



# Online **ADB Sanitation Dialogue 2021**

## ACCELERATING INCLUSIVE SANITATION

12–22 April 2021

# Madhya Pradesh Urban Services Improvement Project – Additional Financing

## Towards City-Wide Inclusive Sanitation Mainstreaming

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# India – Madhya Pradesh Urban Services Improvement Project – Additional Financing

## Background Information

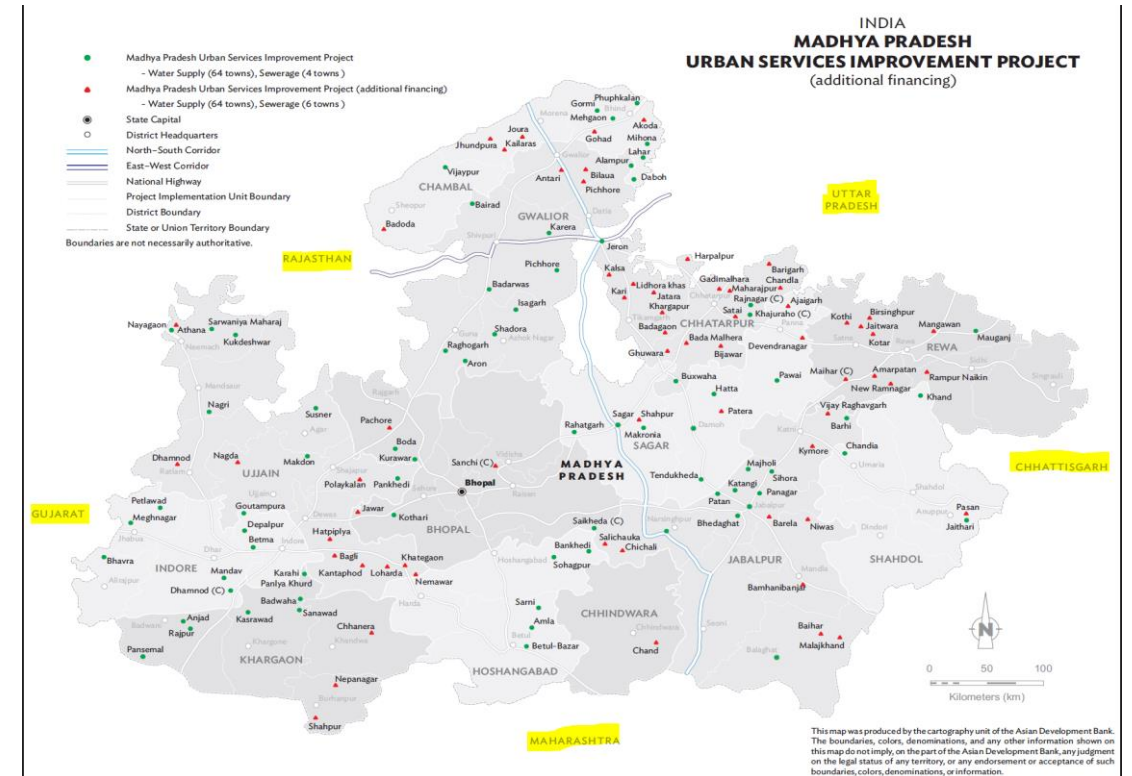
- Project period: Sept 2020-Sept 2027
- Total cost :\$385.7 million
  - ADB :\$270.0 million
  - Government :\$115.7 million

