SUSTAINABLE DEVELOPMENT GOALS

"Towards

Safe, Inclusive,

Resilient and Sustainable

INDORE"

INDORE MUNICIPAL CORPORATION

Sustainable Development Goals (SDG)

Sustainable Development Goals

Implementing SDG 11

To make cities and human settlements inclusive, safe, resilient and sustainable-

The case of Indore.

Madhya Pradesh, India

Inclusive

- **Inclusive development is a pro-poor approach that equally values and incorporates the contributions of all stakeholders in addressing development issues.**

- **It promotes transparency and accountability, and enhances development cooperation outcomes through collaboration between civil society, governments and private sector actors.**

HOUSING FOR POOR
MOBILITY
HEALTH
LIVELYHOOD
SAFE CITY
SWM

Model City Inclusive System

Housing	• Urban housing for through cross subsidy on affordable rates.
Livelihood	• Job Opportunities for poor, Skill development centre, Vendor Market, Grievance reprisal system for Citizen
Health	• Proper Medical Facilities in Hospitals, Nursing Home & Dispensaries for Urban Poor.
Safety	• No dark spots, CCTV Surveillance System ,Vehicle Identification System , Safety Alert App, Panic Button in Public Transport
Transport	• Footpath , Left Turn on the Junctions, Zebra Crossing , Traffic Signals , Parking , Public Transport, Foot Over bridges
Solid Waste Management	• Segregated door to door Collection, Transportation, Processing & disposal.

City Resilience

City resilience describes

- the capacity of city to recover, so that the poor and vulnerable people survive and thrive no matter what Stresses or Shocks or Disaster they encounter.

- ✓ Social
- ✓ Disaster
- ✓ Climate
- ✓ Health
- ✓ Economic

Model City Resilience System

Social	• Health, Education, Parks and Open Spaces & removal of encroachments.
Disaster	• Cleaning of river, Open drain and Strom Water drain, Plastic ban to stop blockage in storm water drainage & Desilting of Rivers
Climate	• Open and Green Spaces, Vegetation cover , Prevention of Soil erosion ,Reuse of Waste water
Health	• Effective Solid Waste Management, Water supply & Sanitation
Economy	• Connectivity, Education , Skill Development, market places & Job Opportunities

Sustainable

By getting urban development right, cities can create jobs and offer better livelihoods; increase economic growth; improve social inclusion; use of environmental resource; protect local and regional ecosystems; development for low-income and middle-income; through sustainable urbanization

Model Sustainable City

Sanitation	• Public utility facility & urinals, maintenance on PPP
SWM 3**R**	• Reduce the production, Re-use & recycle of dry & Wet waste by production of manure, methane gas, energy, user cess from citizen.
Transport	• Use of Gas & solar energy for operation of City busses, electric busses, traffic signals. • Advertisement rights on busses, bus tops & Central median. • Combination of Bus routes i.e. City busses –Intercity busses.
Infrastructure	• LED street light to reduce power consumption. • Solar power on STP, ETP, Waste transfer Station, trenching ground. • Reduction in **N**on **R**evenue **W**ater & Electricity losses through SCADA.
Economy	• Transportation, Education , Skill Development, Job Creation, Awareness & citizen participation.

Sustainable Development Goal 11.1

By **2030**, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

Demand Survey is based on 100% Socio-economic Survey across all slums conducted during preparation of Slum free City plan of action (SFCPoA) •

Total Number of Slums : 646

Total Number of Slum Households: **1,82,989**

Total Slum Population : **7,97,574** (30.17% of City Population)

Total Number of Urban Poor Households (Non Slum) : **75,379**

Total Validated demand : **66638 HH**

For Slum Beneficiaries	41638
For Non Slum Beneficiaries	25000
Total	**66638**

Sustainable Development Goal 11.1

UNIT COST - Rs. 8.00 Lacs

BENEFICIARY SHARE -Rs. 2.00 Lacs

CARPET AREA – 29.98 Sqmt

Basic services – Water supply & Sewerage, Road & electrification.

