



SaniPlan: A Performance Improvement Planning Model

Sample Application (for WW Management)

Manual Part III

SaniPlan

Conventionally, city engineers identify projects for infrastructure provision; consultants prepare a detailed project report and it is implemented with grant funding from donors or central/provincial governments. In both cases, outputs are discussed in physical terms but seldom in terms of improvement in service levels. The focus is on projects rather than service improvements.

SaniPlan provides a multi-year planning framework with a focus on improving performance in services. A key feature of the model helps develop a feasible financing plan for both capital and operating expenditures of the improvement proposals.



The model is built around following three modules



Performance Assessment module helps assesses the entire service chain of the three sectors and identify gaps in service provision through performance indicators developed under the PAS Programme.

Action Planning module helps identify actions needed to improve services. Specific actions for data improvement, improvement in existing system, building new infrastructure and policy interventions have been built-in. The user can tailor each selected action for phasing, quantify improvement and costing (both capital and operational). Different scenarios can be developed to target local priorities.

Financing Plan module helps to develop a feasible financing plan for capital and operating expenditure. The Financing Plan is developed through an iterative process with key decisions related to funding sources for each action, internal transfers, and tariff revisions including introduction of new taxes (e.g. a local sanitation tax).

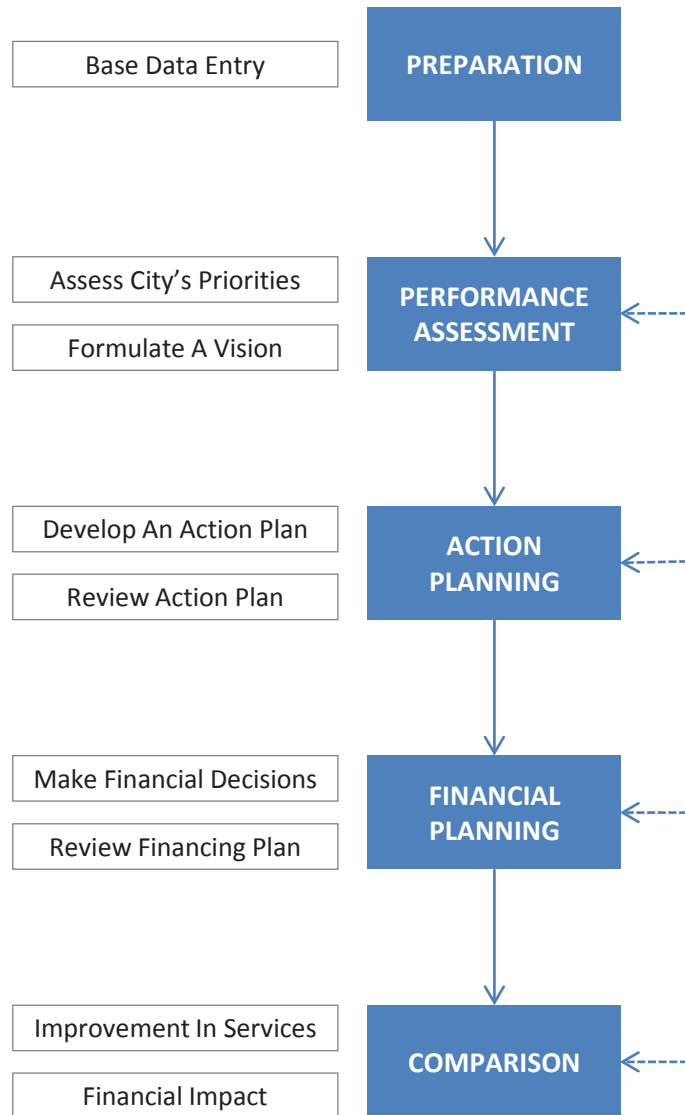
Using SaniPlan

Use of the model involves following 5 stages:

- 1. Preparation** – Information related to existing services (water supply, wastewater and SWM) is entered in the model, their finances and overall finances of the local government are also entered
- 2. Performance assessment** – The model measures performance of the city using information entered by the user. This can be compared with other entities/service providers to formulate a vision, decide priorities and identify possible improvement actions
- 3. Action Planning** – Developing an action plan by designing (phasing, quantum of improvement, capital and O&M cost, revenue generation) of individual improvement actions and assessing their impact on services
- 4. Financial planning** – preparation of a feasible financial plan that considers both capital expenditure and O&M of old and new assets
- 5. Comparison** – involves comparison of different improvement alternatives in terms of improvement in services, capital and O&M expenditure and impact on consumer tariffs

As the figure alongside presents, though the five stages follow a sequence, the entire process is very iterative in nature.

These five stages are arranged sequentially as sheets in an excel workbook, table in the following sheet describes the contents of each worksheet in brief.



SaniPlan - Structure

Stage	Worksheet name	Description/content
Preparation	General info	Name of the city, base year, currency, counting system, contact persons in the city and the organisation/s using the model
	WSS info	Base data of demography, water supply, sanitation and SWM services for base year
	Finance info	Municipal finance information for the last 6 years and demand collection balance statements for the last three years
	Indicator info	Indicator values for the province, peer group and/or cities in the vicinity with which the city would like to compare their performance
Performance Assessment	Perf Assessment	Analysis of present performance levels leading to identification of sectoral goals and improvement priorities
Action Planning	WS Plan	Improvement actions for water supply sector
	WW Plan	Improvement actions for waste water sector
	SWM Plan	Improvement actions for SWM sector
	Summary of PIP	Impact of improvement actions on service levels across plan period
Financial Planning	Action Plan Finance	Review of financial implications from Action plan
	Financial projections	Forecasting of municipal finances based on past trends
	Financing Plan	Preparation of feasible capital and operating plan for local government
Comparison	PIP options	Enables comparison of PIP options internally
	Dashboard	For using an external dashboard to compare sanitation improvement plans

This Document

This document is the second part of the 3 part manual for SaniPlan.

Part 1 – Approach

This paper describes the overall approach of SaniPlan.

SaniPlan takes a structured approach to planning sanitation services in cities. Based on local priorities cities can iteratively select key actions required for service improvement, and prepare a Financing Plan that allocates funding for both capital and operating expenditure.

Part 2 – Illustrated Step-by-Step guide for users:

This document provides a step by step guidance for using the SaniPlan model.

Saniplan is built around three functional modules: Performance Assessment, Action Planning, and Financial Planning. It has a Preparation stage where all relevant data are to be keyed in, and a post-Planning comparison stage where various scenarios planned can be compared before final decision is made.

Part 3 – Sample Application

This document takes the user through a real use case of SaniPlan, in a bid to help the user familiarise with the tool better.

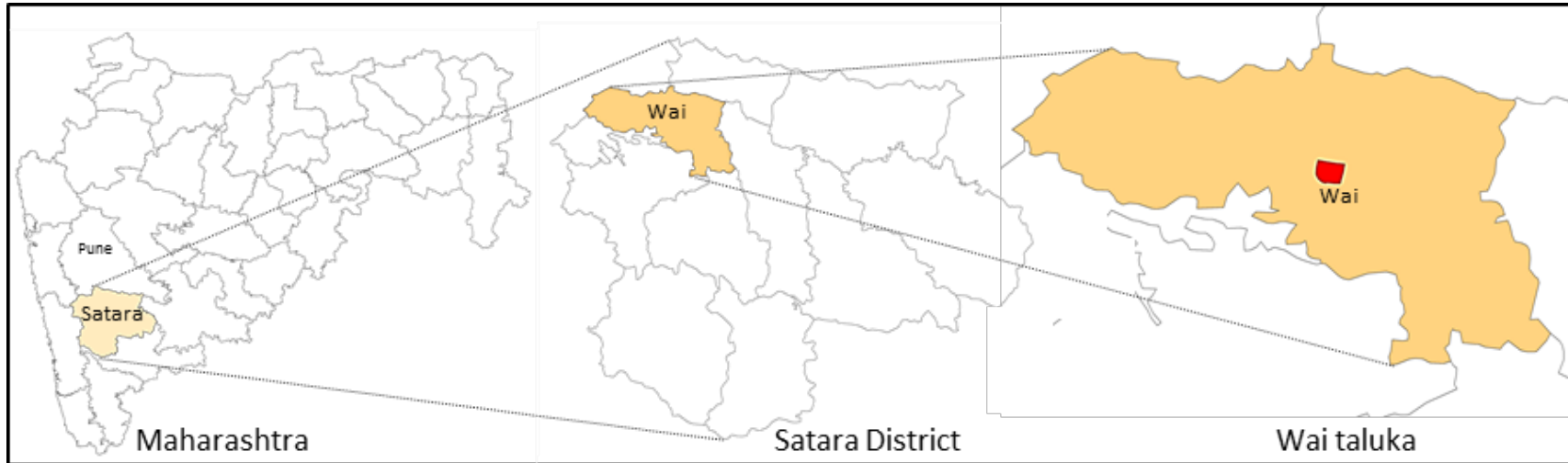
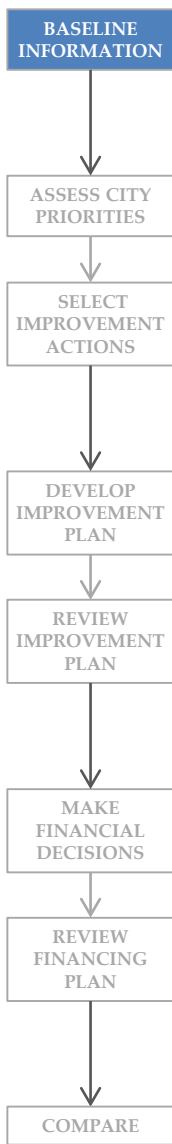
A citywide wastewater management plan was prepared for Wai Municipality in Maharashtra. The user is guided through the various actions required for achieving the objectives, the activation of respective actions in the excel model, the aspects of financial planning etc. Different scenarios are developed based on the choice of different toilet types, conveyance options, treatment technologies, and financing options. The comparison of these scenarios using the comparison tool is demonstrated.

