How ICLEI South Asia is enabling **Circular Urban Development**

The Circular Development Pathway is one of the five pathways that shapes ICLEI's work.

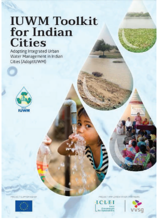
Circular development transitions from a linear economic model of 'take, make, waste' and moves to an economy where infrastructure, products, components, materials, and nutrients are maintained at their highest value for as long as possible. This systemic approach supports a sustainable urban environment by minimising resource consumption and waste production while creating opportunities to unlock economic value and growth, increase social equity and responsibility, and enhance the natural environment.

ICLEI South Asia works with local governments and stakeholders to translate this approach into practical, city-level action. Through technical assistance, capacity building, knowledge exchange, stakeholder engagement and support for policy and planning, it helps cities build and strengthen its circularity framework. Our work spans across integrated solid waste management, holistic plastic waste management, circular food systems, integrated urban water management and resource-efficient, low-carbon urban development.

The diagram gives an overview of the defining factors of ICLEI South Asia's Circularity work:

Understand how resources move through a city

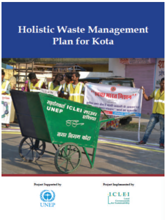
Integrated Urban Water Management (IUWM)


IUWM Toolkit for Indian Cities

Adopting Integrated Urban Water Management in Indian Cities (AdoptIUWM)

READ HERE

Holistic Waste Management Plan for Kota


Holistic Waste Management Plan for Kota

Project Supported by

Project Implemented by

Close the loops: turn solid waste and wastewater into resources

SUNYA-Towards Zero Waste Management Project

Move from individual solutions to integrated systems

Solapur - Roof top Rainwater Harvesting to recharge abandoned bore wells at 3 sites

Ichalkaranji - Community level waste-water reuse and recharge of ground water

Make circularity part of how cities govern

Green Byte Pune
Supporting Pune in assessing the city's E-waste value chain

Identify and develop replicable and investable models of interventions

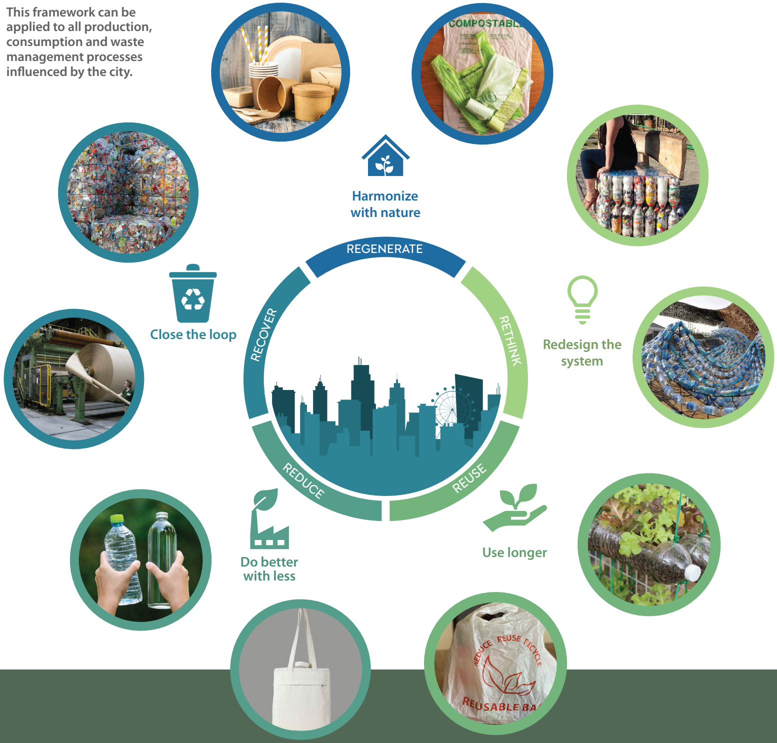
Community Led Action Plan (CLAP) for Climate Resilient Water Security

Supported cities in developing technical proposals under CITIIS 2.0 to attract investments

The Circular City Actions Framework is an action-based framework that provides urban changemakers with 5 complementary strategies.