IN PROGRESS 37816 UNITS

BHURI TEKARI ,INDORE

Sustainable Housing for Urban Poor

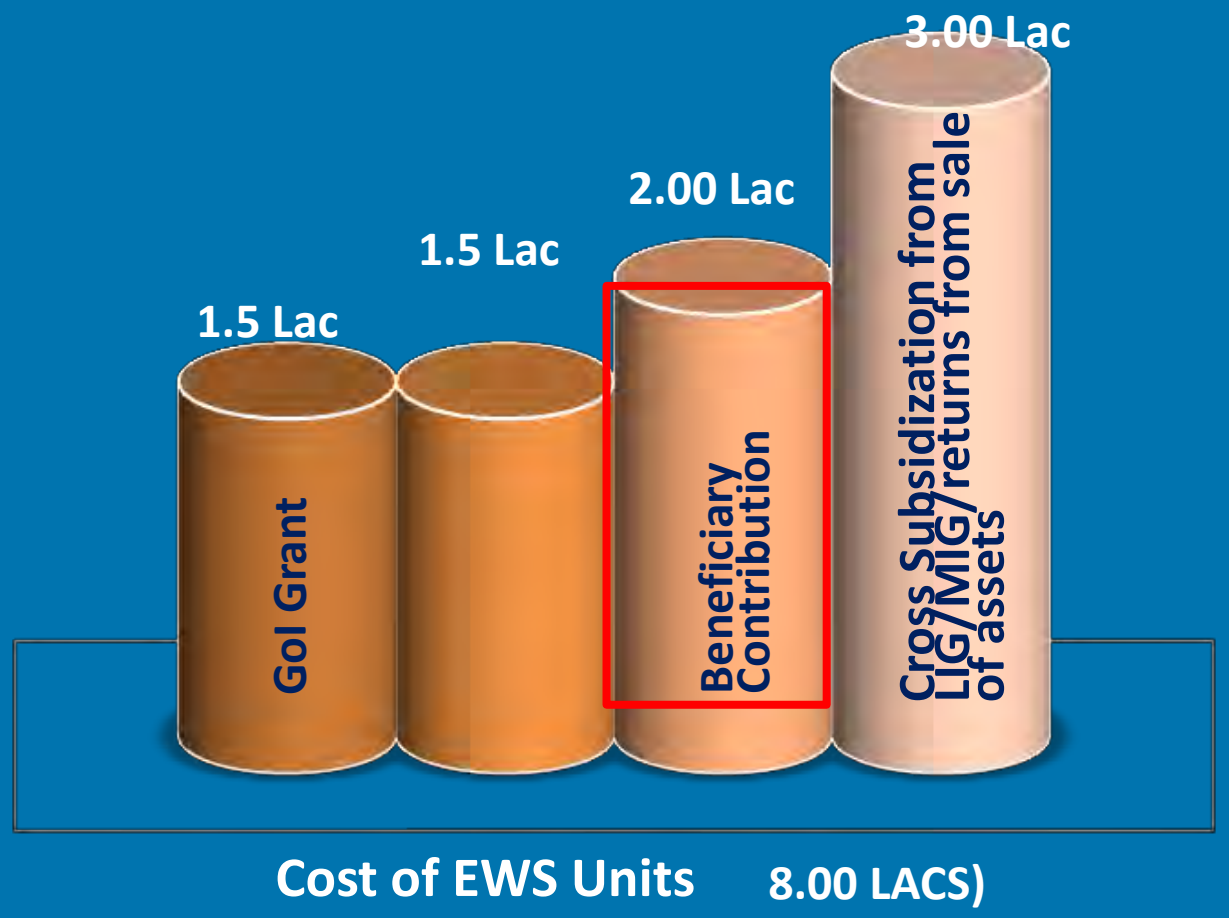
Sustainable Housing for Urban Poor

- **Unit cost of EWS Dwelling Units - Rs. 8.00 Lacs**
- **Zero Land Cost – Govt. Land Allotted by state Govt.**
- **Government grant per unit – Rs. 3.00 Lacs**
- **Beneficiary's share - Rs. 2.00 Lacs**
- **Cross subsidization from sale of LIG/MIG units - Rs. 3.00 Lacs**

Sustainability in O&M

- **A Total of 50% amount of rent of commercial spaces kept reserve for O&M of EWS units**

