

Preparing and Updating of SLIPs

Session 1

Capacity building workshop for AMRUT

1st September 2016



AILSG



performance
assessment
system

CEPT
UNIVERSITY

AMRUT Mission

- The National Priority is to create infrastructure
 - To provide basic services to households, and
 - build amenities to improve quality of life
- Service Delivery – Focus on infrastructure that leads to delivery of services to citizens.
 - Focus on Planning before hand - Service Level Improvement Plans (SLIP)
 - Incentives for achievement of Reforms

Improved service delivery viewed by citizens as one of the most tangible indicators of improved governance

AMRUT

Universal Coverage

State Annual Action Plan once a year



1. Water Supply

Ensure every house has access to a tap.

2. Sewerage

Ensure every house has a connection.

3. Urban Transport

Reduce pollution by switching to public transport and non-motorized means of transport.

4. Storm water

To reduce flooding.

5. Green Spaces

Develop open and green spaces.

500 Cities

Capacity Building and a set of Reforms



Reforms

- The Mission mandates a set of 11 reforms which have to be implemented by all the States and Mission cities.
- Each year some Reforms to be implemented and 10% has been set aside as incentives for States/ULBs graded on basis of each year's reform achievement.
- Technical and Financial assistance will be given for Reform implementation

List of Urban Reforms

Sr No.	Reform
1	E-Governance
2	Constitution and Professionalization of Municipal Cadre
3	Augmenting Double Entry Accounting
4	Urban Planning and City Development Plans
5	Devolution of Funds and Functions
6	Review of Building by-laws
7	Set-up financial intermediary at State level
8 (a)	Municipal tax and fees Improvement
8 (b)	Improvement in levy and collection of user charges
9	Credit Rating
10	Energy and Water Audit
11	Swachh Bharat Mission

Funds Allocations

- Formula for Allocation to States - total population and number of statutory urban towns (50:50)
- State contribution to the project cost shall not be less than 20%.
- Funds distribution –
 - Project fund - 80% of the annual budgetary allocation (90% during first year).
 - Incentive for Reforms - 10%
 - State funds for A&OE - 8%
 - MoUD funds for A&OE - 2%

Central government assistance –

1/2 of project cost to cities
having population < 10 lacs

1/3 of project cost to cities
having population > 10 lacs

AMRUT Mission: SLIP

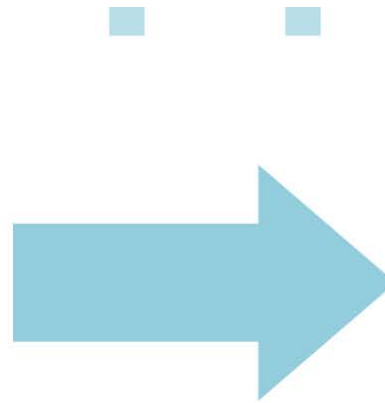
- Focus on measurable urban service delivery outcomes
- ULBs to prepare Service Level Improvement Plans (SLIPS)
 - Key purpose is to cover all households with water supply and sewerage (including septage)

**Service Level Benchmark framework:
Basis to measure service delivery outcomes**

Service Level Improvement Plans (SLIP)

- Assess the service level gap
- Bridge the gap
- Examine alternatives
- Estimate the cost (both capital and O&M)
- Prioritize based on local demands and needs;
- Out-of-box thinking, Identify innovative approaches
- Conditionality: Include projects with land and all clearances obtained
- Financing: Investment requirements, revenue improvements and resource mobilization
- Implementation of reforms
- Capacity (institutional and human) enhancement requirements

Service Level Improvement Plans (SLIP)



State Action Plan and State Annual Action Plan (SAAP)

SAAP

- Aggregate ULB level SLIPs to prepare Master State Action Plan to provide the state's programmatic approach towards achieving AMRUT objectives.

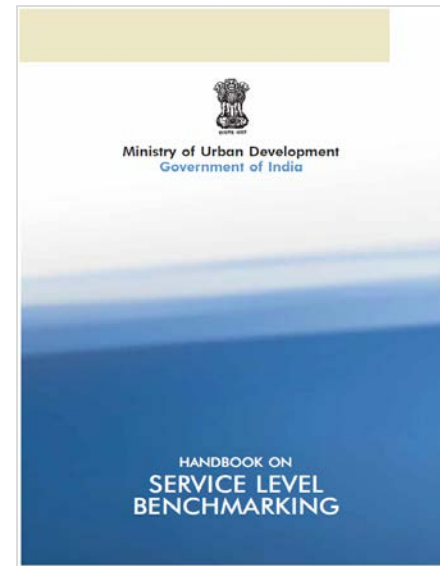
State Annual Action Plan to provide:

- Inter-ULB prioritization for allocation of investments
- Record of consultations and support from elected representatives and citizens
- Approaches (including cost recovery) for O&M costs for at least 5 years
- Financing of SAAP including state contribution, ULB revenue sources, borrowing from national/ bilateral/ multilateral sources

S1: SLBs for assessing the service levels

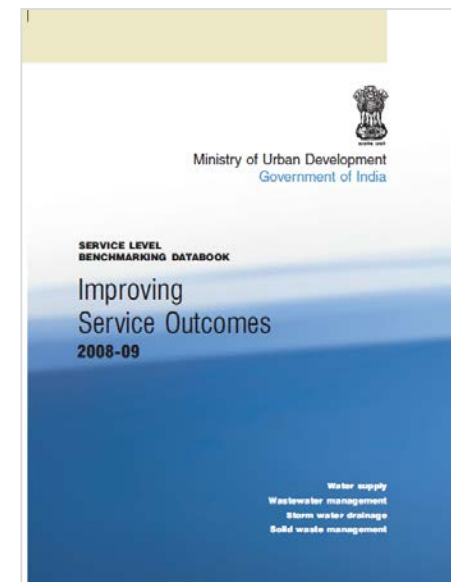
- Four services covered
 - Water supply
 - Sewerage
 - Storm water drainage
 - Solid waste management

- **SLB Handbook** provides detailed guidelines on the definition, calculation methodology, monitoring guidelines, a service goal (to be achieved over a period of time) and data reliability grading scale.



*Handbook on
Service level
benchmarking*

**Data book
for 2008-09
Produced by
2010**



Service Level Benchmarking initiative

- Handbook on Service Level Benchmark is developed by MoUD, which includes
 - Minimum set of **standard performance parameters** for the water and sanitation sector that are commonly understood and used by all stakeholders across the country
 - Define common minimum framework for **monitoring and reporting** on these indicators
 - Set out **guidelines** on how to operationalized this framework in a phased manner
- This framework comprises of **28 SLB** indicators
- **5-point SLB agenda for ULBs:**
 1. Track performance over time
 2. Compare performance with peers
 3. Identify areas for improvement
 4. Set targets for performance
 5. Report/ Disclose performance to all stakeholders (e.g. councillors, citizens)

Sector -wise SLB indicators

Water supply

Coverage of water supply connections	100%
Per capita supply of water	135 lpcd
Extent of metering of water connections	100%
Extent of Non- Revenue Water (NRW)	20%
Continuity of water supply	24 hours
Quality of water supplied	100%
Efficiency in redressal of customer complains	80%
Cost recovery in water supply services	100%
Efficiency in collection of water supply related charges	90%

Solid Waste Management

Household level coverage of solid waste management services	100%
Efficiency of collection of municipal solid waste	100%
Extent of segregation of municipal solid waste	100%
Extent of municipal solid waste recovered	80%
Extent of scientific disposal of municipal solid waste	100%
Efficiency in redressal of customer complains	80%
Extent of cost recovery in SWM services	100%
Efficiency in collection of SWM charges	90%

Wastewater

Coverage of toilets	100%
Coverage of sewage network services	100%
Collection efficiency of the sewage network	100%
Adequacy of sewage treatment capacity	100%
Quality of sewage treatment	100%
Extent of reuse and recycling of sewage	20%
Efficiency in redressal of customer complains	80%
Extent of cost recovery in sewage management	100%
Efficiency in collection of sewage charges	90%

Storm Water Drainage

Coverage of storm water drainage network	100%
Incidence of water logging / flooding	0

PAS

Assess service delivery in water and sanitation

profile for **800+** Cities

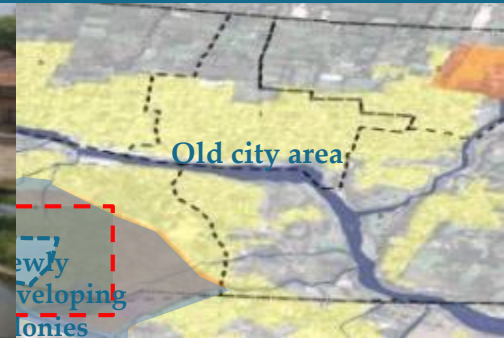
Performance Assessment System

in **5** States

National database for 1800 cities
For 18 states for 3 years

www.pas.org.in

Water supply, Waste Water, Solid waste Management & Storm Water



PAS Project – www.pas.org.in



Login
Password

SLB Framework has been implemented by PAS Project, CEPT University

and is being used since last 7 years, for:

- 13th FC
- 14th FC
- SBM
- AMRUT
- Smart city mission

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Gujarati | हिंदी | English | Marathi

PAS Project

The [Performance Assessment System \(PAS\)](#) Project aims to develop appropriate methods and tools to measure, monitor and improve delivery of water and sanitation in urban India. The Project has three major components of performance measurement, monitoring and improvement. It covers all urban local bodies (ULBs) in Gujarat and Maharashtra.

