

An Outline of Training Sessions

Strengthening Institutions and Government's Capacities to mainstream Inclusive Green Economy (IGE) Principles in the Urban Sector in Madhya Pradesh

18 April 2023



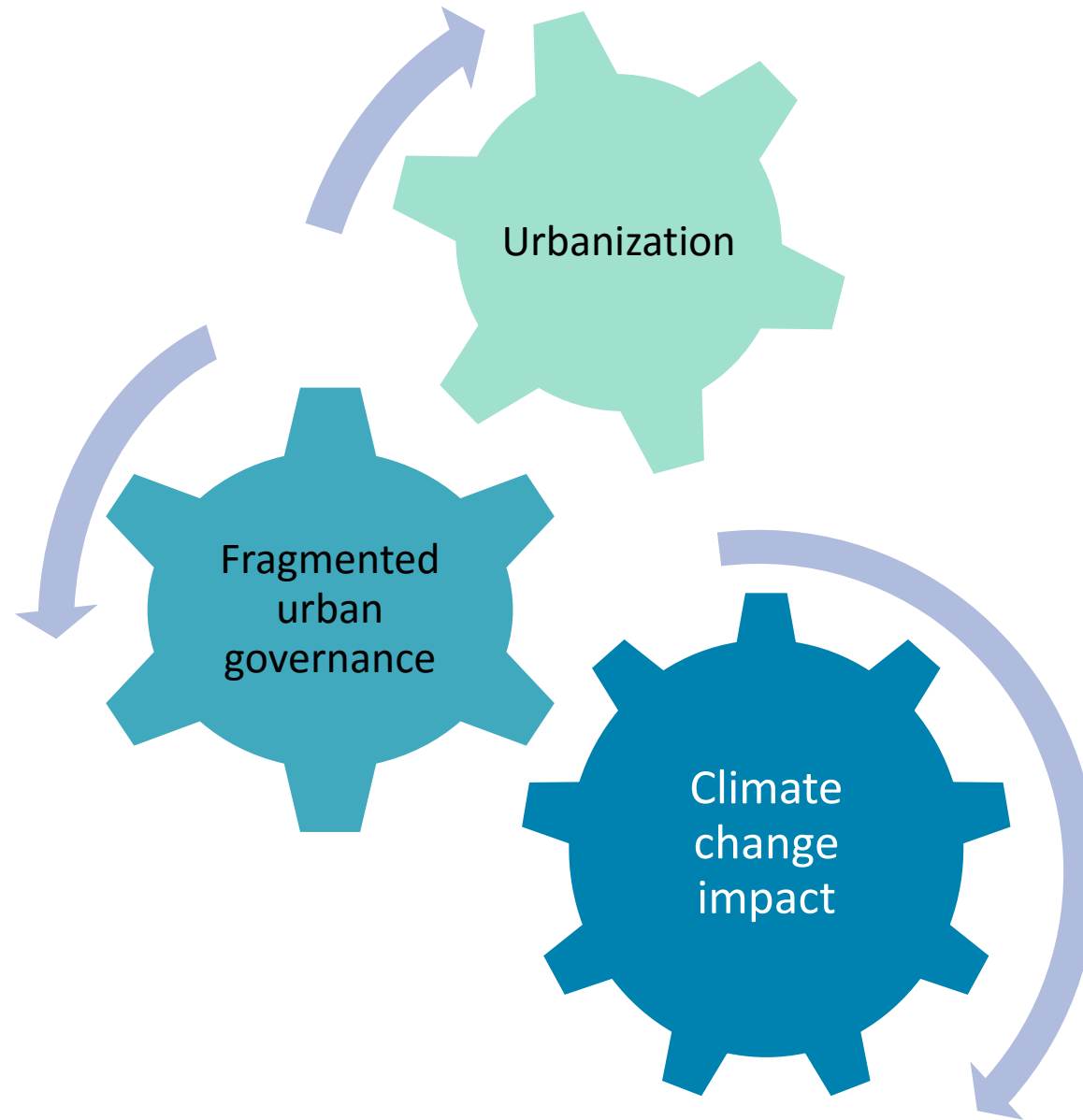
Contents

1. Three-fold challenge
2. International protocols and national commitments to climate change
3. Inclusive Green Economy: IGE
4. GELA capacity gaps and training needs
5. Design of training sessions
6. Key takeaways

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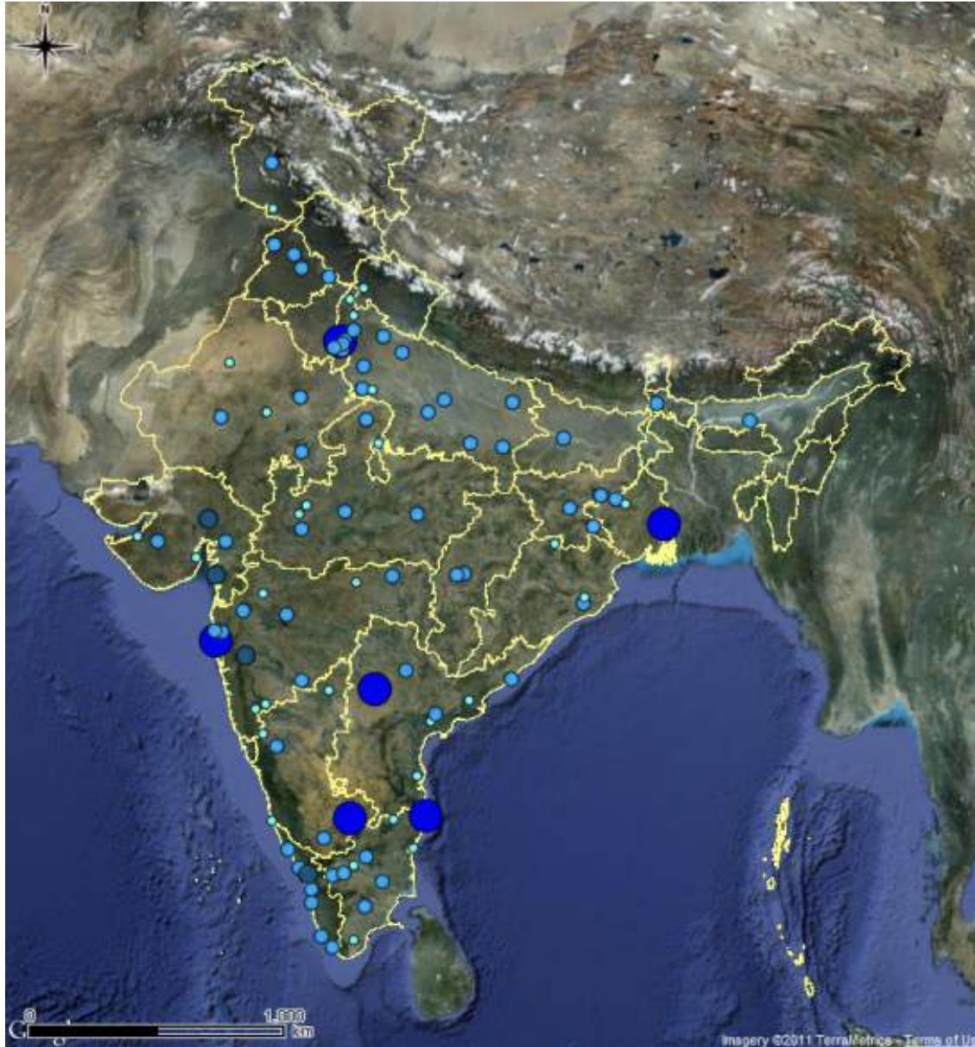
Three-fold challenge

Three fold challenge

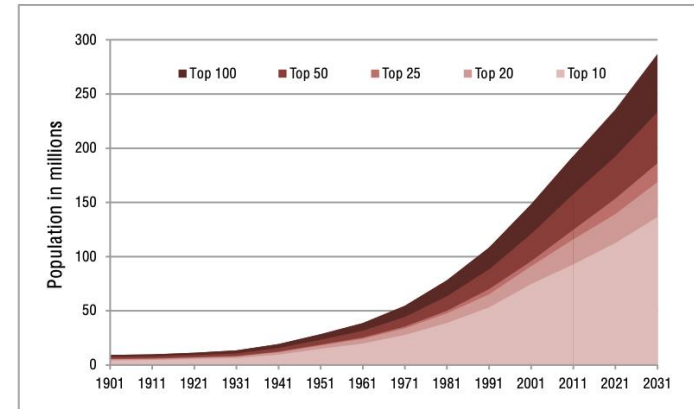


Urbanization

Urban India: 2031



By 2031, it is projected that there will be 6 cities with a population greater than 10 million. A key question is how many Indians would live in how many medium and small towns - the bridge between a transforming rural and urban India?



Cities Size Class by Population

- 0 - 0.1 million
- 0.1 - 1 million
- 1 - 5 million
- 5 - 10 million
- 10 - 30 million

Source: IIHS Analysis based on Census of India. (Satellite Map, Google Inc.)

Fragmented Urban Governance

1. Cities are governed by State governments
2. Economic growth and social development are not integrated with spatial development agendas
3. Development Authorities, not municipal corporations generally empowered to prepare statutory plans for cities
4. Statutory planning separated from infrastructure development
5. Capital investment for infrastructure projects are mainly driven by national, state government schemes
6. All sectoral infrastructure departments not nested within municipal corporations
7. Climate Action Plans prepared by State government cells not planning authority or municipal governments
8. Select municipal governments have disaster risk management cells
9. Urban planning separated from urban management
10. Urban finance and municipal finance separated from urban planning
11. Planning and governance not driven to achieve outcomes

Fragmented Urban Governance

Spatial development
(residential, commercial, office, industry, recreation, old city areas, heritage, public amenities and infrastructure)

+

Economic and social development
(manufacturing, services, agriculture, technology, informal sector)

+

Environment protection
(energy, forests, biodiversity, wetlands, watersheds, watercourses/ tanks/ lakes/ rivers, marine ecology...)

+

Finance
(fiscal and financial management capacity in municipal governments)

Statutory development plans

Infrastructure development projects

National and State government Schemes

State level policies/ programmes

Land use plans: reservation of land for public purpose

Laws, policies, land governance, land use regulation

Laws, policies, standards, day to day practices, national, state and municipal annual budgets, mechanisms and instruments

Climate Change Impact

Central and peninsular India

The region covers most of India's rainfed areas that contribute more than 40 per cent of the country's foodgrain production. Already ravaged by frequent floods and droughts, this region will be severely impacted by climate change, affecting the country's food security

POPULATION

Total **452 million**
Rural **69%** Urban **31%**



LAND USE

Net sown area **45.3%**
Forest **23.1%**

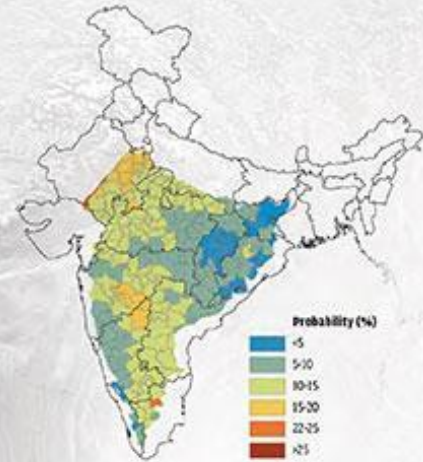
LIVELIHOODS

54% depend on agriculture
24.1% on service sector

CLIMATE CHANGE TRENDS

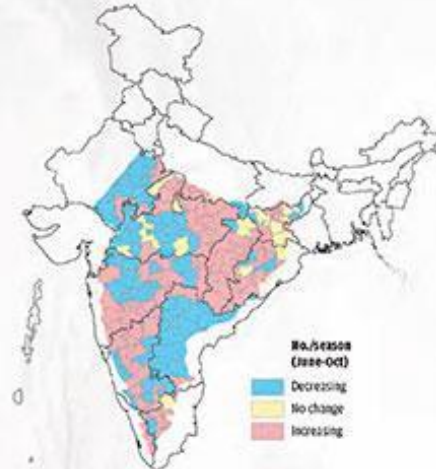
Drought

Parts of Tamil Nadu, Karnataka and Andhra Pradesh have the highest probability of drought in the region



Dry spells of ≥ 14 days (2021-50 over 1961-90)

Dry spells are increasing in most of Tamil Nadu, Karnataka, Maharashtra, Chhattisgarh and Madhya Pradesh



Climate change projections and impacts



Temperature:

- Six of the 11 states will witness a temperature rise of 1 C to 4 C. Maharashtra will record a 3.4 C increase by 2100
- Most states will have hotter summer and winter. The winter temperature in Jharkhand will rise to such an extent that the lowest minimum temperature in the 2080 will be higher than the highest minimum temperature in the 2020s



Rainfall:

- Tamil Nadu, Telangana, Maharashtra and Jharkhand will witness increase in rainfall. Summer rainfall will increase by the end of this century and the number of rainy days during summer will increase by up to 10 days by 2100 in Jharkhand
- The post-monsoon and pre-monsoon increase in rainfall is projected to be more than the increase in rainfall projected for the monsoon period for 2100
- Rayalaseema region of Andhra Pradesh, parts of Madhya Pradesh and Karnataka will witness less rainfall. In Andhra Pradesh, there will be drastic decrease in southwest rainfall over Anantapur and Kadapa districts
- Northern Karnataka, already witnessing less rainfall and higher temperature, will see the temperature trends accentuated