### Project Outputs:

**Output 1: Water supply and integrated storm water and sewage infrastructure improved.**

**Output 2: Institutions strengthened, and capacity developed.**

**Benefiting population: 1.6 million**



# Output – Water Supply Infrastructure Improved

Source development/transmission



Treatment and SCADA



Clean water storage



Distribution System



62 Urban Local Bodies (ULBs)

Universal coverage

100% metering

Volumetric tariff coupled with Government of Madhya Pradesh Led Urban

Property tax reforms

e-Governance – billing and collection

Customer service center

Water Safety Plan

House connection



# Output: Integrated stormwater and sewage infrastructure Improved

## Six Urban Local Bodes

Rehabilitation and construction of drains

Improving of existing water bodies

Cross drainage works

Sewage collection, treatment and safe disposal

Sewerage system - network works

Treatment

Sludge utilization

Fecal sludge management

e-Governance

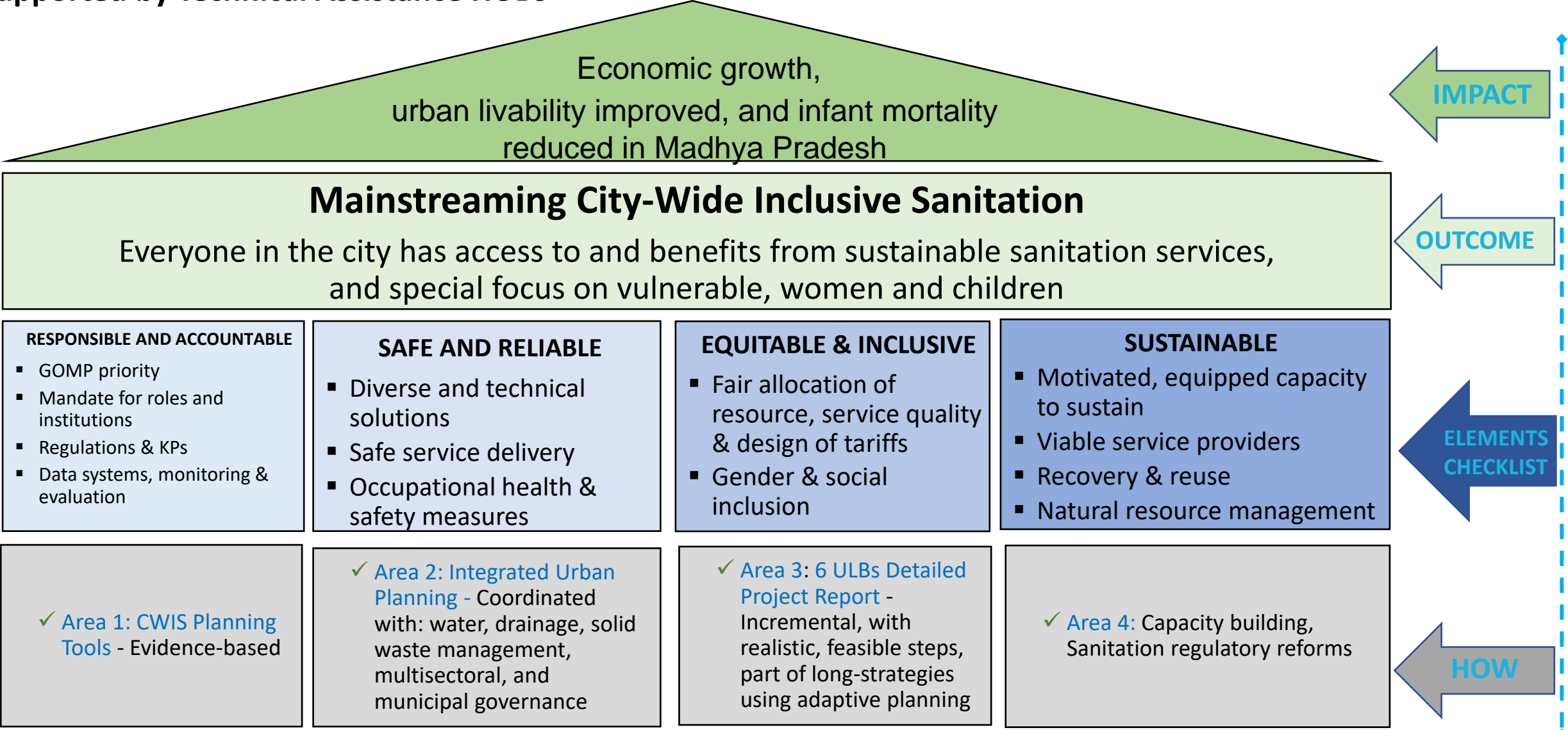
Customer service center



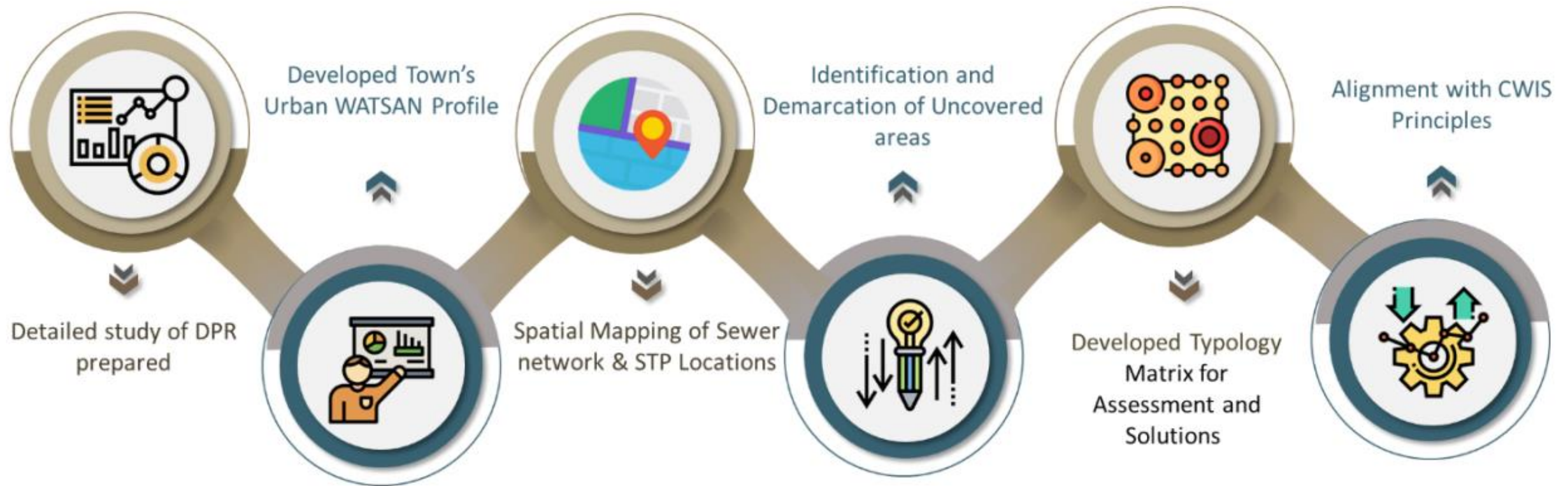
Existing  
situation

# MP-ADB-BMGF Collaboration for Mainstreaming City-Wide Inclusive Sanitation

Supported by Technical Assistance HUBs



## Steps of MPUSIPAF's CWIS planning :



# CWIS Planning tools and assessment framework

## Decision-making matrix

Criteria	Sub-Criteria
General Characteristics	Population, Settlement typology, Topography, Health/hygiene
Sanitation Profile	Existing sanitation @HH level, Connection, Existing/future sanitation plan, Groundwater vulnerability
Transport and Accessibility	Accessibility, Road shape & width, distance from the treatment facility
Water Supply	Per capita water supply
Socio-economic profile	Economic vulnerability, Social Acceptability
Readiness and Sustainability	Organization Mandate, Operations framework, Local governance at wared level, Enabling Policy framework, Political will, Public finance, and Feasibility of private sector participation
Climate change	Vulnerability mapping

## GIS Based NSS suitability analysis

Primary Analysis

Secondary Analysis

Tertiary Analysis

Pandemic

Multiplicity

Data

## CWIS Compliance Framework

Outcome : Equity-Safety-Sustainability

Function: Responsibility, Accountability, Resource Planning and Management

# Integrated Municipal Information System

## Catalyzing Sustainability of CWIS Outcomes

### IMIS Landscape

- Municipal GIS-based database and CWIS baseline of the town
- Strategic sanitation planning and decision-making tools for authorities
- Service delivery management
- Municipality's 'regular business process mapping
- Real time monitoring and evaluation – tax payments, service delivery, KPIs
- Link to external databases – health, emergency response
- Plan infrastructure investment



**Driving Efficiency, Responsiveness and Accountability of Municipalities**



## WHAT IMIS FACILITATES | CATALYSING CWIS OUTCOMES



	DATA REQUIRMENT	CWIS OUTCOME			CWIS FUNCTION			PLANNING	MANAGEMENT	M & E
		SF	SB	EQ	RP	AC	RPM			
URBAN DATA	Administrative boundary		√				√	a	b	
	Building footprint	√	√	√			√	a, b, c	a, b, c, d	a,c,d,e
	Road network	√	√				√	a,b,d	a,c	
	Land use	√	√				√	a,b,d	a,c,f	
	Settlements (planned)	√	√	√			√	a,b,d	a,c,f	a,c
	Low Income Settlement	√	√	√			√	a,b,c,d,e	b,c,d,f	a,c,d,e
	Contour	√	√				√	b		
	Water logged area	√	√				√	b		
	Area with environmentally sensitive activities	√	√				√	b,d	a,c	
	Soil	√	√				√	b		
	Water table	√	√				√	b		
	Population density	√	√	√			√	b	a, b	d
SANITATION	Storm water drainage network	√	√				√	b	a	a
	Sewerage network	√	√				√	a,b,d,e	a, b,c	a,d
	Containment	√	√	√			√	a, b, c,d,f	a, b, c, d	a,d,e
	Public services (PT/CT) with service information	√	√	√			√	a, b, c,d,f	a, b, c, d	a,d,e
	Emptying and Transportation Infrastructure and Services	√	√	√			√	a,b,c,d,f	a,b,c,d	a,b,d,e
	Treatment Plants	√	√	√			√	b	a	b, c
	Landfill site	√	√				√	b	a	
	City water supply areas		√				√	b		
REVENUE	Tax zone	√	√	√	√	√		a, b	a, b, c, d	b, d
BUSINESS OPERATION DATA - IMIS	Service provider	√	√	√				a,b,c,d,e,f	a, b	a
	Fecal sludge data (Collection and Reuse)	√				√		a,b	a	b
	Public services	√	√	√	√	√		a, b, c,d,e,f	a, b, c, d	b,c,d,e
	Customer data inc. revenue	√	√	√	√	√		a,b,c,d,e	a,b,c,d	a,b,c,d,e
	Customer feedback data	√	√	√	√	√		a,c,d,e	A,b,c,d	a, b, d
	Public service feedback	√	√	√	√	√	√	a,c,d,e,f	e	a, b, d

