CAPACITY BUILDING INITIATIVE ON MAKING GANGA BASIN CITIES WATER-SENSITIVE

VISION

Making Ganga basin cities water sensitive for improved river health and flows.

AIM

Capacity building initiatives, action research and developing model projects for making Ganga basin cities water-sensitive, by improving the river flow and health and mainstreaming water-sensitive urban design and planning.

Objectives

- Sensitize and build capacities of municipal and state functionaries, elected representatives and other key actors as well as the National Mission for Clean Ganga (NMCG) team in making cities water-sensitive.
- Help improve convergence of programmes like Jal Jeevan Mission, Atal Bhujal Mission, Jal Shakti Mission, Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and Swachh Bharat Mission.

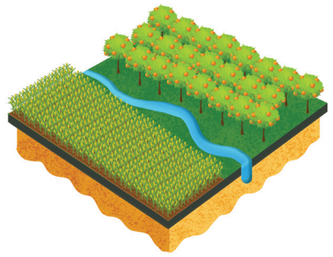
Duration of Programme - 3 Year (April 2021- March 2024)

BACKGROUND

River Ganga Basin Cities - Key Issues & Challenges

- Ganga basin has 2,009 statutory towns, with an urban population of 165.2 million, as per Census of India 2011 includes 100 + Class I cities, and at least 6 metropolitan cities including National Capital Territory of Delhi, state capitals Lucknow, Patna, Dehradun.
- Urban built-up area has increased approximately 44% from 10,512 sq. km. in 2005-06 to 15,138 sq. km.
- Widening water demand – supply across different sectors resulting several river stretches in river Ganga with non-existent flow and co-existence of overexploited aquifers and flooding in urban areas.
- Urban Lakes and ponds are deteriorating and being encroached impacting both quality and quantity of water in drains and rivers, and the incapability to manage moderate and extreme rainfall events.
- Inadequate sewage treatment (incl. conveyance) and reuse of treated wastewater.
- Lack of convergence in national / state / local programmes with Namami Gange Mission