Impact and vulnerabilities:

- The number of days with 'high' or 'very high' rainfall (>25 mm/day) is projected to increase over Maharashtra, while the number of days with 'low' to 'moderate' rainfall is expected to reduce
- Fluctuating weather to affect agricultural yield in all the states
- For Karnataka, an increase in droughts is projected for 2021-50 for the two growing seasons. Most of the northern districts of Karnataka would have 10-80% increase in drought incidences

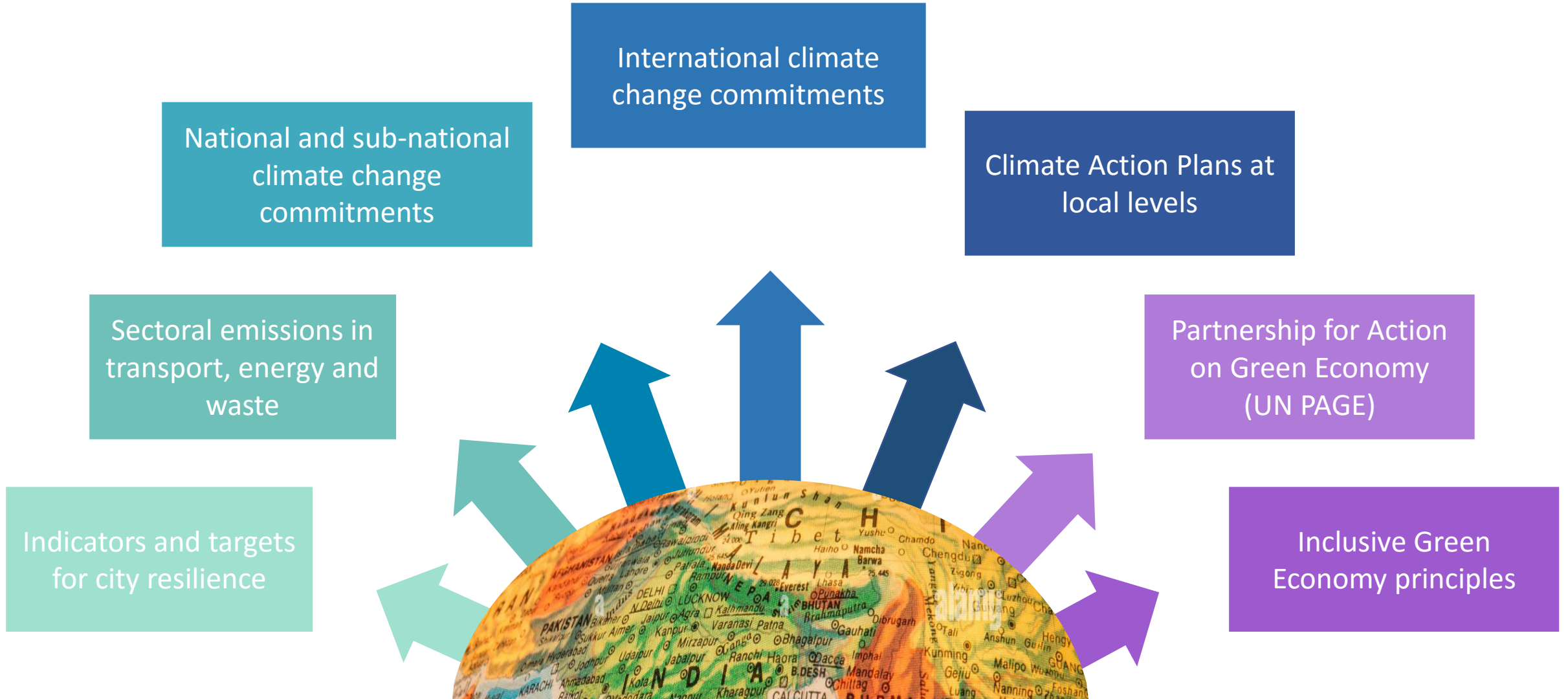
Western parts of Karnataka may face fewer droughts due to the projected increase in rainfall

2

Climate Change Commitments

(International and national protocols)

Climate Change Commitments



Sustainable Development Goals



National Government Schemes

Swachh Bharat (Urban)

1. Elimination of open defecation
2. Eradication of Manual Scavenging
3. Modern and Scientific Municipal Solid Waste Management
4. To effect behavioral change regarding healthy sanitation practices
5. Generate awareness about sanitation and its linkage with public health
6. Capacity Augmentation for ULBs to create an enabling environment for private sector participation in Capex (capital expenditure) and Opex (operation and maintenance)

Smart Cities Mission

1. Promote cities that provide core infrastructure, clean and sustainable environment, and give a decent quality of life to their citizens through the application of 'smart solutions'.
2. Drive economic growth and improve quality of life through comprehensive work on social, economic, physical, and institutional pillars of the city.
3. Sustainable and inclusive development by the creation of replicable models which act as lighthouses to other aspiring cities. 100 cities have been selected to be developed as Smart Cities through a two-stage competition.

AMRUT- Atal Mission for Rejuvenation and Urban Transformation

1. Ensure that every household has access to a tap with an assured supply of water and a sewerage connection.
2. Increase the amenity value of cities by developing greenery and well-maintained open spaces (e.g. parks)
3. Reduce pollution by switching to public transport or constructing facilities for non-motorized transport (e.g. walking and cycling).
4. The Priority zone of the Mission is water supply followed by sewerage.

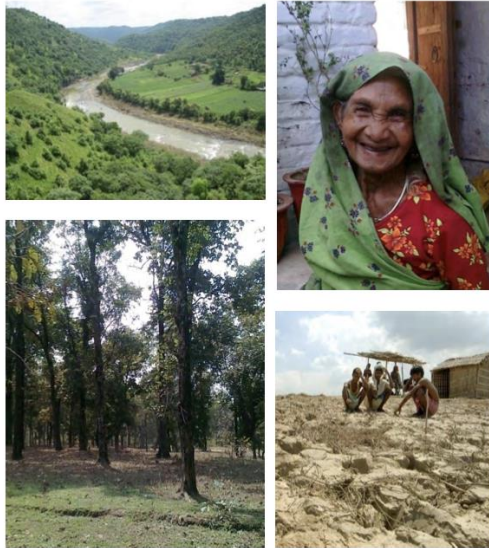
National Action Plan for Climate Change



District level Action Plan for Climate Change

MADHYA PRADESH STATE ACTION PLAN ON CLIMATE CHANGE

Integrating Concerns- Converging Possibilities



February 2012



UTTARAKHAND STATE ACTION PLAN FOR CLIMATE CHANGE AND HUMAN HEALTH



Housing and Environment Department
Government of Madhya Pradesh



Prepared by Climate Change Cell, EPCO



As part of GoMP-UNDP Project

National Health Mission
Directorate of Medical Health and Family Welfare Uttarakhand
Danda Lakhond, P.O. Gujrada, Sahastradhara Road, Dehradun

3

Partnership for Action on Green Economy (UN PAGE) and Inclusive Green Economy (IGE)

2



PAGE initiative in MP and Uttarakhand

Implemented by UNDP and UNITAR in partnership with two States- Madhya Pradesh and Uttarakhand

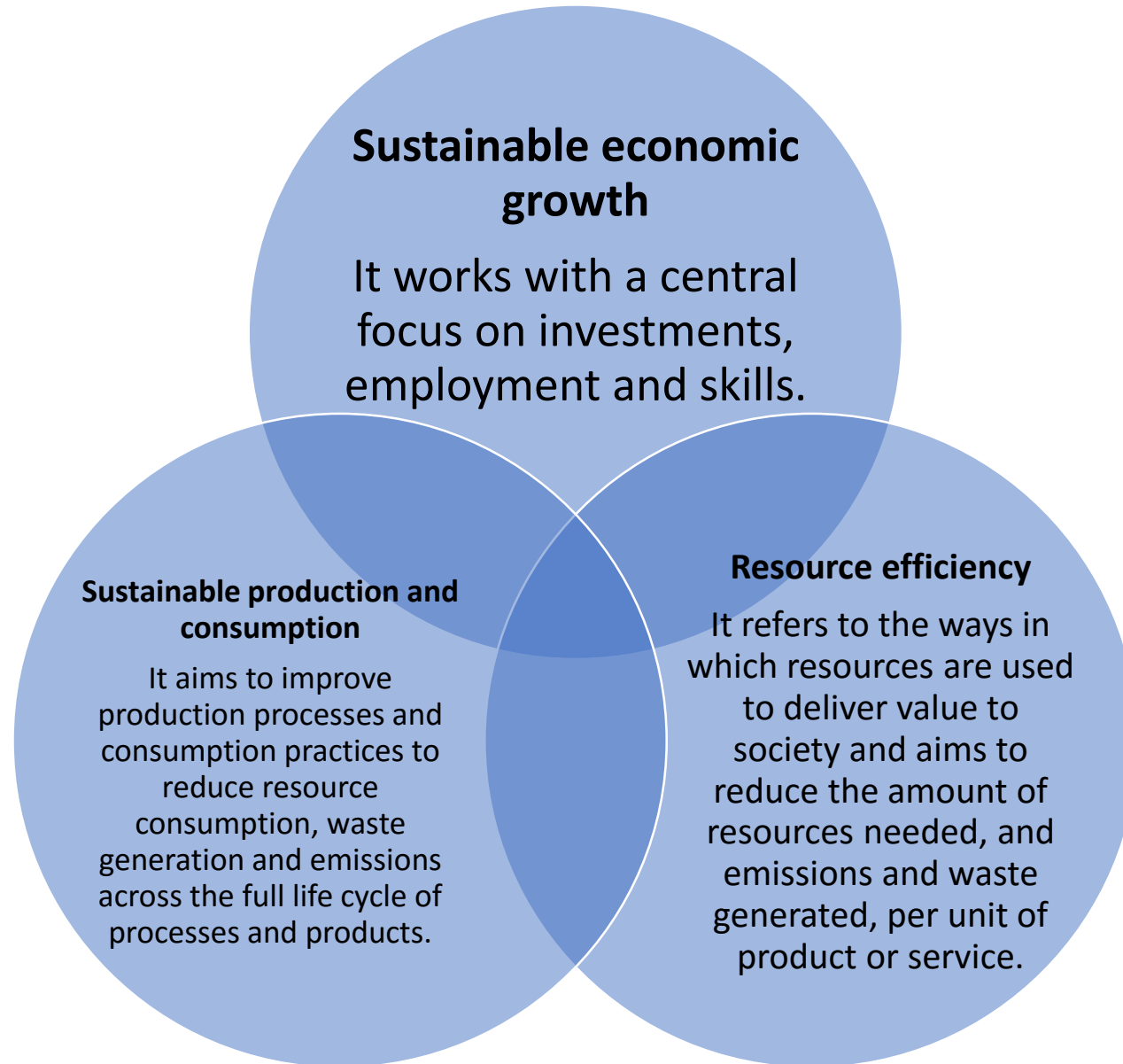
Objectives

- To create a **multi-stakeholder effort** to address India's priorities in Green Economy by strengthening the institutions and capacities at Urban Local Bodies and specific sectoral departments at the State level to mainstream Inclusive Green Economy (IGE) principles in process and policies at the State level.

Intended outcomes

- IGE goals and targets mainstreamed into SDG aligned national economic and development planning in urban areas
- IGE principles/ strategies piloted in select sectors in tier 2 cities in MP and Uttarakhand
- Training materials developed and a cadre of trainers developed to support the integration of IGE principles with national and sub-national priorities and localisation of select SDGs
- Knowledge partnerships facilitated at state and national level for fostering an inclusive green economy.
- An international Urban Green Economy Knowledge Sharing Platform established for replication of best practices.

Inclusive Green Economy



3

Green Learning Needs Assessment

Recommendations from GELA

•Awareness Creation

- Develop orientation and training materials to build awareness at all levels of stakeholders on IGE principles.
- Train a cadre of master trainers and trainers to provide these trainings.
- Provide IGE awareness training to different levels in a phased manner

•Competency building

- Develop training materials to build competencies at agenda-setting and organization levels to enable the adoption of IGE principles in planning, implementation and evaluation.
- Train a cadre of master trainers and trainers to provide these trainings.
- Provide competency training to agenda-setting and organization levels in a phased manner

•Technical skills trainings

- Review existing technical training materials developed under AMRUT 2.0 and Climate Centre for Cities, NIUA under Climate-Smart Cities initiative from the perspective of IGE principles.
- Revise such technical training materials appropriate to incorporate and integrate IGE principles.
- Train existing cadre of trainers on revised training materials.
- Provide IGE principles integrated technical trainings at organizational and operational levels in a phased manner.

•Training Effectiveness and Refresher

- After two years of training, an independent training effectiveness assessment should be conducted to determine the impact in terms of practices and tools adopted and implemented by the stakeholders to foster IGE.
- Thereafter a suite of continuing education should be developed and housed within the selected training institute for delivery.