Financial Arrangements For EWS



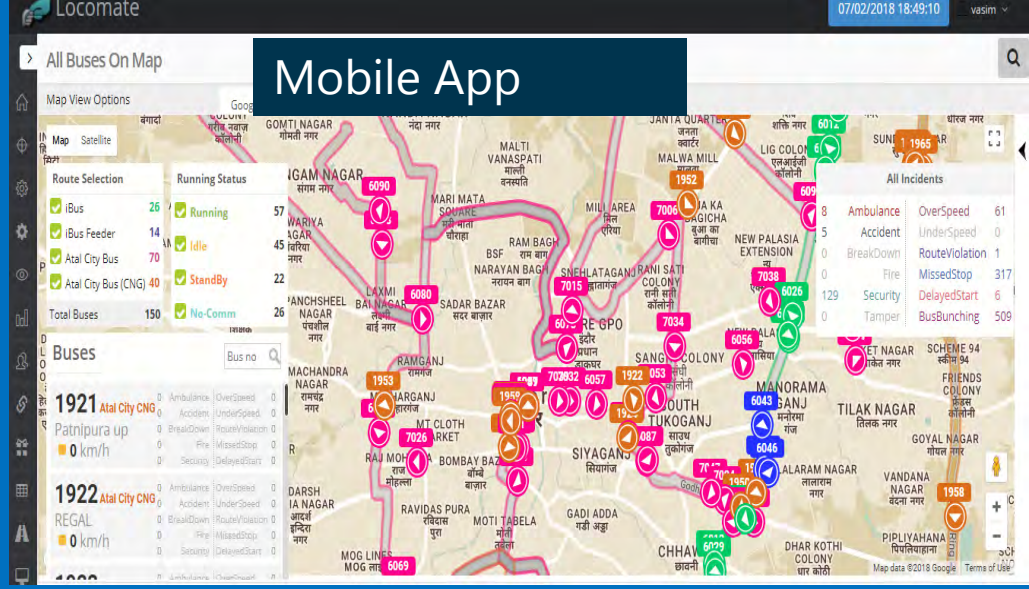
Sustainable Development Goal 11.2

By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

SMART ROADS

- ✓ DEVELOPED ROADS – 2043 KM
- ✓ FOOTHPATHS – 1200 KM
- ✓ PEDESTRIAN CROSSING – 40 JUNCTIONS
- ✓ PARKING – 20 SPOTS
- ✓ STREET FURNITURE
- ✓ TRAFFIC INTERSECTION
- ✓ TRAFFIC SIGNAGES
- ✓ SITOUTS FOR DISABLED & SENIOR CITIZONS
- ✓ FOOT OVER BRIDGE
- ✓ ENFORCEMENT POLICIES

Public Transport & Mobility



- ✓ BRTS Length – 11.5 KM
- ✓ Width – 30-60 M
- ✓ No of I Buses – 41 ,
- ✓ Ridership – More than 60,000
- ✓ Automatic Fare Collection System
- ✓ Passenger Information System
- ✓ Locomate Application to track & monitor buses
- ✓ Automatic Doors
- ✓ WiTRAC Traffic Signals
- ✓ Panic Button and Passenger Address System
- ✓ Front Rows are reserved for women

Revenue Model:

- ✓ Revenue from Advertisement Rights
- ✓ Share in Fare Collection

❑ **Mayor Pass Scheme**

- ✓ **70% Students get the advantage**
- ✓ **20% Disabled and Senior Citizens**

CITY BUSES

- ✓ No of Buses – 40
- ✓ Under FAME India Scheme
- ✓ Route – 4nos.

(Faster Adoption & Manufacturing of (Hybrid &) Electric Vehicles (FAME)

Revenue Model:

- ✓ Revenue from Advertisement Rights
- ✓ Share in Fare Collection
- ✓ Cross Subsidization through combination of routes of

- ✓ Trip Length – 6 KM
- ✓ Route length – 12/14 KM
- ✓ No of Buses – 180
- ✓ Traffic routes – 20
- ✓ Ridership – More than 60,000
- ✓ Automatic Fare Collection System
- ✓ Passenger Information System on Bus Stops
- ✓ Locomate Application to track & monitor buses
- ✓ Para Transit Support System

CITY BUSES

Revenue Model (O&M):

- ✓ Revenue from Advertisement Rights
- ✓ Share in Fare Collection
- ✓ Cross Subsidization through combination of routes of Inter City & Intra City

- ✓ No of Buses – 260nos.
- ✓ City, Peri Urban buses- 160nos.
- ✓ Route - 23
- ✓ Intercity – 100 nos.
- ✓ Routes - 30

City, Peri Urban buses

Intercity Buses

- ✓ Ridership – More than 140000
- ✓ Automatic Fare Collection System
- ✓ Passenger Information System on Bus Stops
- ✓ Locomate Application to track & monitor buses
- ✓ Para Transit Support System

ITMS

PRESENT ITMS SYSTEM COMPONENTS

- Automatic Vehicle Location System & In Bus Public Information System
- RFID based Sliding Door System
- CCTV Surveillance System at all BRTS stations
- WiTRAC Traffic Light Signaling System
- Centralized Control Room

PROPOSED ITMS SYSTEM COMPONENTS

- Fare Integration using Automatic Fare Collection System
- OFC based Communication Network
- Command Control Centre
- Mobile App and User Website for Commuters