PREPARATION

Wai – City Profile

Population (2011 Census)	36,053
Households (Nos)	7580
Slum Population	2140 (6%)
HHs in slums (Nos)	342 (5%)
Civic status	Class C Municipality
Area	3.64 sq km
Number of Wards	5 Prabhags / 19 wards
Location	90 Kms South of Pune

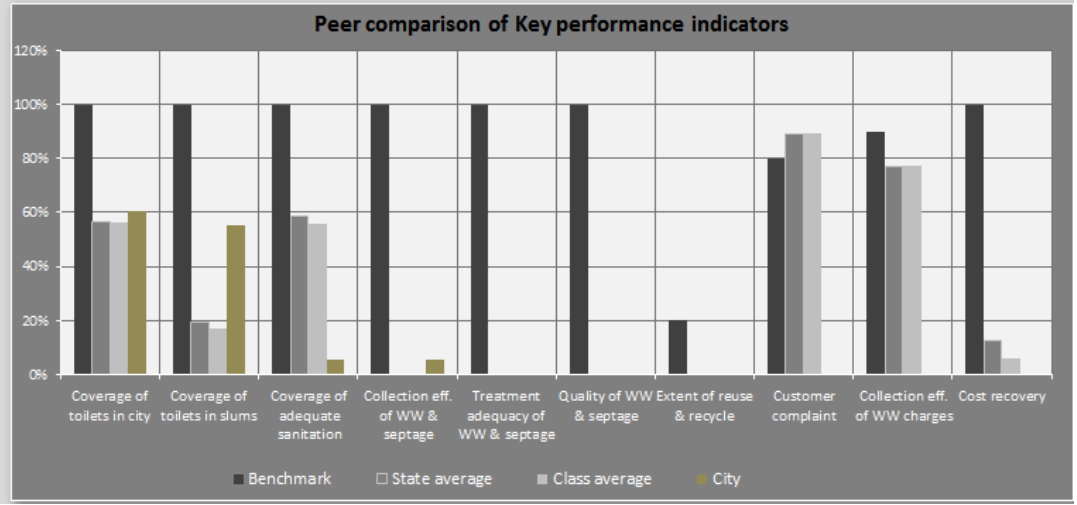
- A pilgrim town (also known as Dakshin Kashi) on the banks of river Krishna and surrounded by mountainous region of the Sahyadri range
- Famous for more than 250 temples and ghats along the river, these are also used as filming locations for Bollywood and regional cinema.
- Lies on way to Mahabaleshwar and Panchgani, famous hill stations in the state





PERFORMANCE ASSESSMENT

Key Performance Indicator	Value
<input checked="" type="checkbox"/> Coverage of households with individual toilets in city	60%
<input checked="" type="checkbox"/> Coverage of households with individual toilets in slums	55%
<input checked="" type="checkbox"/> Coverage of households with adequate sanitation system	6%
<input checked="" type="checkbox"/> Efficiency of wastewater and septage collection system	6%
<input checked="" type="checkbox"/> Adequacy of wastewater and septage treatment capacity	0%
<input checked="" type="checkbox"/> Quality of wastewater and septage treatment	0%
<input type="checkbox"/> Extent of reuse/recycling of treated wastewater and septage	0%
<input type="checkbox"/> Efficiency in redressal of customer complaints	0%
<input type="checkbox"/> Efficiency in collection of wastewater charges and taxes	0%
<input checked="" type="checkbox"/> Extent of cost recovery in wastewater services	0%



Access & Coverage

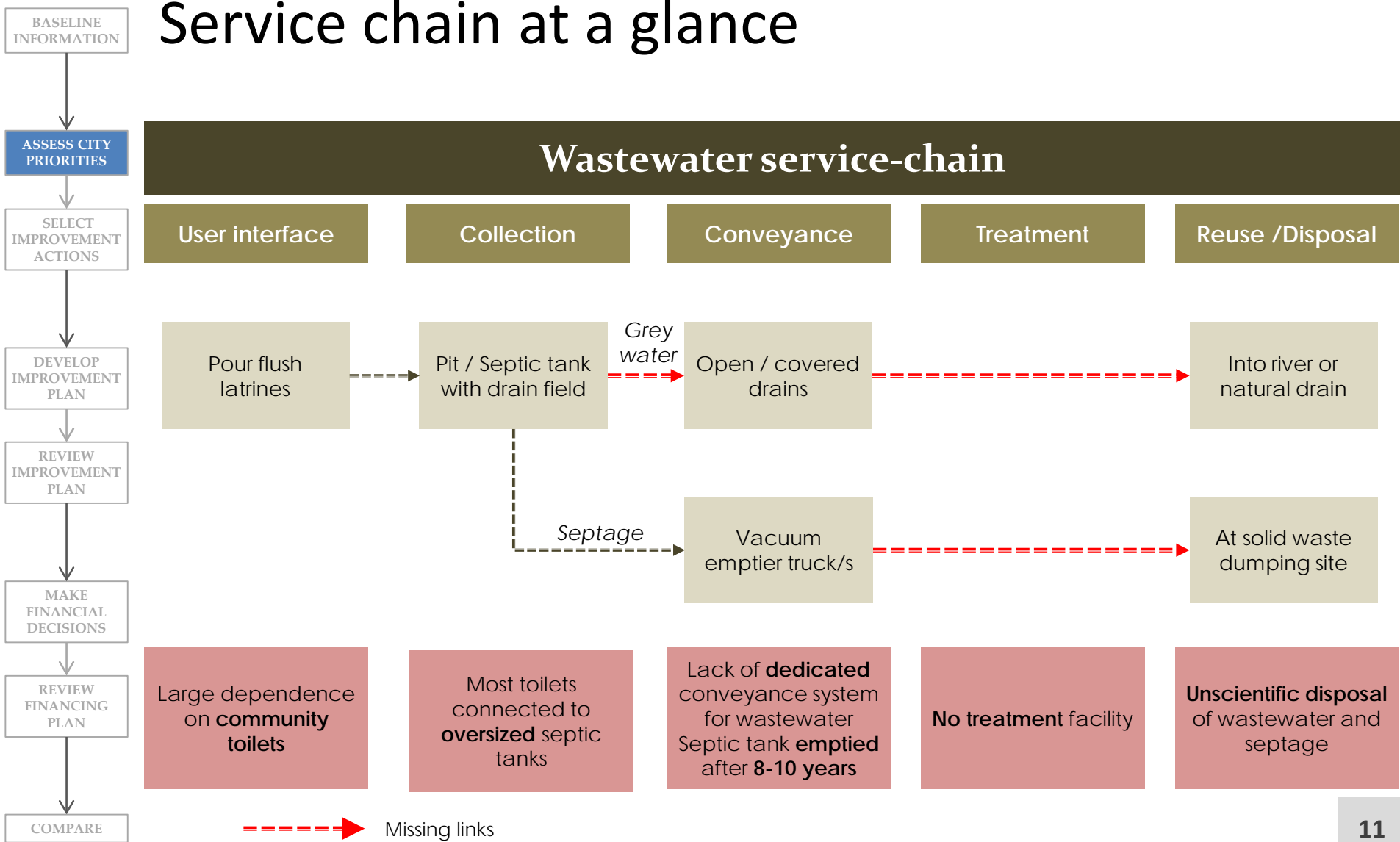
Service level & Quality

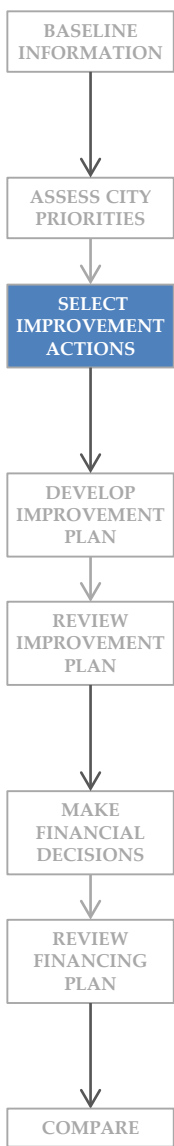
Efficiency in service operation

Financial Sustainability

- Coverage of toilets; both overall and in slums better than peers and province average.
- Only a few households dispose wastewater into soak pits, others let it off in stormwater drains
- Septic tank are emptied once in 8-10 years
- There is no treatment and reuse of wastewater.
- Customer complaints are not recorded
- Quality tests of septage and wastewater are not conducted
- No charges for sanitation services provided in the city, septic tank emptying is charged