•Training and Knowledge Management

- An IGE Working Group to be established at UADD with participation from EPCO and selected training institutes for developing, implementing and monitoring IGE training programmes in the state.
- Selected institutes should establish an IGE cell and nominate a coordinator to represent in IGE Working Group.
- A portal should be established to house all training materials, details of master trainers
- An annual IGE conference should be organized by IGE Working Group to enable sharing of experiences, best practices etc.

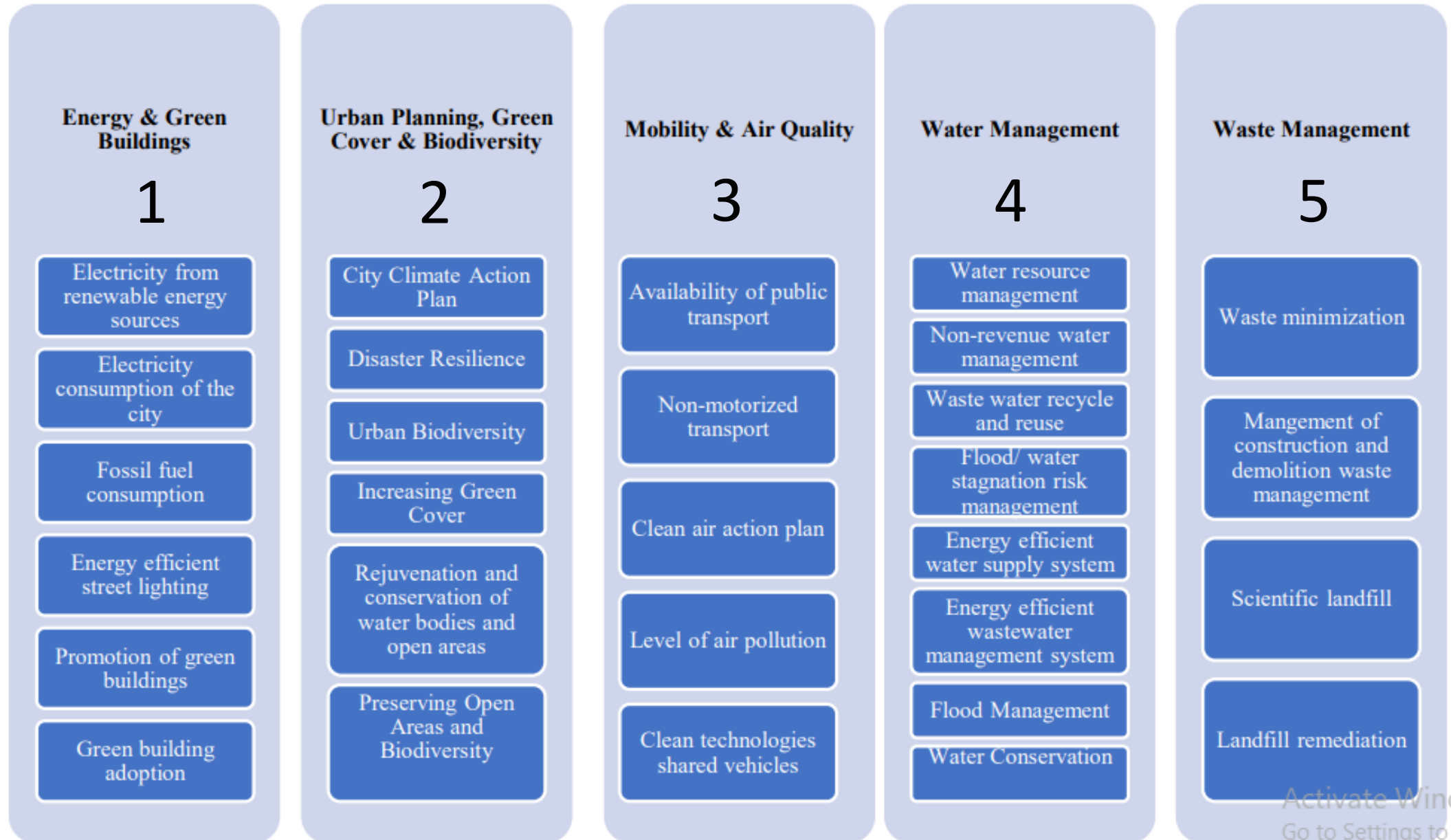
Programme priorities that could advance IGE

- Statutory Development Plans
- National Mission on Sustainable Habitat (NMSH) under the National Action Plan for Climate Change (NAPCC)
- Smart Cities Mission (SCM)
- Atal Mission on Rejuvenation and Urban Transformation (AMRUT) 2.0
- Climate Smart Cities

GELA Report: Key capacity gaps

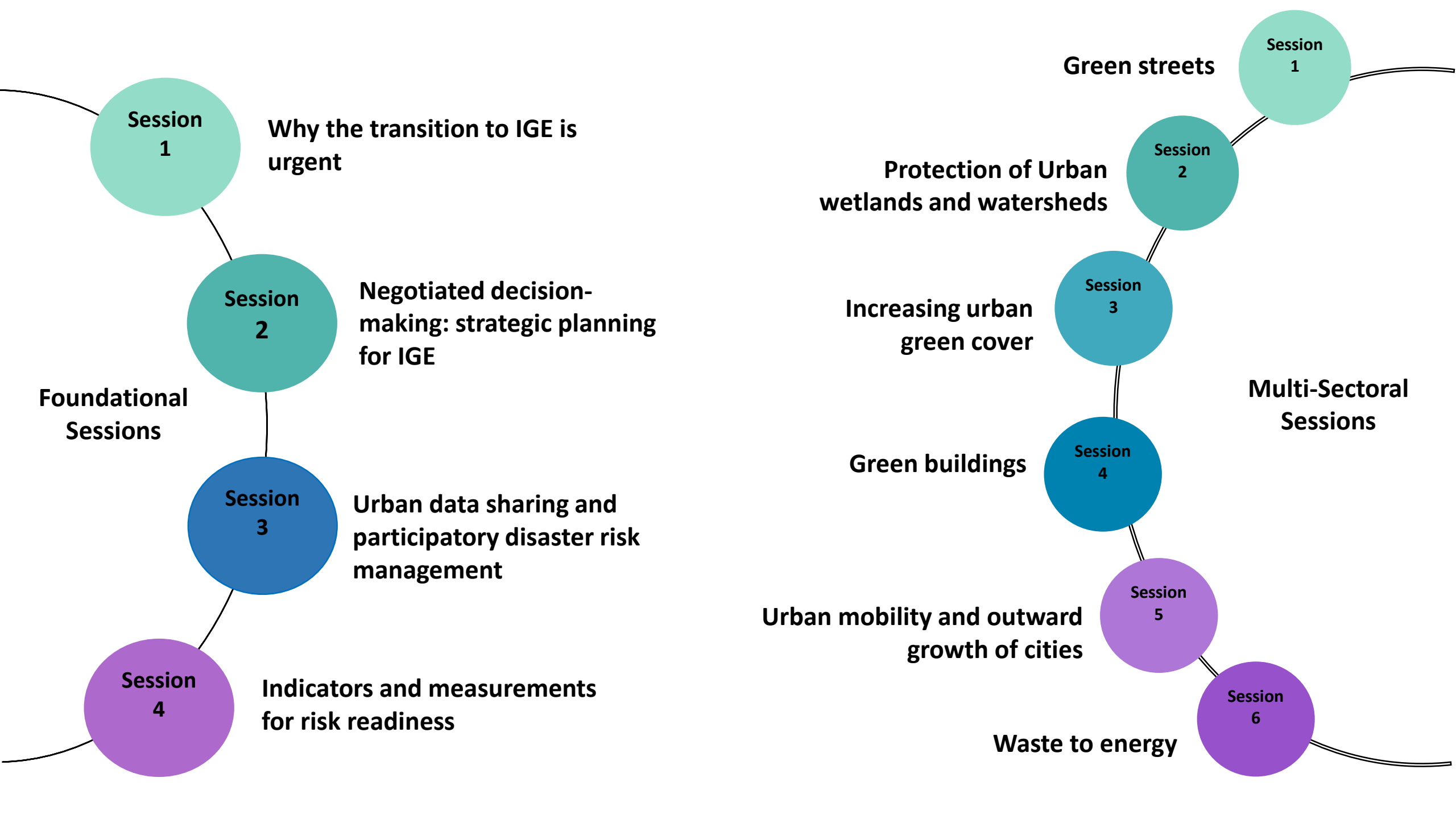
- No capacity building or orientation programs organized on IGE for elected representatives in the previous term
- Cities are implementing several interventions in priority areas of:
 - Energy
 - Green buildings
 - Urban planning
 - Green cover
 - Biodiversity
 - Mobility
 - Air quality
 - Water
 - Waste management
- Urban Local Bodies (ULBs) have limited technical and managerial staff
- Well-structured departments and sanctioned staff for water supply & sewage, health, sanitation, and solid waste management
- No urban planners, no managers/ coordinators for renewable energy, green buildings, urban biodiversity, mobility, pollution control, disaster management and community communications amongst other. No dedicated cells for the same.