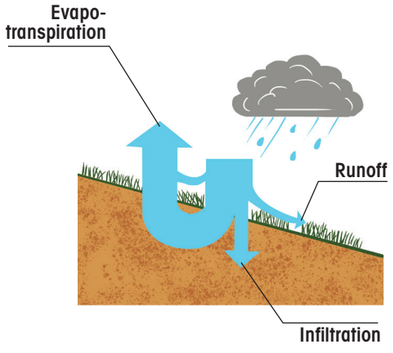
Pre and Post Urban Development

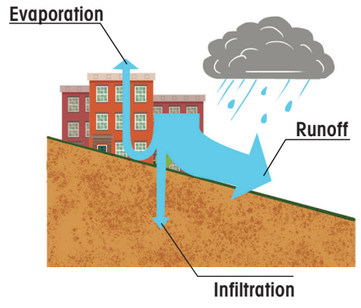


Pre-development

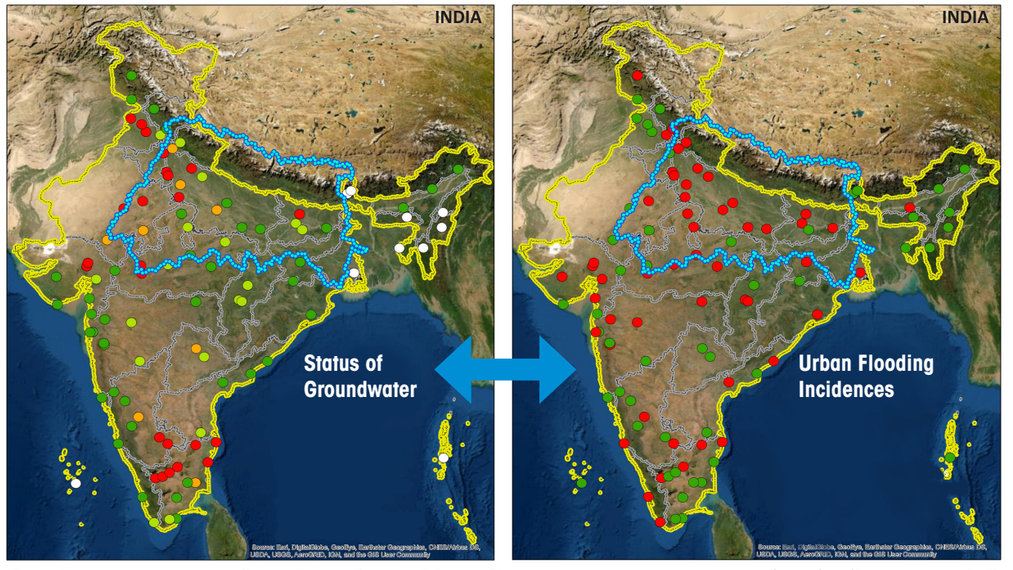
Post-development

Rapid urbanization resulting change in urban water balance





Co-existence of Overexploited Groundwater & Urban Flooding



Water Sensitive Urban Design & Planning - Concept and Approach

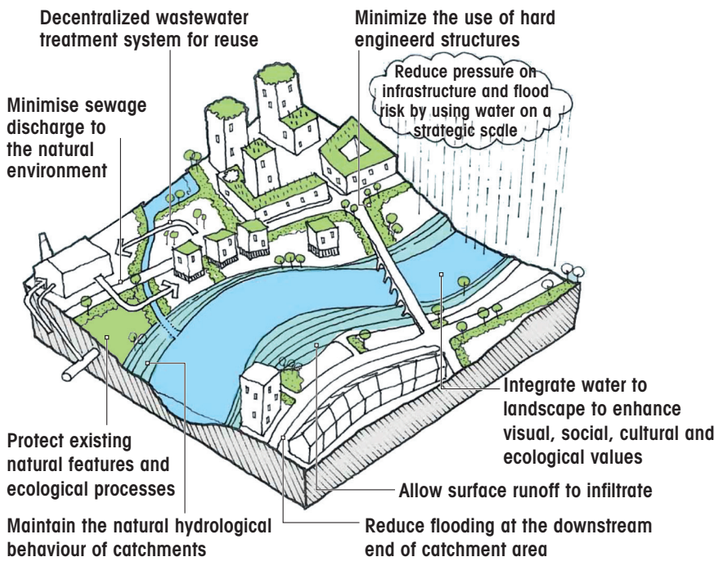
URBAN GROUNDWATER MANAGEMENT

URBAN WATERBODIES MANAGEMENT

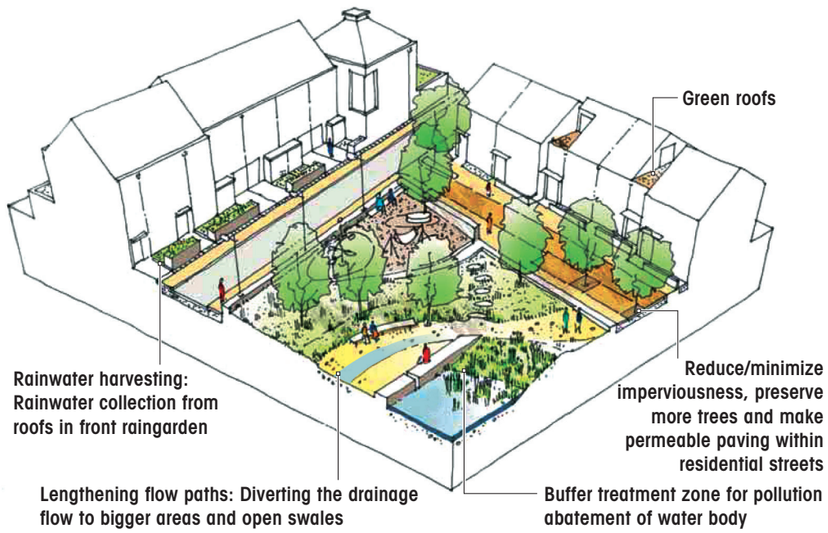
DECENTRALISED WASTEWATER TREATMENT FOR LOCAL REUSE