These strategies address different roles that local and regional governments play, including:

This framework can be applied to all production, consumption and waste management processes influenced by the city.


COMPOSTABLE
Harmonize with nature
REGENERATE
RETHINK
Redesign the system
REUSE
Use longer
REDUCE
Do better with less
RECOVER
Close the loop
REDUCE REUSE RECYCLE
REUSABLE BA

CLICK TO KNOW MORE

PROJECTS & INITIATIVES

Solid Waste Management

ICLEI South Asia's approach for a Circular and Holistic Solid Waste Management System

Scientific inventorisation and characterisation of municipal solid waste

Scaled-up action

2500+

kilo tonnes of plastic waste avoided and/or processed

1000+

municipal officials trained on scientific SWM

SUNYA-towards zero waste management approach implemented across

40+ cities

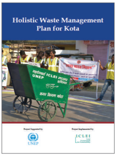
Pilot projects implemented together with ULBs in

20 cities

Information, Education and Communication (IEC) campaigns and citizen awareness

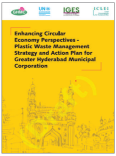
Pilot/Demonstration Projects

Definition of policy frameworks and regulations



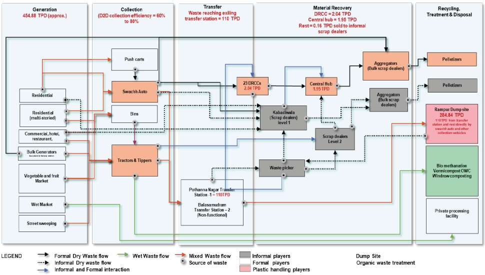
Holistic Waste Management Plan for Kota

HOLISTIC WASTE MANAGEMENT STRATEGY FOR VARANASI CITY



Enhancing Circular Economy Perspectives - Plastic Waste Management Strategy and Action Plan for Greater Hyderabad Municipal Corporation

Holistic/Integrated Solid Waste Management Action Plans


Generation
454.88 TPD (approx.)
Collection
(D2D collection efficiency = 60% to 80%
Transfer
Waste reaching exiling transfer station = 110 TPD
Material Recovery
DRCC = 2.04 TPD
Central hub = 1.95 TPD
Rest = 0.16 TPD sold to informal scrap dealers
Recycling, Treatment & Disposal
Residential
Residential (multi-storied)
Commercial, hotel, restaurant,
Bulk Generators
Vegetable and fruit Market
Wet Market
Street sweeping
Push carts
Swachh Auto
Bins
Tractors & Tippers
Pothanna Nagar Transfer Station -1 = 110TPD
Balasamudram Transfer Station – 2 (Non-functional)
23 DRCCs 2.04 TPD
Central Hub 1.95 TPD
Aggregators (Bulk scrap dealers)
Kabadiwala (Scrap dealers) level 1
Aggregators (Bulk scrap dealers)
Scrap dealers Level 2
Waste picker
Pelletizers
Pelletizers
Rampur Dump site
284.84 TPD
110TPD from transfer station and rest directly by swachh auto and other collection vehicles
Bio methanation Vermicompost OWC Windrow composting
Private processing facility
LEGEND
Formal Dry Waste flow
Informal Dry waste flow
Informal and Formal interaction
Wet Waste flow
Mixed Waste flow
Source of waste
Informal players
Formal players
Plastic handling players
Dump Site
Organic waste treatment

Expertise offered for Holistic Solid Waste Management Plan

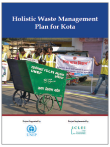
20+ cities

Technical support in developing holistic waste management strategy and action plans

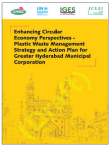
6+ cities

Support for preparation of plastic waste management strategy and action plans

Use scientifically proven methodology to conduct plastic waste audit, brand audit and value chain analysis



Holistic Waste Management Plan for Kota



Enhancing Circular Economy Perspectives - Plastic Waste Management Strategy and Action Plan for Greater Hyderabad Municipal Corporation

HOLISTIC WASTE MANAGEMENT STRATEGY FOR VARANASI CITY

OPPO F11 Pro
Warangal, Telangana

READ HERE

Strengthening Waste Management through Pilot Project Demonstrations

20 cities

Pilot projects identified and implemented

Developed business cases for replication and scaling up of pilot initiatives

Supported designing and installing MSW processing units

Defined key policy and regulatory measures for creating sustainable waste management systems