Priority sectors



4

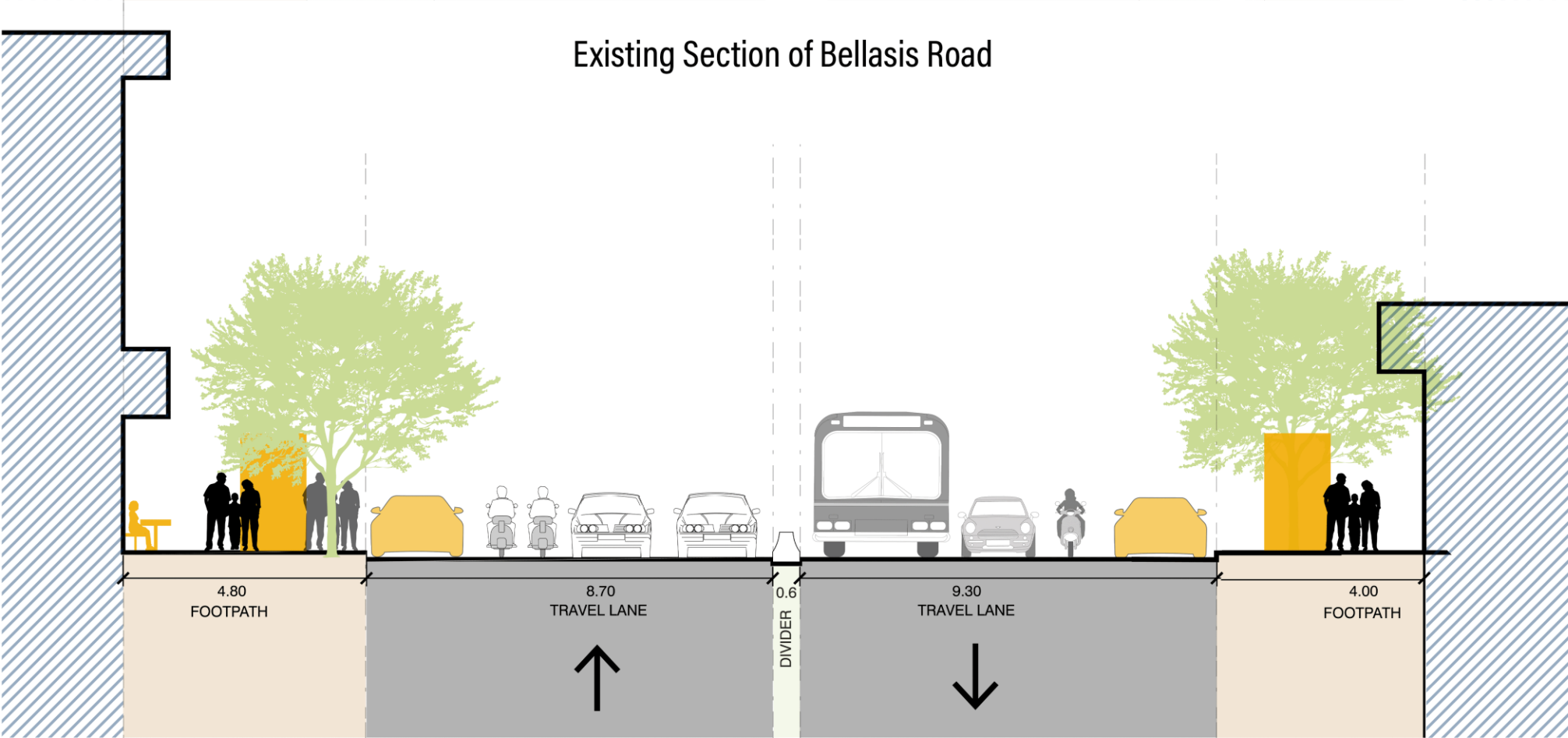
Overview of sessions



1. Urban planning, green cover and bio-diversity

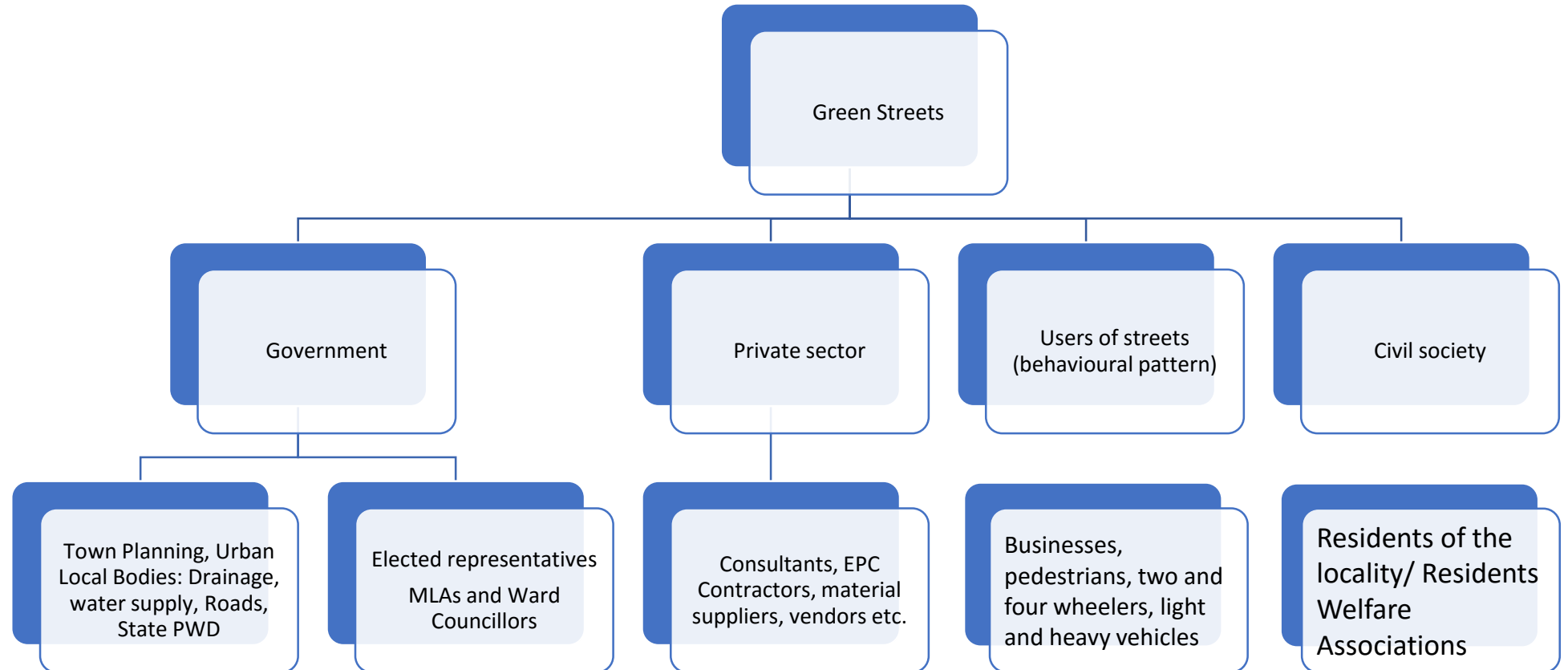
01

Green streets



Source: WRI India

Green Streets



Definitions

Green streets- A soft landscape developed envisaging a holistic approach to the entire stretch. A concept evolved so as to maintain visual characteristics and uniformity in terms of landscape along the stretch. In the absence of uniform land availability for the plantations, different schemes may be worked out in tune with the local variations in the design

Objective

To explore long-term urban design solutions to the problem of treating urban flooding

Mechanism and case study

Mechanism- design of green streets, sponge city concept

Case study- Indian roads Congress roads, Human-centric cities, nature accommodative design

Takeaway

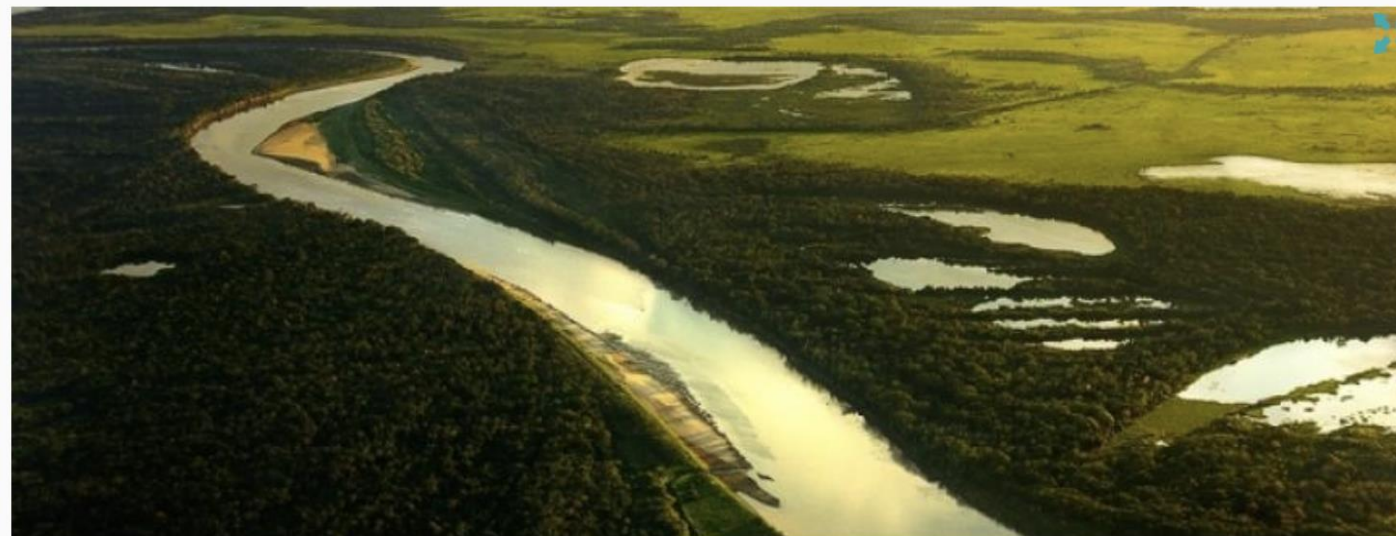
Practical Methodologies to implement green streets

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ABOUT

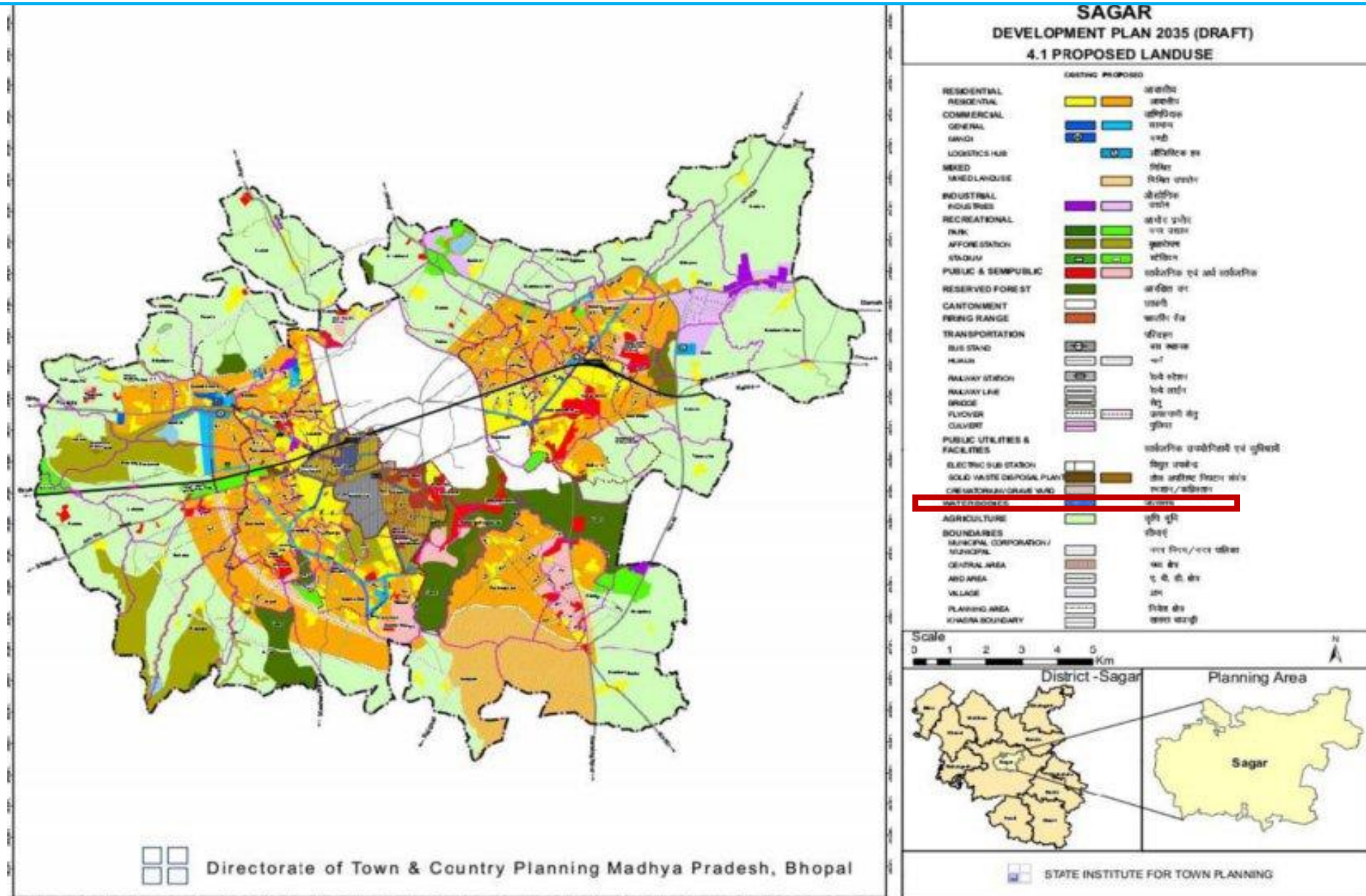
[The Convention and its mission](#)[The Wise Use of wetlands](#)[The importance of wetlands](#)[Wetlands of International
Importance \(Ramsar Sites\)](#)[International Cooperation](#)[History](#)[Bodies](#)[Partnerships](#)[Transparency](#)[Resource Mobilization](#)

THE CONVENTION ON WETLANDS AND ITS MISSION



The Convention's mission is "the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world".

Statutory Development Plans: Sagar





A dying city lake was restored, helps biodiversity and water supply in Bhopal



Share

MONGABAY
INDIA

https://youtu.be/exfNErJxD_0

A dying and historic lake was **restored**
in the city of Bhopal.

Pause (k)

SUBSCRIBE

Definitions

Wetlands - "wetland" means an area of marsh, fen, peatland or water; whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters, but does not include river channels, paddy fields, human-made water bodies/tanks specifically constructed for drinking water purposes and structures specifically constructed for aquaculture, salt production, recreation and irrigation purposes;

Objective

To explore viable, good practices for linking urban green blue networks with environmentally sensitive networks of the city and segregate / clean sanitation infrastructure

Mechanism and case study

Green Blue plans

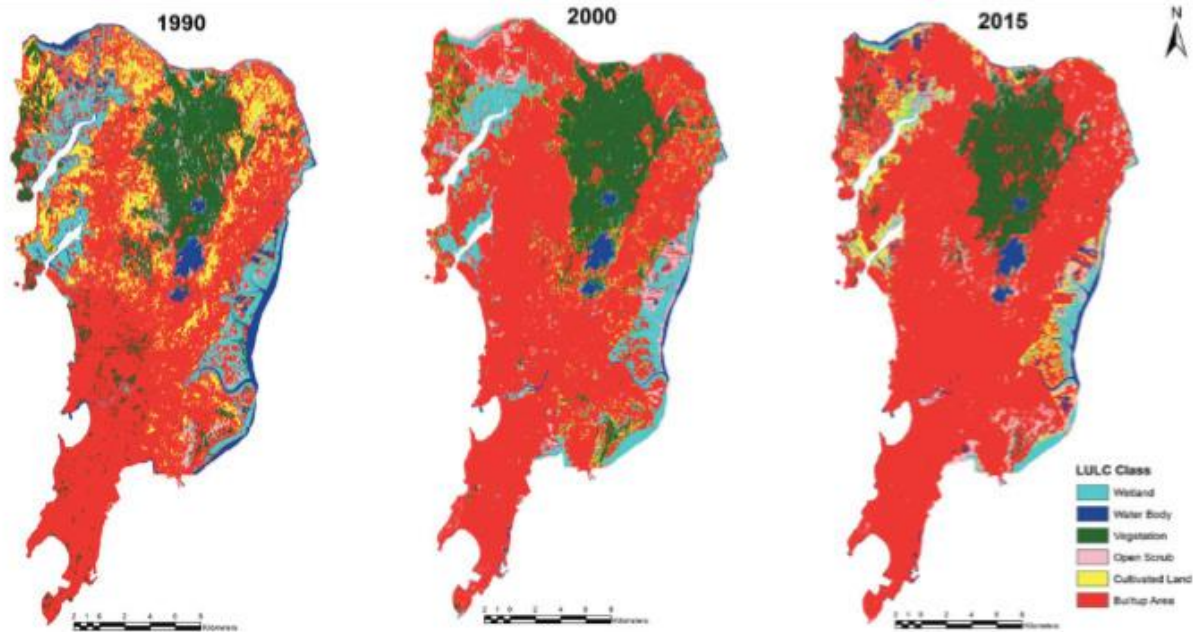
Community led protection of water courses and wetlands

