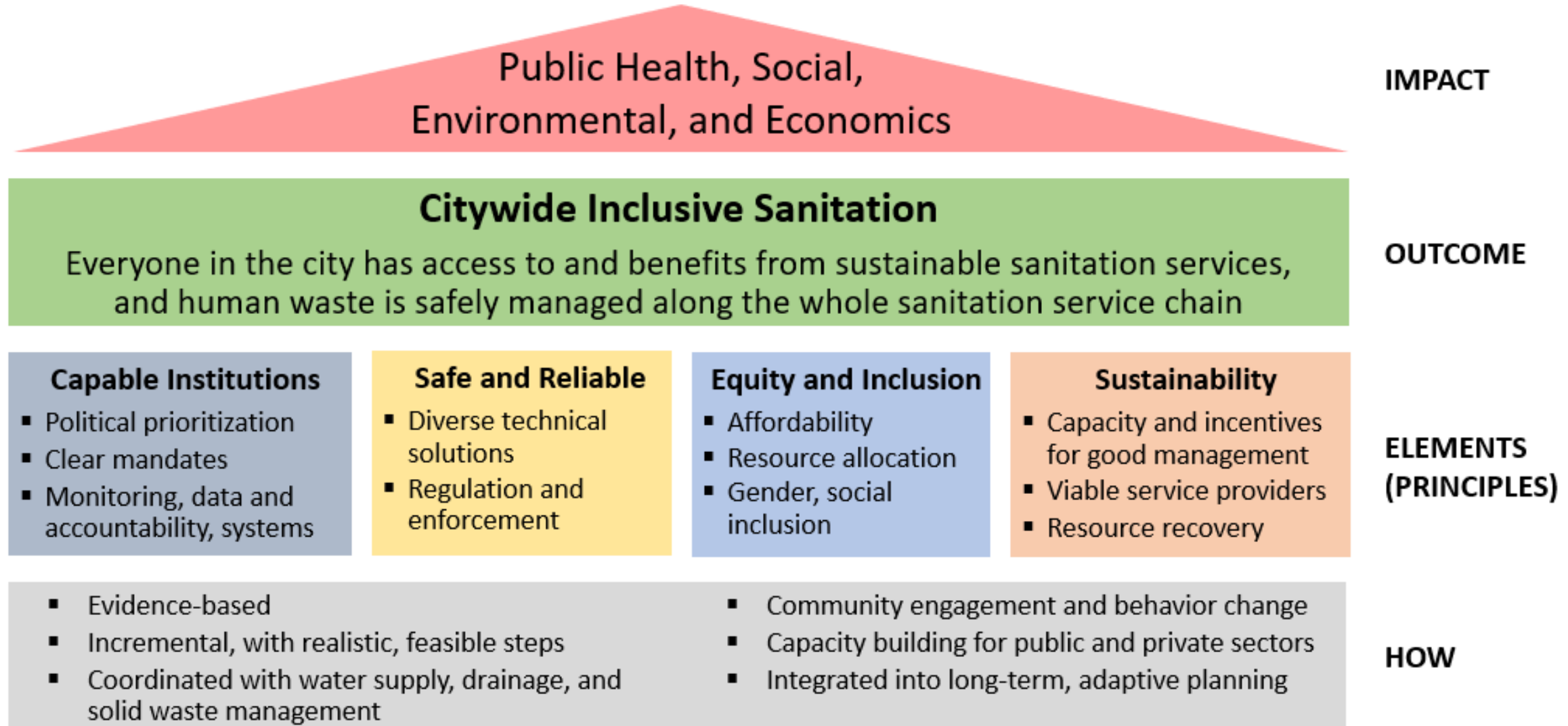
Investments in urban sanitation need to focus more on

- **Equity and Inclusion:** All people achieving safe access to sanitation services
- **Sustainability:** More sustainable sanitation services – financially, environmentally, technically and socially.
- **Holistic** city and national sanitation policies, strategies, and investments to address the entire sanitation service chain:



- **Institutional changes** to develop and sustain new sanitation approaches and improve public and private institutions' roles
- **Accountable systems and incentives** to monitor service performance and enable evidence-based strategic changes to optimize performance

ADB Framework: The Citywide Inclusive Sanitation House



BAN: Khulna Sewerage System Development Project



Project Period

Nov 2020 – Dec 2027 (7 years)

Investment

- *City-wide inclusive sanitation* - establish both centralized sewerage system and FSTP
 - two STPs (80 MLD), 269 km sewer network, and 27,000 property-level sewer connections
 - one FSTP (160 KLD), with KCC undertaking collection and transportation to the site, and KWASA managing treatment



Amount and modality

TOTAL - \$275 million
- ADB - \$160 million
- Government – \$115 million

New Technologies

- Introduce the latest process method (e.g SBR) and 1.3-megawatt solar power system
- Establish SCADA and a comprehensive GIS database linked with a computerized hydraulic model

** ADB's first intervention in Bangladesh's sewerage sector.*

Building Capacity

- Enhance institutional capacity on sewerage services, including training programs and project management, facility-specific O&M manual and SCADA system



Implementing Agency

Khulna Water Supply and Sewerage Authority (KWASA)

Developing Standards

- Formulate new sewerage tariff
- Introduce at least 2 project proposals using PPP modality

Improving Awareness

- Develop sustainable and inclusive sanitation plan
- Conduct sanitation and hygiene-awareness campaign

Scaling up CWIS

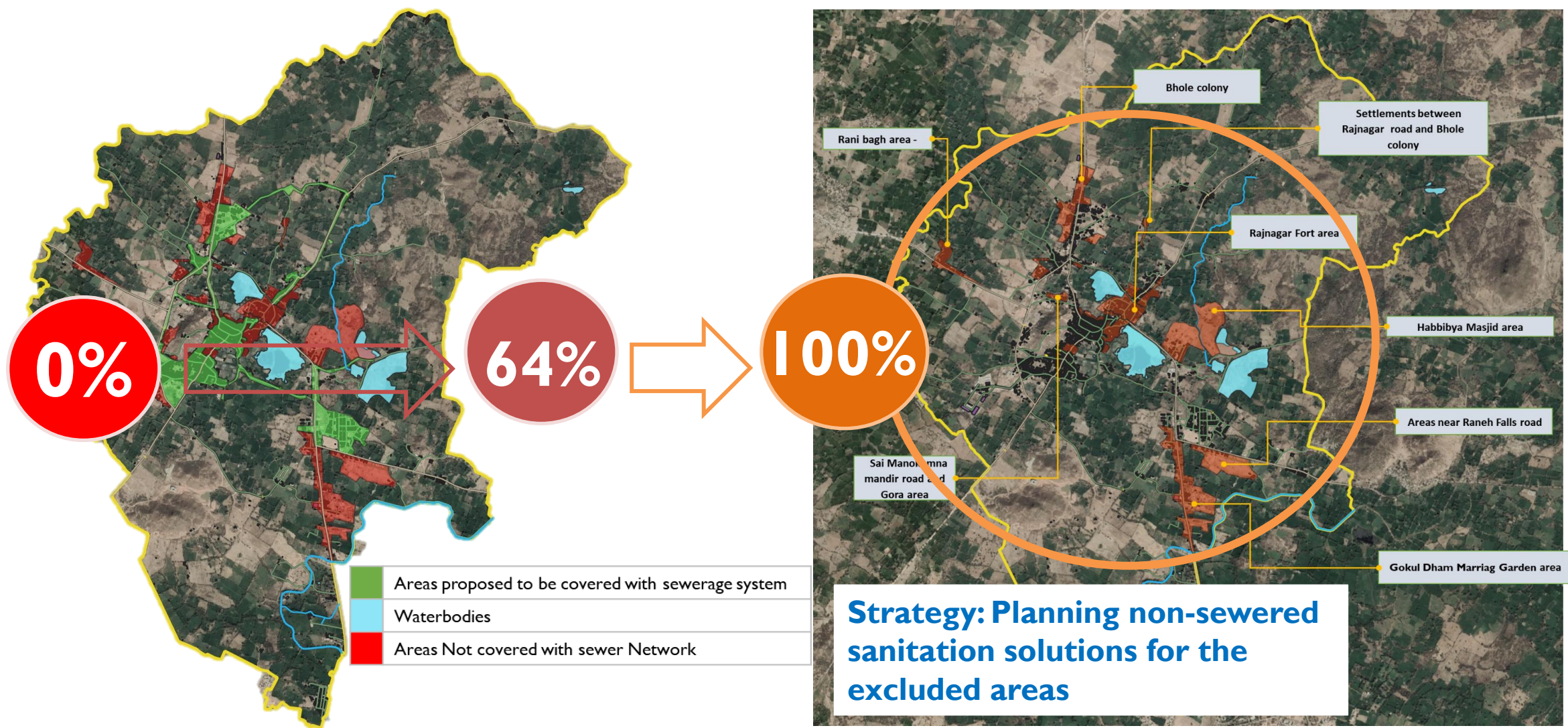
- ADB TA – Develop FSM master plan and/or strategic action plan in collaboration with BMGF
- Ensuing ADB investments – Expand sewer coverage and on-site sanitation