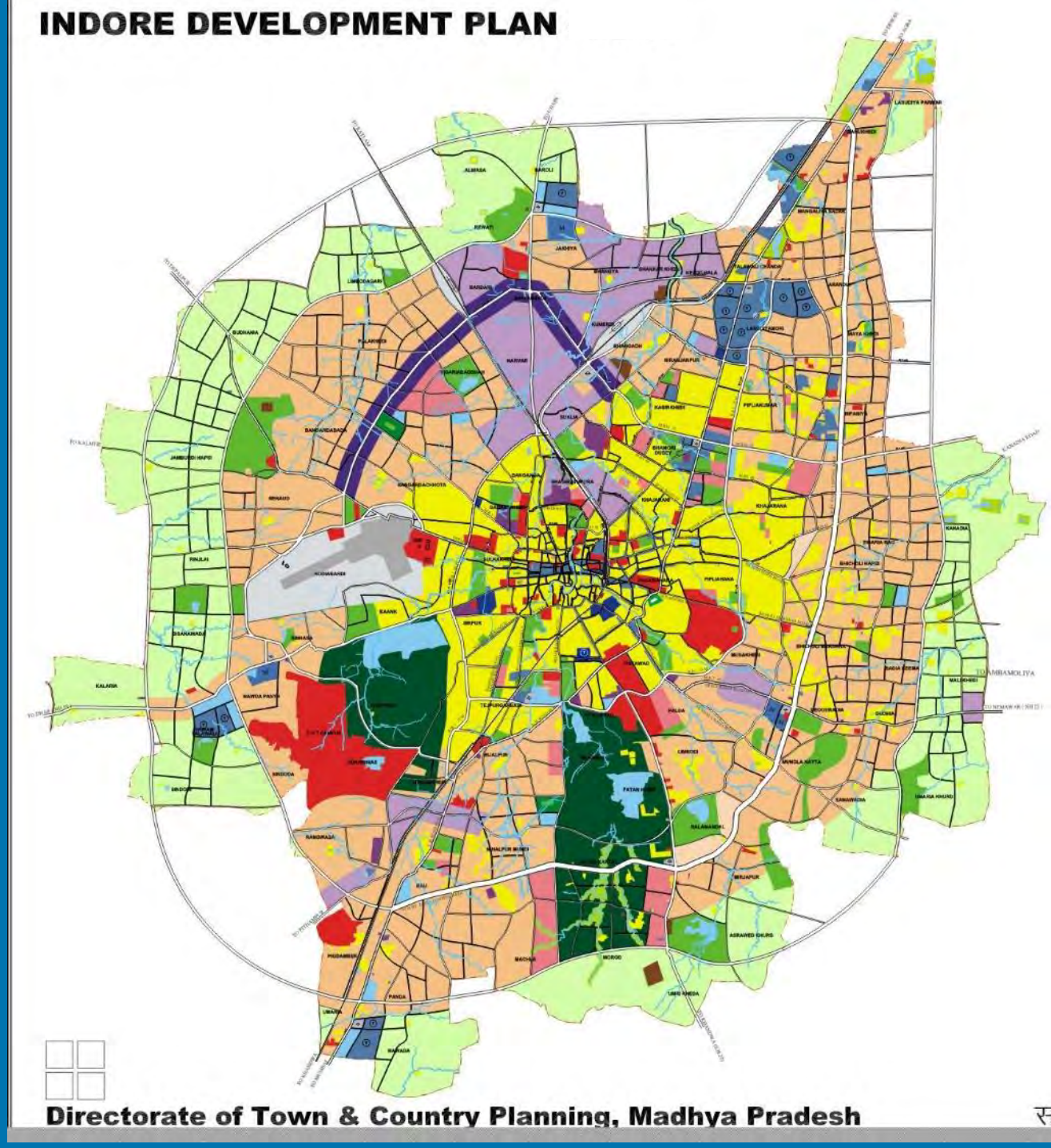
Sustainable Development Goal 11.3

By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

- ✓ **Land consumption rate is incorporated in planning to cover growing population.**
- ✓ **Participation of civil society in urban planning and management**
- ✓ **Master Plan to cater to 2030 requirements specially for Urban poor**
- ✓ **Infrastructure Planning and design for catering to future growth.**
- ✓ **Transport Network**
- ✓ **Water supply from Narmada river (300 MLD)**
- ✓ **STP (335 MLD)**
- ✓ **Renewable enrgy**

Sustainable Development Goal 11.3

- ✓ **Master Plan to cater to 2030 requirements specially for Urban poor**
- ✓ **Water Supply & Sewerage network for the 2030 population requirement.**
- ✓ **Water supply will be SCADA based.**
- ✓ **Solid Waste collection at regional level.**
- ✓ **Peri-Urban & Intercity Transport network.**



Sustainable Development Goal 11.4

Strengthen efforts to protect and safeguard the world's cultural and natural heritage

BUILT HERITAGE

Ma Durga Temple

- Preservation of 118 cultural & historical Heritage for promotion of tourism
- Comprehensive Approach
- Adaptive Re-use