Takeaway

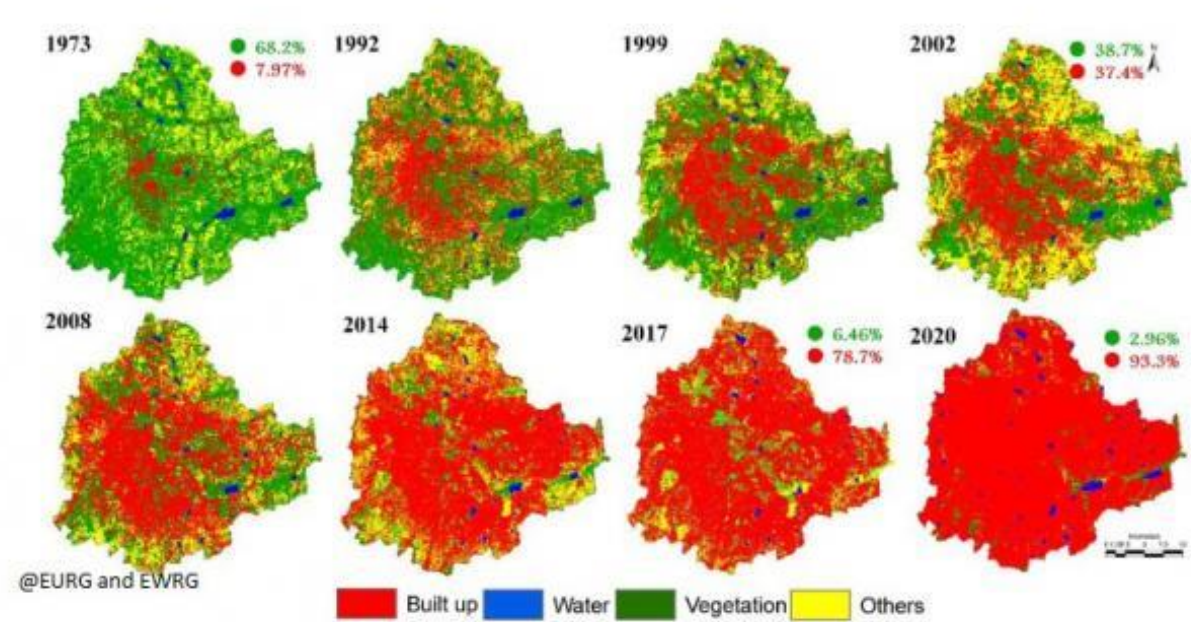
Practical processes to implement Green Blue networks in cities

03

Increasing urban green cover



Greater Mumbai



Bengaluru

The depletion of green cover and the problem of increased urban heat islands

Increase in urban atmospheric temperature

EDITION IN ▾ BENGALURU 25°C

THE TIMES OF INDIA

City **Dehradun** Mumbai Delhi Bengaluru Hyderabad Kolkata Chennai Agra Agartala Ahmedabad Ajmer All

WEATHER **UTTARAKHAD ELECTIONS**

NEWS / CITY NEWS / DEHRADUN NEWS / Concretisation To Be Blamed For Dehradun's Rising Temperature

TRENDING TOPICS Rs 2000 Note : Kolkata banks keep counters ready to exchange rs 200 notes < >

THIS STORY IS FROM JULY 15, 2019

Concretisation to be blamed for Dehradun's rising temperature

TNN / Jul 15, 2019, 04:20 IST

Bhopal's green cover has shrunk by 44% in just two decades

🏠 » India » All India » 19 Jul 2019 » MP: Bhopal turning into heat chamber due to loss of trees

India, All India

MP: Bhopal turning into heat chamber due to loss of trees

Loss of greenery combined with expanding concrete jungle has resulted in the sharp increase in urban temperature in the city of lakes.



Bhopal's green cover has shrunk by 44 per cent in just two decades.

Definitions

Heat island - A heat island is an area where the land temperature is higher than that of its surrounding built up areas.

Objective

To explore long-term urban planning solutions to the problem of heat islands by increasing green cover and bio-diversity in cities, in parks, playgrounds, on streets, public spaces and private lands

Mechanism and case study

Planning standards for open spaces, playgrounds
Street standards for cities in India and accommodating space for green cover, bio-diversity in public spaces
Development control regulations in statutory master plans to regulate and enforce natural ground area on each built up- parcel of land.

Takeaway

Practical Methodologies to increase green cover in cities

2. Green Buildings

04

Green buildings



Green Building Rating System

**For New Construction &
Major Renovations**

February 2011



National norms and standards

Government of India notified the following norms:

- 1986: Environment Protection Act
- 2001: Energy Conservation Act
- **2005: National Building Code of India with inclusion on chapter on sustainability**
- Green building rating systems
 - Indian Green Building Council
 - **Green Rating for Integrated Habitat Assessment (GRIHA) Council**
- 2007: Energy Conservation Code (ECBC for Commercial)
- 2008: National Action Plan on Climate Change
- 2018: Eco Niwas Samhita (ECBC for Residential) in 2018 in order to encourage the construction and use of green and energy efficient buildings
- **2021: Climate Smart Cities Assessment Framework 2.0 (CSCAF)**
- Key stakeholders in Green Building Industry
 - CII-IGBC (Indian Green Building Council)
 - TERI-GRIHA (Green Rating for Integrated Habitat Assessment)
 - USGBC-LEED (Leadership in Energy and Environmental Design)
 - IFC EDGE (Excellence in Design for Greater Efficiencies)
 - Assocham-GEM: (Green and Eco-friendly Movement)

Definitions

Green buildings- They refer to a structure and the application of processes that are environmentally responsible and resource-efficient throughout a building's life-cycle: from planning to design, construction, operation, maintenance, renovation, and demolition.

Objective

To steer a shift in mindset from solely engineering driven solutions of urban systems to a nature-centric thinking

Mechanism and case study

Mechanism- For NBS- Increase in natural ground area, increase in permeable surface, and filtered surface run-off, reducing heat island effect at local levels, reducing GHG emission of buildings

Case study- Green buildings rating system

Takeaway

Exposure to instruments for design of green buildings, indicators for measuring outcomes

4. Flood disaster management

Flood disaster management

CLIMATE CHANGE

How climate change has increased flood events in India

Rise in temperatures would increase flood events in frequency during end of century (2071-2100), says a climate report



NEXT NEWS >

By DTE Staff
Published: Tuesday 16 July 2019



shows how hunter-... ed into southern...



a floods in 2018. Photo: Rejimon Kuttappan

Home / India News / 868 people killed in floods in 11 states: Govt

868 people killed in floods in 11 states: Govt

Hindustan Times, New Delhi | By Jayashree Nandi

Aug 17, 2020 06:31 AM IST

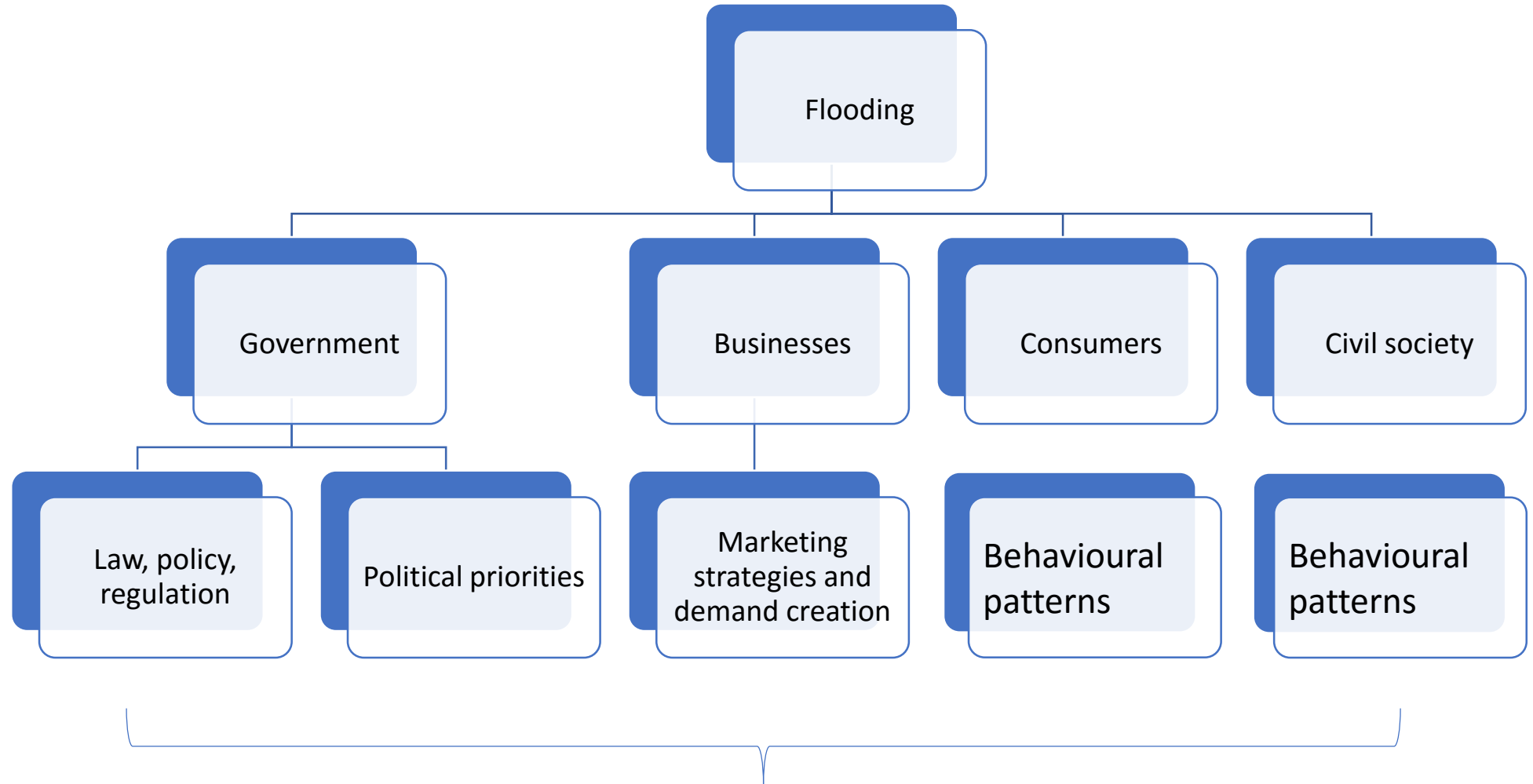


According to IMD's Sunday bulletin, parts of Chhattisgarh, Odisha, Konkan and Goa recorded very heavy to extremely heavy rains on Saturday and Sunday morning.



Flooded streets and submerged houses after heavy rainfall, in Warangal district on Sunday.(PTI)