Notes: BMGF = Bill & Melinda Gates Foundation, CWIS = city-wide inclusive sanitation; FSM = fecal sludge management; FSTP = fecal sludge treatment plan; GIS = Geographic information system; KCC = Khulna City Corporation; KLD = kiloliters per day; KWASA = Khulna Water Supply and Sewerage Authority; MLD = million liters per day; O&M = operation and maintenance; PPP = Public-Private Partnership; SBR = sequential batch reactors; SCADA = supervisory control and data acquisition; STP = sewage treatment plan.



Evidence-based planning, digital solutions, urban data, GIS

India – Madhya Pradesh Urban Services Improvement Project
TOWARDS MODEL CWIS TOWN – RAJNAGAR MUNICIPALITY



Integrated Management Information Systems (IMIS)

A data hub for planning, managing and monitoring sanitation systems

IMIS is a **Tool** developed for Planning, Management and M&E of Sanitation System & Services **Catalyzing CWIS**

It is a **convergence** of web, mobile and GIS technologies developed on open source software platform.





Citywide Inclusive Sanitation ...

- ✓ Is based on **evidence** of how, why and where sanitation *services* are failing, or succeeding
- ✓ Includes **all citizens**, rich and poor, formal and informal settlements
- ✓ Addresses the **entire sanitation service chain**
- ✓ Involves **mix** of sewered and non-sewered services
- ✓ **Coordinates** sanitation with solid waste management, drainage, water supply, land-use management and housing
- ✓ builds institutional capacity, accountability and financing mechanisms for **sustaining services**

and it is NOT:

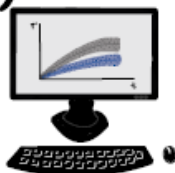
- ✗ Based on **assumptions** about what is needed
- ✗ Focused only on building **infrastructure**
- ✗ **Only** FSM, or on-site sanitation, or sewerage
- ✗ **Only** sanitation projects for slums

INSTITUTIONS & REGULATIONS

More and better DATA¹

2 Continuous monitoring and evaluation

HELP STAKEHOLDERS MAKE INFORMED DECISIONS



good
LEADERSHIP and
POLITICAL WILL
are critical!



EQUITY

PPE for sanitation workers



PERSONAL PROTECTION EQUIPMENT

Ensure access to adequate sanitation solution to every home

CITY WIDE
INCLUSIVE
SANITATION

PLANNING

We need FLEXIBLE Urban Plans!