Funded by [Bill and Melinda Gates Foundation](#), PAS is being implemented by [Center For Environmental Planning and Technology \(CEPT University\)](#) with support of [Urban Management Centre \(UMC\)](#) in Gujarat and [All India Institute of Local Self-Government \(AIILSG\)](#) in Maharashtra.



Now Available

For recent PAS e-News,

[Click Here](#)

To learn more about recent activities, subscribe to PAS e-News.

State Profile

81% of the area under municipal jurisdiction in Gujarat is covered with supply network.

57% of slum households in Gujarat have access to individual toilets.

[Learn More in State Profiles](#)

Know Your City

200 lpcd of water is supplied to consumers in Pimpri Chinchwad, a city with a population of 1.4 million in Maharashtra.

100% households in Kille-Dahur, a town with a population of 25,000 in Maharashtra, have access to toilets.

[Learn More in Know Your City](#)

PAS Photo Gallery



Online data entry for SLB



You are signed in as GreaterMumbai ULB.

| Sign Out |

Unique access for each city

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Data Entry

Checklist

The SLB-PAS checklist has been developed to assess Service Level Benchmarks for the indicators as recommended by the **13th Finance Commission**.

This checklist is composed of 6 worksheets, with an additional sheet on list of documents/formats to be compiled. The 6 worksheets ask for information about the water supply, wastewater (sanitation and sewerage), solid waste management, and slum unit's performance data and operating environment. These are:

1. General Information
2. Water Supply
3. Sewerage and Drainage
4. Solid Waste Management
5. Additional Information
6. Reliability

Cells highlighted WHITE is for data entry inputs. Cells highlighted YELLOW is disabled as data is already filled. Please save (click 'Save') after entering data for each sub section. Upon completion of data entry for a particular sheet (e.g. General Information), click SUBMIT button given at the top of the page to ensure the data is stored in the database. Please note that once the data is submitted, the data can be edited only upon approval by Administrator.

Please note that the data for the previous year is displayed along with the current year to facilitate data entry.

Once the data is submitted, the approval of the checklist will be done by the Commissioner/Chief Officer, and state department. Once the Commissioner/ Chief Officer and state department approves the data, the various reports for the city would be generated.

Select Financial Year

FY 2015-2016

View FY 2015-2016 Checklist

View FY 2015-2016 Indicator Report

View Report of CityBenchmarking

Approval Status

Select Language to Download Checklist

---Select---

Download FY 2015-2016 Checklist

Download FY 2015-2016 Target Setting Model

Designation	Role
State SLB Cell	Reviews Cities Pending the Checklist Submission
District Collector	Approval Required After Approval by City
City Commissioner / Chief Officer	Approval Required After Submission of Checklist
City Data Entry Operator	Submits Checklist

□ General instructions on how to fill checklist online

□ Options to download checklist in excel format, and in local language

□ Option to view the approval status

Online data entry for SLB

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Data Entry

PERFORMANCE ASSESSMENT SYSTEM (PAS) PROJECT
Greater Mumbai

General Information Water Supply Sewerage and Drainage Solid Waste Management ERI Reliability

GENERAL INFORMATION: FY 2015-2016

Reset Submit Go Back to Data Entry Save All

1.12 Number of Properties (2001/2011)	Number	ND	<input type="text"/>
1.13 Number of Properties (Present Year)	Number	ND	<input type="text"/>
1.14 Number of Election Wards (2001/2011)	Number	ND	<input type="text"/>
1.15 Number of Election Wards (Present Year)	Number	ND	<input type="text"/>
1.16 Town/City Area (Census 2001/2011)	Sq.km	437.71	<input type="text"/>
1.17 Present Town/City Area	Sq.km	ND	<input type="text"/>
1.18 Population Density (Present Year)	Number	0.0	<input type="text"/>
1.19 Number of Commercial and other establishments (offices, institutions, markets), Hotels and Restaurants (Year 2001/2011)	Number	ND	<input type="text"/>
1.20 Number of Commercial and other establishments (offices, institutions, markets, Hotels and Restaurants)(Present Year)	Number	ND	<input type="text"/>

Save

1. Demographics

Item	Unit	2014-2015	2015-2016
1.1 Population (Census 2001/2011)	Persons	12478447	<input type="text"/>
1.2 Decadal Growth Rate of the City	%	4.17	<input type="text"/>
1.3 Population (Present Year)	Persons	ND	<input type="text"/>
1.4 Number of Households (Census 2001/2011)	Number	2665481	<input type="text"/>
1.5 Number of Households (Present Year)	Number	ND	<input type="text"/>
1.6 Family Size (Census 2001/2011)	Persons	4.68	<input type="text"/>
1.7 Family Size (Present Year)	Persons	0.0	<input type="text"/>
1.8 Number of Slums (2001/2011)	Number	ND	<input type="text"/>
1.9 Number of Slums (Present Year)	Number	ND	<input type="text"/>
1.10 Number of Slum Households (2001/2011)	Number	ND	<input type="text"/>
1.11 Number of Slum Households (Present Year)	Number	ND	<input type="text"/>
1.12 Number of Properties (2001/2011)	Number	ND	<input type="text"/>
1.13 Number of Properties (Present Year)	Number	ND	<input type="text"/>
1.14 Number of Election Wards (2001/2011)	Number	ND	<input type="text"/>
1.15 Number of Election Wards (Present Year)	Number	ND	<input type="text"/>
1.16 Town/City Area (Census 2001/2011)	Sq.km	437.71	<input type="text"/>
1.17 Present Town/City Area	Sq.km	ND	<input type="text"/>
1.18 Population Density (Present Year)	Number	0.0	<input type="text"/>
1.19 Number of Commercial and other establishments (offices, institutions, markets), Hotels and Restaurants (Year 2001/2011)	Number	ND	<input type="text"/>
1.20 Number of Commercial and other establishments (offices, institutions, markets, Hotels and Restaurants)(Present Year)	Number	ND	<input type="text"/>

- Previous year's data displayed alongside current year of data entry
- Options to save each sub section within a sheet; useful in case of connectivity issues during data entry

S2. Situation assessment and Infrastructure gap assessment

- Allow assessing the existing service level gap and helps in identifying service level gaps

Sr.	Indicators	Baseline
1	Household level coverage of direct water supply connections	56%
2	Per capita quantum of water supplied (lpcd)	141
3	Quality of water supplied	99%
4	Coverage of latrines (Individual and community)	78%
5	Coverage of Onsite sanitation services	43%
6	Efficiency of wastewater and septage collection system	43%
7	Adequacy of wastewater and septage treatment capacity	0%

S3. Action Planning

Action Plan summary

IMPROVEMENT ACTIONS

Sector colour code

Water supply

Wastewater

Solid waste

Actions	Type
Improve condition of existing Public toilets	Existing system
Information, education and communication (IEC) campaigns for sanitation awareness	Existing system
Construct new individual toilets	New infrastructure
Construct new community toilet blocks	New infrastructure
Construct new public toilet blocks	New infrastructure
Increase septage collection with existing suction emptier trucks	Existing system
Upgrade open surface drains to closed drains for storm water drainage	Existing system
Lay new settled sewer for wastewater conveyance	New infrastructure
Procure new suction emptier trucks	New infrastructure
Construct/augment fecal sludge treatment plant	New infrastructure
Construct/augment treatment plant for effluent and sullage	New infrastructure
Desilting and rehabilitation of drains	Customise action

S4. Implication of actions on Service levels

Impact on Indicators

Sr.	Indicators	Baseline	Annual Targets (Increment from baseline value)								
			2016	2017	2018	2019	2020	2021	2022	2023	2024
1	Household level coverage of direct water supply connections	56%	73%	90%	100%	100%	100%	100%	99%	99%	98%
2	Per capita quantum of water supplied (lpcd)	141	107	87	77	75	74	73	71	70	69
3	Quality of water supplied	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
4	Coverage of latrines (Individual and community)	78%	86%	93%	100%	100%	100%	100%	100%	100%	100%
5	Coverage of Onsite sanitation services	43%	53%	63%	71%	80%	87%	93%	99%	98%	97%
6	Efficiency of wastewater and septage collection system	43%	53%	63%	71%	80%	87%	93%	99%	98%	97%
7	Adequacy of wastewater and septage treatment capacity	0%	0%	3%	3%	5%	5%	4%	4%	100%	100%