Installation of a 1.5-ton Bio methanation plant in Coimbatore

2 TPD Bio-methanation plan installed in Udaipur

Introduction of starch-based (tapioca) bags as an eco-friendly alternative to plastic bags

1 TPD organic waste composter in Kochi City

SUNYA-

Towards Zero Waste Management project - Implemented across 15+ cities

Strengthened
waste collection, transportation, and processing

Improved
source segregation

Reduced
waste going to landfills

Promoted
reuse, recycling, and composting

SUNYA- Towards zero waste in Coimbatore city

SUNYA- Towards zero waste in Udaipur city

SUNYA- Towards zero waste in Kota city

SUNYA- Towards zero waste in Varanasi city

Building Capacity of Key Stakeholders

500+ cities
officials trained on scientific solid waste management

Enabled effective governance mechanisms and implement holistic waste management systems

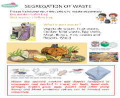
Workshops, webinars and peer exchanges undertaken to build capacity

Enhancing Local Capacities in Socially Inclusive Resilience in Asia (SIRA)

Information, Education, and Communication (IEC) Activities

Develop IEC material and conduct awareness generation and mass sensitisation activities

D2D Campaign



SEGREGATION OF WASTE

Please handover your wet and dry waste separately
Dry waste in pink bag
Wet waste in Yellow bag

What is wet waste?
Vegetable waste, Fruit waste, Cooked food waste, Egg shells, Meat, Bones, Hair, Leaves and flowers, Wood

Waste like sanitary napkins and diapers (wrapped in newspaper and marked in cross), ear buds, band aids, syringes, broken glass, nails, blades (and other sharp items) and blood contained cotton can be handed over separately

IEC Material

Posters

IEC campaign for E-waste

IEC campaign: Dappu Nrithyam

Measurement of waste sector GHG emission inventory and development of a net-zero strategy

Prepared GHG emission estimates for 28 states of India and more than 60 South Asian cities.

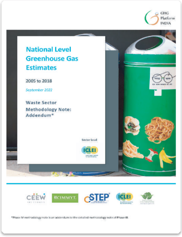
Low Carbon Action Plan for the Waste Sector of Bihar

With a population of **121.3 million** (2020), the state of Bihar generates approx. **6,272 MLD of wastewater** and **31,537 TPD of MSW**

Total GHG emissions from the waste sector in Bihar (2020) is estimated to be **8.20 million tCO$_2$e**

ICLEI South Asia supported the State Government of Bihar in **developing their first Low Carbon Action Plan for the waste sector (wastewater and MSW)** to be implemented by 2030.

READ HERE



GHG Platform INDIA

National Level Greenhouse Gas Estimates

2005 to 2018

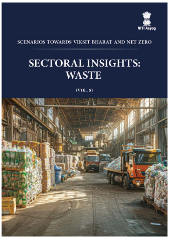
September 2022

Waste Sector Methodology Note: Addendum*

Sector Lead

*Phase IV methodology note is an addendum to the detailed methodology note of Phase-III.

Prepared India's net zero emissions strategy in the waste sector



NITI Aayog

SCENARIOS TOWARDS VIKSIT BHARAT AND NET ZERO

SECTORAL INSIGHTS: WASTE

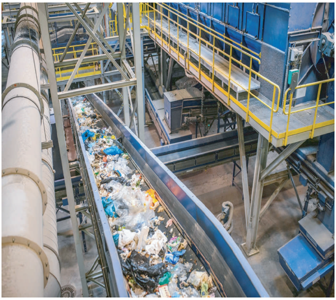
(VOL. 8)

READ HERE

Support the Identification of Investment-Ready Projects and attract Private Investments

Support to Indian cities for preparing technical proposal under Government of India's CITIIS 2.0 programme.

Rajkot | **Udaipur** | **Warangal**



Green Byte Pune (E-waste management) *(Ongoing)*

Supporting Pune Municipal Corporation in assessing the city's e-waste.