Frequent flooding: ownership from multiple actors



Collating information about disaster affected areas



Source: Yaguchi Lab, Waseda University, Tokyo

Discussions on evacuation plans versus locally suited practical routes

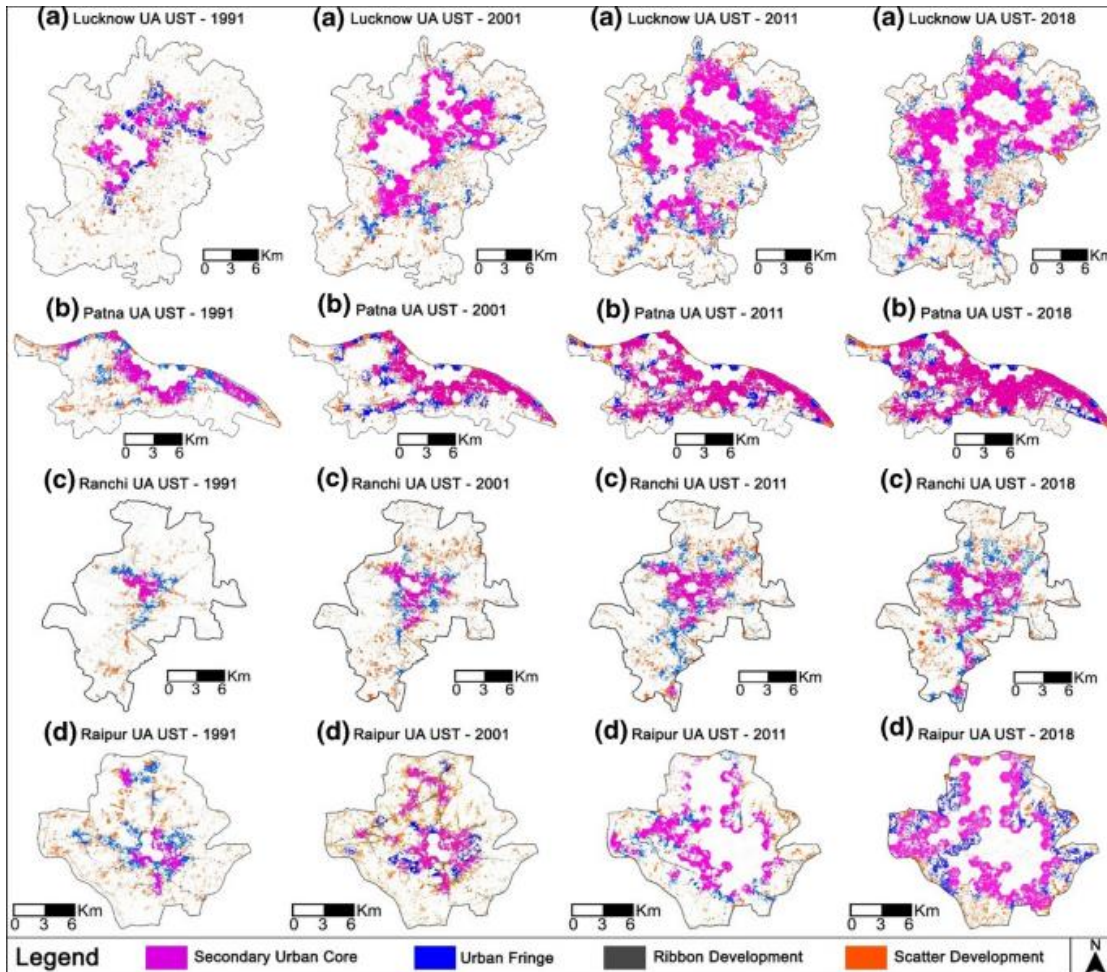


Dr. Champaka Rajagopal
Source: Yaguchi Lab, Waseda University, Tokyo

3. Mobility and Urban Sprawl

Urban sprawl, integrated land use and public transit

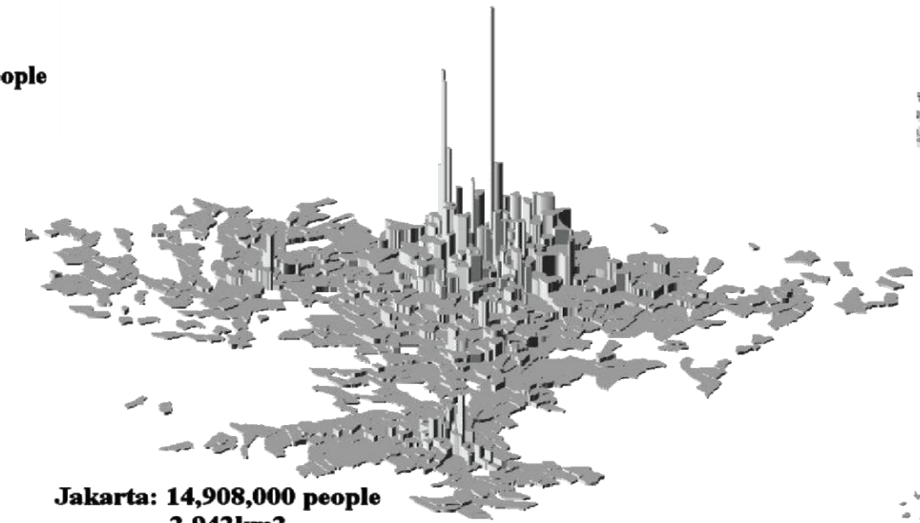
Lucknow, Patna, Ranchi and Raipur



**Shanghai: 7,397,000 people
244 km²**



**Bangalore 6.16 millions
people 532 km²**

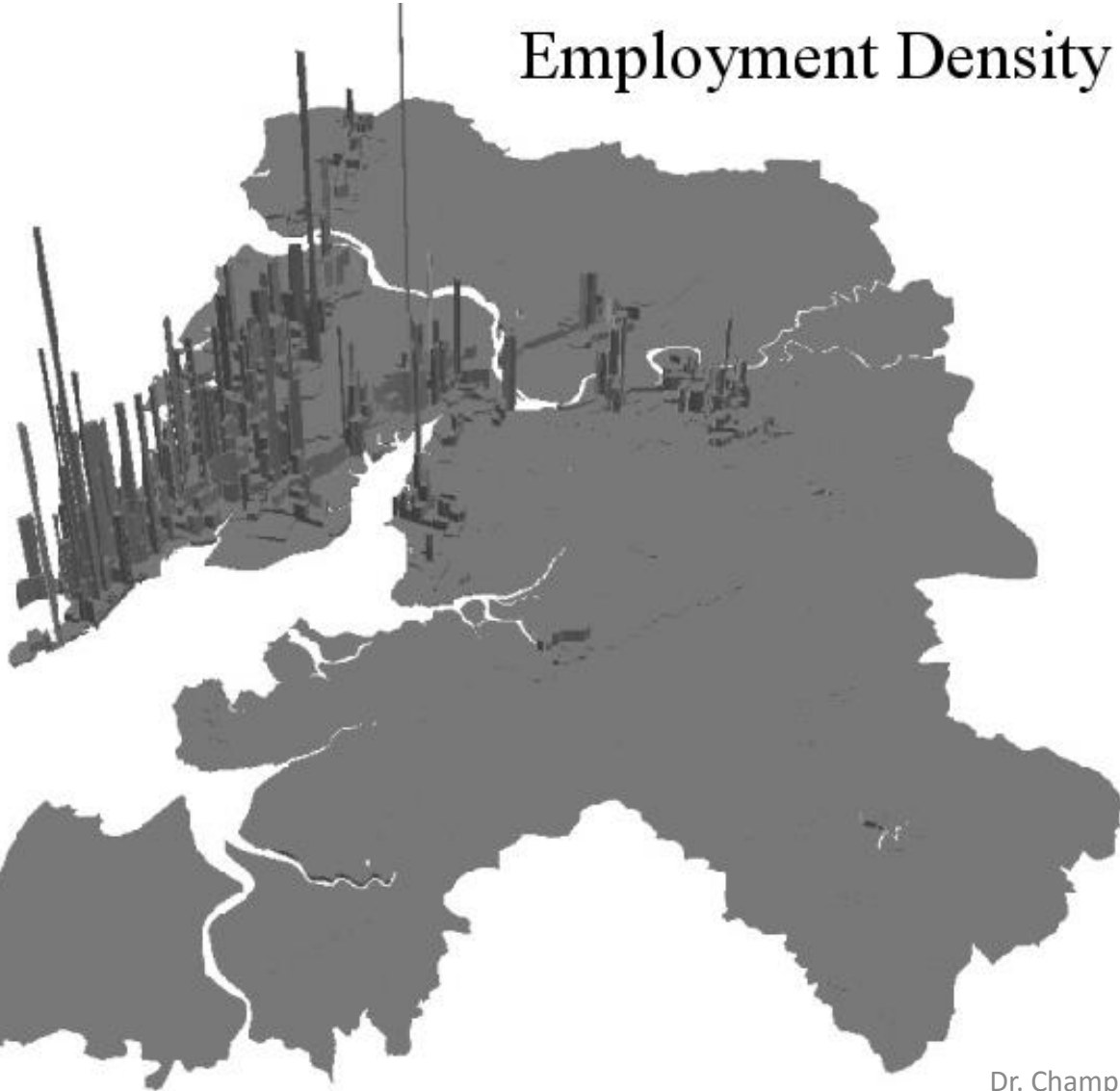


**Jakarta: 14,908,000 people
2,942 km²**

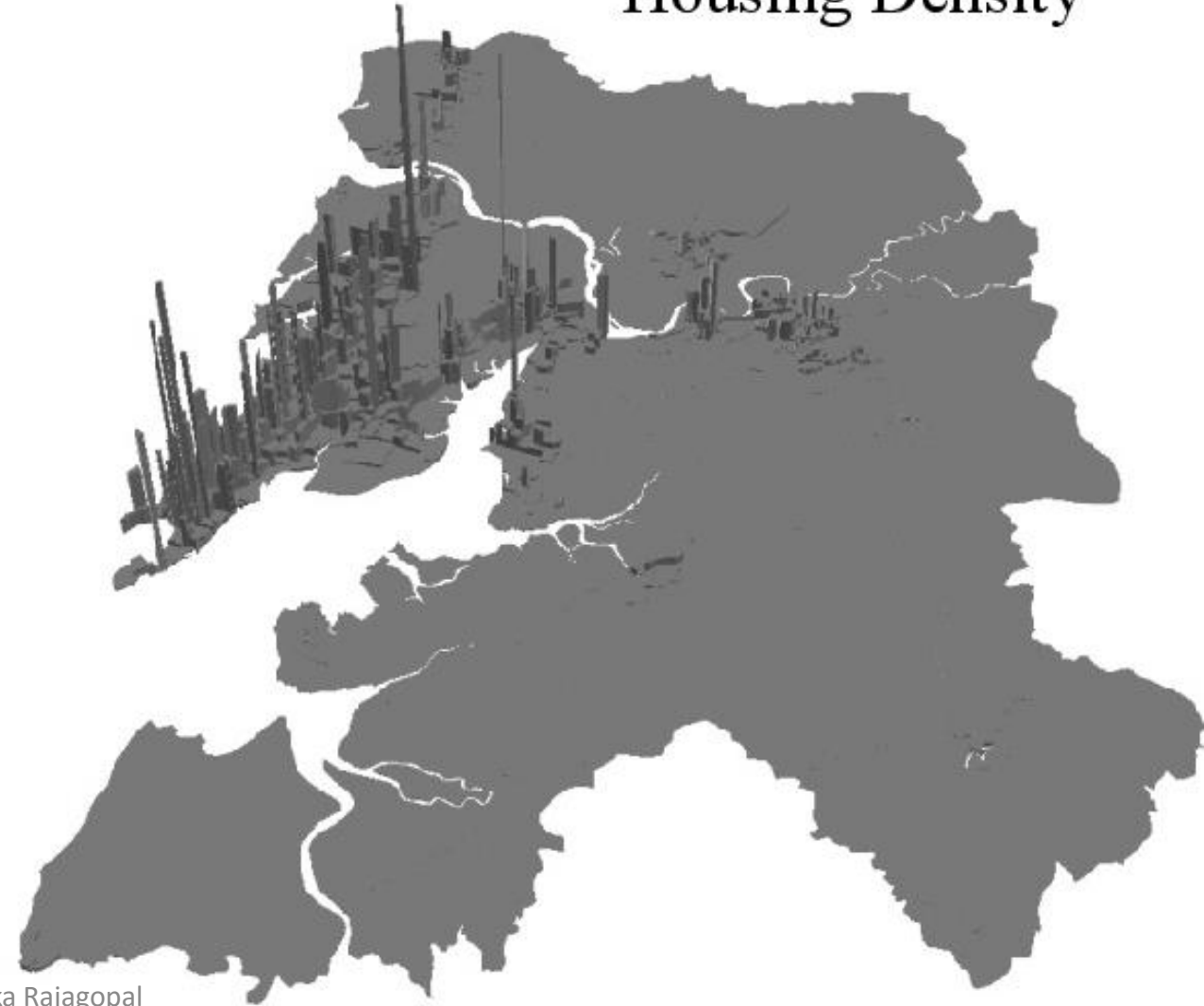
Source: RMP 2015, Bangalore

Integration of land use and mass transit

Employment Density



Housing Density



Definitions

Urban sprawl- rapid and exasperated outward growth of cities driven by automobile (car-driven)

Objective

To sensitize participants to the debate and strategies to deal with unplanned outward growth