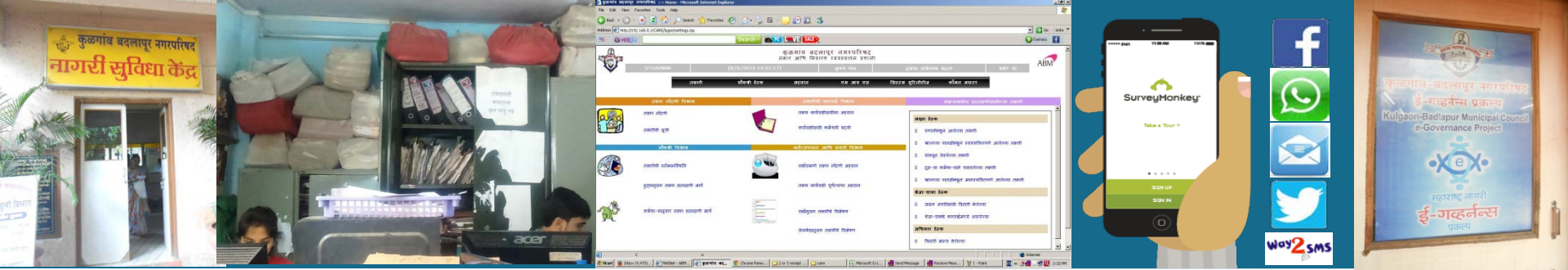
S6. Financial resource mobilization Planning

Project—wise Source of Capital

	Total CapEx	Central Grants	State Grants	Debt	Private/ PPP	Beneficiary	ULB share (% and Rs. lakhs)	
Regularise unauthorised water supply connections	0							
Increase connections using existing water supply distribution network	0							
Lay new water supply distribution network	1,486	50%	40%				10%	149
Lay internal infrastructure of water supply lines in slums	0							
Improve collection efficiency of water supply charges and taxes	0							
Improve condition of existing Community toilets	35		50%				50%	17
Improve condition of existing Public toilets	8						100%	8
Information, education and communication (IEC) campaigns for sanitation awareness	36						100%	36
Construct new individual toilets	1,735	17%	33%			50%		
Construct new community toilet blocks	6						100%	6
Construct new public toilet blocks	6						100%	6
Increase sewage collection with existing suction emptier trucks	0						100%	
Upgrade open surface drains to closed drains for storm water drainage	675	50%	40%				10%	67
Lay new settled sewer for wastewater conveyance	4,971	50%	40%	10%				
Procure new suction emptier trucks	33				100%			
Construct/augment fecal sludge treatment plant	102	50%	30%		20%			
Construct/augment treatment plant for effluent and sullage	1,890	50%	40%	10%				
Desilting and rehabilitation of drains	72	50%	40%				10%	7

S8. Compare scenarios

- To examine alternatives
- To compare the various scenarios w.r.t finance, cost and tariff implication
- Decision on selection of actions/projects for service level improvement



Getting familiarized with SLIP & Opportunities to tap

Session 2

Capacity building workshop for AMRUT

1st September 2016



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General Observations on SLIPs

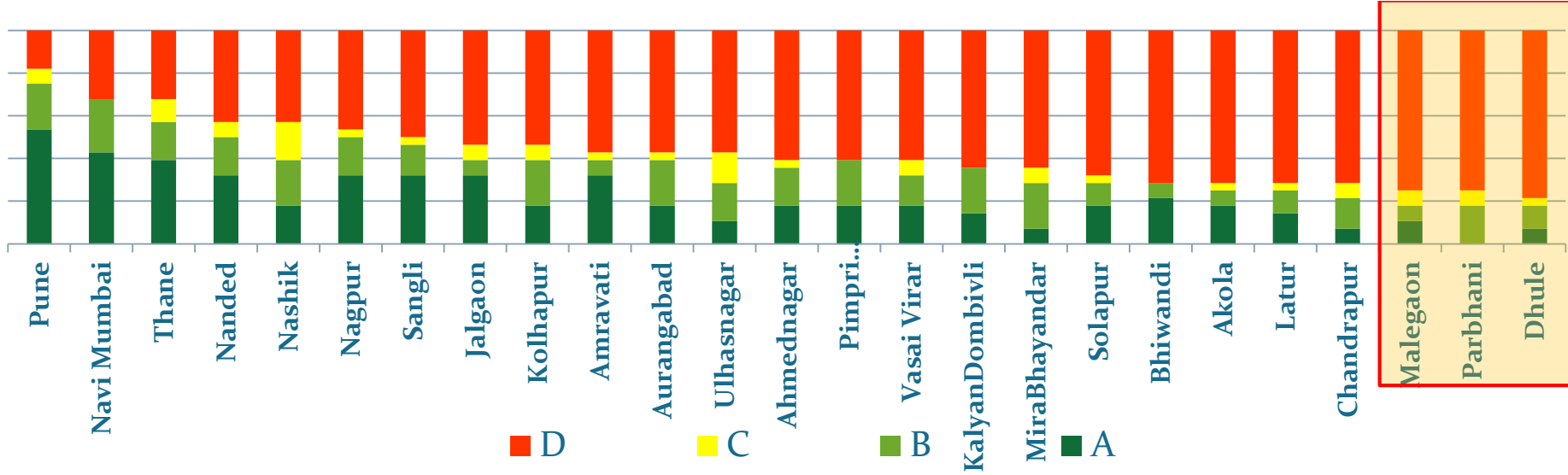
- Information provided in SLIPs are not consistent
- Reliability of information is not mentioned
- Need to strengthen the argument by providing background information
- No proposal for low cost-no cost solutions; process reengineering and policy enforcement related measures are not mentioned
- Need to strengthen the SLIP by establish cross sectoral linkages
- Need to justify the need for project especially with respect to information provided in SLIP
- Need to insert maps at appropriate section