WATER EFFICIENCY AND CONSERVATION

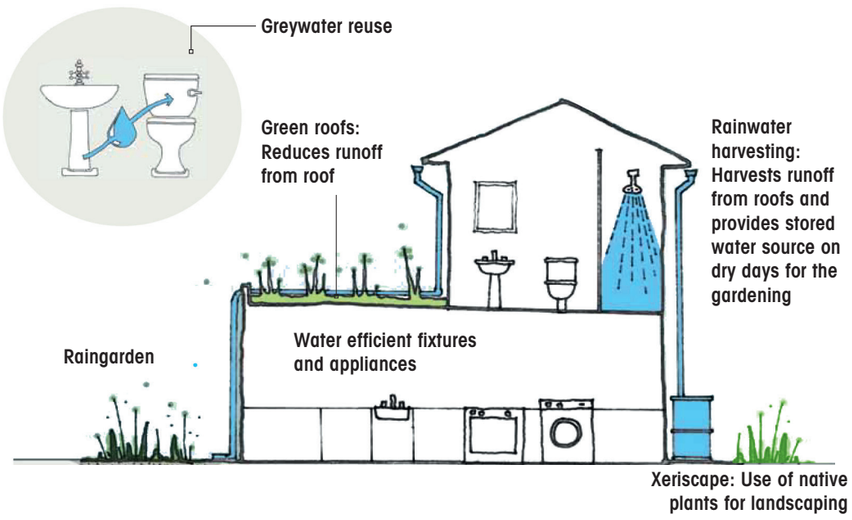
1 WATER-SENSITIVE PLANNING (CITY/ZONAL SCALE)



2 WATER-SENSITIVE DESIGNING (NEIGHBOURHOOD SCALE)



3 WATER-SENSITIVE DESIGNING (INDIVIDUAL SCALE)



STORMWATER HARVESTING AT ALL LEVELS

WHAT IS WATER SENSITIVE URBAN DESIGN AND PLANNING (WSUDP)?

Water-sensitive cities are geared towards a holistic management of the water cycle to deliver basic urban water services of supply and sanitation while mitigating flood risks and protecting and enhancing the health of the receiving waterways.

A water-sensitive city incorporates innovative infrastructure, design and governance solutions. Water-sensitive urban design and planning (WSUDP) is an approach that integrates and optimizes the use of available water sources and completes the water cycle. The concept of a water-sensitive city is an urban water management approach that delivers benefits to enhance sustainability, liveability and resilience.

Water Sensitive Approach comprises of:

- Protecting local waterbodies (lakes, ponds and wetlands) for supplementary water sources
- Storm-water management at public places, including open areas in cities
- Increasing water-conservation approaches at various scales (buildings/campus).
- On-site water conservation with rainwater harvesting (RWH) is important to reduce water scarcity incl. use of treated wastewater

PROGRAMME HIGHLIGHTS

CAPACITY BUILDING

To improve capacities and understanding about issues of decentralized water management and augmenting water supply through rainwater harvesting, decentralized sewage including septage management and reuse or recycling of wastewater.

ACTION RESEARCH

To secure sustainability in urban water management for improved river flow and health.

TECHNICAL KNOWLEDGE SUPPORT FOR MODEL PROJECTS

To increase knowledge about best practices regarding sustainable water and wastewater management including rainwater harvesting; sewage treatment; reuse and recycling of wastewater; water efficiency; and conservation, protection and management of urban water bodies;

PROGRAMME OUTCOMES

CAPACITY BUILDING

1300+ number state / municipal functionaries and other sector players involved in promoting sustainable urban water management

40+ activities over 3 years - 24 Training (incl. 12 no. online), 12 webinars, annual knowledge conclaves including field exposure visits.

DEVELOPMENT OF ACTION RESEARCH GUIDES FOR IMPLEMENTATION

Practitioner's Guide (5 nos.)

- Urban Groundwater Management
- Urban Water Bodies Management
- Decentralised Wastewater Treatment and Local Reuse
- Planning & Designing Water Sensitive Cities for improved river flow/ health
- Water Sensitive Cities Index for ranking in Ganga Basin Cities

TECHNICAL KNOWLEDGE SUPPORT

Helpdesk & Web portal for handholding support to design and implement model WSUDP intervention as model projects in select 4-6 cities as learning centers.

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