RECONCEPTUALISING SMART CITIES: A REFERENCE FRAMEWORK FOR INDIA

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MDGs and SDGs

Millennium Development Goals
- Established in 2000
- Target 2015

Sustainable Development Goals
- Rio+20 Conference outcome
- Post 2015 development agenda
- Built upon MDGs
SDG Principles

Sustainable Development Goals

- WELL-BEING
- EQUITY
- EFFICIENCY
- FORESIGHT
Guiding Principles

Sustainable Smart Cities: Guiding Principles

1. Well-being
   - Overall sector performance
   - Access and coverage
   - Citizen’s perception

2. Equity
   - Access and coverage of poor and marginalised
   - Participatory

3. Efficiency
   - Reliability
   - User-friendly
   - Quality
   - Resource optimisation
     - Human
     - Energy
     - Finance
     - Time

4. Foresight
   - Robustness
   - Capacity
   - Long-term
Smart Cities Mission: An Opportunity

- Empowerment of city level governance structures
- Focus of planning at local levels
- Building adequate capacity of urban institutions and local governments
- Need for a institutionalised long term planning process
- Creating enabling conditions - supportive policy environment, coherent suggestive framework for planning cities
Key Imperatives

SMART CITY as an Opportunity

ICT as an enabler

Attain Sustainability
Economic, Environment, Social

Accomplish Good Governance Agenda

Efficiency, Effectiveness
Transparency, Accountability
Responsiveness, Participation
Inclusion and Equity

Dovetailing of Sectors
Handholding Institutions
Data Management
Access to Information

Sustainability

Good Governance

Technology

Institutional Capacity

Need for Reference Framework
Proposed Smart City Reference Framework

**Smart City Action Stage (SCAS)**

- **SCAS 1**
  - Conceptualising Smart Cities for India

- **SCAS 2**
  - City selection under the Smart Cities Mission

- **SCAS 3:** Smart City Plan

- **SCAS 4:** Project identification by cities

- **SCAS 5:** Implementation of plans and projects

- **SCAS 6:** Monitoring and Evaluation

**Smart City Reference Guide (SCRG)**

- **SCRG 1.1:** Definition and objectives
- **SCRG 1.2:** Guiding principles
- **SCRG 2.1:** Pilot city selection process
- **SCRG 3.1:** Components of Smart City Plan
- **SCRG 3.2:** Smart City Plan preparation process
- **SCRG 3.3:** Indicators for baselining
- **SCRG 4.1:** Guidance for project identification
- **SCRG 4.2:** Knowledge and Capacity Building Platform
- **SCRG 5.1:** Guidance for project structuring
- **SCRG 5.2:** Model Terms of Reference for various project components
- **SCRG 5.3:** Relevant standards and guidelines
- **SCRG 6.1:** Guidance for Monitoring and Evaluation techniques
- **SCRG 6.2:** Smart City Decision Support Platform

**Guiding Principles**

- **Well-being**
- **Equity**
- **Efficiency**
- **Foresight**
Way Forward

Sustainable Urban Development

Reference Framework

Convergence Mechanisms:
Technical, Financial and Institutional

Outcome

The Process

Activities

Capacity Building
Regulatory and Financial Framework
Expert Groups and Working Groups
THANK YOU
A Smart City would be the one which plans judiciously to meet its aspirations and challenges in a sustainable manner while fostering principles of good governance. These are achieved in a Smart City by utilising the enhanced power of technology, engaging with a more aware and informed citizenry and creating a more competent and capacitated set of people working within an accountable framework.

- Shift to a process-oriented path
- Short-term interventions to showcase success
- Long-term structural improvements at all functional stages of city planning and management

**Mission Guidelines**

- No universally accepted definition of a Smart City

**Objectives**

- Provide core infrastructure and decent quality of life
- Clean and sustainable environment
- Application of ‘Smart’ Solutions
- Sustainable and inclusive development
- Compact areas
- Replicable model
City Selection

Intra-State competition

Stage 1: Short listing the potential smart cities by the state

City Challenge

list of potential 100 Smart Cities is announced
Stage 2: The Challenge round for selection

Preparation of Smart City Proposals (SCP)

Stage 2 proposals submitted. Evaluation by a panel of experts

Evaluation of SCP

Round 1 Selected Smart Cities Declared

Preconditions, scoring criteria, required document list (forms)

Panel of consultants and external hand-holding agencies

Modalities of public consultation

Scientific evaluation methodology

Other cities prepare for next round of the Challenge

City level, proposal level Evaluation criteria
Smart City Plan Preparation

Strategic components of area-based development
Panel of consultants and external hand-holding agencies
‘Smart’ Solutions and infrastructure services to be present in the Plan

Smart City Proposal (Plan) Preparation

Strategies
- City Improvement – Retrofitting
- City Renewal – Redevelopment
- City Extension – Greenfield development
- Pan-city Initiative – Application of ‘Smart’ Solutions to existing city-wide infrastructure

Plan preparation process
Modalities of public consultation
How to baseline the city for plan preparation
Social and Environmental sustainability plan
**Project Identification**

- Guidelines for project identification
- Dovetailing projects
- Decision support tool