Strengthening SLIPs by improving reliability of information

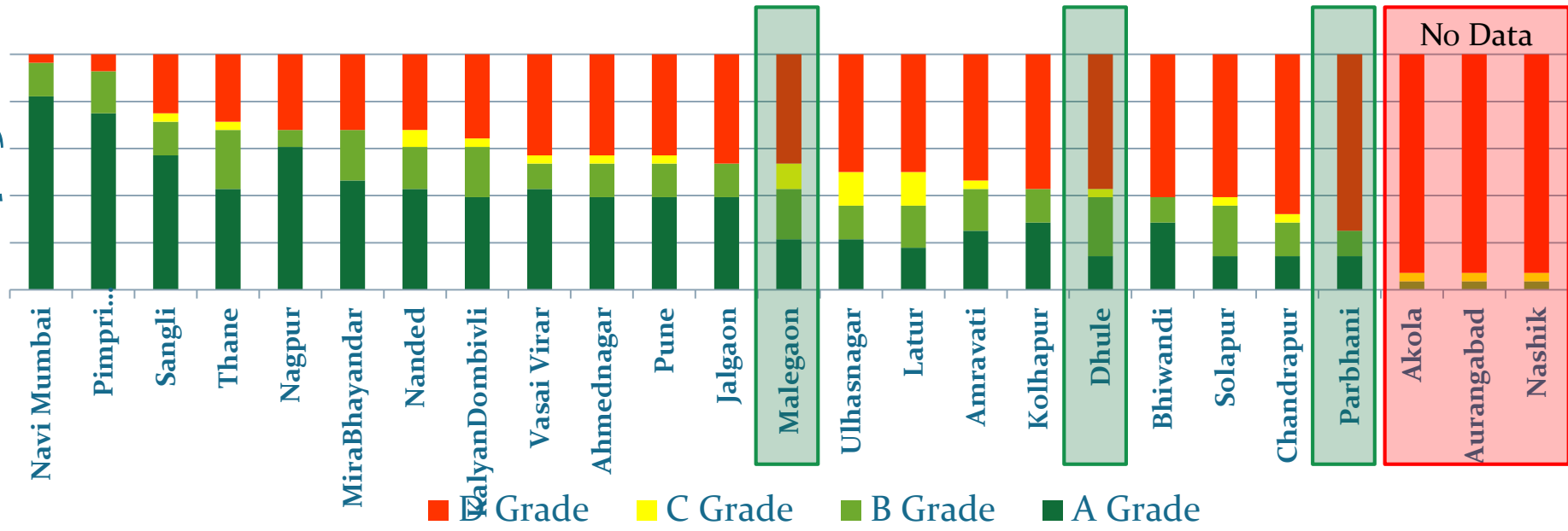
SLB: Data Reliability-Maharashtra

Outcome of data- backed with Reliability grades

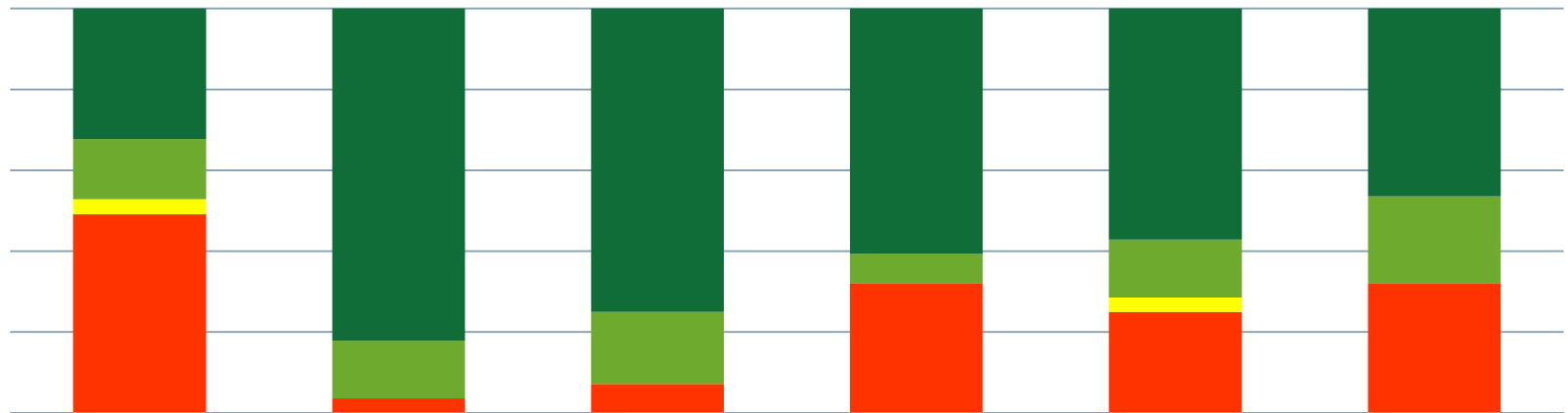
2010-11



2014-15



SLB: Data Reliability Analysis – 5 MCs



	All MCs	Navi Mumbai	Pimpri Chinchwad	Nagpur	Sangli	MiraBhayandar
■ A Grade	9	23	21	17	16	13
■ B Grade	4	4	5	2	4	6
■ C Grade	1	0	0	0	1	0
■ D Grade	14	1	2	9	7	9

To improve data reliability of Service Level Benchmarking and Information Management System, need to integrate / link

SLB, SBM, Smart City & E-governance system

Data Reliability Analysis- PCMC and NMMC

	PCMC	NMMC	
Coverage of water supply connections	A	Coverage based on HH survey conducted 1-5 years back. Records of HH served by WS connections computerized.	B
Per capita supply of water (At consumer end)	A	Measurement of the water produced at WTP/ tube wells and supplied from bulk distribution points based on readings for bulk flow meters (computerized recording). Computerized recording of metered connections.	A
Extent of metering of water connections	A	Measurement of the water produced at WTP/ tube wells and supplied from bulk distribution points based on readings for bulk flow meters (computerized recording). Meters installed at all consumer points.	A
Extent of Non Revenue Water	A	Meters installed at all consumer points. Billing and collection records regularly updated and records maintained against charges collected against specific bills.	A
Continuity of water supply	D	Estimation of the number of hours based on feedback from field level engineers. Zone-wise data are not available. Duration of water supplied for the city estimated through valve operating points across zones. Adequacy of pressure and hours of supply at consumer end assessed	A
Efficiency in redressal of customer complaints	A	Records maintained for resolved complaints. Are multiple mechanisms to register complaints available. Records for collating, sorting and tracking of complaints computerized.	A
Quality of water supplied	B	Water quality tests conducted in own laboratory. Proper records of test conducted for samples maintained. Periodic audits are not carried out to monitor water quality by external agencies periodically Periodic audits are carried out to monitor water quality by external agencies periodically	A
Cost recovery in water supply services	A	Regular (quarterly/annual) reporting of the financial statements conducted to state/central agencies Fully segregated budget heads. Accrual based double entry accounting system followed.	A
Efficiency in collection of water supply related charges	A	Arrears segregated from current demand. Accrual based double entry accounting system followed. Records maintained for charges collected against the specific bill issued.	A

Data Reliability Analysis- PCMC and NMMC

	PCMC	NMMC	
Coverage of Toilets	C	Records for total number of Properties with access to toilets maintained and computerized.	C
Coverage of sewage network services	B	Estimation of properties served with sewerage connections based on number of sewer connections.	B
Collection efficiency of sewerage networks	D	NRW reliability Grade A. Quantity of wastewater collected by network estimated based on bulk flow meters at inlet of STP.	A
Adequacy of sewage treatment capacity	D	Sewerage treated at secondary treatment plant. Water consumed from any Non ULB water sources not estimated	A
Extent of reuse and recycling of sewage	A	Quantity of wastewater collected by network estimated based on bulk flow meters at inlet of STP. Quantity of wastewater treated by STP estimated based on bulk flow meters at outlet of STP.	A
Quality of sewage treatment	B	Audits to monitor waste water quality procedures are not carried out - by independent agencies. Proper records of samples conducted and passed/failed for all parameters (BOD, COD, etc) are maintained.	B
Efficiency in redressal of customer complaints	A	Records maintained for resolved complaints. Are multiple mechanisms to register complaints available. Records for collating, sorting and tracking of complaints computerized.	A
Extent of cost recovery in sewage management	A	Regular (quarterly/annual) reporting of the financial statements conducted to state/central agencies Fully segregated budget heads. Accrual based double entry accounting system followed.	A
Efficiency in collection of sewage charges	A	Arrears segregated from current demand. Accrual based double entry accounting system followed. Records maintained for charges collected against the specific bill issued.	A

Data Reliability Analysis- PCMC and NMMC

	PCMC		NMMC	
Coverage of Storm Water Drainage Network	A	Estimation of length of pucca and covered drains through Ground level surveys (1-5 yrs)	Estimation of length of pucca and covered drains based on road maps (<5 yrs old)	B
Incidence of water logging/flooding	B	Other*	Flood prone points identified in the city through Flood monitoring stations by disaster management department	A
Coverage of water supply connections in slums	ND	No Data	Computerized records of information on slums maintained for WS. Estimations based on UWSS service survey in slums. (recent surveys) Estimation of population/HHs in slums done based on recent surveys (1-3 years)	A
Coverage of individual toilets in slums	ND	No Data	Computerized records of information on slums maintained for toilets. Estimations based on UWSS service survey in slums. (recent surveys) Estimation of population/HHs in slums done based on recent surveys (1-3 years)	A
Coverage of wastewater network services in slums	ND	No Data	No sewer connections	A
Household level coverage of solid waste management services in slums	ND	No Data	Computerized records of information on slums maintained for WS. Estimations based on UWSS service survey in slums. (recent surveys) Estimation of population/HHs in slums done based on recent surveys (1-3 years)	B

Data Reliability Analysis- PCMC and NMMC

		PCMC	NMMC	
Household level coverage of solid waste management services	B	HHs and establishments served by door to door collection estimated by quantity of waste collected.	HHs and establishments served by door to door collection estimated based on by HH survey (1-5 years).	A
Efficiency of collection of municipal solid waste	B	Quantity of waste generated estimated on the basis of per capita waste generation Waste collected quantified through weighbridge at treatment/ scientific/ dumping site.		B
Extent of segregation of municipal solid waste	B	Quantity of waste segregated estimated based on inputs from door to door collection agencies	Quantity of waste segregated estimated by weighbridge measurement at treatment/disposal site	A
		Regular computerized record keeping at treatment plant/ scientific landfill/ dumping site.		
Extent of municipal solid waste recovered	A	Waste collected quantified through weighbridge at treatment/ scientific/ dumping site. Regular computerized record keeping at treatment plant/ scientific landfill/ dumping site.		A
Extent of scientific disposal of municipal solid waste	A	Waste collected quantified through weighbridge at Scientific landfill site. Regular computerized record keeping at treatment plant/ scientific landfill/ dumping site.		A
Extent of cost recovery in solid waste management services	A	Records maintained for resolved complaints. Are multiple mechanisms to register complaints available. Records for collating, sorting and tracking of complaints computerized.		A
Efficiency in collection of solid waste management charges	A	Regular (quarterly/annual) reporting of the financial statements conducted to state/central agencies Fully segregated budget heads. Accrual based double entry accounting system followed.		A
Efficiency in redressal of customer complaints	B	Records maintained for resolved complaints. Are multiple mechanisms to register complaints available. Records for collating, sorting and tracking of complaints computerized. Are the records of types of complaints not maintained.		A
			Are the records of types of complaints maintained.	