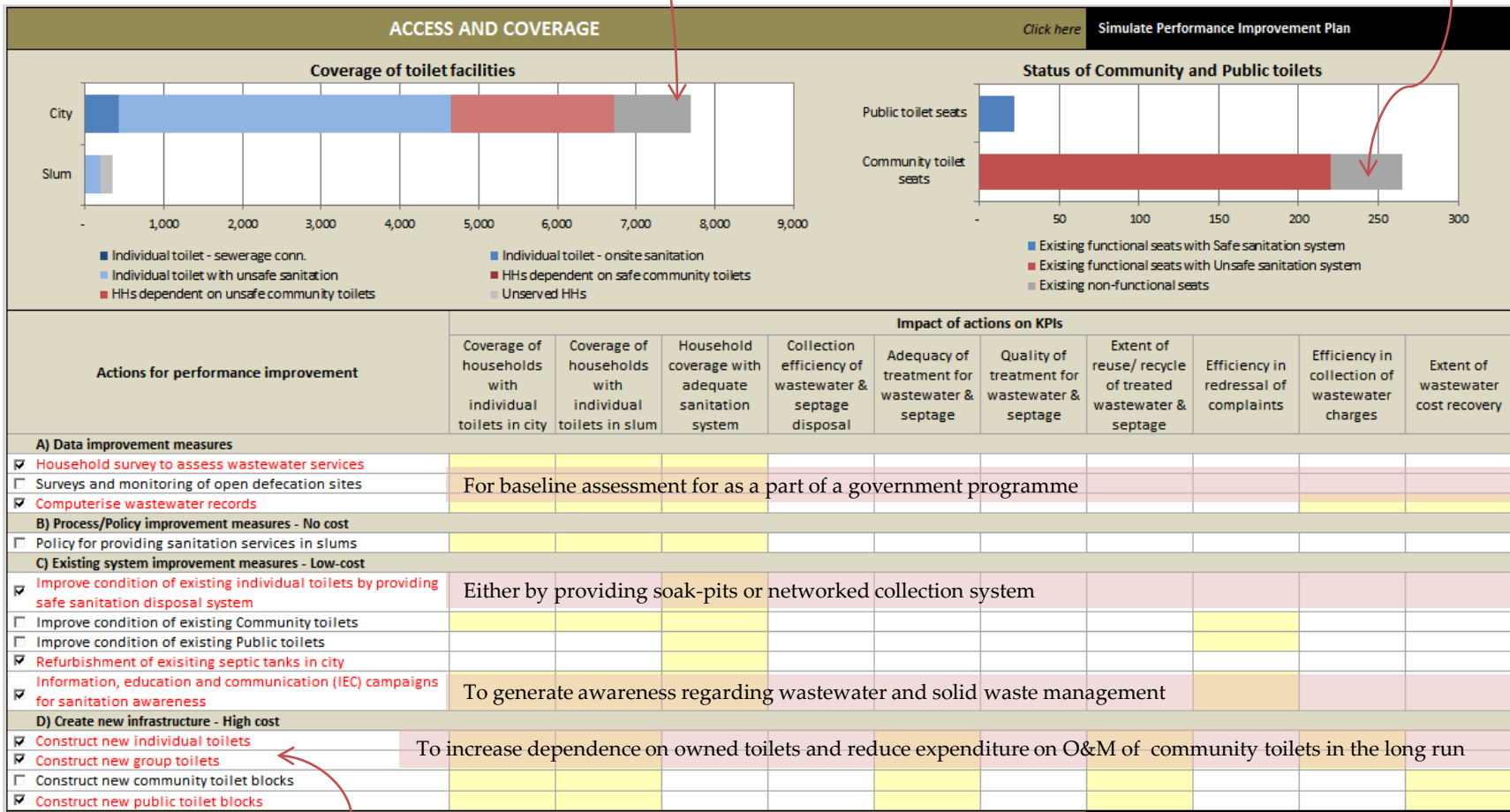
Service chain at a glance



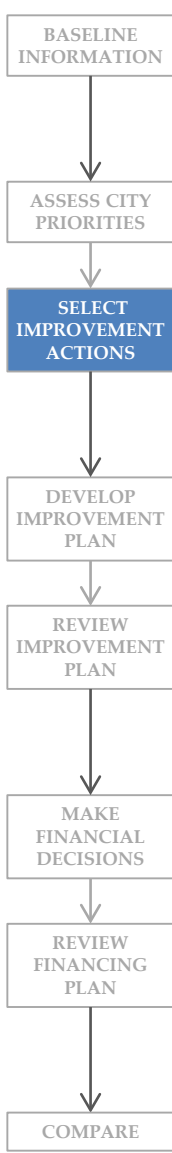


To end open defecation, provide access to toilets either own or one managed by the local government.

Non-functional toilet seats to be made functional for usage till all households have their own toilets

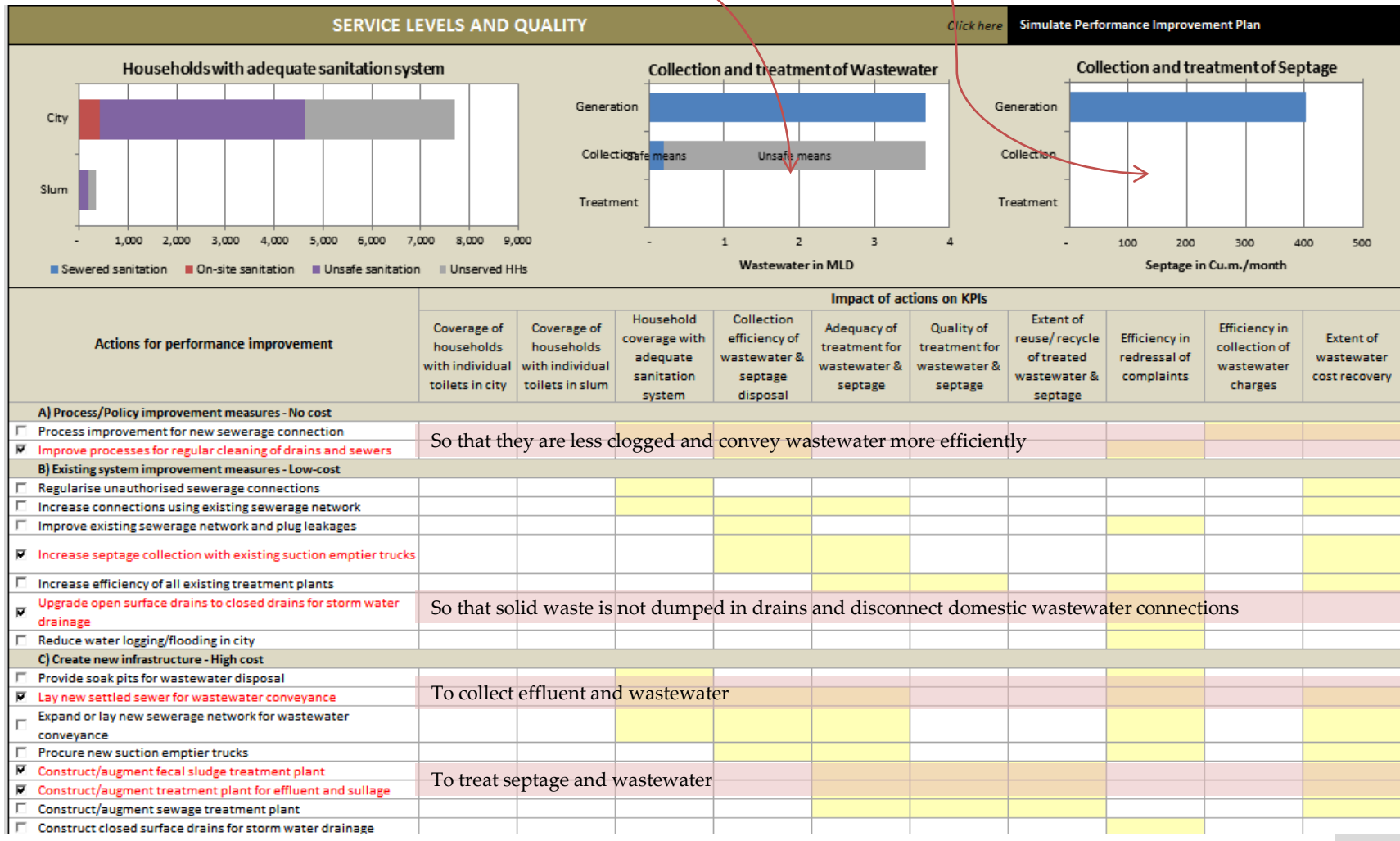


Where space is a constraint, two to four households (neighbours or in vicinity) can share a privately maintained toilet



Need to either improve unsafe means or provide safe means for collection. Also need to treat all the wastewater

Need to collect and treat septage

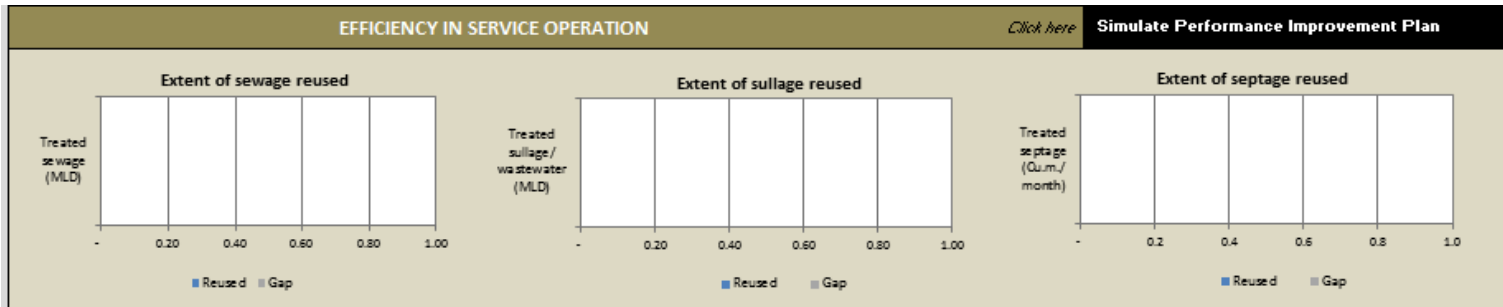
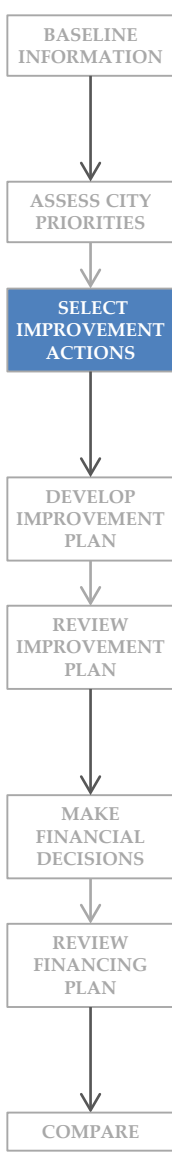