Gandhi hall

BUILT HERITAGE

Gopal mandir

Rajwada

Harirao HolkerChhatri

Lal- Bagh Palace

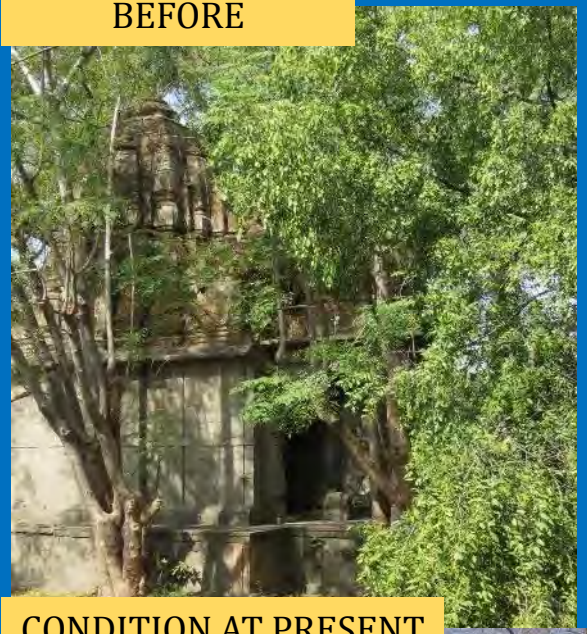
Krishnapura Chatri

CONSERVATION OF HARIRAO HOLKAR CHHATRI

BEFORE

BEFORE

BEFORE



CONDITION AT PRESENT

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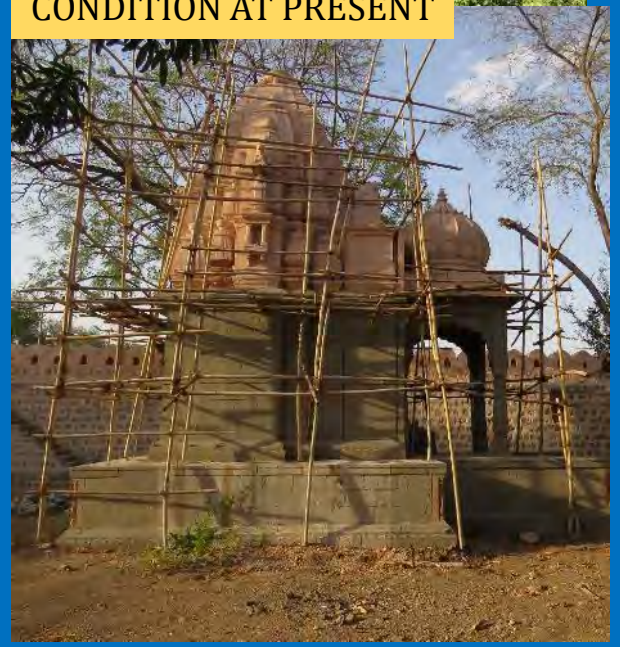