Note: **RP**-Responsibility, **AC**-Accountability, **RPM**-Resource Planning & Management, **SF**-Safety, **SB**-Sustainability, **EQ**-Equity

## Development of NSS suitability analysis

### Primary Analysis

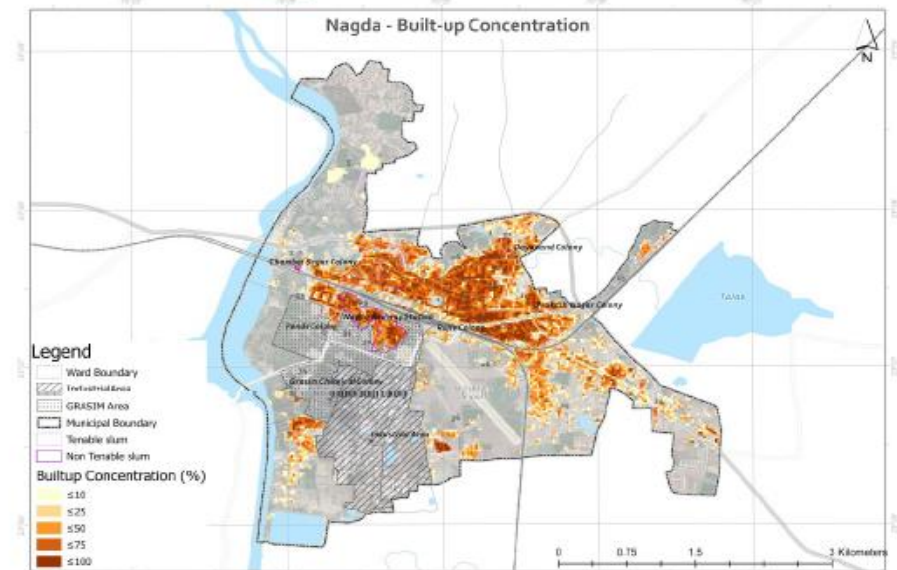
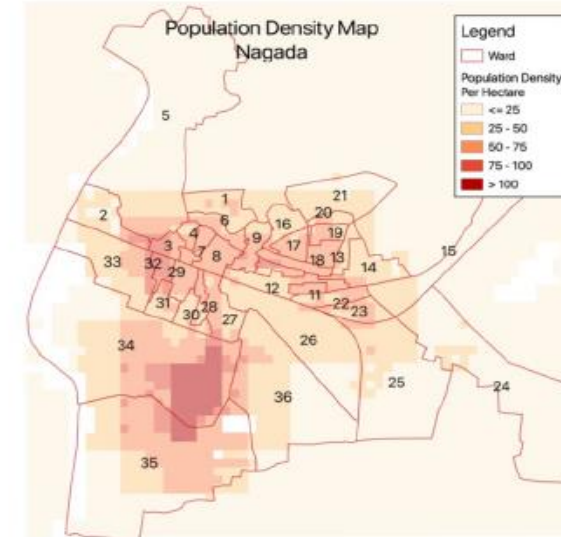
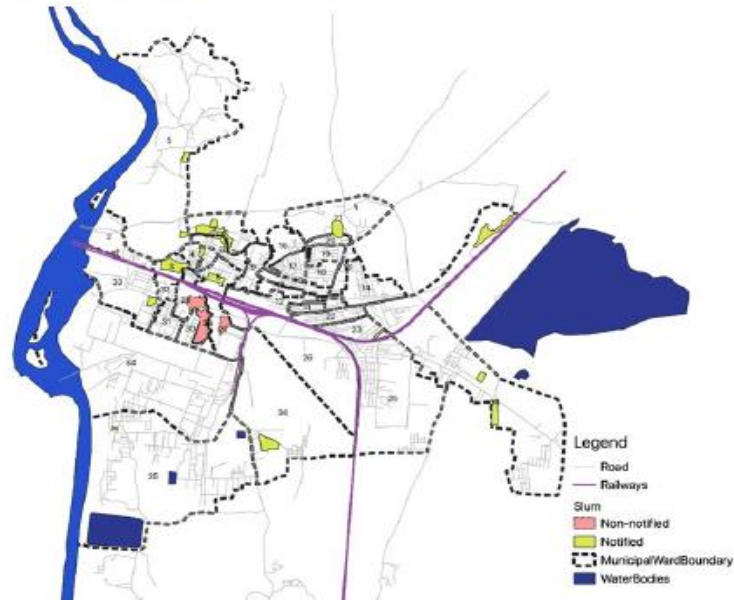
- Demarcated Areas Suitable for NSS/SS based on Population Density and Built up maps Prepared
- Perform socio-economic Analysis – draw preliminary Info on Suitability for NSS/SS

### Secondary Analysis

- Overlaying sewer Network Map and Identify Conflict areas

### Tertiary Analysis

- Based on Climate and topography- develop Vulnerability map
- Strengthen Rationale for NSS/SS Systems