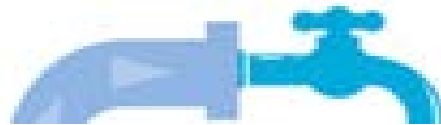
Enhancing e-Gov for SLB Mainstreaming

City Dashboard – Conceptual

- Key Statistics
- Property Tax
- Water Supply
- Waste Water
- SWM
- Storm Water
- Street Light
- Park- Garden
- Road
- Complaints
- Birth-Death
- Accounts
- Revenue
- Budget
- Projects



Property Tax



Water Supply



Waste Water



Solid Waste Management



Complaints Redressal



Revenue/ Accounts



Street light



Roads

City Dashboard: Water Supply



KADI

PERFORMANCE INDICATOR: WATER SUPPLY

Data is based on SLB indicators for the year 2012-13

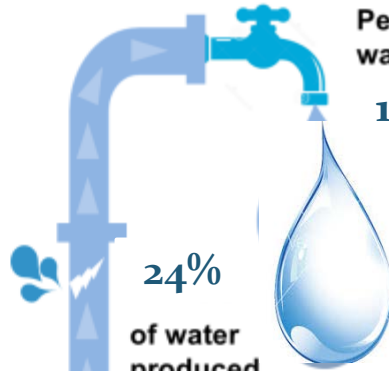
14.8 ML
Daily Water
Production



**Narmada Bulk
Water**



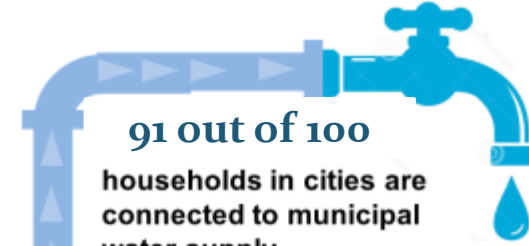
100%
water
produced
by ULBs
is surface
water



24%
of water
produced
does not
fetch
revenues

Per capita
water supply
137 lpcd

3.6 ML Daily
water loss



91 out of 100
households in cities are
connected to municipal
water-supply



Only 7
of every 10 slum HHs
have individual municipal
water connections

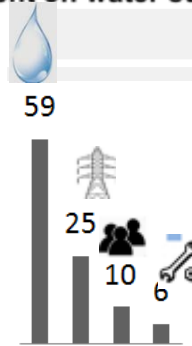


40%
expenses
for water
supply are
recovered



70%
water
taxes are
collected

Where every **100** Rupees
spent on water supply goes



NO City supplies 24*7
water

1 Hr Average hours of
water supply

30 Average days of
supply in a month

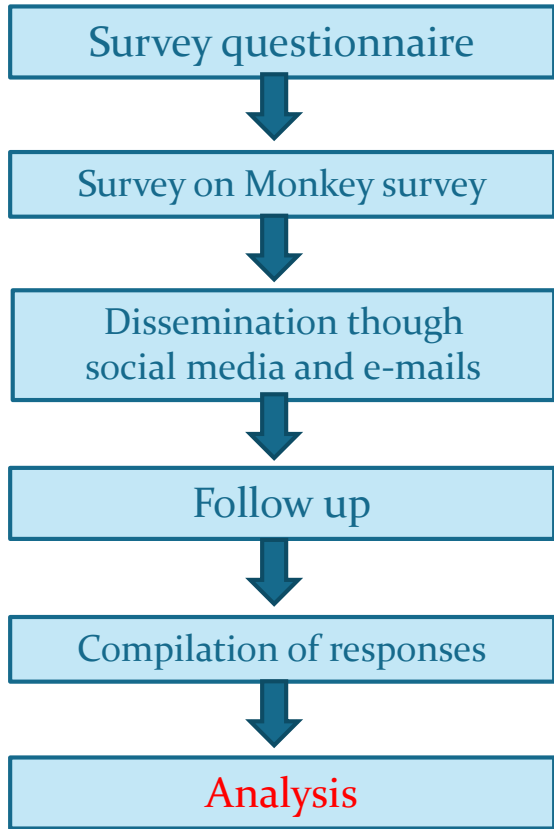




Rs 1596 Cost per connection
Rs 600 tariff per connection



Strengthening SLIPs by Citizen feedback on service delivery

Citizen's feedback through Crowd Sourcing

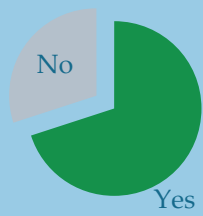


	Maharashtra crowd sourcing survey	Swachh MMR survey
		
Target area	All ULBs in Maharashtra	8 Municipal Corporations in Mumbai Metropolitan Region
Objective	To link the data (KPIs/LAIs) given by ULBs/Service provider to the perspective of the service provision at the consumer end	Focus on the sanitation services based on Swachh Bharat Mission
Survey link	https://www.surveymonkey.com/r/Water_Sanitation_in_Your_City	https://www.surveymonkey.com/r/SwachhMMR

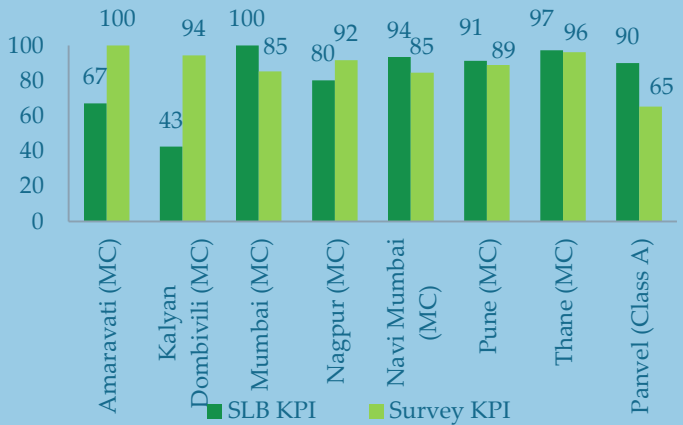
Maharashtra crowd sourcing survey: Analysis of feedback

Do you have individual municipality water connection?

Responses

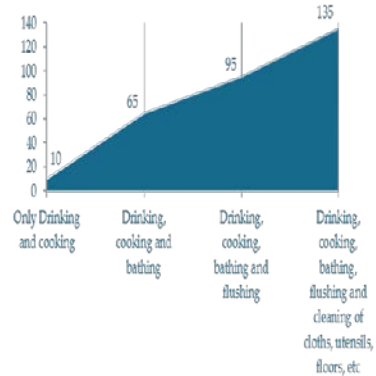


Coverage of water supply connections (%)

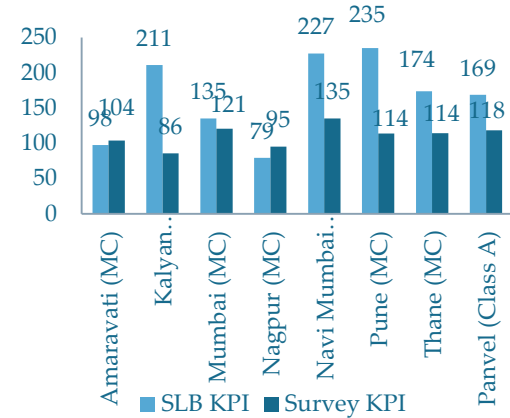


Municipal Water supply is sufficient for which of the following needs?

Average water consumption (lpcd)

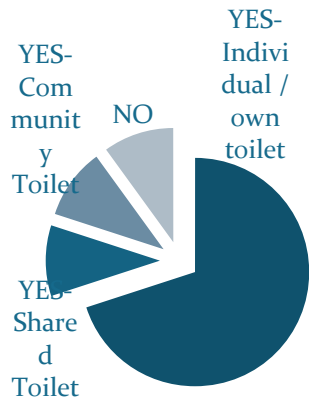


Per capita available of water at consumer end (lpcd)

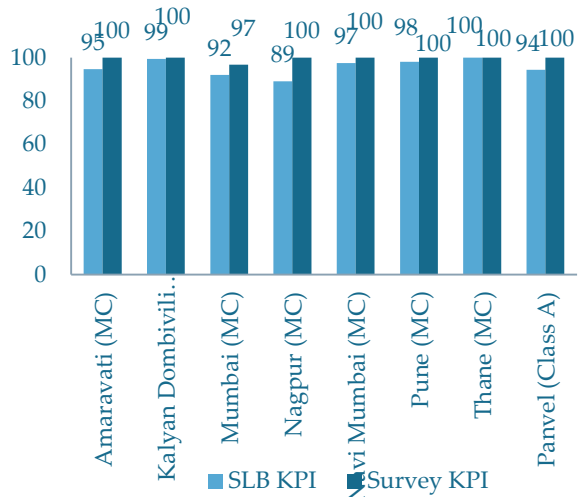


Do you have access to toilet?

Responses

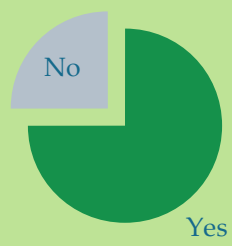


Coverage of Toilets (%)

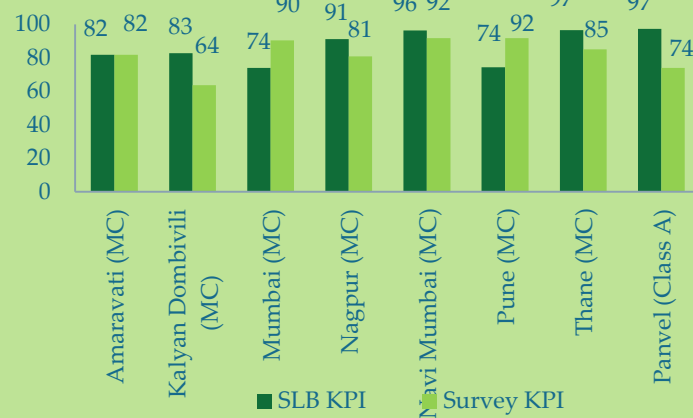


Is the solid waste being collected from your house everyday?