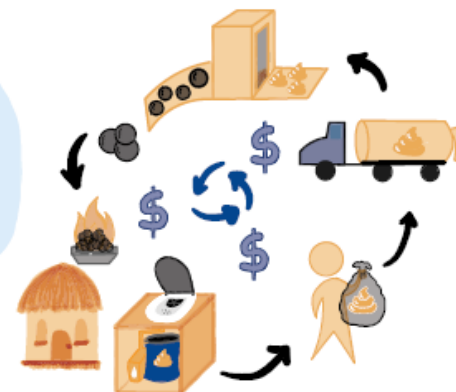
1. Diagnostic of the system and context evaluation
2. Community and stakeholders involvement and feedback loops
3. More \$ investment, ⌚ time and 👤 capacity development for planning

KEY MESSAGES



BUSINESS MODELS

**There is no
successful
business model
without Public
Sector
involvement**



RESEARCH ON STEPS TOWARDS STRUCTURING SANITATION MARKETS

ENVIRONMENT & PUBLIC HEALTH

**There is no
Public Health
without
Environmental
Health**



THE CITIES

NO ONE
IS SAFE UNTIL
EVERYONE
IS SAFE

Inclusive Financial Mechanisms: Improving Access to Sanitation Services for Poor Households



Inclusive sanitation for the poor and marginalized. Appropriate financial mechanisms can remove some of the barriers that exclude the poor and marginalized from using sustainable sanitation services (photos by ADB and Penelope Dutton).

Challenge: Designing Sanitation Services That Include Poor Households

Citywide Inclusive Sanitation (CWIS) means that everyone, including people who are poor and marginalized, has access to sustainable sanitation services. However, poor households have limited funds and may prioritize food, education, and other household expenditure over sanitation.

Even when motivated to invest in sanitation, high costs—sewerage connection charges, toilet hardware—and large recurrent costs, such as septic tank desludging or monthly sewerage tariffs, can be major barriers to inclusive sanitation.

What Is Citywide Inclusive Sanitation and Why Is It Needed?



Low-quality housing over body of water. Poor urban communities live wherever they can, including illegal or semilegal settlements, which often creates a challenging environment for sanitation services (photo by ADB).

Asia's cities are growing rapidly. By 2030, more than 55% of the population will live in urban areas.¹ With higher population densities and urban expansion, managing the vast amounts of human waste is becoming ever more challenging.

Lack of sanitation can significantly impact city and national economies, affecting public health, productivity, competitiveness, real estate values, and the overall quality of life. The Asian Development Bank (ADB), its clients, and development partners have invested immense resources in urban sanitation programs, but many have failed to deliver change.²

¹ ADB. 2011. *Competitive Cities in the 21st Century: Cluster-Based Local Economic Development*. Manila.
² ADB. 2017. *Leading Factors of Success and Failure in Asian Development Bank Urban Sanitation Projects*. Manila.

Addressing Gender Equality and Social Inclusion in Urban Sanitation Projects



Toilets for everyone, everywhere. In Bangladesh, an accessible toilet in her slum has meant that Poppy no longer has to go to the toilet in public by the road or in a field (photo by WaterAid/Guilhem Alandry).

The outcome of a Citywide Inclusive Sanitation (CWIS) approach and supporting investments is that everyone in an urban area gains access to, and benefits from, appropriate and sustainable sanitation services. Reaching everyone does not happen automatically. CWIS projects need activities to target specific underserved and underserved groups. These include women and children, ethnic minorities, urban poor, and persons with

disabilities if the CWIS element of equity and inclusion are to be met (Box 1).

This guidance note describes why addressing gender equality and social inclusion (GESI) is fundamental to CWIS project success. It provides some practical suggestions for increasing GESI in projects and five strategies to help deliver these suggestions and achieve sanitation for all.

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