

CHAPTER 32

SMART CITY COMPONENTS

A city can be defined as smart when investments in various sections can promote and attain sustainable economic development and a high quality of life, with a wise management of natural resources, through participatory governance.

It uses information and communication technologies (ICT) to increase operational efficiency, share information with the public and improve both the quality of government services and citizen welfare.

The smart city infrastructure is introductory step for establishing the overall smart city framework and architecture. Very few smart cities have recently been established in the world i.e. Dubai, Malta and Singapore. The presence of heritage as well as beach tourism along with high level shopping centres and large number of educational institutions imparts the potential for Kannur city to upgrade itself as a Smart City. The goal of becoming a smart city cannot be achieved within two or three years; but starting with all possible and available components of smart city and through systematic planning and

adopting accurate strategies, the good can be reached gradually.

Smart cities can be identified (and ranked) along six main axes or dimensions. These axes are: smart **economy**; smart **mobility**; smart **environment**; smart **people**; smart **living**; and, finally, smart **governance**. These six axes connect with the traditional regional and neo-classical theories of urban growth and development. In particular, the axes are based on theories of regional competitiveness, transport, information and communication technology, economics, natural resources, human and social capital, quality of life, and participation of citizens in the governance of cities.

32.1 SMART CITY CONCEPT OF INDIA

A city equipped with basic infrastructure to give a decent quality of life, a clean and sustainable environment through application of some smart solutions is a smart city by Indian standards.

The core infrastructure elements in a Smart City would include adequate water supply, assured electricity

supply, sanitation, including solid waste management, efficient urban mobility and public transport, affordable housing, especially for the poor, robust IT connectivity and digitalization, good governance, especially e-Governance and citizen participation, sustainable environment, safety and security of citizens, particularly women, children and the elderly and health and education.

As far as smart solutions are concerned, an illustrative list is given Figure.32.1.

32.1.1 BASIC CRITERIA FOR SELECTION OF CITY/MUNICIPAL AREA AS SMART

1. Implementation of e-governance and online grievance redressal mechanism
2. Publication of e-news letters
3. Putting all government expenditure online for public
4. Track record of paying salary to employees
5. Track record of urban reforms and citizen participation that are being introduced



Figure.32.1 Smart solutions - Illustrative list

32.1.2 AREA BASED SMART CITY DEVELOPMENT

1. Retrofitting

An area consisting of more than 500 acres will be identified with citizen participation. Depending on the existing level of infrastructure services in the identified area and the vision of the residents, the cities will prepare a strategy to become smart.

2. Redevelopment

Redevelopment envisages an area of more than 50 acres, identified by Urban Local Bodies (ULBs) in consultation with citizens. For instance, a new layout plan of the identified area will be prepared with mixed land-use, higher FSI and high ground coverage.

3. Green field

Introduce smart solutions in a vacant area (more than 250 acres) using innovative planning, plan financing and plan implementation tools (e.g. land pooling/ land reconstitution) with provision for affordable housing, especially for the poor. Greenfield developments are required around cities in order to address the needs of the expanding population.

4. Pan-city development

It consists of application of selected

smart solutions to the existing city-wide infrastructure. Application of smart solutions will involve the use of technology, information and data to make infrastructure and services better. Intelligent traffic management system, waste water recycling, smart metering for water management etc. are essential requisites

32.2 SMART CITIES: PROMOTING SUSTAINABLE AND SMART CITIES

Large-scale urbanization in India has put severe strain on urban infrastructure which includes water supply, roads and transport, water and sanitation, drainage and solid waste management etc. If the momentum of economic growth is to be maintained, challenges thrown up by large-scale urbanization need to be addressed on priority. The efficiency of cities in the country largely depends on how well they are planned; how well they are developed and how efficiently they are managed.

Given that the thrust areas of the 12th plan focus on sustaining economic growth and promoting sustainability and inclusive growth, managing urban development, requires an approach that is both efficient and equitable through developing sustainable and smart cities.

A smart city will have to address the efficient use and allocation of present resources that ensure

economic viability of cities, and equitable distribution (access to and availability) of resources. This may be achieved through responsive land-use planning, from both a policy perspective and physical planning perspective.

A sustainable smart city has to consider issues related to revitalisation and renewal; low rise versus high rise; heritage and built form; land use transport integration; environmental conservation; mainstreaming disaster management; climate change mitigation and adaptation; inclusiveness, etc.

One of the challenges is to create a policy environment where representatives of all sections of people may participate has become one of the greatest challenges. Power should lie in the hands of people as they live in the city and have the *right to the city governance* includes both power and control which is in the form of accountability, equity and transparency.

This can be achieved first by making plan formulation, implementation and enforcement in at Municipal Corporation level.