Responses

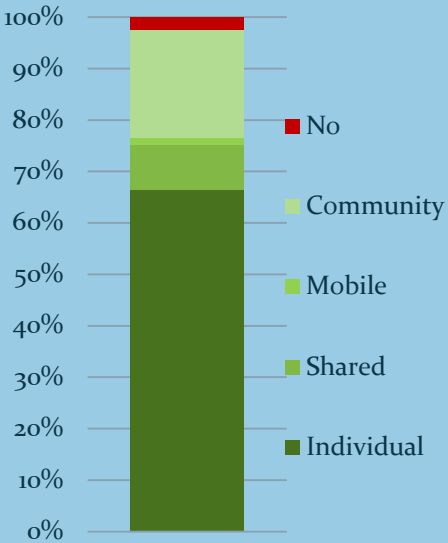


Household level coverage of solid waste management services (%)

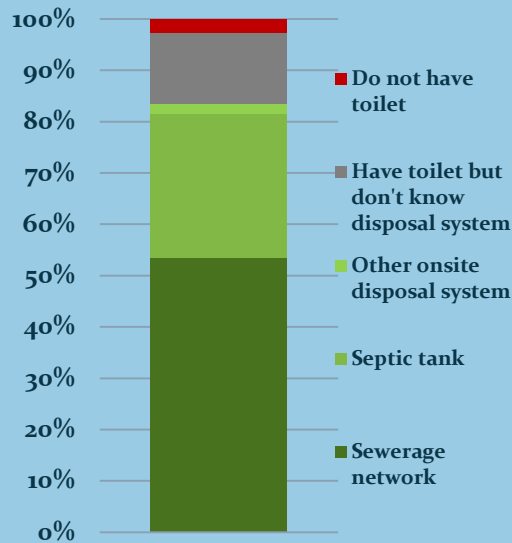


Swachh MMR survey: Analysis of feedback

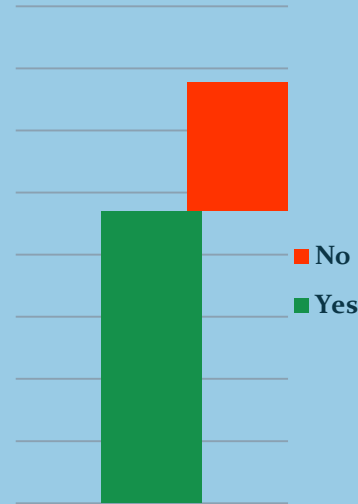
Access to Toilets



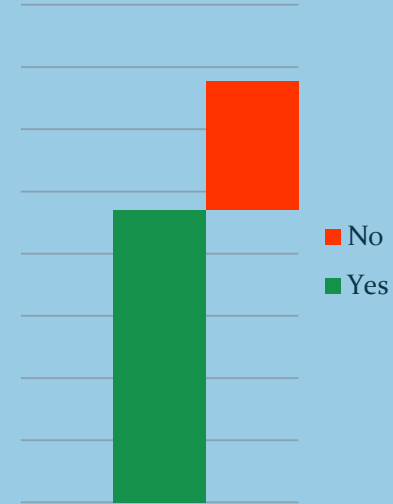
Disposal System



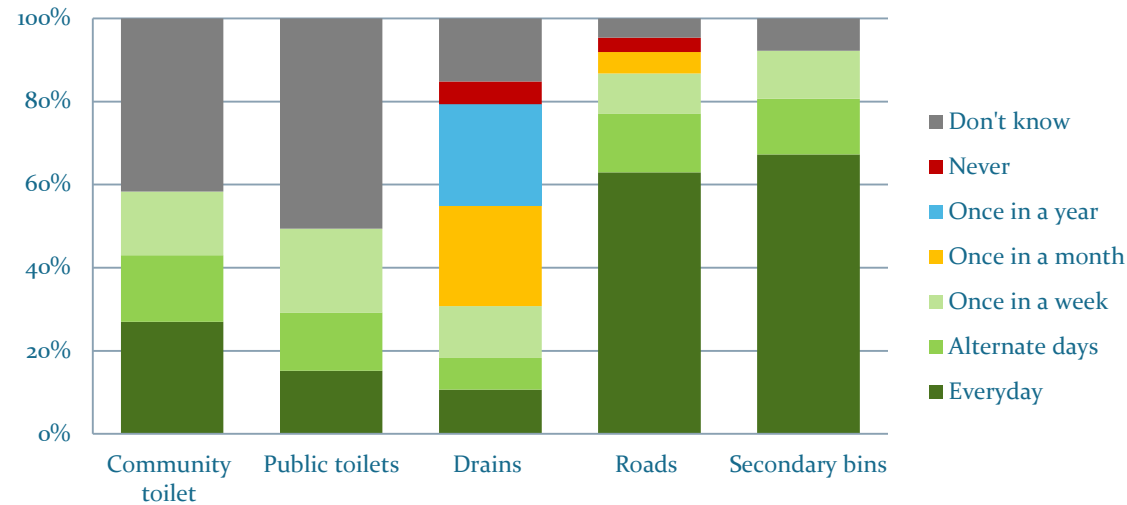
Door to Door collection of MSW



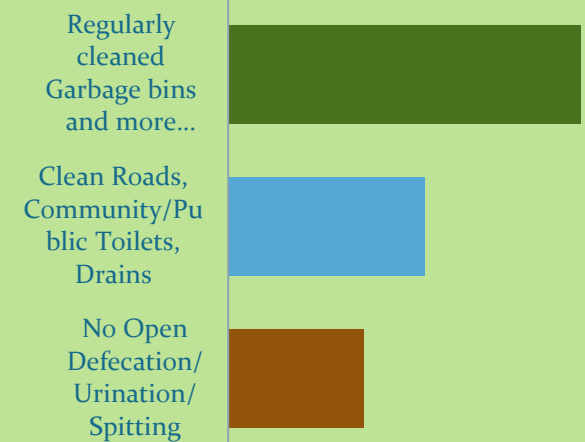
Segregation of MSW



Frequency of cleaning services



Ranking of priorities to make city clean

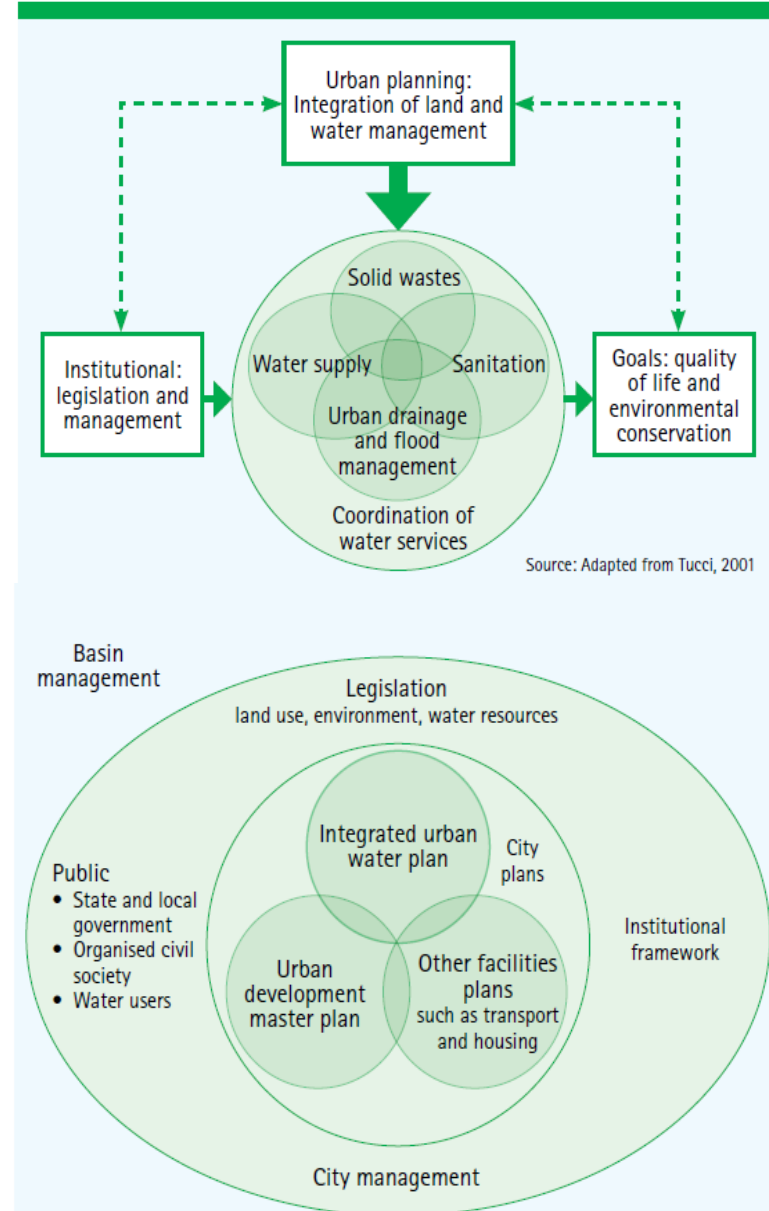


Out-of-box thinking

Identify innovative approaches

Integrated Urban Water Management (IUWM)