# Development of NSS suitability analysis

## Primary Analysis

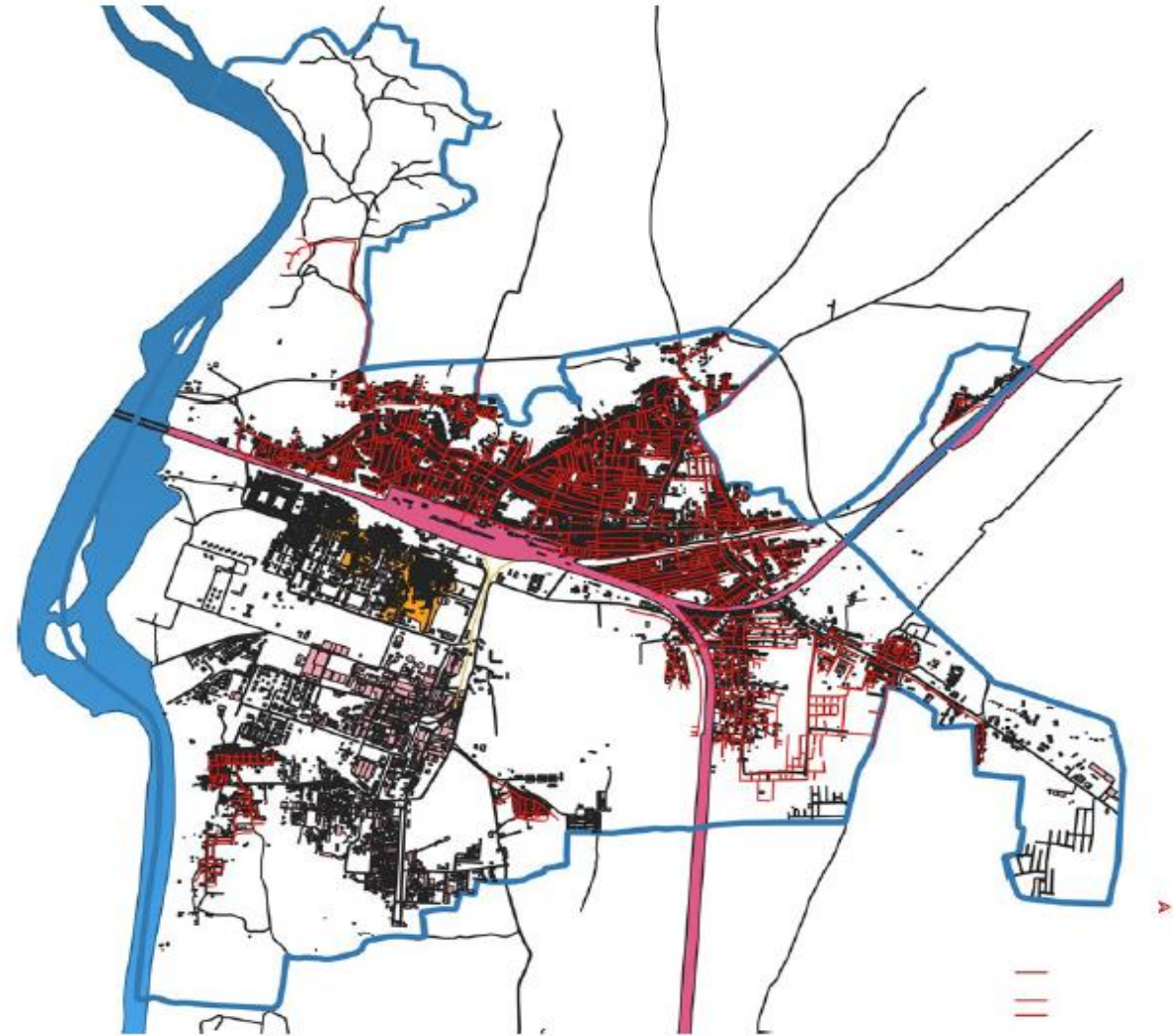
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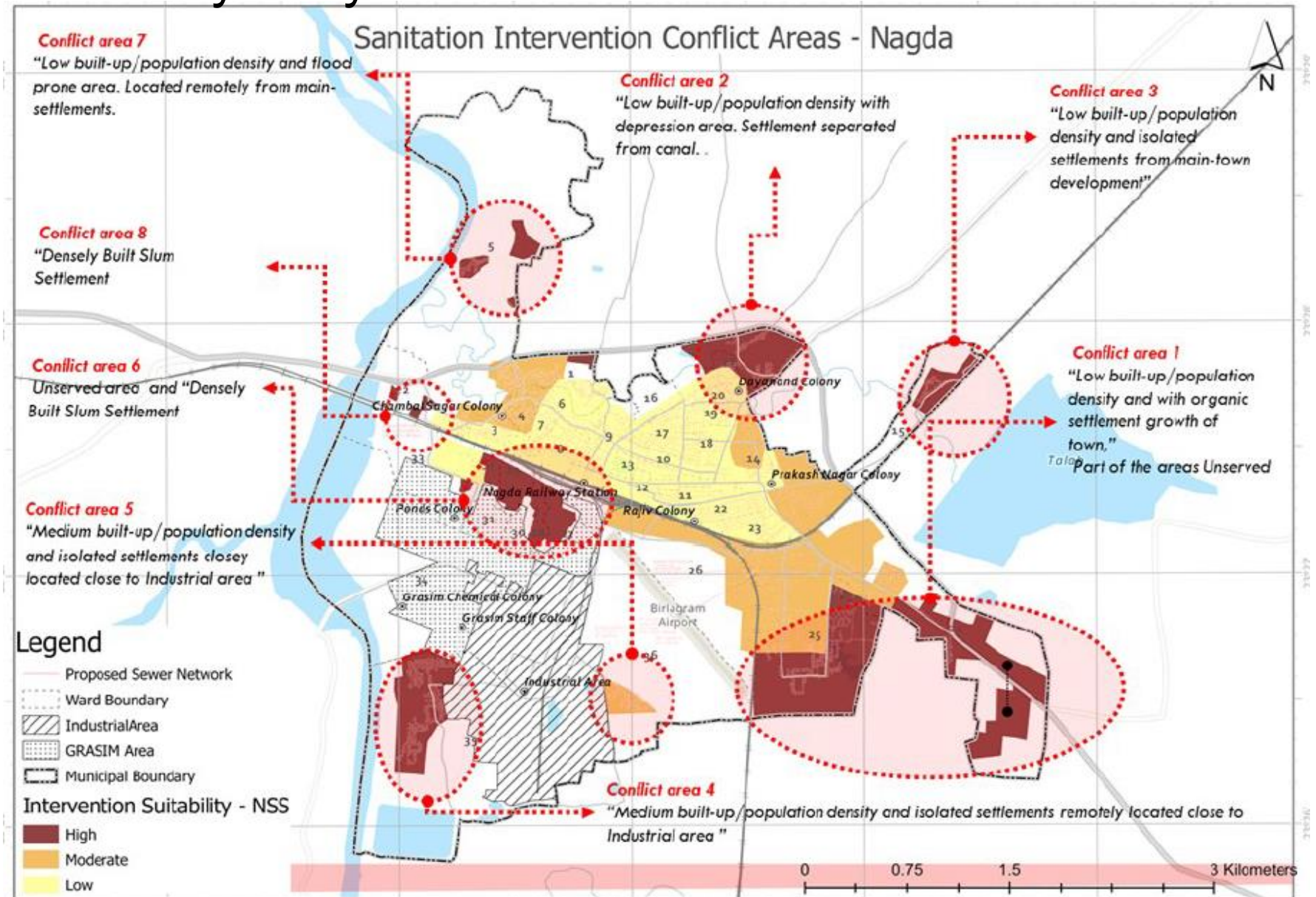
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# Development of NSS suitability analysis