32.3 AMRUT (ATAL MISSION FOR REJUVENATION AND URBAN TRANSFORMATION) MISSION

The purpose of Atal Mission for Rejuvenation and Urban Transformation (AMRUT) is to:

- Ensure that every household has access to a tap with the assured supply of water and a sewerage connection.
- Increase the amenity value of cities by developing greenery and well maintained open spaces (e.g. parks)
- Reduce pollution by switching to public transport or constructing facilities for non-motorized transport (e.g. walking and cycling). All these outcomes are valued by citizens, particularly women, and indicators and standards have been prescribed by the Ministry of Housing and Urban Affairs (MoHUA) in the form of Service Level Benchmarks (SLBs).

Among the five hundred cities that have been selected under AMRUT, Kannur city has been included. Hence the preparation of Master Plan should be considered by focusing on the thrust areas of AMRUT mission. Water supply, sewerage and septage management, storm water drainage to reduce flooding, non-motorized urban transport green space/parks are the thrust areas of the mission.

The components of the AMRUT consist of the following:

1. Water Supply

- Water supply systems including augmentation of existing water supply, water treatment plants and universal metering.
- Rehabilitation of old water supply

systems, including treatment plants.

- Rejuvenation of water bodies specifically for drinking water supply and recharging of ground water.
- Special water supply arrangement for difficult areas, hill and coastal cities, including those having water quality problems (e.g. arsenic, fluoride)

2. Sewerage

- Decentralised, networked underground sewerage systems, including augmentation of existing sewerage systems and sewage treatment plants.
- Rehabilitation of old sewerage system and treatment plants.
- Recycling of water for beneficial purposes and reuse of wastewater.

3. Septage

- Faecal Sludge Management-cleaning, transportation and treatment in a cost-effective manner.
- Mechanical and biological cleaning of sewers and septic tanks and recovery of operational cost in full.

4. Storm Water drainage

- Construction and improvement of drains and storm water drains in order to reduce and eliminate flooding.

5. Urban Transport

- Footpaths/ walkways, sidewalks, foot over-bridges and facilities for non-motorised transport (e.g. bicycles).
- Multi-level parking.
- Bus Rapid Transit System (BRTS).

6. Green space and parks

- Development of green space and parks with special provision for child-friendly components.

7. Reforms management & support

- Support structures, activities and funding support for reform implementation.
- Independent Reform monitoring agencies.

8. Capacity Building

- This has two components-individual and institutional capacity building.
- The capacity building will not be limited to the Mission Cities, but will be extended to other ULBs as well.
- Continuation of the Comprehensive Capacity Building Programme (CCBP) after its realignment towards the new Missions.

9. Indicative (not exhaustive) list of inadmissible components

- Purchase of land for projects or

project related works

- Staff salaries of both the State Governments/ULBs.
- Power
- Telecom
- Health
- Education
- Wage employment programme and staff component.

Some of the important issues that need to be brought into sharper focus as per the guidelines for smart city incorporating the AMRUT mission and the steps taken in the Master Plan are as follows:

1. Regional planning to be made mandatory

Kannur Municipal Council has already taken resolution for the preparation of a Master Plan for the city vide No E4-21539/2001 dated 14/03/2017.

2. Formulating transport and major infrastructure plans

Transportation network and Mobility Plan have been prepared as part of Master Plan along with a detailed map of proposed road network. Necessary road widening as well as junction improvements are proposed. Also, a mobility hub is proposed near the proposed bypass and would be located close to the proposed waterway corridor and airport road.

3. Resisting development in flood plains or along coastal areas. These areas may be utilised as parks or tourism promotional zones.

Developmental activities are restricted along the sides of rivers and streams with buffer. The buffer areas and coastal areas are proposed as tourism promotion zones.

4. Defining role of settlements in the region

A proposed land use pattern and detailed zoning regulation are also prepared as part of Master Plan.

5. Considering building codes, zoning laws and policies that encourage the best use of the land

Allefforts have been taken to minimize the contrast between optimum use of land and hazard proneness by adopting suitable zoning regulations and provisions in the Kerala Municipality Building Rules. Provisions as per the silence zone guidelines are also incorporated in the Master Plan.

6. Development of green space and parks with special provision for child - friendly components.

Construction of new parks as well as renovation of existing parks are proposed.

32.4 SMART CITY COMPONENTS INCLUDED IN THE MASTER PLAN OF KANNUR CITY

- Beautification of city and major roads
- Agriculture zone as green area for the town to keep the ecological balance of the town
- Buffer zone along the sides of rivers and streams to protect the natural flow
- Organic cultivation for smart health and smart living
- Solar lighting system to promote non-conventional energy use
- Water Supply Scheme by KWA to cover entire area ensuring that treated water reaches all
- Clean city projects which can improve hygiene, health as well as tourism
- Installation of dust bins for segregated collection
- Construction of comfort stations and she-toilets
- Bus bays and hi-tech waiting shelters
- Sewage plant
- Construction of drains and cover slabs
- Good governance project for smart governance which includes strengthening of e-governance, monitoring cell, Citizen Forum, etc.
- Proposals for sustainable income generation
- Green Park and new park projects
- Disaster management projects – Multipurpose Rescue shelters with lifeline stores.