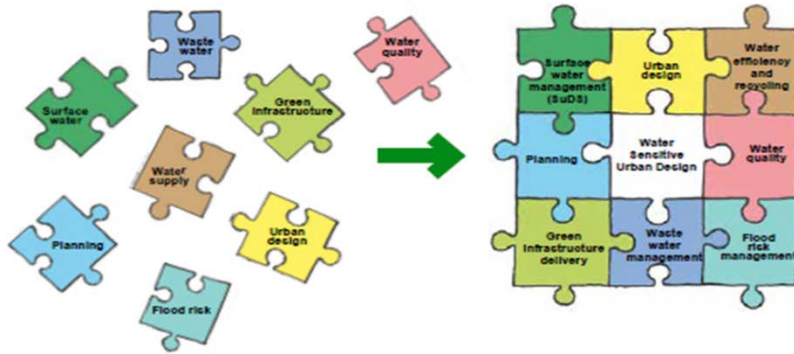
- Integrated Urban Water Management (IUWM) calls for the alignment of urban development and basin management to achieve sustainable economic, social, and environmental goals.
- Integrated Urban Water Management (IUWM) brings together water supply, sanitation, storm- and wastewater management and integrates these with land use planning and economic development.
- An IUWM approach integrates planning for the water sector with other urban sectors, such as land, housing, energy, and transport to avoid fragmentation and duplication in policy- and decision making.
- A successful approach requires engaging local communities to solve the problems of water management. Collaborative approaches should involve all stakeholders in setting priorities, taking action, and assuming responsibility.



Water Sensitive Urban Design (WSUD)

- Water Sensitive Urban Design is a philosophical approach to Urban Planning and design that aims to minimize hydrological and water quality impacts of urban development.
- It is the process of integrating water cycle management with the built environment through planning and urban design.

Water Sensitive Urban Design is the process.
Water sensitive places are the outcome.



WSUD can be applied at all scales...

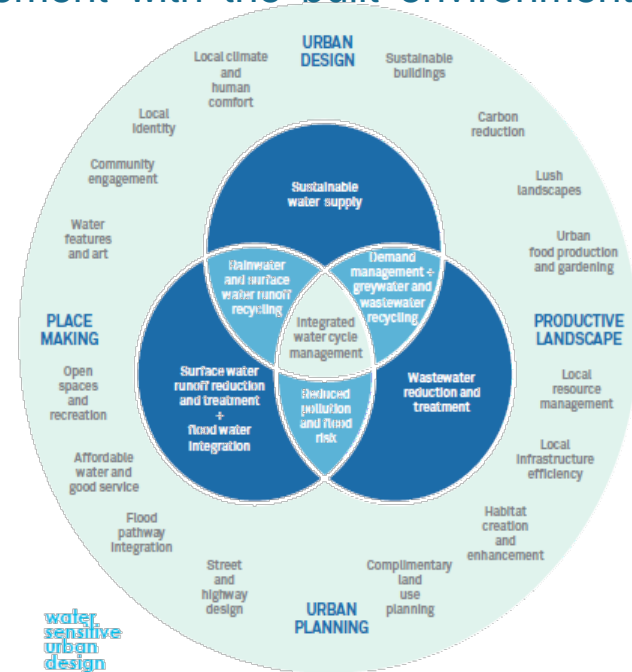
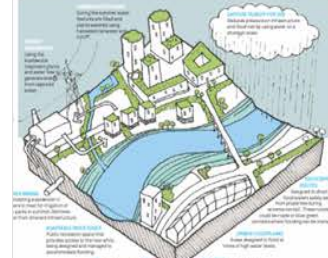
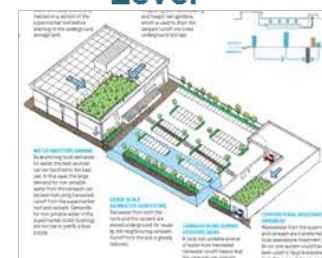
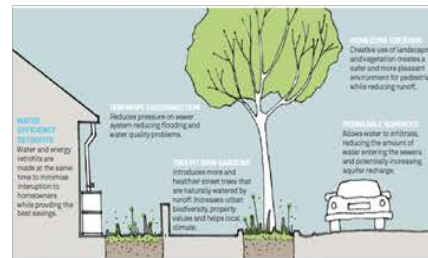
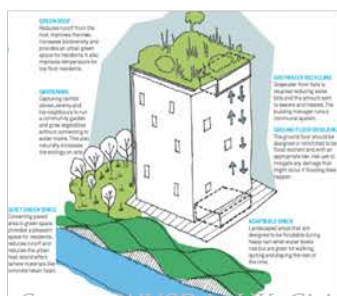
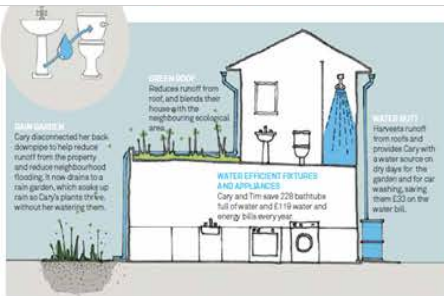
Property Level