Redirecting e-waste from unauthorised recyclers to formal recycling systems.

Integrating informal sector workers into formal waste management systems.

Building a centralised data repository and dashboard for efficient city-level e-waste management.

Technical Advisory Services: Municipal Waste Processing Facility - Vadodara *(Ongoing)*

Objective:

Technical assistance for identification of appropriate technology for processing biodegradable waste in Vadodara and its contextualised design.

Reduce methane emissions from the waste sector

Reduce landfill dependency

Ensure compliance with national MSW (Management & Handling) Rules, 2026

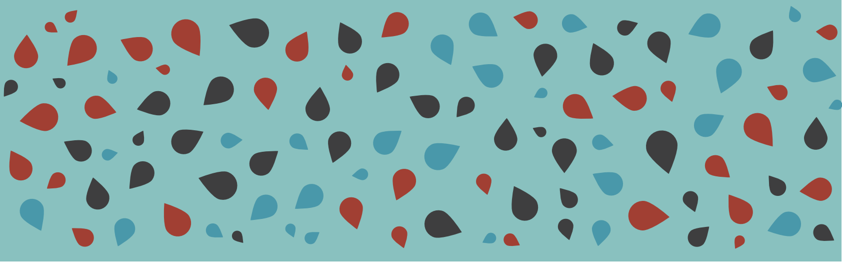
Aims to implement a techno-commercially viable solution that contributes to advancing circular economy principles.

Key Outcomes:

A technically viable and context-appropriate biodegradable waste processing solution.

A PPP-based biodegradable waste processing facility is structured and successfully procured.

PLASTIC
ORGANIC WASTE
Paper



Water Circularity

Adopting Integrated Urban Water Management for Indian Cities (AdoptIUWM)

Objective:
Capacity building and undertaking water sector reforms for 2 cities in Rajasthan and 2 cities in Maharashtra.

Key Outputs:
4 IUWM based Action Plans developed

8 Pilot interventions (2 in each city) demonstrating IUWM approaches

IMPACT

80+ officials, 35 cities trained on water quality assessment and management

Peer to peer learning for **40** officials from national, state and local governments

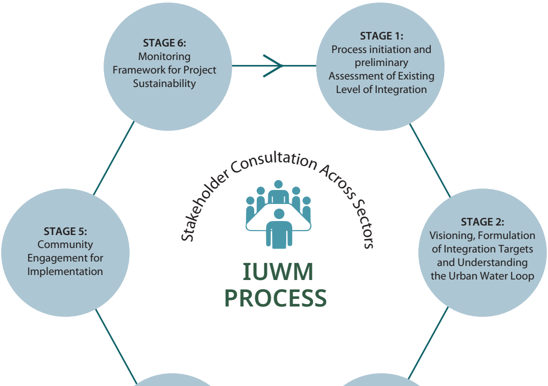
Benefited 15,500+ urban poor directly including 5000 women

Identify opportunity for allocating funds to recharge **200** borewells under the AMRUT Mission

Kishangarh City under Swatch Bharat Mission extended the pilot interventions to **35** wards

Jaisalmer City focused to revive old rainwater harvesting structures under MJSA and AMRUT Mission

Solapur is focusing on IUWM aspects under SMART City Mission



STAGE 6: Monitoring Framework for Project Sustainability

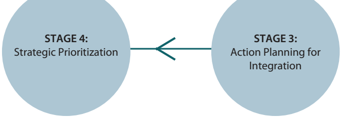
STAGE 1: Process initiation and preliminary Assessment of Existing Level of Integration

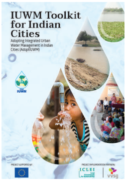
STAGE 2: Visioning, Formulation of Integration Targets and Understanding the Urban Water Loop

STAGE 5: Community Engagement for Implementation

Stakeholder Consultation Across Sectors

IUWM PROCESS




IUWM Toolkit for Indian Cities
Adopting Integrated Urban Water Management in Indian Cities (AdoptIUWM)

Water resources planning & action plans

Community Ownership

Capacity Building and Training

Pilot interventions

Integrated Rural Urban Water Management for Climate based Adaptations in Indian Cities (IAdapt)

Objective:

Institutionalise climate change adaptation in city and catchment policy and planning by implementing climate proof Integrated Urban Water Management (IUWM)/ Integrated Water Resource Management (IWRM) approaches.