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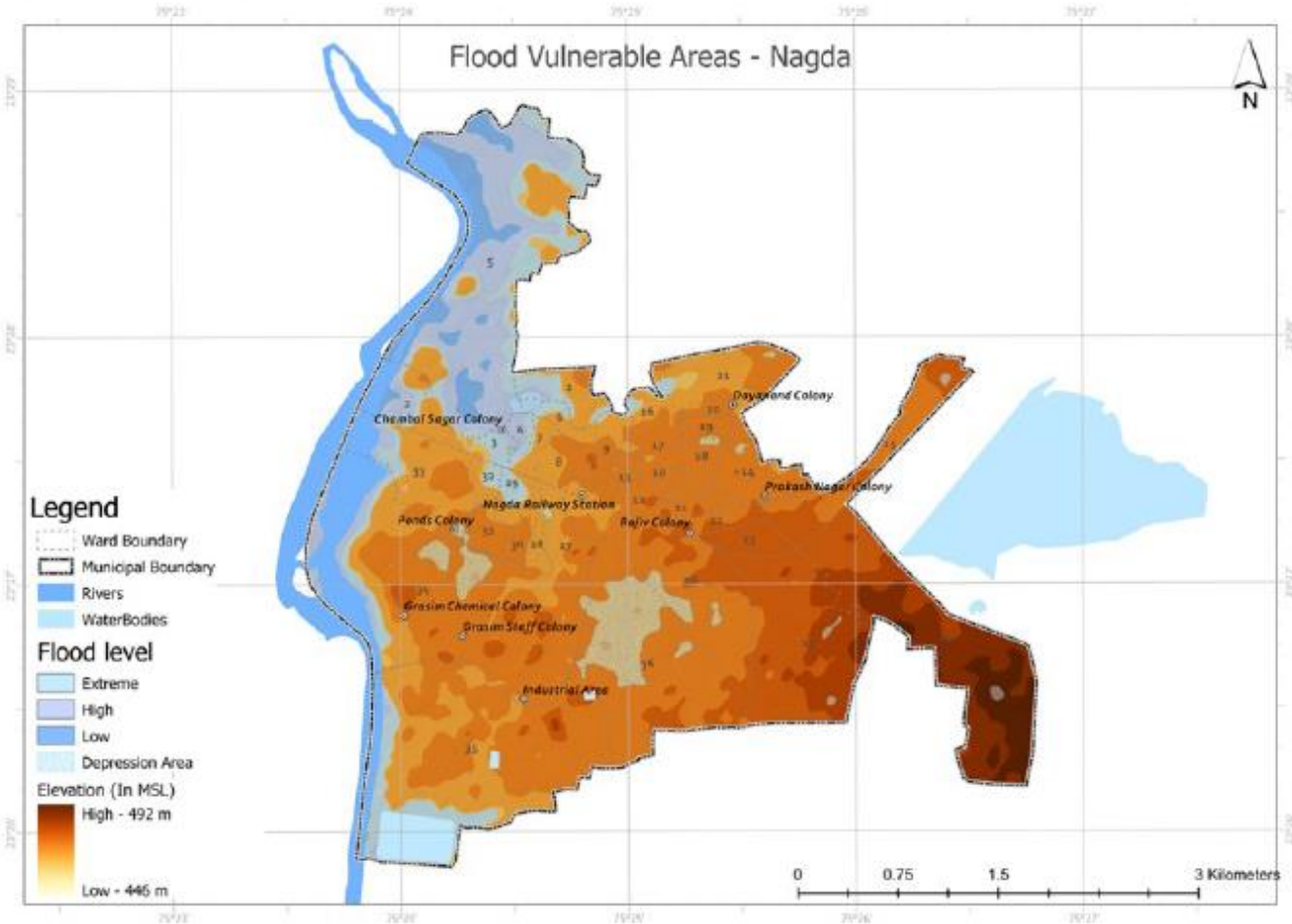
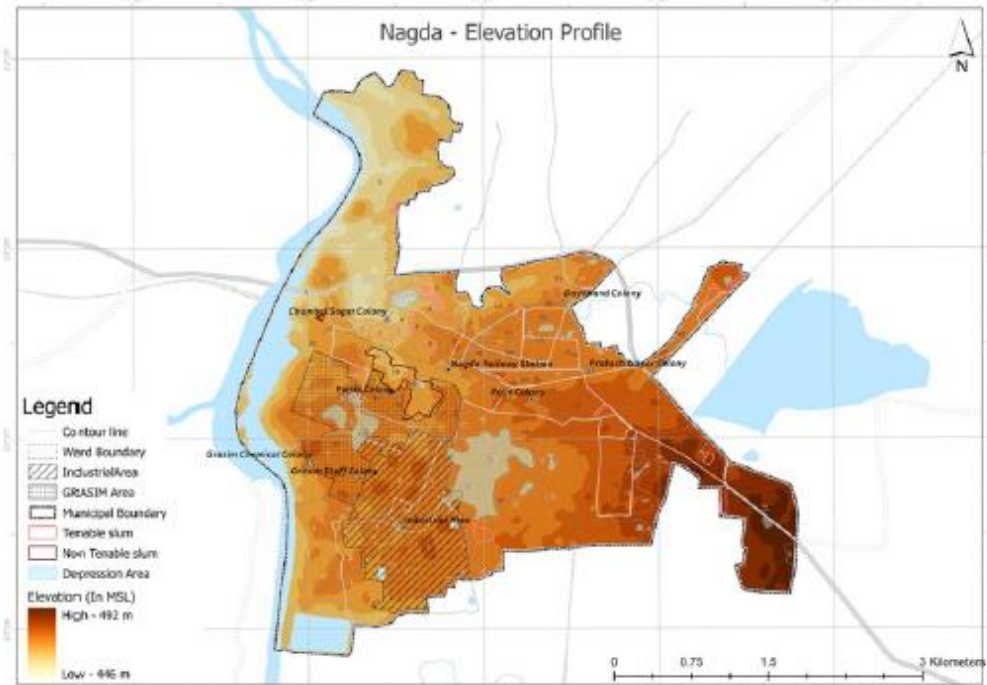
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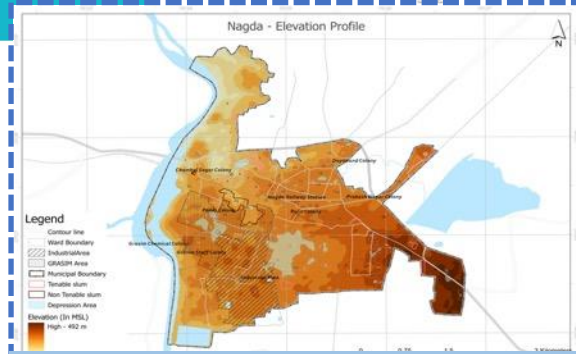
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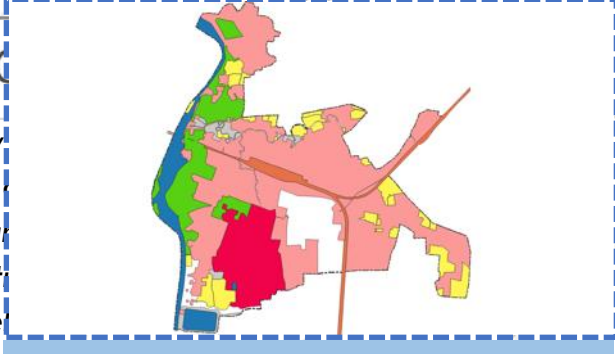