CONSERVATION OF GOPAL MANDIR

WORK IN PROGRESS

CONSERVATION OF RAJWADA

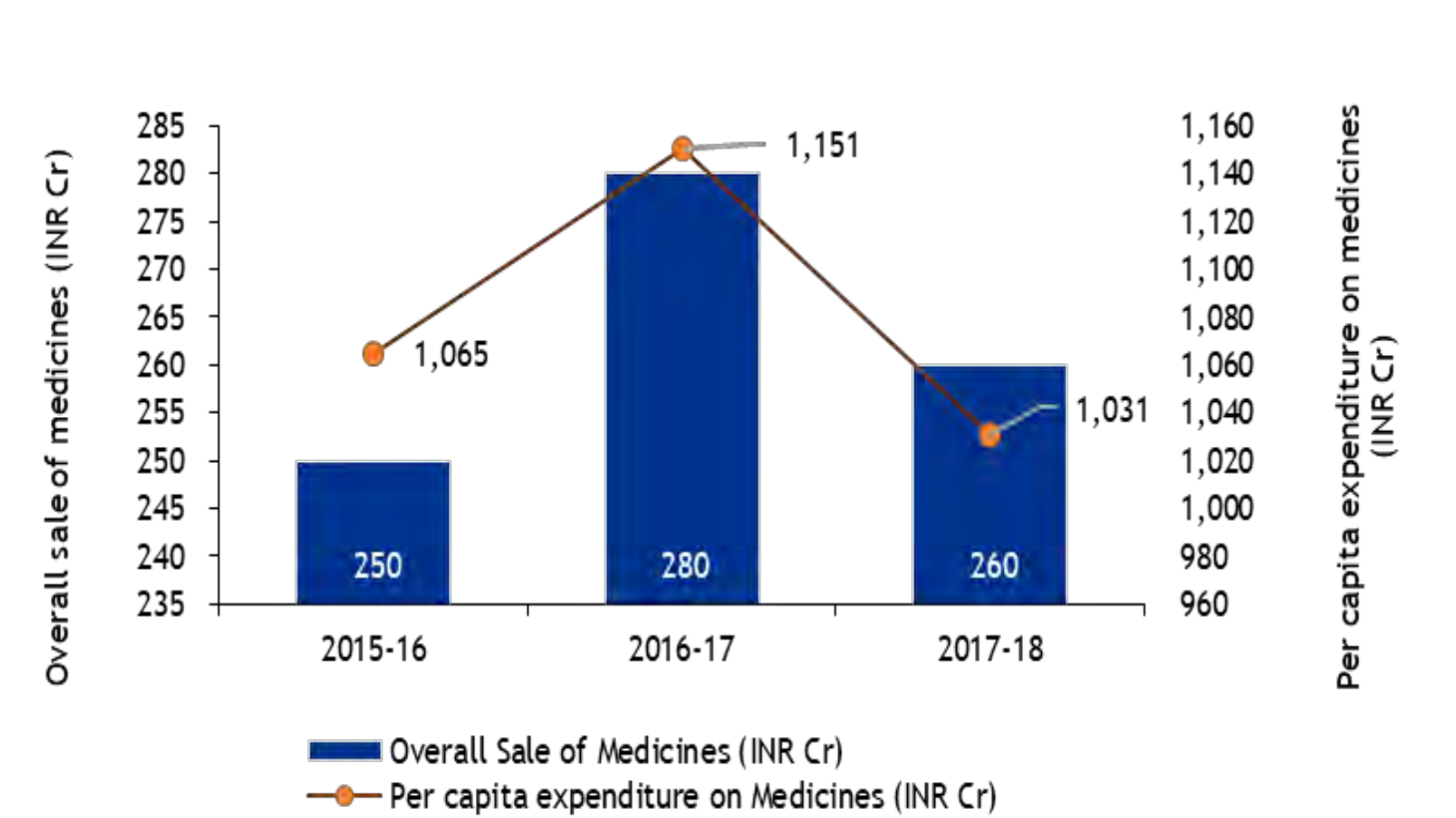
WORK IN PROGRESS

Sustainable Development Goal 11.5

By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

- ✓ IHHL – 12343
- ✓ Water Connection in Slums - 12343
- ✓ Public Facilities – 725 (CT/PT & Urinals)
- ✓ ODF City
- ✓ Transformation of Garbage Vulnerable Points
- ✓ Door-to-Door Collection & Waste Processing
- ✓ Sweeping and Cleaning of Roads & its components
- ✓ Nala Tapping
- ✓ DEWATS
- ✓ STP
- ✓ Immunization

Reduction in diseases



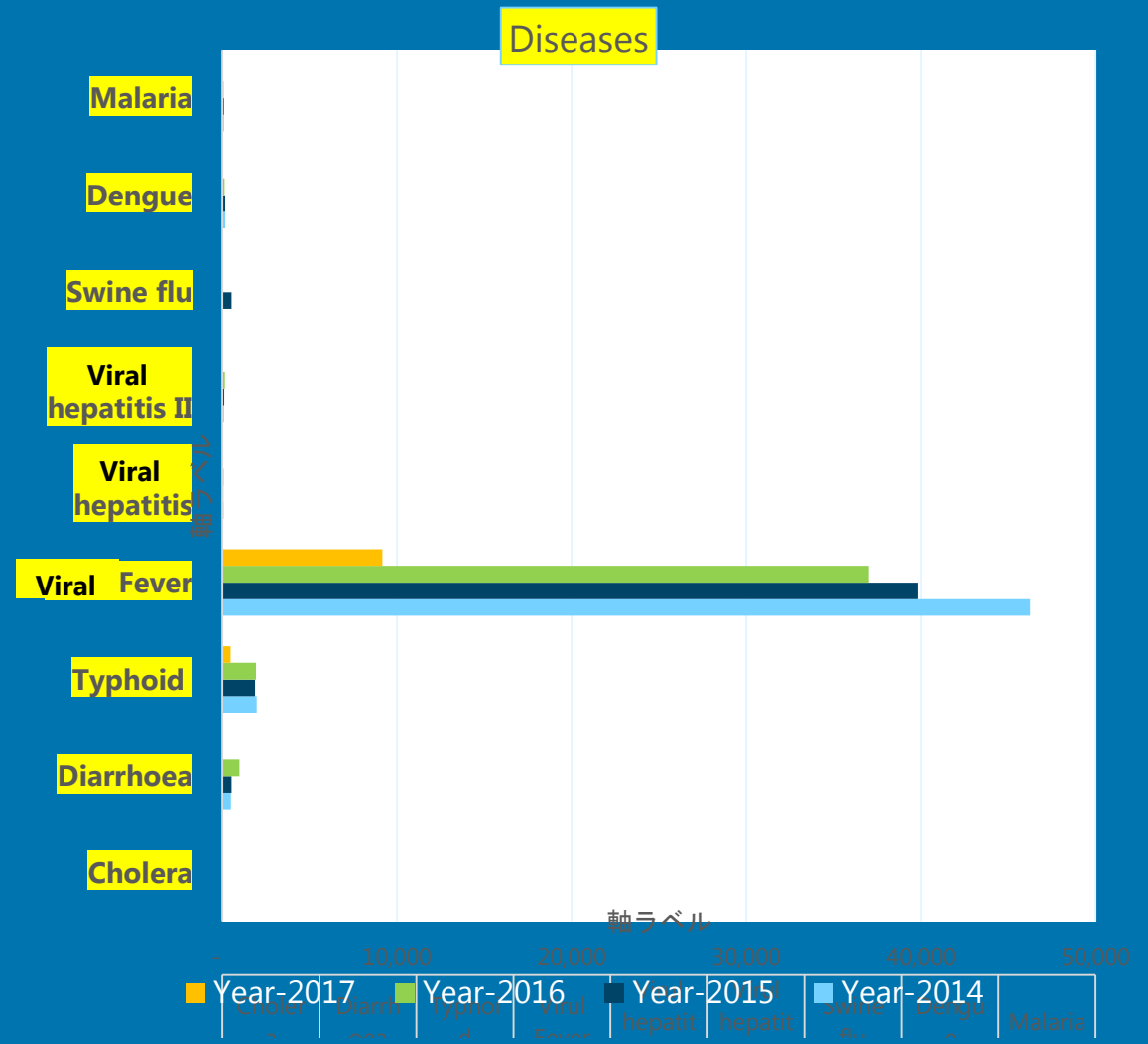
- ✓ Vector and Water Borne Diseases reduced by 48 percent (Source IDSP)
- ✓ RSPM Level reduced from 145 to 75 micro gm/cum (Source MPPCB)
- ✓ Reduction in sale of medicine