So that they are less clogged and convey wastewater more efficiently

So that solid waste is not dumped in drains and disconnect domestic wastewater connections

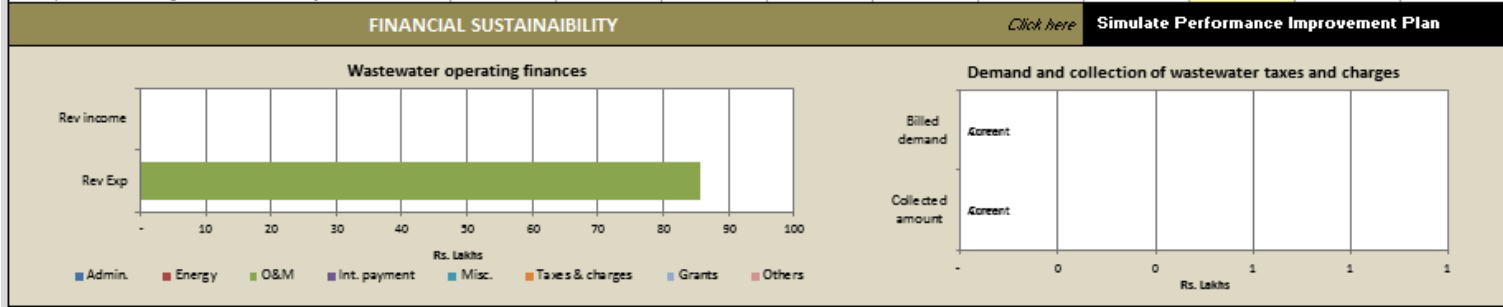
To collect effluent and wastewater

To treat septage and wastewater



Need to re-use treated sullage and septage

Actions for performance improvement	Impact of actions on KPIs									
	Coverage of households with individual toilets in city	Coverage of households with individual toilets in slum	Household coverage with adequate sanitation system	Collection efficiency of wastewater & septage disposal	Adequacy of treatment for wastewater & septage	Quality of treatment for wastewater & septage	Extent of reuse/recycle of treated wastewater & septage	Efficiency in redressal of complaints	Efficiency in collection of wastewater charges	Extent of wastewater cost recovery
A) Process/Policy improvement measures - No cost										
<input checked="" type="checkbox"/> Improve wastewater and septage quality surveillance										
<input type="checkbox"/> Improve processes for management of consumer										
B) Existing system improvement measures - Low-cost										
<input checked="" type="checkbox"/> Increase in reuse/recycling of treated wastewater and septage										
<input type="checkbox"/> Conduct regular wastewater and septage quality tests at laboratory, if not done										
<input type="checkbox"/> Improve consumer grievance redressal system										



No charges for wastewater services

Actions for performance improvement	Impact of actions on KPIs									
	Coverage of households with individual toilets in city	Coverage of households with individual toilets in slum	Household coverage with adequate sanitation system	Collection efficiency of wastewater & septage disposal	Adequacy of treatment for wastewater & septage	Quality of treatment for wastewater & septage	Extent of reuse/recycle of treated wastewater & septage	Efficiency in redressal of complaints	Efficiency in collection of wastewater charges	Extent of wastewater cost recovery
A) Process/Policy improvement measures - No cost										
<input type="checkbox"/> Improve billing and collection of wastewater bills										
B) Existing system improvement measures - Low-cost										
<input type="checkbox"/> Improve collection efficiency of wastewater charges and taxes										

ACTION PLANNING

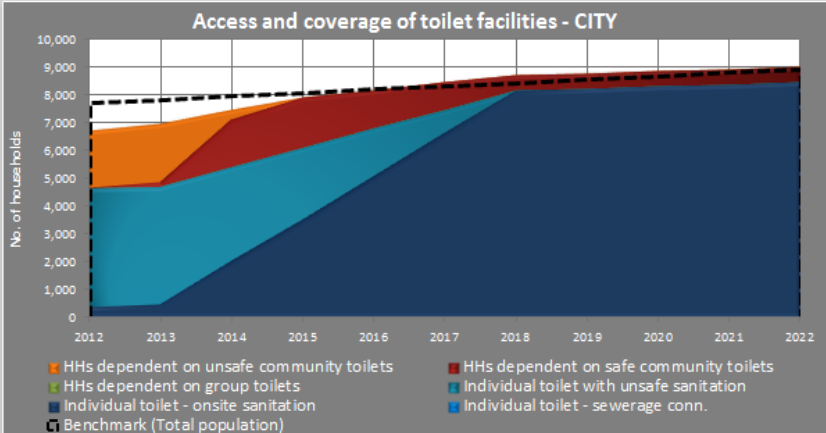


4 Create new infrastructure

Learn more	Activate	Construct new individual toilets	
		Non-slum household	Slum household
Baseline	- Number of households with individual toilet facilities as compared to total households - Number of households dependent on existing community toilet facilities	1 4451 / 7353	191 / 347
Improvement	- Number of households to be provided with new individual toilet facilities - Number of these households to replace community toilet using households	2 2,902 2,080	156 -
3a	Individual toilets connected to on-site sanitation (septic tanks) system with soak pits		
Baseline	- Number of existing individual toilets with this disposal system	424	-
Improvement	- Percentage of new individual toilets to be provided with this disposal system - Number of households to be provided with new individual toilet facilities		
Finance	- Block cost to construct an individual toilet with septic tank and soak pit (Rs/toilet) - Percentage cost of toilet construction to be borne by Beneficiary		
3b	Individual toilets connected to on-site sanitation (septic tanks) system with settled sewer	2014 4	2018
Improvement	- Percentage of new individual toilets to be provided with this disposal system - Number of new individual toilets to be constructed	100% 2,902	100% 156
Finance	- Block cost to construct an individual toilet with septic tank (Rs/toilet) (Note : Cost for settled sewer connection to be included in action - 'Lay new settled sewer for wastewater conveyance') - Percentage cost of toilet construction to be borne by Beneficiary	30,000 5 60%	60%
3c	Individual toilets connected to off-site sanitation system with conventional sewerage network		
Baseline	- Number of existing individual toilets with this disposal system - Number of new individual toilets to be constructed with sewerage network	-	-
Improvement	<i>Mention details of sewerage network to be connected:</i> - Connect to households already having sewerage connection (%) - Connect to existing sewerage with new connection (%)		

Action: Construct new individual toilets

- 1 Baseline:** These cells present that 4451 out of 7353 non-slum households and 191 out of 347 slum households have their own toilet. Also 2080 non-slum households use community toilets
- 2 Improvement:** As the city intends to do away with community toilets, it has proposed to provide toilet to all households that currently do not have a toilet. Hence the proposal to build 3058 toilets (2902 + 156) and including 2080 households currently using community toilets.
- 3 Disposal system:** SaniPlan provides an option to choose disposal system for the new toilets based on prevailing conditions. The three systems considered in SaniPlan are
 - Septic tank + soakpits
 - Septic tank + settled (solid – free) sewer network
 - Conventional sewer network
- 4 Phasing:** This was decided based on local and higher government’s priority and city’s capacity - both to mobilise funds and to implement.
- 5 Finance:** The average capital cost is based on standard specifications and discussions with local masons and contractors. The beneficiary share reflects the state government’s on-going scheme





Finance			
	- Percentage cost of soak pit to be borne by Beneficiary		
Learn more	Activate Lay new settled sewer for wastewater conveyance	2014	2018
		Non-slum household	Slum household
	- Length of new settled sewer to be laid (kms.)	56.60	
	- Area to be covered with new settled sewer (Sq. kms.)	1.35	
Improvement	- Number of household proposed for 'new individual toilets' and 'provision of safe sanitation for unsafe toilets' in previous improvement actions	6,929	347
	- Additional unserved households to be connected		
	- Number of new non-residential connections to be provided	200	
Finance	- Block cost to lay settled sewer network (Rs. Lakhs/ km)	8.13	
	- O&M expenses (% of CapEx/ annum)	2.0%	
	- New settled sewer connection charges for households (Rs./connection)	5,000	3,000
	- New settled sewer connection charges for non-residential connections (Rs./connection)	10000	
Learn more	Deactivate Expand or lay new sewerage network for wastewater conveyance		
		Non-slum household	Slum household
	- Length of existing sewerage network (Kms.)		0.00

Action: Lay new settled sewer network for wastewater conveyance

- 1 Phasing:** This was decided based on local and higher government's priority, logical sequencing, quantum of work and city's capacity - both to mobilise funds and to implement.
- 2 Improvement:** The length of settled sewer is estimated using the length of roads in the area that is to be served (3 Sq km)
- 3 Finance:** The block cost was calculated for a preliminary design and using rates in Schedule of Rates for the city. The O&M as well as connection costs were assumed based on prevailing costs for sewerage systems in other cities