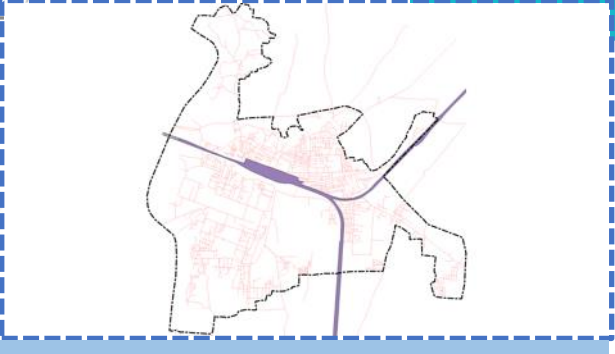
DEM - SRTM Global DEM



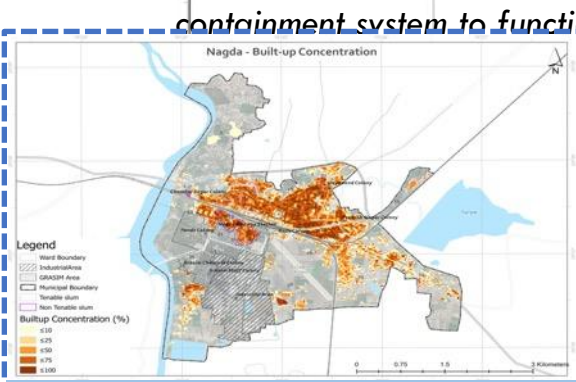
Low Income Settlements, Source: Town



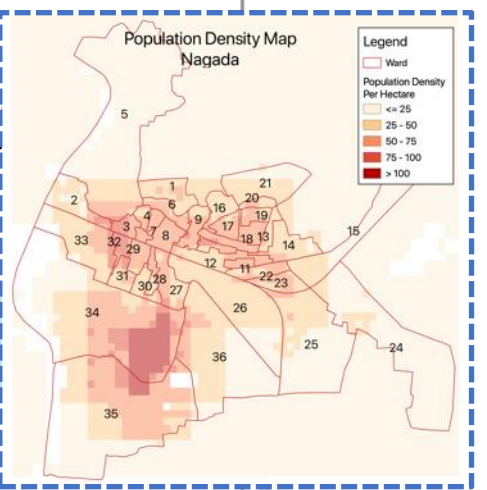
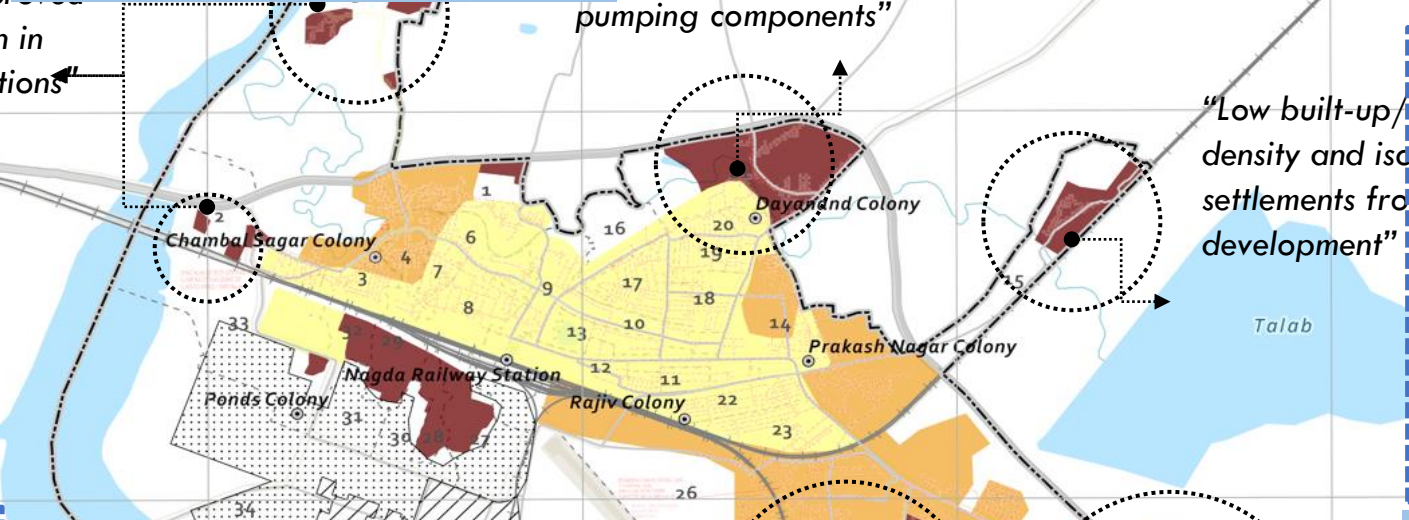
Land use - Town



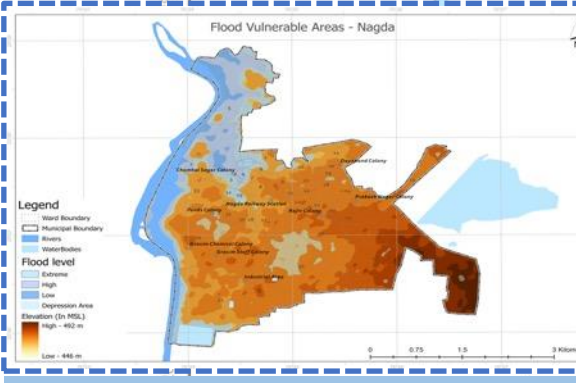
Infrastructure - Town



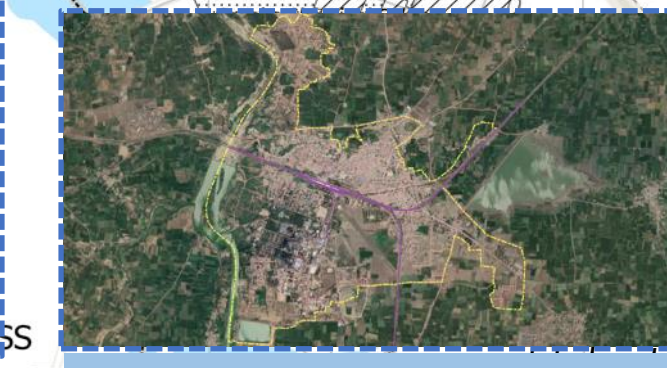
Property Data from Town & Lands at Imagery