Flat Level

Roads

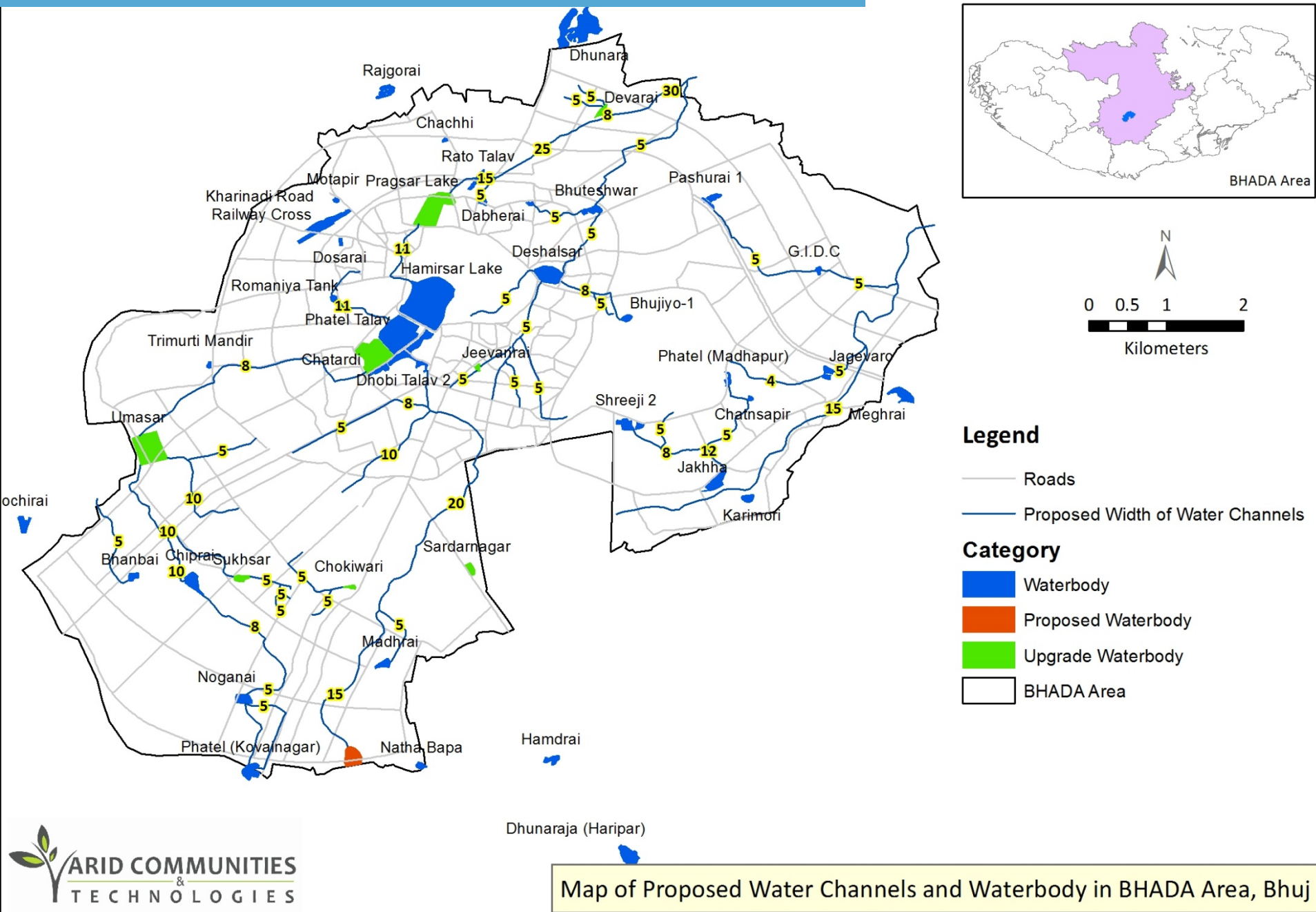
Neighborhood Level

City Level

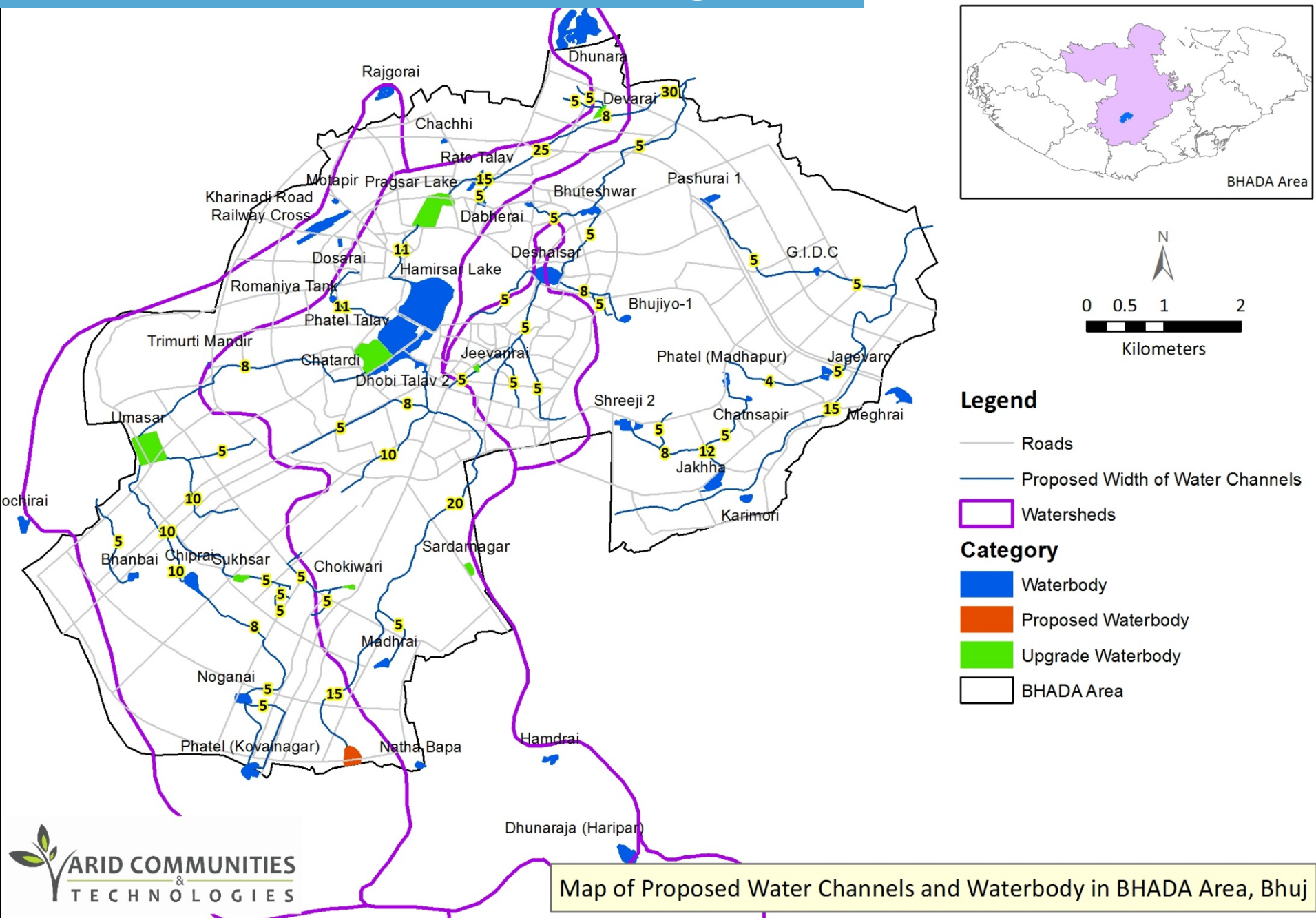


Innovative projects under AMRUT in Bhuj:
To move towards water security through
effective storm water management

Water bodies and channel management

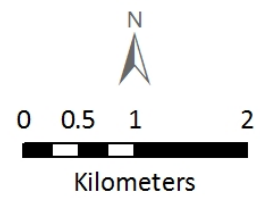
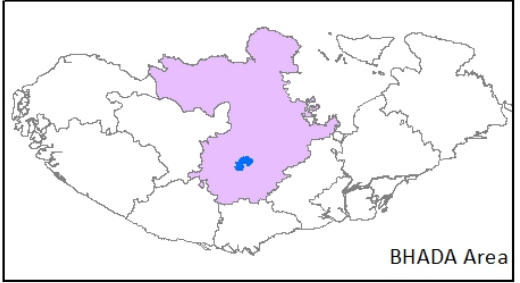
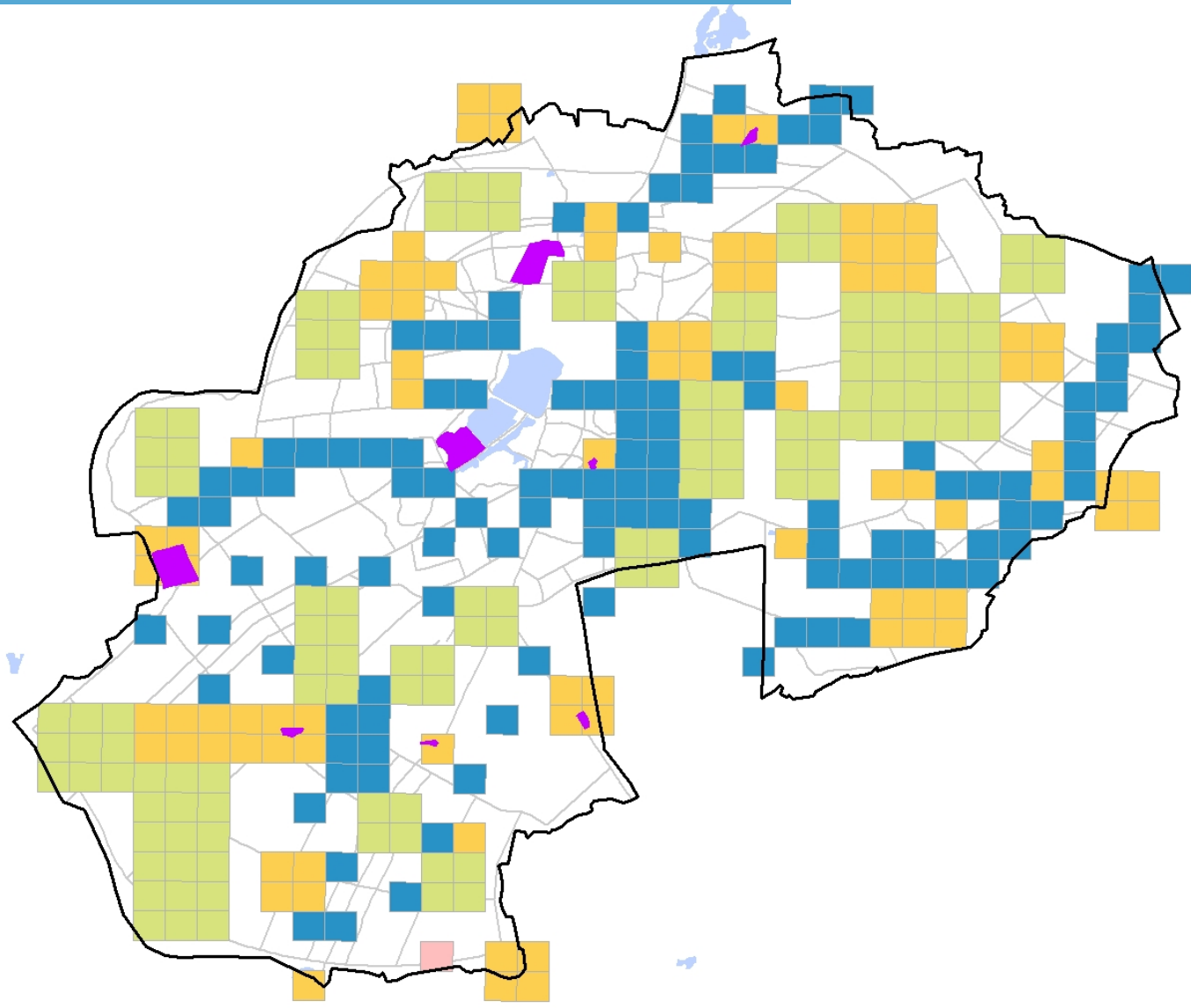


Water bodies and channel management



Map of Proposed Water Channels and Waterbody in BHADA Area, Bhuj

Groundwater recharge plan



- Legend**
- Roads
 - Waterbodies
 - BHADA Area
 - Activity (Grid Size = 300m)**
 - Campus/Common Plot/Well
 - Recharge Borewell in Waterbody
 - Recharge Pit
 - Proposed waterbody
 - Upgrade Waterbody

Thank You



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