		Rs./septic tank	
	- Charges for employing a septic tank by ULB		500
	PROVIDE TREATMENT FACILITIES FOR WASTEWATER AND SLUDGE		
Learn more	Activate Construct/augment fecal sludge treatment plant	2014	2014
Baseline	- Capacity of existing faecal sludge treatment and disposal plant	Cu.m/month	-
	- Treatment plant capacity required for sludge generated in city	Cu.m/month	404
	- Augment/construct new treatment plant	Cu.m/month	450
Improvement	- Percentage of manure derived from total sludge treated at plant	%	10%
	- Year till when entire manure shall be reused	Year	2018
Finance	- Total cost to construct treatment facility (lump-sum)	Rs. Lakhs	10.00
	- O&M expenses	% of CapEx/ annum	5%
	- Selling price of manure, if sold commercially by ULB	Rs./kg	1
Learn more	Activate Construct/augment treatment plant for effluent and sullage	2014	2016
Baseline	- Capacity of existing treatment plant for effluent and sullage (primary treatment level)	MLD	-
	- Treatment plant capacity required for effluent and sullage conveyed through settled sewer/ surface drains in city	MLD	3.5
Improvement	- Augment/ construct new treatment plant	MLD	5.00
	- Treated wastewater derived from total wastewater treated at the plant	%	80%
	- Year till when entire treated wastewater shall be reused	Year	2017
Finance	- Block cost to construct treatment plant	Rs. lakhs/MLD	15
	- O&M expenses	% of CapEx/ annum	7%
	- Selling price of treated wastewater, if sold commercially by ULB	Rs./MLD	27
Learn more	Deactivate Construct/augment sewage treatment plant		
	- Capacity of existing sewage treatment plant (STP)	MLD	-

Actions: Provide treatment facilities for wastewater and sludge

- 4 Baseline:** presents that the city currently has no treatment facilities, the immediate requirement is also presented for ease of deciding the required capacity
- 5 Improvement:** The treatment capacity considers future requirements of the city. The output depends on quality of input and treatment technology.
- 6 Finance:** Block costs and O&M expenses are based on preliminary estimates . The selling prices for manure and treated wastewater are based on a report prepared by a state agency for the city.
- 7 Remarks (is any):** All cells in this column are editable and can be used to note source of information, assumptions, etc . for reference.



B Performance of Wastewater services

Performance levels	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Access and coverage											
Coverage of households with individual and group toilets in city	60%	60%	68%	75%	83%	90%	97%	96%	96%	95%	94%
Number of households with access to individual and group toilets as percentage of total households in city.											
Coverage of households with individual and group toilets in slums	55%	54%	63%	71%	79%	87%	95%	94%	94%	93%	93%
Number of households in slum settlements with access to individual and group toilets as percentage of total slum households.											
Coverage of households with improved sanitation facility in	87%	89%	94%	98%	100%	100%	100%	100%	100%	100%	100%
Number of households with access to some kind of toilet facility (individual and community toilet), as percentage of total households in city (as defined by Joint Monitoring Programme)											
Households resorting to open defecation in city	13%	11%	6%	2%	0%	0%	0%	0%	0%	0%	0%
Number of households in city without any safe sanitation facility and resort to open defecation, as percentage of total households in city.											
Households dependent on community toilet facilities	27%	29%	26%	23%	17%	10%	3%	4%	4%	5%	6%
Number of households dependent on functional community toilet facilities near their houses as percentage of total households in city.											
Non-functional community and public toilets	17%	11%	6%	0%	0%	0%	0%	0%	0%	0%	0%
Number of non-functional community and public toilet seats as percentage of total community and public toilet seats.											
Service level and quality											
Coverage of households with adequate sanitation system	6%	6%	25%	44%	62%	80%	97%	96%	96%	95%	94%
Number of households with access to safe and adequate sanitation system for wastewater disposal (sewerage or on-site) as percentage of total households in city.											
Efficiency of wastewater and septage collection system	6%	6%	25%	44%	62%	80%	97%	96%	96%	95%	94%
Aggregate quantum of wastewater collected (through sewerage and settled sewer network) at the intake of treatment plant and wastewater discharged through soak pits as percentage of normative wastewater generated in city. This indicator is calculated based on weighted average of households and wastewater collection systems.											
Adequacy of wastewater and septage treatment capacity	0%	0%	0%	0%	0%	102%	102%	102%	102%	102%	102%
Aggregate quantum of sewage, sludge and sullage to be treated with present treatment facilities as percentage of normative wastewater generated in city. This indicator is calculated based on weighted average of households and wastewater treatment facilities.											
Households with full on-site sanitation system	6%	6%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Number of households with full on-site sanitation disposal system as septic tanks connected to soak pits for grey water disposal, as percentage of total households in city.											
Households with on-site sanitation and settled sewer	0%	0%	19%	37%	55%	73%	90%	89%	89%	88%	88%
Number of households with on-site black water disposal system as septic tanks connected to settled sewer/ small bore sewers for grey water disposal, as percentage of total households in city.											
Households with sewerage network services	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Number of households with individual connections to sewerage network, as percentage of total households in city.											
Spatial coverage of closed surface drains	28%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%
Municipal area covered by closed surface drains for storm water drainage as percentage of total jurisdictional area of city.											

Assessment of improvement in desired indicators.

Traffic light analysis helps understand the change and anomaly (if any).

FINANCIAL PLANNING

BASELINE INFORMATION

The revenue account of the local government is projected considering historical trends. They need to be discussed with the city officials and vetted by them.

ASSESS CITY PRIORITIES

SELECT IMPROVEMENT ACTIONS

DEVELOP IMPROVEMENT PLAN

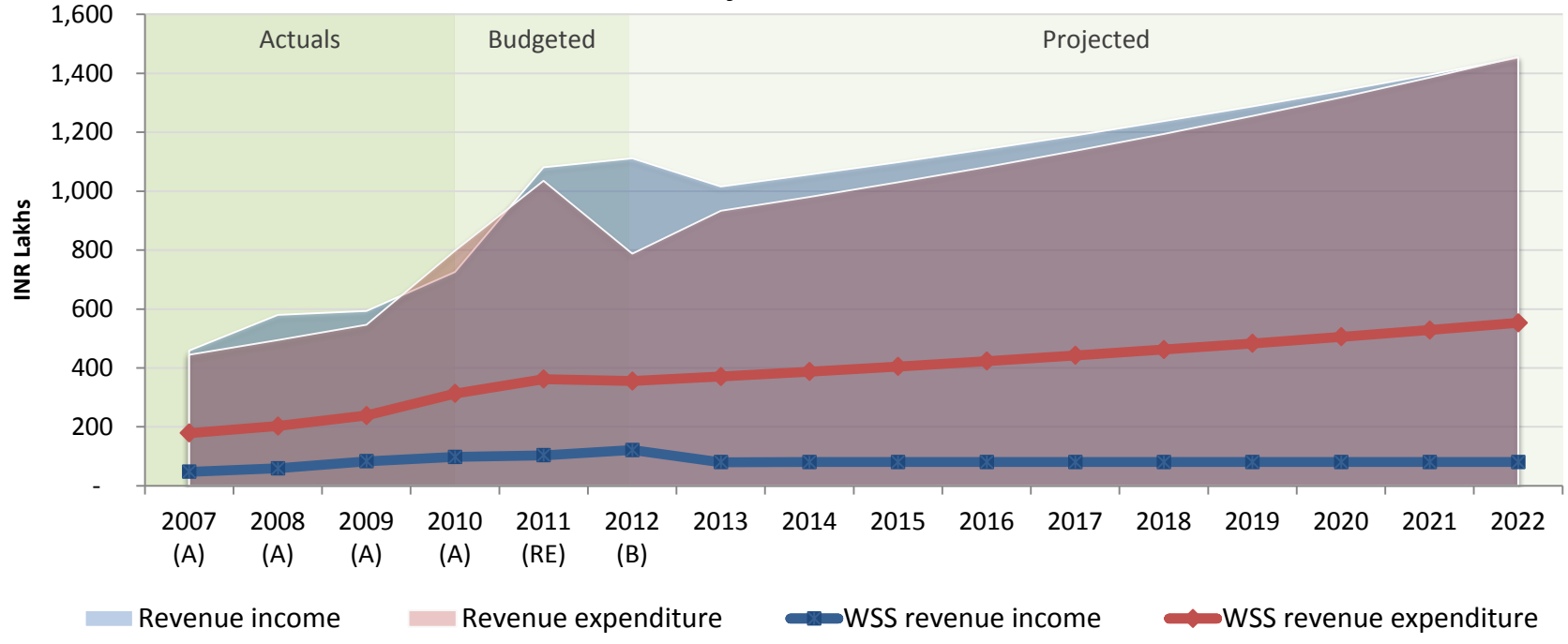
REVIEW IMPROVEMENT PLAN

MAKE FINANCIAL DECISIONS

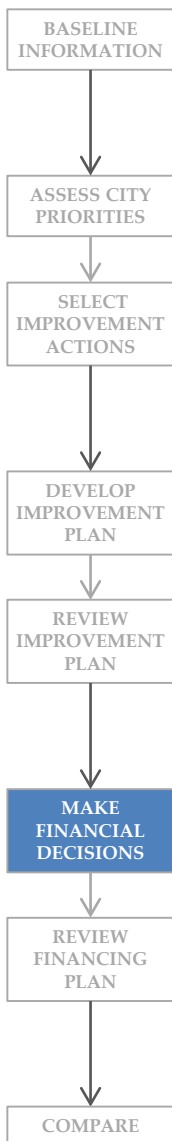
REVIEW FINANCING PLAN

COMPARE

Financial Projections

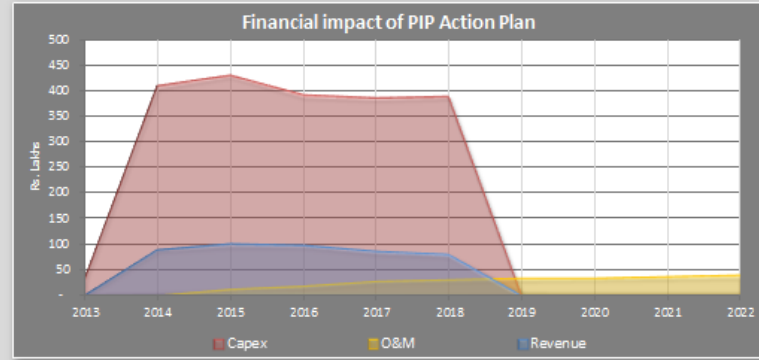


Revenue accounts of the three sectors are projected separately and the cumulative numbers are presented as WSS revenue account. So if one wishes to use the model for any of the sectors, finances of only that sector can be considered.