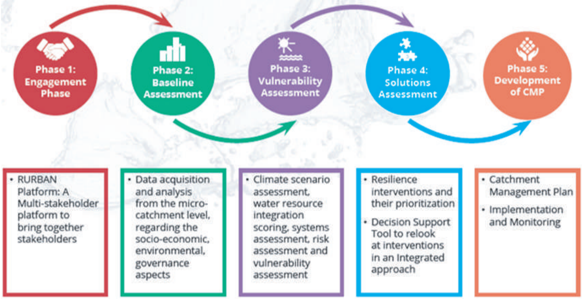
Key Outputs:

IAdapt Framework for Development of Integrated catchment management plan

Training Manual for Development of Catchment Management Plan

IMPACT

Developed a RURBAN Platform	Developed scientifically informed and participatory Catchment Management Plans for 2 micro catchments, and Flood and Drought Assessment for two cities	Decision support and a framework tool for local governments to adopt and practice climate adaptive catchment


Phase 1: Engagement Phase
- RURBAN Platform: A Multi-stakeholder platform to bring together stakeholders

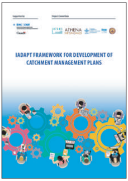
Phase 2: Baseline Assessment
- Data acquisition and analysis from the micro-catchment level, regarding the socio-economic, environmental, governance aspects

Phase 3: Vulnerability Assessment
- Climate scenario assessment, water resource integration scoring, systems assessment, risk assessment and vulnerability assessment

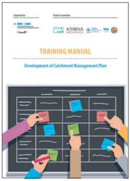
Phase 4: Solutions Assessment
- Resilience interventions and their prioritization
- Decision Support Tool to relook at interventions in an Integrated approach

Phase 5: Development of CMP
- Catchment Management Plan
- Implementation and Monitoring

Resources developed under IAdapt


IADAPT FRAMEWORK FOR DEVELOPMENT OF CATCHMENT MANAGEMENT PLANS

READ HERE


TRAINING MANUAL

Development of Catchment Management Plan

READ HERE

Community Led Action Plan (CLAP) for Climate Resilient Water Security *(Ongoing)*

Objective:

Mobilise and build capacity of local indigenous community and migrant tea estate workers as barefoot hydrogeologists and improve overall water availability and equitable access to water.

IMPACT

12
Community training workshops conducted

150+
community members trained, including 80 women

Village Water Committees established in four hamlets

Barefoot Hydrogeologists of each hamlet made part of their respective village water committees

4
Water Security Plans prepared

CapaCITIES – Rajkot Groundwater Recharge

Objective:

To ensure safe groundwater recharge from rainfall runoff and address issues of urban flooding, resulting in storm water drainage systems.

Key Outputs:

Based on an assessment of potential groundwater augmentation and in consultation with Rajkot Municipal Corporation, CapaCITIES project installed groundwater recharge at five locations across the city.

IMPACT

Project beneficiaries include:

Citizens of Rajkot

Rajkot Municipal Corporation

Traffic and Transport Department, Gujarat

Gujarat State Ground Water Board

Based on its success, Rajkot Municipal Corporation replicated such recharge structures at **240+** locations throughout the city.

Green Grey Infrastructure for Canal Restoration

Kochi Smart Canal

Focuses on enhancing climate resilience
by developing green-grey infrastructure for canal restoration.

INTERACT-Bio

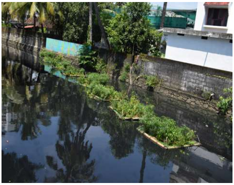
Installed **10** floating wetlands in Kochi's Thevera-Perandoor canal to support its restoration.

Installed a fully automatic **1-ton-per-day** composting plant.

IMPACT

Canals have an improved water quality due to absorption of excess nutrients, improved dissolved oxygen levels, and reduced algal blooms.

Organic composting facility processes biodegradable waste from around **1,000** households into high-quality compost.