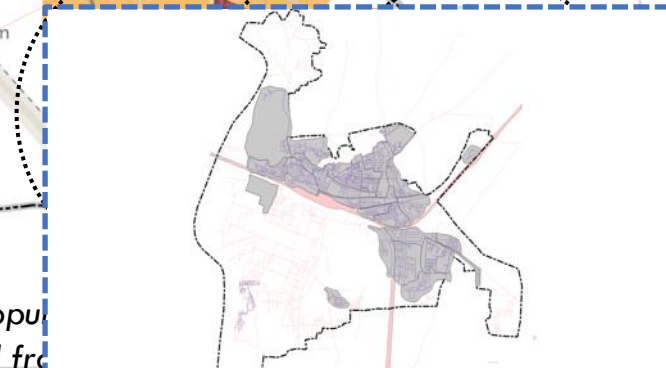
Pop Density, Source: worldpop.org



DEM & Water danger line from Water Resource Department MP



Satellite Image, Source Google



Sewerage Area (AutoCAD) – Proposed by Consultant

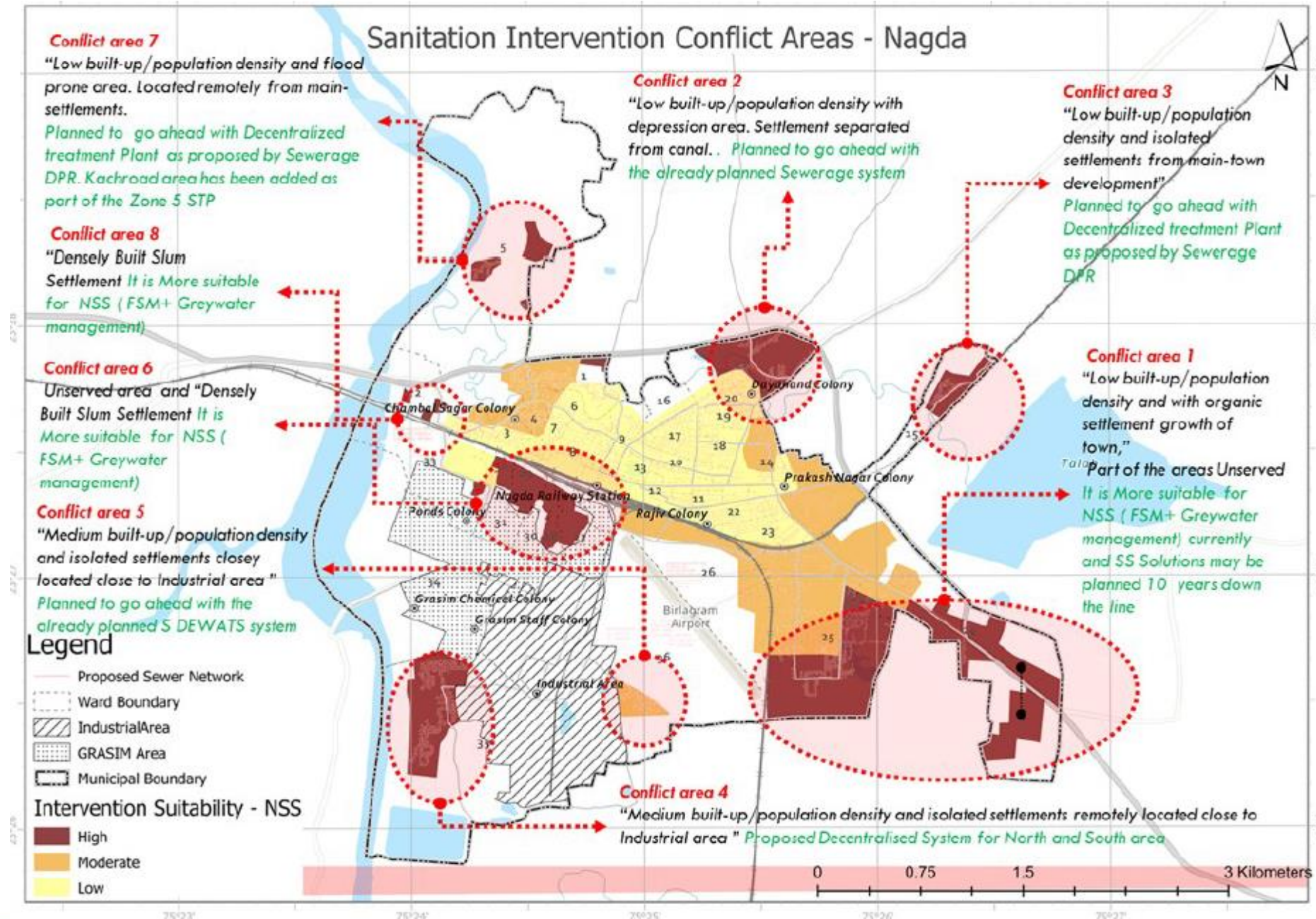
“Low built-up/population density and with organic settlement growth of town, may be covered with SS during 2<sup>nd</sup> phase of interventions”



# Development of NSS suitability analysis

## Tertiary Analysis

Provides detailed strategies to integrated NSS component into the sanitation planning to ensure inclusive and resilient sanitation coverage.