**Plan Implementation**

- Constitution of SPV, structure and functions of SPV
- Mandate of SPV

- Model Terms of Reference for different types of projects (consistent with the guiding principles)
- Standards and protocols related to technology components of projects

- Partially funded as Centrally Sponsored Project, partial funds to be mobilised by PPP
- Framework for dovetailing projects
Monitoring and Evaluation

Mission Monitoring
- Constitution of Monitoring Committees at national, state, city level,
- Score Card for progress of Smart Cities Mission

Convergence with other Government Scheme
- Monitoring and evaluation methodology
- Feedback mechanism for future decision making
- Strong complementarities with AMRUT
- Framework for convergence of different schemes
## Sustainable Development Goals

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<thead>
<tr>
<th>Sustainable Development Goals</th>
<th>Guiding Principles</th>
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<tbody>
<tr>
<td>Goal 1: End poverty in all its forms everywhere</td>
<td>EQ</td>
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<tr>
<td>Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture</td>
<td>WB+EQ</td>
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<td>Goal 3: Ensure healthy lives and promote well-being for all at all ages</td>
<td>WB</td>
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<tr>
<td>Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all</td>
<td>EQ+FS</td>
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<td>Goal 5: Achieve gender equality and empower all women and girls</td>
<td>EQ</td>
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<tr>
<td>Goal 6: Ensure availability and sustainable management of water and sanitation for all</td>
<td>EQ+EF</td>
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<tr>
<td>Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all</td>
<td>EQ+EF</td>
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<tr>
<td>Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</td>
<td>WB+FS+EF</td>
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<tr>
<td>Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</td>
<td>FS</td>
</tr>
<tr>
<td>Goal 10: Reduce inequality within and among countries</td>
<td>EQ</td>
</tr>
<tr>
<td>Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable</td>
<td>FS+EQ</td>
</tr>
<tr>
<td>Goal 12: Ensure sustainable consumption and production patterns</td>
<td>EF</td>
</tr>
<tr>
<td>Goal 13: Take urgent action to combat climate change and its impacts</td>
<td>WB+FS</td>
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<tr>
<td>Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development</td>
<td>FS</td>
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<tr>
<td>Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss</td>
<td>WB+EF</td>
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<tr>
<td>Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels</td>
<td>WB</td>
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<tr>
<td>Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development</td>
<td>FS</td>
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CSTEP City Selection Process

### Objectives
- Replicability and Scalability
- Addressing Vulnerability
- Regional Sustainability Goals
- Successful Demonstration

### Constitution of expert group (Government, Think Tanks, Academia other Stakeholders)
- Finalisation of indicator list and evaluation methodology

### Replicability & Scalability
- Cities of different population size ranges
- Cities with varied physical characteristics
- Cities with different types of economic activities

### Addressing Vulnerability
- Area prone to climate/other disasters
- Natural resource constraint, especially water
- Ecologically sensitive areas (natural trails etc)

### Regional Sustainability Goals
- Regional development strategy
- State development strategy
- Climate change action Plans

### Successful Demonstration
- Economic growth potential
- Pro-active
- Responsive city government
- Educated/aware citizen
- Infrastructure preparedness

### Development of Selection criteria and Indicators
For implementation of successful City Development Programmes, address contextual variations of different city types, including spatial character

Proposals can be invited from cities based on criteria defined under successful demonstration. The responsiveness of cities in making a competitive proposal would indicate pro-activeness of city government which is a critical factor for the success of the Mission.

### Call for Proposals

### Shortlisting Cities
The eligibility for cities to be covered under the Smart Cities Mission can be evaluated based on the criteria and associated indicators under all 5 sets. An expert rating (Delphi method) can be used for the same. Weightages can be given on a scale of 1 to 10. The cities to be included under the first phase of the Mission can be decided based on consensus.
## Indicators for Baselining: Urban Transport

<table>
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<tr>
<th>Principle</th>
<th>Questions</th>
<th>Indicators</th>
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| Well-being  | What is the average travel time for commute?                              | ▪ Average travel time  
▪ Maximum travel time for the longest trip  
▪ Average travel time to amenities/work/recreation |
| Equity      | What is the gap between well-being indicator performance with equity indicator performance? | ▪ Percentage/number of test samples collected from slum areas exceeding permissible limit for air and noise  
▪ Road traffic noise measurement in slum areas  
▪ Availability of public transport/1000 population in slum areas  
▪ Kilometres of bicycle paths and lanes per 10000 slum population in slum areas |
| Efficiency  | What is the efficiency in transport operation                             | ▪ Average Waiting time at intersections with traffic signals  
▪ Cost of Travel Per Km per person  
▪ Average Cost of public transport per capita  
▪ Percentage of people choosing public transit over car  
▪ Fatality rate /100000 population  
▪ Fatality rate for NMT |
| Foresight   | Does it consider climate change, resilience building, and energy efficiency? | ▪ Use of zero-emission vehicles – percentage  
▪ Availability of air quality standards and management plans.  
▪ R &D expenditure on “eco-vehicles” and clean transport fuels  
▪ Total expenditure on pollution prevention and clean-up  
▪ Percentage use of renewable fuels (alternative-fuelled vehicles, use of biofuel) to total fuel consumed by urban transport sector |
• Transport Strategies- dovetailing projects
Decision Support Platform