Mechanism
and case
study

Mechanism- Master plans

Case Study- Mumbai, Bengaluru

Takeaway

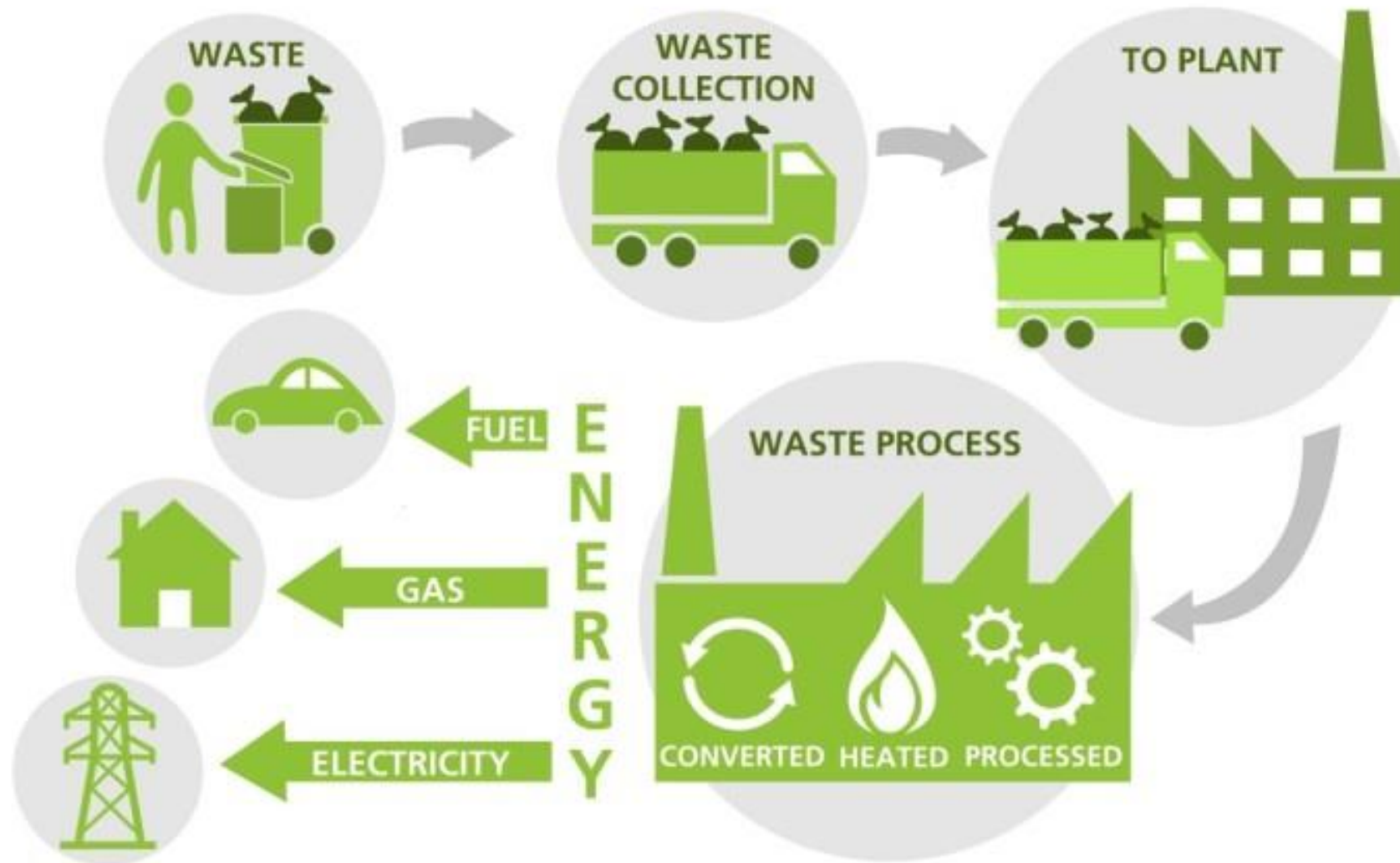
To understand the problem of urban sprawl as a factor of people's aspirations to own property and automobiles in a peri-urban area of cities

To explore transit-oriented development as a means to promote increased ridership in public transport and reduce automobile-driven GHG emissions.

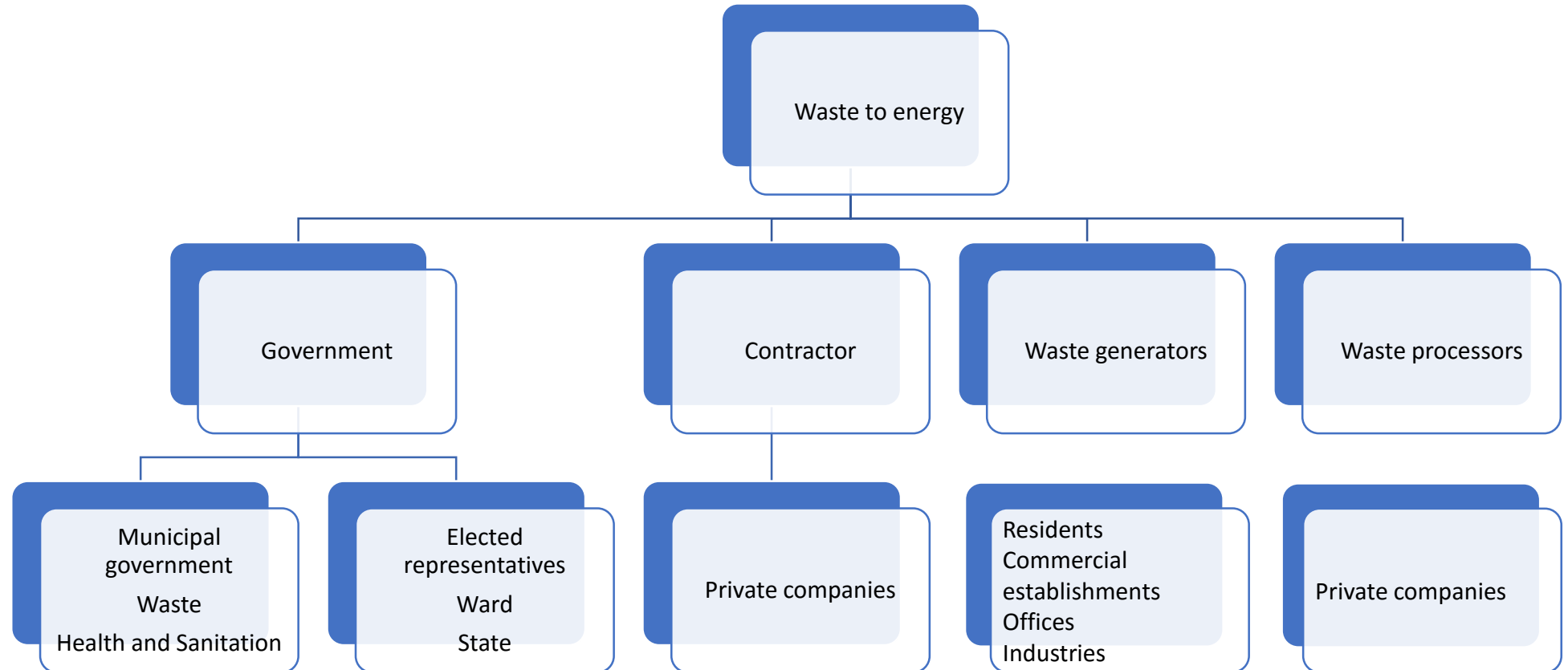
5. Waste management

07

Waste to energy



Waste to energy



Definitions

Waste to energy - Wastes can be transformed into clean and efficient energy and fuel by a variety of technologies, ranging from conventional combustion process to state-of-the-art plasma gasification technology. Besides recovery of energy, such technologies leads to substantial reduction in the overall waste quantities requiring final disposal.

Objective

Discuss among cities, strategies that have worked and not worked for enabling waste to energy

Mechanism and case study

Waste to energy plants
Governance of the waste process cycle
Panaji, Goa
Gangtok, Sikkim
Indore, MP

Takeaway

Discussions on practical methodologies to implement waste to energy

FOUNDATIONAL SESSIONS

Finance

Data

Monitoring outcomes

01

Where we are and why the transition to IGE is urgent

Definitions

An [Inclusive Green Economy \(IGE\)](#) is a tool for delivering sustainable development and a response to three sets of challenges facing humanity: persistent poverty, inequitable sharing of the growing prosperity, and overstepped planetary boundaries.

Objective

Identify IGE concepts and principles and recognize cross sectoral synergies in relation to municipalities.

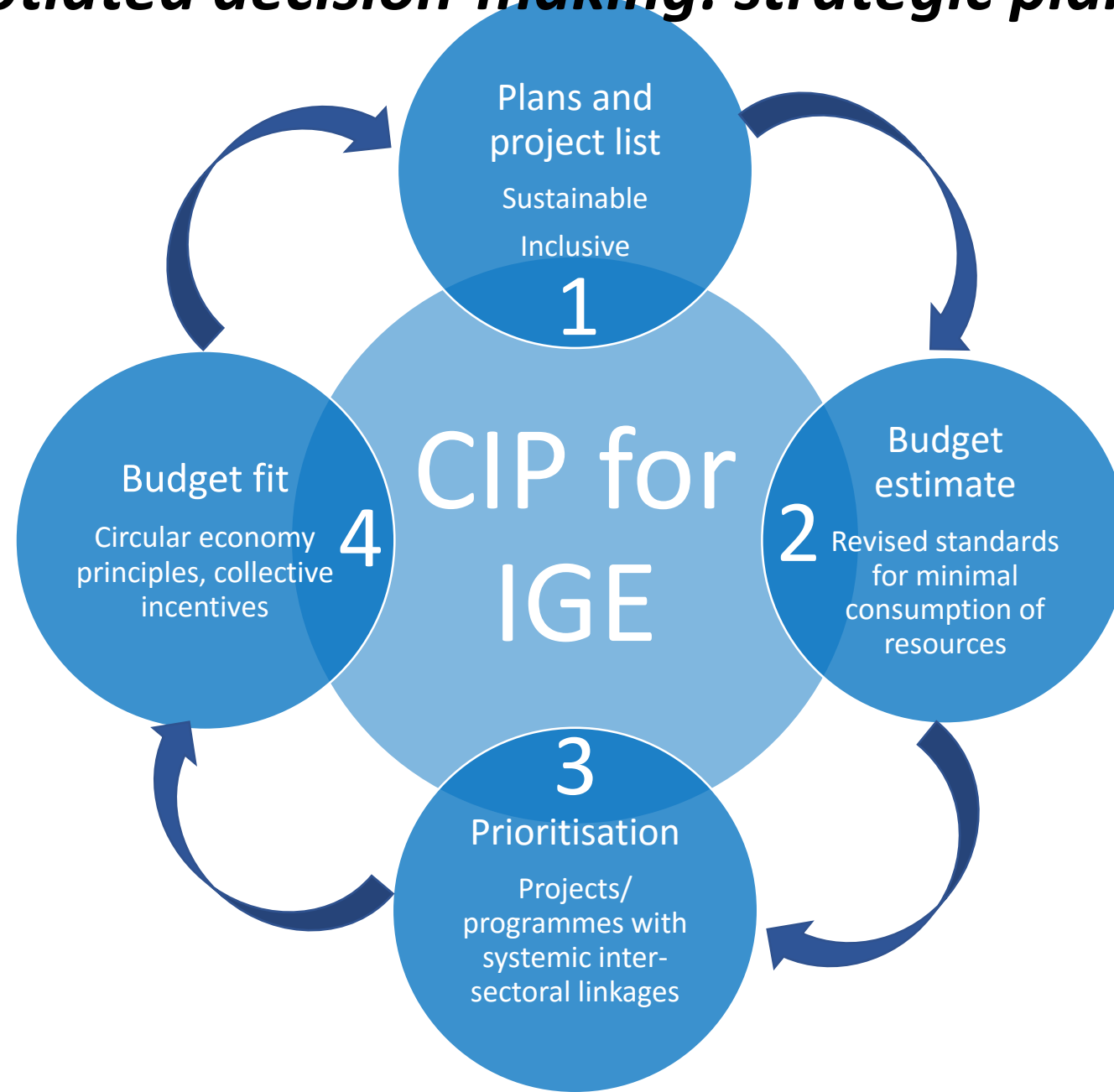
Mechanism and case study

Multiple mechanisms discussed in the training module

Takeaway

Imperatives for sustainable development

Negotiated decision-making: strategic planning for IGE



Definitions

Strategic planning- It is the interaction between government officials and elected representatives to make decisions in allocating limited resources and deploy locally workable mechanisms for sustainable development

CIP- Capital Investment Planning is a long-term strategy to manage financial abilities and manage investment needs associated with spatial development

Objective

To expose participants to one mechanism which provides procedures and protocols for negotiated decisions between elected reps, public admins, and civil society

Mechanism and case study

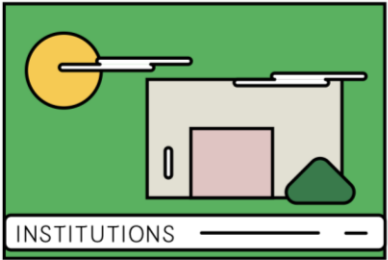
Mechanism- Strategic planning, prioritization and budgeting
Case Study- CIP

Takeaway

Takeaway- exposure to a mechanisms which permit integration of statutory plans, infrastructure projects, municipal budgets, political and administrative priorities

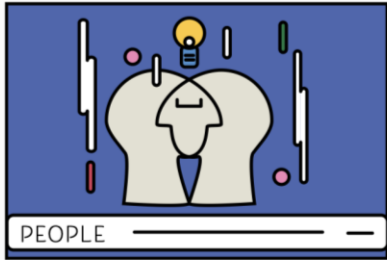
03

Urban data sharing and participatory decision making for disaster risk preparedness