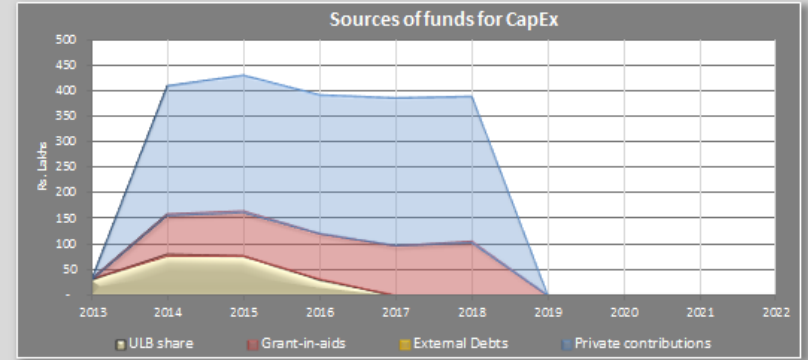


I Financial summary

Select SECTOR	Total WSS										
Financial Summary	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
Capital expenditure	30	406	423	388	383	386	-	-	-	-	2,021
Additional O&M expense	2	4	10	16	26	23	31	32	34	36	220
Additional revenue	-	88	97	97	83	78	6	5	5	5	466

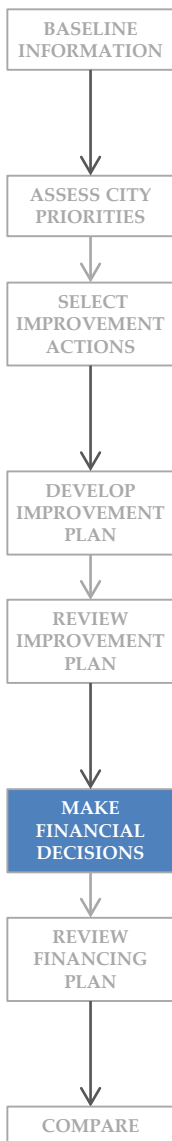


Sources of funds	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
Central Grants	-	41	44	45	48	51	-	-	-	-	230
State Grants	-	39	42	45	48	51	-	-	-	-	226
External Debts	-	-	-	-	-	-	-	-	-	-	-
Private/ PPP	-	105	112	113	121	129	-	-	-	-	579
Beneficiary share	-	145	155	155	166	154	-	-	-	-	776
ULB share	30	75	75	30	-	-	-	-	-	-	210



II Action Plan summary

IMPROVEMENT ACTIONS			SUMMARY OF CAPITAL EXPENDITURE										SOURCES OF FUNDS FOR CAPITAL EXPENDITURE									
Sector colour code: Water supply (blue), Wastewater (green), Solid waste (red)			Click here to view: Summary of PHASIS, CAPEX PLAN, O&M PLAN										Against each action, mention percentage share of funding possible through either of these funding sources (%)									
Actions	Type	Sector	Year										Total CapEx	Central Grants	State Grants	Debt	Private/ PPP	Beneficiary	ULB share (% and Rs. lakhs)			
			2013	2014	2015	2016	2017	2018	2019	2020	2021	2022										
Improve collection efficiency of water supply charges and taxes	Existing system	Water supply												0							100%	100%
Improve condition of existing individual toilets by providing safe	Existing system	Water supply		16	19	21	22							80							100%	110
Improve condition of existing Community toilets	Existing system	Water supply	30	41	39									110							100%	110
Refurbishment of existing septic tanks in city	Existing system	Water supply		12	13									25							80%	5
Construct new individual toilets	New infrastructure	Water supply		196	210	225	240	257						1,128	20%	20%					60%	
Construct new public toilet blocks	New infrastructure	Water supply		3	3									6							100%	6
Increase septage collection with existing suction emptier trucks	Existing system	Wastewater		1	3									1							100%	1
Lay new settled sewer for wastewater conveyance	New infrastructure	Wastewater		38	105	113	121	129						566					100%			
Procure new suction emptier trucks	New infrastructure	Wastewater			11									11		20%			60%		20%	2



I Financial summary

1

Select SECTOR	Total WSS										
Financial Summary	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
Capital expenditure	30	406	423	388	383	386	-	-	-	-	2,021
Additional O&M expense	2	4	10	16	26	28	31	32	34	36	220
Additional revenue	-	88	97	97	83	78	6	5	5	5	466

4

Sources of funds	2013	2014	2015
Central Grants	-	41	4
State Grants	-	39	4
External Debts	-	-	-
Private/ PPP	-	105	1
Beneficiary share	-	145	1
ULB share	30	75	1

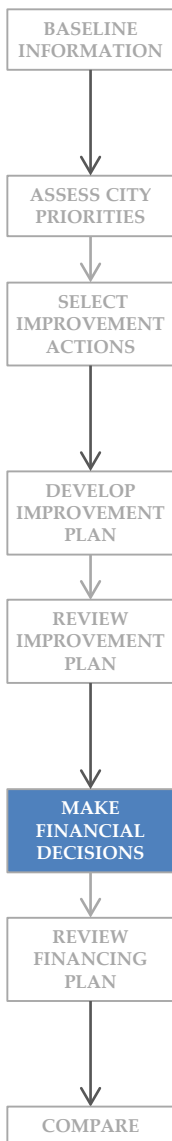
Financial impact of PIP Action Plan

1 Financial impact of the Action Plan is reviewed here. If one finds that the financial distribution is loaded in some years, one can move to **2** and review the action plan

2 Financial impact of each action is reviewed here. If the action plan is loaded in some years, its details can be assessed here. One can go back to respective plan and modify the action plan by changing phasing, deactivating, finding alternative action/technology, etc.

II Action Plan summary

IMPROVEMENT ACTIONS			SUMMARY OF CAPITAL EXPENDITURE									
Sector colour code: Water supply (blue), Wastewater (green), Solid waste (red)			Click here to view: Summary of PHASING, CAPEX PLAN, O&M PLAN									
Actions	Type		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Improve collection efficiency of water supply charges and taxes	Existing system											
Improve condition of existing individual toilets by providing safe	Existing system			16	19		21	22				
Improve condition of existing Community toilets	Existing system		30	41	39							
Refurbishment of existing septic tanks in city	Existing system			12	13							
Construct new individual toilets	New infrastructure			196	210	225	240	257				
Construct new public toilet blocks	New infrastructure			3	3							
Increase septage collection with existing suction emptier trucks	Existing system			1								
Lay new settled sewer for wastewater conveyance	New infrastructure			38	105	113	121	129				
Procure new suction emptier trucks	New infrastructure				11							



3 Decisions regarding source of funding for each action was decided based on an analysis as seen in figure below. Possible sources for each action were identified, their conditions studied and conditions of most likely entered here.

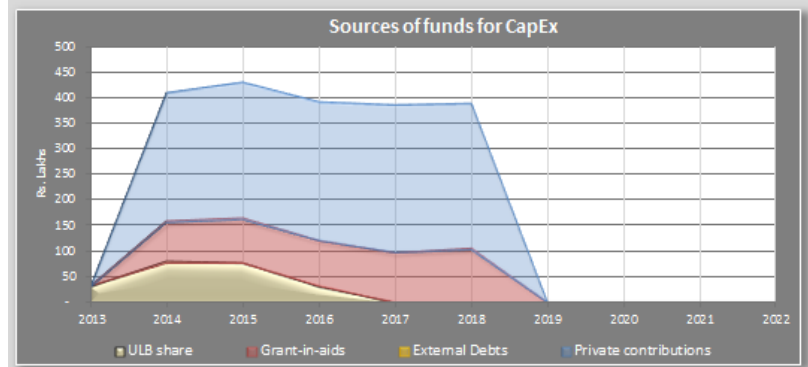
Table 8: Potential Sources of Capital for various CSP projects

Project	Potential sources for capital finance
Access to Toilets	
1 Household toilets with partial subsidy as incentive	a) GoI's new Swachh Bharat Mission (SBM) which provides subsidy to incentivize households, b) special funding from the state, c) MP and MLA under local area development scheme, and d) CSR funding. e) Households can use own savings or borrow from financing institutions.
2 Community toilets refurbishment	a) ULB own funds, b) CSR funds, c) Swachh Bharat Mission (SBM)
3 Public toilets – new blocks	a) PPP arrangements for new public facilities or refurbishment, b) CSR funding for construction and hand over O&M by private player with user charges, c) explore VGF under Swachh Bharat Mission (SBM)
Wastewater and Storm water management	
4 Waste water conveyance (settled sewer network) and treatment	a) GoM's Maharashtra Sujal Nirmal Abhiyan (MSNA), and b) Maharashtra Nagarotthan yojana. In such state schemes, ULB has to contribute a part ranging from 10% to 20% of the project cost, c) As this project makes an impact on a wider area, funds available with District Planning Committee (DPC) could also be accessed
5 De-silting and rehabilitation of natural drains	
Integrated faecal sludge management	
6 Provide regular IFSM service with sludge treatment	For suction emptier trucks: a) private player, b) GoM grant under MSNA/ Nagarotahn, c) CSR funds, and d) ULB own funds to meet a part of the cost For treatment plant: a) GoM's Nagarotthan Yojana, b) GoM Vaishtyapurna Kaama Yojana, c) CSR funds, d) borrowing. For septic tank access refurbishment: Households to bear these costs themselves

4 Source-wise annual capital expenditure for the plan period can be reviewed here. (based on inputs in **3**) If any of the sources looks over /under used, one can go back to **3** and alter sources.