Reduction in Diseases

Respiratory and Other Diseases Reduced By 50%

Source: CMHO Indore

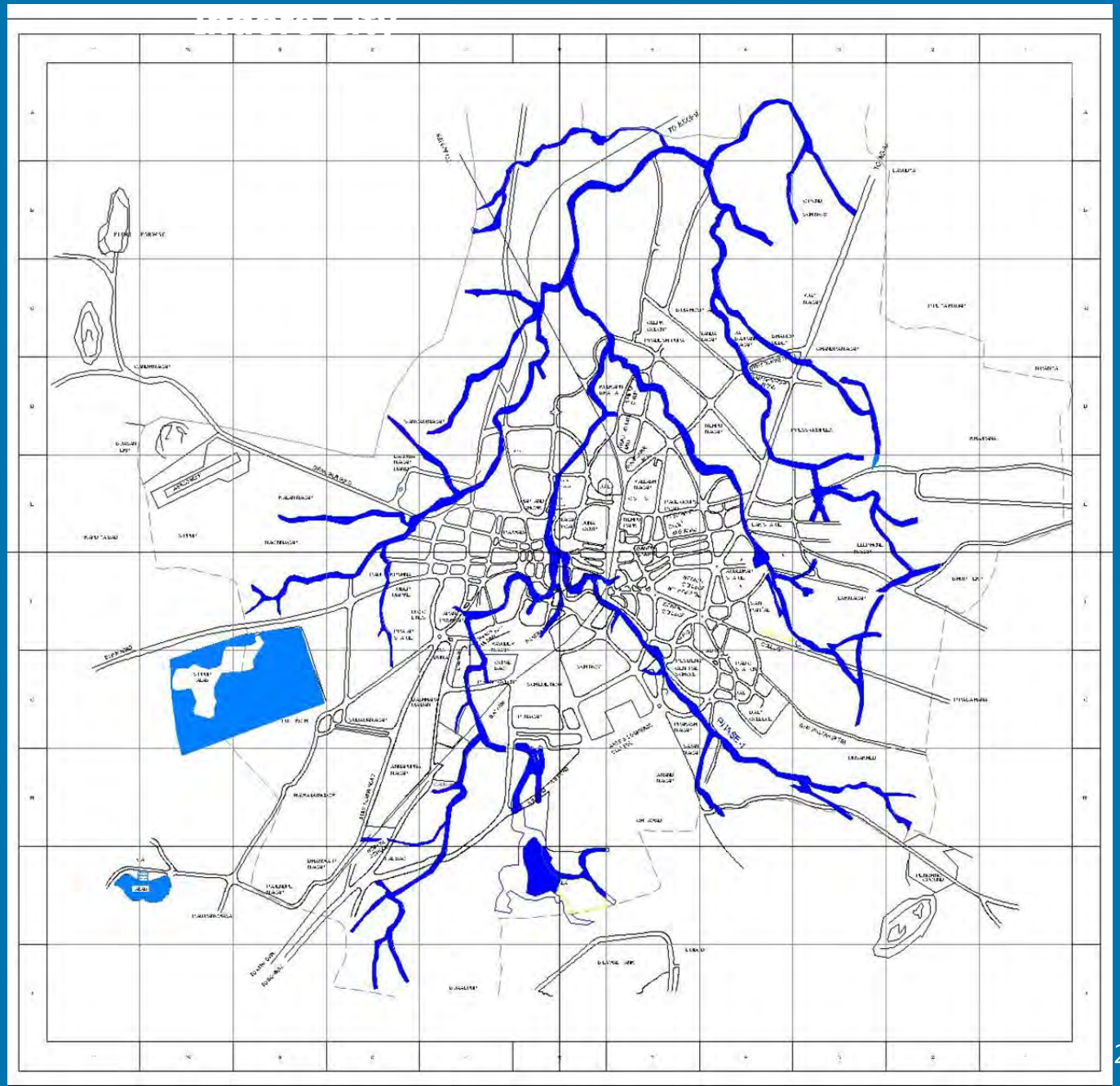
Row Labels	Year-2014	Year-2015	Year-2016	Year-2017
Cholera	12	27	16	0
Dengue	160	155	129	0
Diarrhoea	497	517	989	11
Malaria	89	91	62	13
Swine flu	10	524	7	0
Typhoid	1955	1865	1929	467
Viral Fever	46260	39825	37026	9169
Viral hepatitis	76	45	70	15
Viral hepatitis II	81	111	135	28
Grand Total	49140	43160	40363	9703