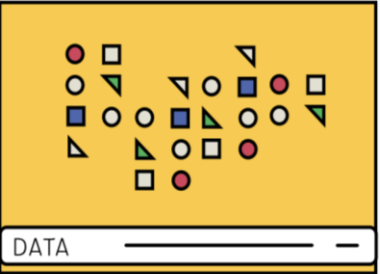
INSTITUTIONS

**INSTITUTIONAL ARRANGEMENTS
CAPACITY ASSESSMENT**



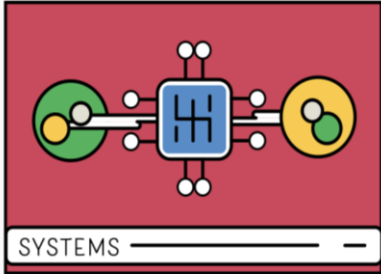
PEOPLE

PEOPLE CAPACITY ASSESSMENT



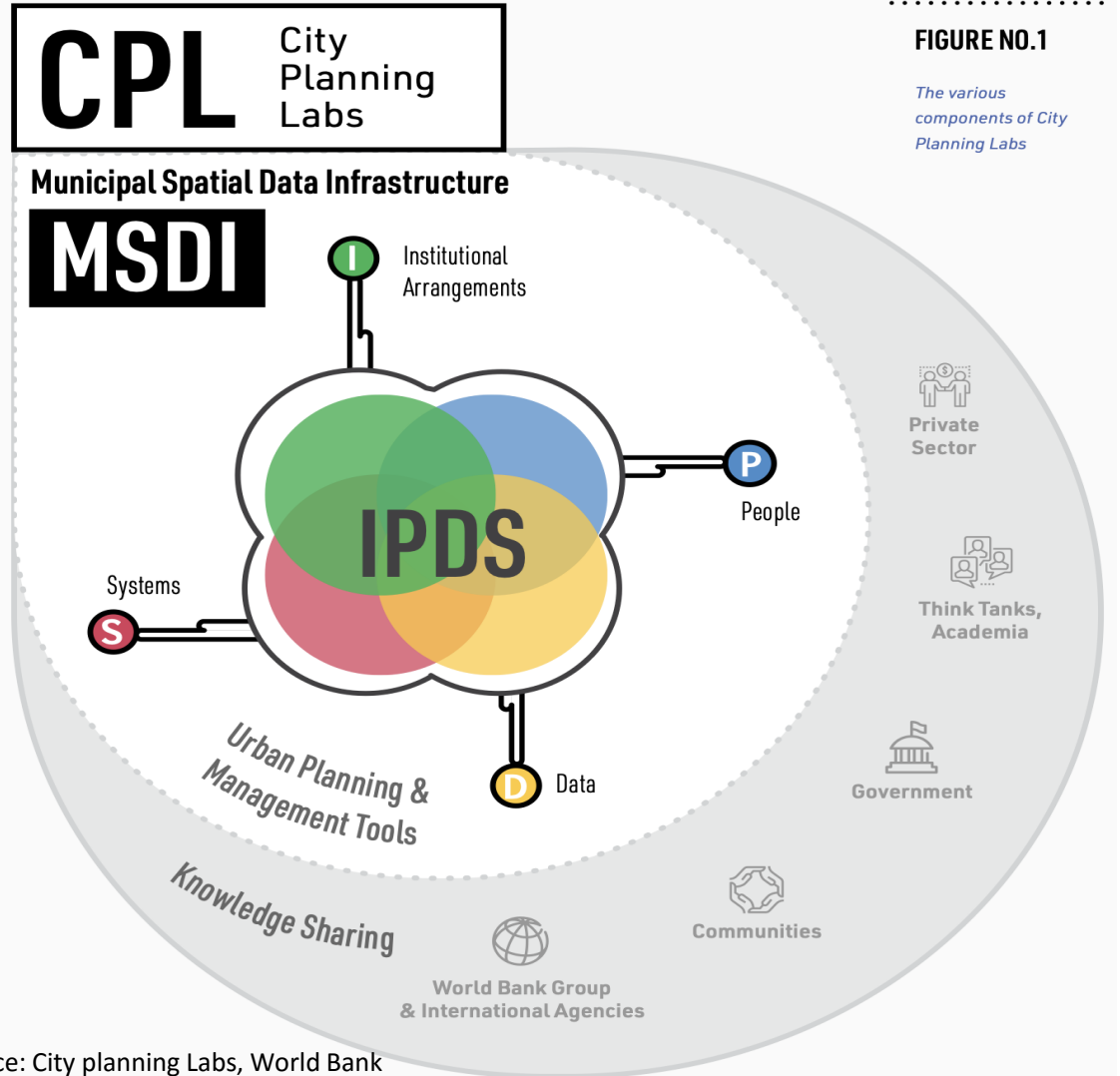
DATA

DATA CAPACITY ASSESSMENT



SYSTEMS

SYSTEM CAPACITY ASSESSMENT



Source: City planning Labs, World Bank

Definitions

What is urban data governance- It is the use of geospatial information by municipal governments that allows for accurate, targeted, and evidence-based decision-making, thereby enhancing public sector cost savings. It also paves the way for boosting socio-economic development in cities by connecting people with jobs and services.

Institutional arrangement- rules, regulations, protocols

People- Human resource and technical capacity, ability to build good relations forged through laws, policies, and protocols that are developed

Data- data standards (universal formats)

Systems- a data warehouse to collect, store, and share data

Objective

To provide a framework for data sharing for climate change-related problems which require cross-sectoral solutions

Mechanism and case study

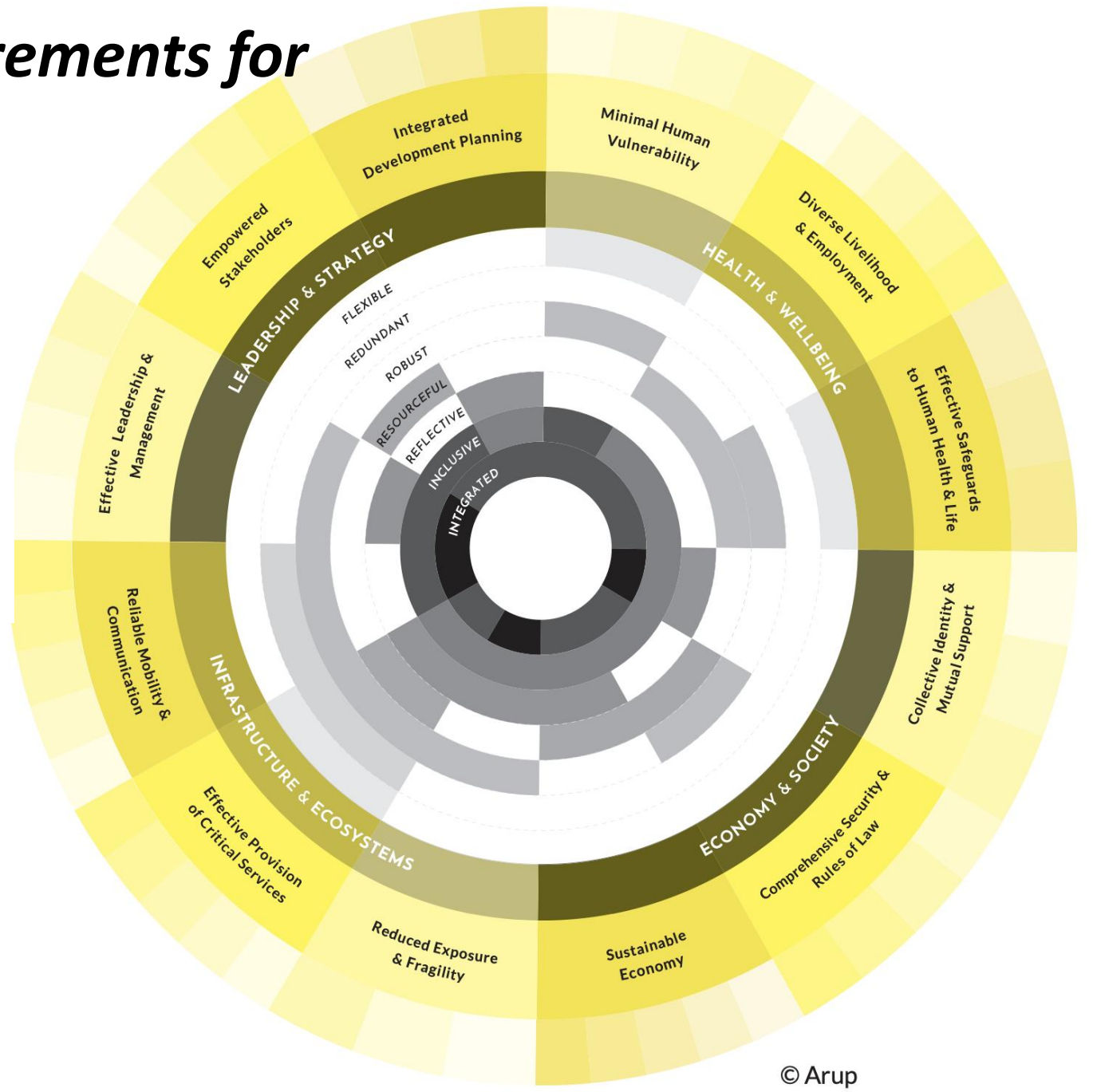
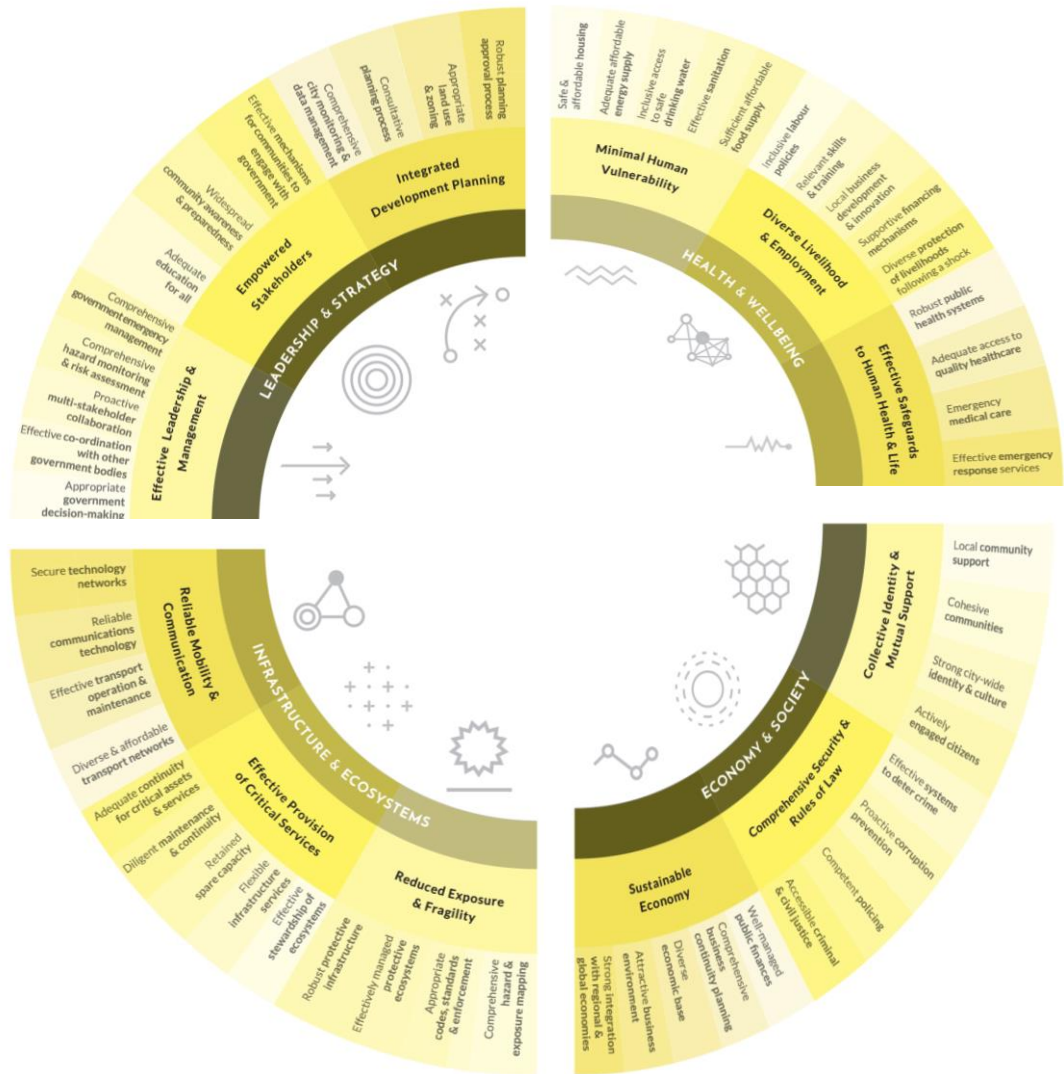
Mechanism- Strengthen the capacity of local governments to use geospatial data to undertake data-driven planning and urban management for sustainable development

Case Study- Urban data governance framework for small and medium cities in India

Takeaway

Exposure to multiple entry points for urban data governance

Indicators and Measurements for Risk Readiness



Definitions

Resilient cities which are reflective of ever-increasing uncertainties, and flexible to change. Resilient systems must promote integration and alignment between city systems for decision making. Resilient cities include robust systems of well-conceived, constructed and managed physical assets. They are resourceful in providing people and institutions different ways to achieve their goals and include the need for broad consultation and engagement of communities.

Objective

To expose participants to multiple frameworks which provide indicators for building risk, resilient cities

Mechanism and case study

Mechanism- Nationally Determined Contribution, Global Protocol for Community-Scale Greenhouse Gas Emission Inventories: Accounting and reporting standards (GPC Framework), GHG Emissions indicators, ARUP Resilient cities indicators

Takeaway

To commence developing a system of cross-sectorally driven indicators for risk ready, resilient cities

Take aways for action

Identify IGE concepts and principles and recognize cross sectoral synergies in relation to municipalities,

Identify the diverse stakeholders and strengthen collaboration on priority public problems

Illustrate problem solving through innovations in cross sectoral law, policy and procedural interventions

Identify entry points for action to integrate IGE principles at various levels of municipal governance

Explain how capital investment planning for can be used to leverage effective collaboration with elected representatives and facilitate fiscal/ financial management

Identify uncertainties and risks related to multi-stakeholder collaboration