Floating wetlands

Organic Waste Composter

Canal restoration

Integrated Stormwater management for flood resilience in Tirupati *(Ongoing)*

Objective:

Providing technical assistance to develop a comprehensive concept for integrated stormwater management. The initiative aims to enhance flood resilience in Tirupati.

Key Outputs:

A series of technical studies will be undertaken to prepare Detailed Project Reports, leading to financing and implementation.

COLLECTOR & DISTRICT MAGISTRATE

ACCESSanitation

Location
Vikarabad, Rajahamundry, Tiruppur,
Hosakote, Vasai Virar

Project Outcomes:

- Creation of an inventory on relevant national policies and strategies in target countries
- National training courses with selected municipalities in target countries
- Three phases of local application including initial rapid assessment of the sanitation situation in participating cities, priority setting, development of action plan and implementation of solutions completed
- Regional knowledge exchange successfully carried out
- Development of 4 city sanitation plans
- Pilot demonstration of sustainable sanitation in all 4 project cities

Towards Cleaner and Healthier Cities –
Accelerating City to City Exchange on Sustainable Sanitation
ACCESSanitation Final Conference
7-8 May, 2012
The Park Hotel, New Delhi, India
Project Implementation Partners

Salient Features:
This project aimed at enabling local authorities to promote and initiate sustainable sanitation solutions thus improving health conditions, alleviating poverty, fostering the local economy and increasing food security. It focused on implementation of local government-led solutions for locally appropriate sustainable sanitation and relevant behavioral change.

Food Waste Management

Best Practices for Food Waste Management in Cities in Asia

Objective:

To produce a short, evidence-based, and practice-oriented regional compendium of actionable approaches for food waste reduction and circular bioeconomy integration in Asian cities, including replicated models, investment opportunities, and policy levers that cities can use to scale solutions.

Key Outputs:

Inception Report for Best Practices for Food Waste Management in Cities in Asia: A Regional Analysis

Regional compendium with case studies for Alappuzha, Solo, Quezon and Khon Kaen

Food and Agriculture Organization of the United Nations

INCEPTION REPORT

Best Practices for Food Waste Management in Cities in Asia: A Regional Analysis

Prepared by: ICLEI Local Governments for Sustainability South Asia

March 2026

Development of 75 Food Gardens in 4 Mega Cities in India *(Ongoing)*

Objective:

To set up 75 urban food gardens in municipal schools across Bengaluru, Delhi, Kolkata and Hyderabad to encourage and facilitate learning, and improve awareness about the importance of growing one's own food, improve nutrition for children, and enhance biodiversity in municipal schools.

Key Outputs:

School Gardening Manual

Board game on urban biodiversity for students and youth

Developing a board game on agriculture for students

IMPACT

In Bangalore and New Delhi alone, over **23,000** students are directly benefitting from the project

Exploring how school food gardens can be integrated into the PM POSHAN scheme, helping connect nutrition, environmental stewardship and experiential learning.

Urban Food Study

Objective:

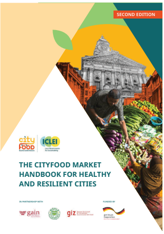
Enhance the understanding of urban food systems and their impacts on the food choice, dietary patterns and the state of food security and nutrition, particularly among the urban poor and middle class in the Asia-Pacific.

Key Outputs:

CityFood Market Handbook for Healthy and Resilient Cities - Highlights **31** case studies from

Africa I Asia I Europe I The Americas

4 city-to-city peer-learning workshops conducted


SECOND EDITION
city food
ICLEI
THE CITYFOOD MARKET HANDBOOK FOR HEALTHY AND RESILIENT CITIES
gain
giz

READ HERE

IMPACT

Guidance on

- policy and governance
- market infrastructure
- funding and incentives
- capacity building
- awareness raising

Stronger city-to-city learning and replication

Capacity built for 100+ officials for enhanced understanding of food systems

WANT TO CONNECT?

Do you want to support

2500+ local and regional governments in 125 countries?

Partner with:

ICLEI Local Governments for Sustainability - South Asia!

By supporting ICLEI you can:

- Support circular economy policies, frameworks and actions
- Define and implement national, sub-national and local policies in line with the 5Rs
- Reduce the packaging burden on the environment
- Implement environmentally conscious and holistic waste management actions
- Clean-up our local environments