Reduction in Disasters

- ✓ Length of natural drainage system – 70 KM
- ✓ 2 Main Rivers – Kanh & Saraswati within Ganga Basin with 7 tributaries
- ✓ Storm Water drainage – 150 Km
- ✓ Water Drains and Water Canals cleaning
- ✓ Toe wall, Gabion wall & Pitching in order to Prevent Soil Erosion
- ✓ Covering Soil Mass by Vegetation

Natural Drainage System of



Flood Control Initiative

- ✓ Dredging of Rivers
- ✓ Channelization
- ✓ Strengthening of Embankments
- ✓ Vegetative cover on banks

Increase in Green Cover

- ✓ **Plantation along both sides of River bank has been done as follows**

  (a) No of Plants – about 50,000
  (b)Types of Plant-Neem, Jaam, Jamun, Gulmohar, Paras & Peepal

- ✓ **Fencing of Area for Safety & Protection of Plantation.**

Sustainable Development Goal 11.6

By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

Motto of Indore

Under Swachh Bharat Mission IMC Planned to Make Indore City:

- **Bin free**
- **Litter free**
- **Dust free**

Sustainable Development Goal 11.6

No of Bins removed from City – 1380 Nos

January 2016

Pilot project started in ward 71 and 42

Success

March 2016

D2D Collection of waste in 10 wards

April 2016

Bin Free Initiative started

October 2016

D2D Collection of waste in all wards

December 2016

Bin free City

Bin Free City

Initiative → Transformation

Before → **After** → **Present**

Near Swami Vivekananda School

Solid Waste Management

- ✓ 100% Door-to-Door segregation and collection
- ✓ Modern and efficient Transfer Station
- ✓ Integrated Process and Disposal Facility
- ✓ Decentralized Processing
- ✓ C&D Waste management
- ✓ Bio-remediation
- ✓ Treatment of Bio Medical Waste
- ✓ ICT Applications

Sweeping and Cleaning

- ✓ RSPM level Reduced from 145 to 75 microgm/cum (Source MPPCB)
- ✓ Road sweeping length – 500km per day

Cleaning of Central Median

Cleaning of Monuments

1500 dumpers of dust displaced from city

Mechanized Road Cleaning

Manual Road Cleaning

Ultra Modern Mechanized Transfer Station

10 GTS at Strategic Locations to cover the entire City

Waste Processing Initiatives

Bio Remediation – 1 Lakh per cum

Bio Methanation Plant -20TPD

Wet Waste Processing Unit – 600 TPD

Material Recovery Facility (MRF)

- 500TPD Material Recovery Facility
- 700 Rag pickers Integrated
- Re-cycling & Reuse of Dry Waste

De-centralized Waste Processing Initiatives

GARDEN – 368

BGG – 244

RWS - 76

Waste Processing Initiatives

- ✓ C & D Waste – 100TPD
- ✓ Compost from Flower Waste
- ✓ Compost from Garden Waste
- ✓ Scientific Landfill at Trenching Ground
- ✓ Recycling of dry Waste
- ✓ Reuse of Plastic Waste
- ✓ Sludge Hygination Waste -100TPD (collaboration with BARC)
- ✓ Compost from Meat, Fish and Chicken Waste
- ✓ Amino acid from Hair waste

Sustainable Development Goal 11.7

By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities

- ✓ Improve and sustain the use of green & public space
- ✓ Social inclusion,
- ✓ Cycling routes
- ✓ Network of paths and streets around small, permeable blocks
- ✓ Use of recycled treated water in green spaces
- ✓ Children play area

Harsiddhi Park


Nehru Park


Laxmansingh Gaud Park


Pipliyapala Regional Park

Sustainable Development Goal 11.7

Sustainable Development Goal 11.a, b, c

Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials

By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels

Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning

- LRT Connectivity & Periurban Transport
- Agriculture Product Value Addition & Marketing
- Farmers Outreach Program to encourage use of Organic Compost instead of chemical fertilizers
- Dry Port and Mandis
- Reuse of treated water for farming
- Integrated Regional Development Planning
- Integrated Regional Solid Waste Management

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INDORE
MUNICIPAL CORPORATION

SUSTAINABLE DEVELOPMENT GOALS

— Commissioner, Indore Municipal Corporation

Thank You