## 2. MANAGEMENT



Convergence of IT,  
Mobile Technology,  
Municipal Business Process



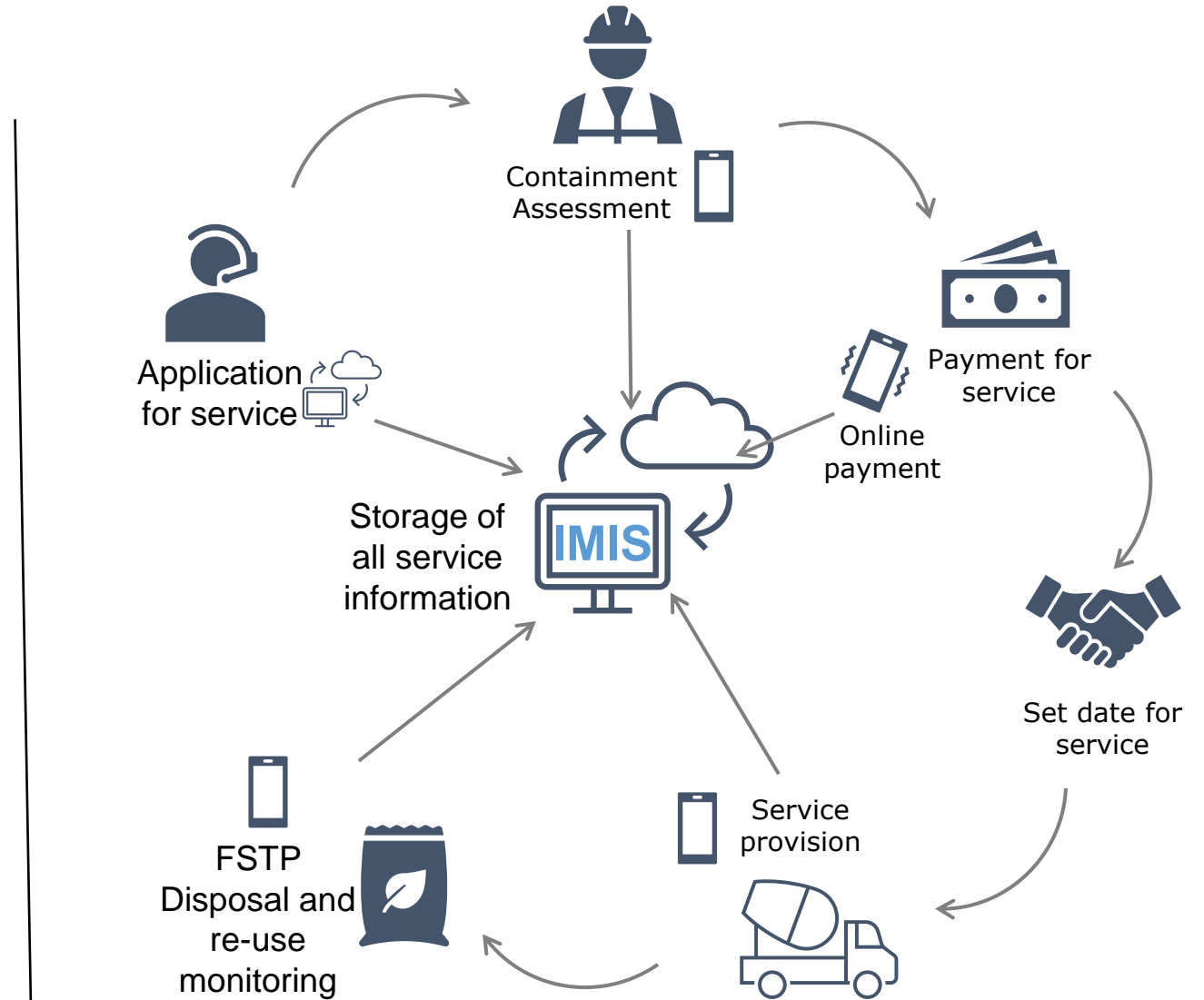
**Web-based App (IMIS)**  
for desk office work



Mobile Apps for field assessment,  
survey and service delivery



Link external Interfaces  
For online Payment Apps of link to  
local or national databases

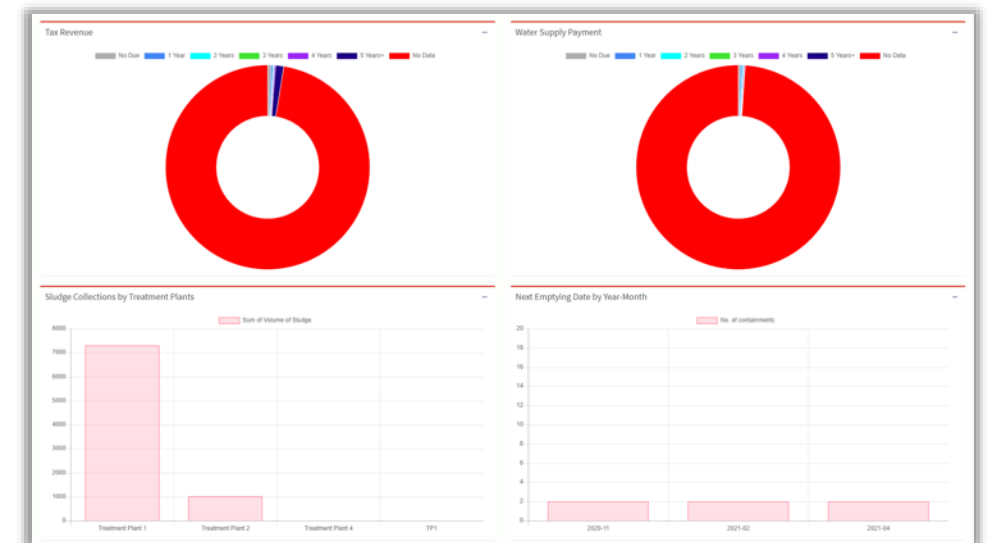
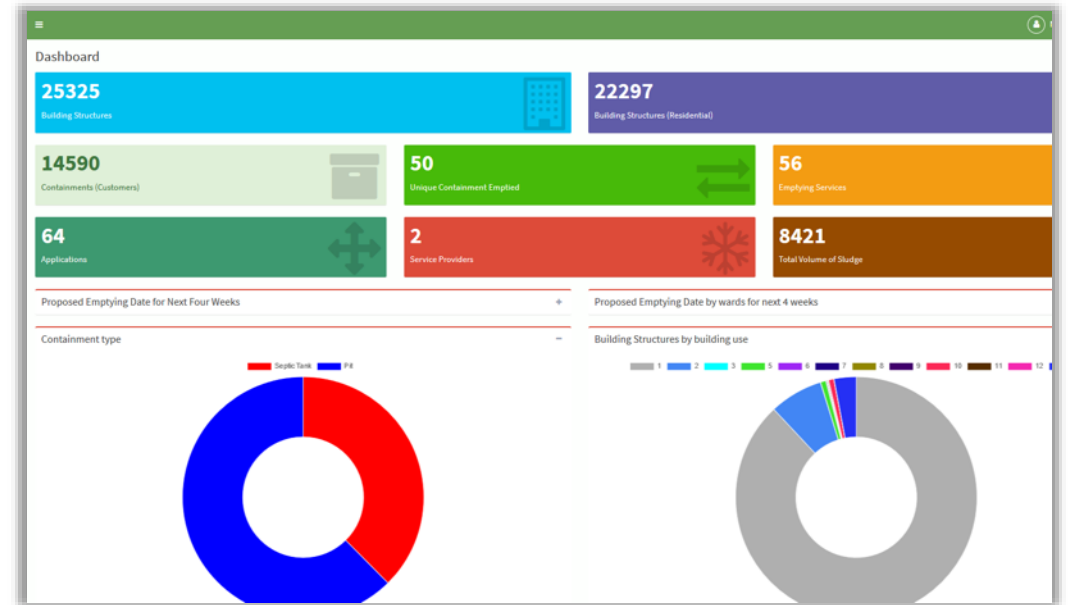


ACCELERATING INCLUSIVE SANITATION

# MONITORING & EVALUATION



Using a powerful Dashboard for Real-Time Status of Services





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# Thank you!

**Laxmi Sharma**

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