4

Sources of funds	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
Central Grants	-	41	44	45	48	51	-	-	-	-	230
State Grants	-	39	42	45	48	51	-	-	-	-	226
External Debts	-	-	-	-	-	-	-	-	-	-	-
Private/ PPP	-	105	112	113	121	129	-	-	-	-	579
Beneficiary share	-	145	155	155	166	154	-	-	-	-	776
ULB share	30	75	75	30	-	-	-	-	-	-	210



CAPITAL EXPENDITURE						SOURCES OF FUNDS FOR CAPITAL EXPENDITURE						
<input type="checkbox"/> CAPEX PLAN <input type="checkbox"/> O&M PLAN						Against each action, mention percentage share of funding possible through either of these funding sources (%) NOTE: RE-ENTER INPUTS IN THIS TABLE EACH TIME ACTIONS ARE ACTIVATED OR DEACTIVATED						
2018	2019	2020	2021	2022	Total CapEx	Central Grants	State Grants	Debt	Private/ PPP	Beneficiary	ULB share (% and Rs. lakhs)	
					0						100%	
					80						100%	
					110						100%	
					25					80%	20%	
257					1,128	20%	20%			60%		
					6						100%	
					1						100%	
129					566				100%			
					11	20%			60%		20%	

Water supply and sanitation Financing Plan

BASELINE INFORMATION

ASSESS CITY PRIORITIES

SELECT IMPROVEMENT ACTIONS

DEVELOP IMPROVEMENT PLAN

REVIEW IMPROVEMENT PLAN

MAKE FINANCIAL DECISIONS

REVIEW FINANCING PLAN

COMPARE

KEY FINANCING DECISIONS

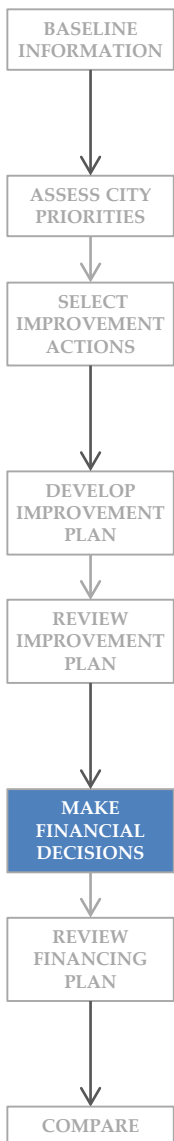
Financing Plan	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
WATER SUPPLY AND SANITATION OPERATING PLAN											
1. Income generated from PIP actions											
Additional income generated	-	15	23	22	8	4	3	2	2	2	81
2. Revise WSS charges and tariffs <i>Link to Revise WSS tariffs</i>											
Additional income generated	7	27	30	32	31	31	32	32	33	33	288
3. Revise own income sources like Property tax <i>Link to Revise own tax sources</i>											
Additional income generated	8	11	6	2	1	1	1	1	1	1	33
4. Allocate Non-WSS revenue surplus for WSS services <i>Link to Review post trends</i>											
Non-WSS revenue surplus	381	775	1,174	1,580	1,935	2,421	2,857	3,305	3,764	4,233	33,333
Propose allocation of surplus for WSS OpEx	5										0%
Non-WSS	6										0%
Operating ratio	4.3	***	***	***	(0.5)	***	***	***	***	***	***
WATER SUPPLY AND SANITATION CAPITAL PLAN											
1. External sources of funds											
Already approved WSS Capln *	-	-	-	-	-	-	-	-	-	-	-
Grants from Central & State government \$	-	36	38	40	36	39	-	-	-	-	189
Private contribution through PPP and Beneficiaries \$	-	160	183	166	158	146	-	-	-	-	813
<small>* Link to Municipal Finance sheet, \$ Link to Action Plan finance sheet</small>											
2. Allocate WSS revenue surplus for capital funding											
WSS revenue surplus	7										-
Propose allocation of surplus for WSS CapEx											-
3. Allocate Non-WSS Capln for WSS capital funding <i>Link to Review post trends</i>											
Non-WSS Capln surplus											-
Propose allocation of surplus for WSS CapEx											-
4. External borrowings											
Debt from Action Plan finance	-	-	-	-	-	131	-	-	-	-	131
Additional debt required	8										-
Terms and conditions of debt											
Rate of interest (%)						10%					
Moratorium period (Number of years)						3					
Period of Borrowing (Number of years)						10					
Debt servicing requirement							13	13	13	25	64
Debt service coverage ratio	NA	NA	NA	NA	NA	NA	-171	-204	-239	-143	-

Financial decisions (internal transfers, debt) are taken here

IMPACT OF FINANCING PLAN ON MUNICIPAL FINANCES

Budget heads	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
REVENUE ACCOUNT											
Water supply and sanitation services (WSS)											
Opening balance	-	(284)	(550)	(826)	(1,124)	(1,466)	(1,835)	(2,240)	####	(3,120)	
Revenue receipts	87	122	133	134	119	115	114	114	115	115	
Revenue expenditure	371	368	409	432	461	484	519	542	567	604	
WSS Revenue account status	1	(284)	(550)	(826)	(1,124)	(1,466)	(1,835)	(2,240)	(2,668)	(3,120)	####
Services other than water supply and sanitation (Non-WSS)											
Opening balance	-	381	775	1,174	1,580	1,935	2,421	2,857	3,305	3,764	
Revenue receipts	944	967	1,024	1,065	1,110	1,158	1,208	1,261	1,316	1,373	
Revenue expenditure	563	533	625	659	635	732	772	813	857	904	
Non-WSS Revenue account status	2	381	775	1,174	1,580	1,935	2,421	2,857	3,305	3,764	4,233
CAPITAL ACCOUNT											
Water supply and sanitation services (WSS)											
Opening balance	-	-	(111)	(228)	(350)	(475)	(478)	(478)	(478)	(478)	
Capital receipts	-	196	222	206	194	315	-	-	-	-	
Capital expenditure	-	307	339	328	319	318	-	-	-	-	
WSS Capital account status	3	-	(111)	(228)	(350)	(475)	(478)	(478)	(478)	(478)	
Services other than water supply and sanitation (Non-WSS)											
Opening balance	-	-	-	-	-	-	-	-	-	-	
Capital receipts	-	-	-	-	-	-	-	-	-	-	
Capital expenditure	-	-	-	-	-	-	-	-	-	-	
Non-WSS Capital account status	4	-	-	-	-	-	-	-	-	-	
EXTRAORDINARY ACCOUNT											
Opening balance	-	-	-	-	-	-	-	-	-	-	
Receipts	-	-	-	-	-	-	-	-	-	-	
Expenditure	-	-	-	-	-	-	-	-	-	-	
Extraordinary account status	-	-	-	-	-	-	-	-	-	-	
OVERALL MUNICIPAL FINANCE											
Total receipts	1,031	1,402	1,439	1,525	1,529	1,642	1,430	1,514	1,590	1,654	
Total expenditure	934	1,288	1,373	1,419	1,475	1,534	1,231	1,355	1,424	1,508	
Closing balance	97	114	120	106	54	108	139	159	166	146	

Impact of financial decisions on revenue and capital accounts can be reviewed here



1 **WSS revenue account** status is displayed here. After the action plan, generally the account shows deficit in some or all years of the plan period. In this case also, this account shows deficit throughout the plan period.

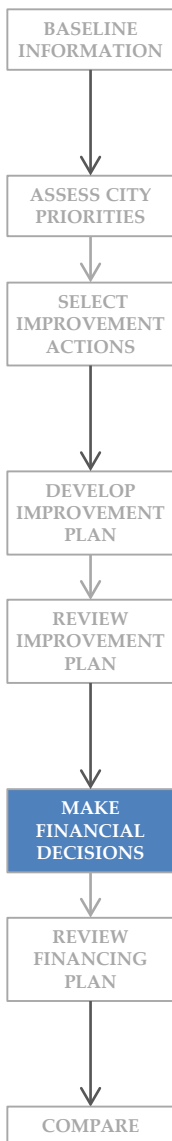
2 **Non-WSS revenue account** status is displayed here. This account generally shows surplus as it is unaffected by the action plan. In this case also, this account shows surplus throughout the plan period.

3 **WSS capital account** status is displayed here. These numbers incorporate the decisions in Action Plan Finance sheet.

4 **Non-WSS capital account** status is displayed here. These numbers essentially represent finances of committed and on-going projects.

In all the accounts, surplus/deficit is carried forward into next financial year.

IMPACT OF FINANCING PLAN ON MUNICIPAL FINANCES											
Budget heads	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
REVENUE ACCOUNT											
Water supply and sanitation services (WSS)											
Opening balance	-	(284)	(550)	(826)	(1,124)	(1,466)	(1,835)	(2,240)	####	(3,120)	
Revenue receipts	87	122	133	134	119	115	114	114	115	115	
Revenue expenditure	371	388	409	432	461	484	519	542	567	604	
WSS Revenue account status	1	(284)	(550)	(826)	(1,124)	(1,466)	(1,835)	(2,240)	(2,668)	(3,120)	####
Services other than water supply and sanitation (Non-WSS)											
Opening balance	-	381	775	1,174	1,580	1,935	2,421	2,857	3,305	3,764	
Revenue receipts	344	387	1,024	1,065	1,110	1,158	1,208	1,261	1,316	1,373	
Revenue expenditure	563	593	625	659	695	732	772	813	857	904	
Non-WSS Revenue account status	2	381	775	1,174	1,580	1,935	2,421	2,857	3,305	3,764	4,233
CAPITAL ACCOUNT											
Water supply and sanitation services (WSS)											
Opening balance	-	-	(111)	(228)	(350)	(475)	(478)	(478)	(478)	(478)	
Capital receipts	-	136	222	206	134	315	-	-	-	-	
Capital expenditure	-	307	339	328	319	318	-	-	-	-	
WSS Capital account status	3	-	(111)	(228)	(350)	(475)	(478)	(478)	(478)	(478)	(478)
Services other than water supply and sanitation (Non-WSS)											
Opening balance	-	-	-	-	-	-	-	-	-	-	
Capital receipts	-	-	-	-	-	-	-	-	-	-	
Capital expenditure	-	-	-	-	-	-	-	-	-	-	
Non-WSS Capital account status	4	-	-	-	-	-	-	-	-	-	-
EXTRAORDINARY ACCOUNT											
Opening balance	-	-	-	-	-	-	-	-	-	-	
Receipts	-	-	-	-	-	-	-	-	-	-	
Expenditure	-	-	-	-	-	-	-	-	-	-	
Extraordinary account status	-	-	-	-	-	-	-	-	-	-	
OVERALL MUNICIPAL FINANCE											
Total receipts	1,031	1,402	1,433	1,525	1,529	1,642	1,430	1,514	1,530	1,654	
Total expenditure	934	1,288	1,373	1,419	1,475	1,534	1,291	1,355	1,424	1,508	
Closing balance	97	114	120	106	54	108	133	153	166	146	



KEY FINANCING DECISIONS

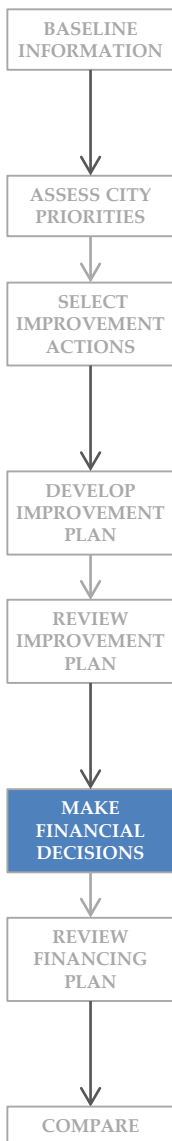
Financing Plan	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
WATER SUPPLY AND SANITATION OPERATING PLAN											
1. Income generated from PIP actions											
Additional income generated	-	15	23	22	8	4	3	2	2	2	81
2. Revise WSS charges and tariffs <i>Link to: Revise WSS tariffs</i>											
Additional income generated	7	27	30	32	31	31	32	32	33	33	288
3. Revise own income sources like Property tax <i>Link to: Revise own tax sources</i>											
Additional income generated	8	11	6	2	1	1	1	1	1	1	33
4. Allocate Non-WSS revenue surplus for WSS services <i>Link to: Review past trends</i>											
Non-WSS revenue surplus	381	775	1,174	1,580	1,935	2,421	2,857	3,305	3,764	4,233	3333
Propose allocation of surplus for WSS OpEx	5										
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Non-WSS	6										
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operating ratio	4.3	***	***	***	(0.5)	***	***	***	***	***	***
WATER SUPPLY AND SANITATION CAPITAL PLAN											
1. External sources of funds											
Already approved WSS Capln	-	-	-	-	-	-	-	-	-	-	--
Grants from Central & State government	-	36	38	40	36	39	-	-	-	-	189
Private contribution through PPP and Beneficiaries	-	160	183	166	158	146	-	-	-	-	813
<i>* Link to: Municipal Finance sheet, ** Link to: Action Plan finance sheet</i>											
2. Allocate WSS revenue surplus for capital funding											
WSS revenue surplus											--
Propose allocation of surplus for WSS CapEx	7										
	-	-	-	-	-	-	-	-	-	-	-
3. Allocate Non-WSS Capln for WSS capital funding <i>Link to: Review past trends</i>											
Non-WSS Capln surplus											--
Propose allocation of surplus for WSS CapEx											--
4. External borrowings											
Debt from Action Plan finance	-	-	-	-	-	131	-	-	-	-	131
Additional debt required	8										
Terms and conditions of debt											
Rate of interest (%)						10%					
Moratorium period (Number of years)						3					
Period of Borrowing (Number of years)						10					
Debt servicing requirement	-	-	-	-	-	-	13	13	13	25	64
Debt service coverage ratio	NA	NA	NA	NA	NA	NA	-171	-204	-239	-143	--

Non WSS revenue account surplus can be allocated for WSS in 5 and non-WSS in 6. Any unused surplus is carried forward to the next financial year.

If one intends to use Non-WSS revenue surplus for WSS capital account, that additional sum needs to be transferred to WSS revenue account which can then be transferred to WSS Capital account in 7.

Any deficit in WSS capital account after internal transfers can be met through debt in 8.

Deficit in revenue accounts implies that tariffs need to be revised. Revision of tariffs is explained here.



KEY FINANCING DECISIONS

Financing Plan	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total	
WATER SUPPLY AND SANITATION OPERATING PLAN												
1. Income generated from PIP actions												
Additional income generated	-	15	23	22	8	4	-	2	2	2	81	
2. Revise WSS charges and tariffs												
Additional income generated	7						2	32	33	33	288	
3. Revise own income sources like												
Additional income generated	8						1	1	1	1	33	
4. Allocate Non-WSS revenue surplus for WSS services												
Non-WSS revenue surplus	381	399	399	805	1,220	1,646	2,082	2,530	2,989	3,458	33,833	
Propose allocation of surplus for WSS CapEx	284	377									661	
	75%	96%	0%	0%	0%	0%	0%	0%	0%	0%	4%	
Non-WSS	97	17									114	
Operating ratio	1.0	0.8									1%	
WATER SUPPLY												
1. External sources of funds												
Already approved WSS Capln	-	-	-	-	-	-	-	-	-	-	-	
Grants from Central & State government	-	36									189	
Private contribution through PPP and Beneficiaries	-	160									813	
2. Allocate WSS revenue surplus for capital												
WSS revenue surplus	111										111	
Propose allocation of surplus for WSS CapEx	111										111	
	100%										100%	
3. Allocate Non-WSS Capln for WSS capital feeding												
Non-WSS Capln surplus												
Propose allocation of surplus for WSS CapEx												
4. External borrowings												
Debt from Action Plan finance	-	-	-	-	-	131	-	-	-	-	131	
Additional debt required												
Rate of interest (%)						10%						
Moratorium period (Number of years)						3						
Period of Borrowing (Number of years)						10						
Debt servicing requirement								13	13	13	25	
Debt service coverage ratio	NA	NA	NA	NA	NA	NA	-129	-162	-197	-121	-	

1 These transfers cover WSS revenue deficit and also provide surplus for all the capital works

2 All the remaining surplus is allocated for Non-WSS sectors (for additional O&M/capital works)

4 Surplus created in WSS revenue account transferred for WSS capital works

6 Debt requirement decided in Action Plan Finance sheet. No additional debt needed as yet.

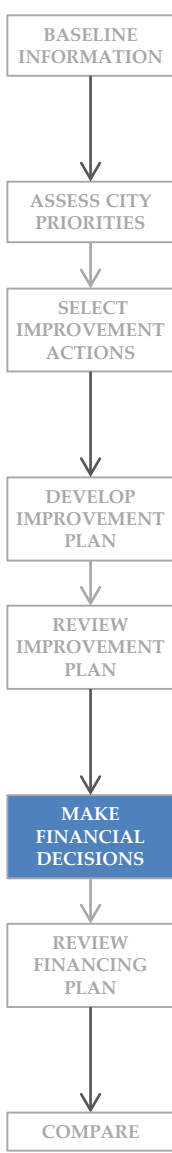
7 Debt can be serviced only from WSS revenue account surplus. Negative DSCR points towards its unavailability

IMPACT OF FINANCING PLAN ON MUNICIPAL FINANCES

Budget heads	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
REVENUE ACCOUNT											
Water supply and sanitation services (WSS)											
Opening balance	-	-	-	-	-	-	-	-	(2,118)	(2,570)	
Revenue receipts	371	439	132						115	115	
Revenue expenditure	371	388							567	604	
WSS Revenue account status	-	111	(276)	(574)	(316)	(1,285)	(1,630)	(2,118)	(2,570)	(3,059)	
Services other than water supply and sanitation (Non-WSS)											
Opening balance	-	-	-	399	805	1,220	1,646	2,082	2,530	2,989	
Revenue receipts	944	987	1,024	1,065	1,110	1,158	1,208	1,261	1,316	1,373	
Revenue expenditure	563	593	625	659	635	732	772	813	857	904	
Non-WSS Revenue account status	381	394	399	805	1,220	1,646	2,082	2,530	2,989	3,458	
CAPITAL ACCOUNT											
Water supply and sanitation services (WSS)											
Opening balance	-	-	-	-	-	-	-	-	(367)	(367)	
Capital receipts	-	307							-	-	
Capital expenditure	-	307	339	328	319	318	-	-	-	-	
WSS Capital account status	-	-	(117)	(239)	(364)	(367)	(367)	(367)	(367)	(367)	
Services other than water supply and sanitation (Non-WSS)											
Opening balance	-	-	-	-	-	-	-	-	-	-	
Capital receipts	-	-	-	-	-	-	-	-	-	-	
Capital expenditure	-	-	-	-	-	-	-	-	-	-	
Non-WSS Capital account status	-	-	-	-	-	-	-	-	-	-	
EXTRAORDINARY ACCOUNT											
Opening balance	-	-	-	-	-	-	-	-	-	-	
Receipts	-	-	-	-	-	-	-	-	-	-	
Expenditure	-	-	-	-	-	-	-	-	-	-	
Extraordinary account status	-	-	-	-	-	-	-	-	-	-	
OVERALL MUNICIPAL FINANCE											
Total receipts	1,315	1,793	1,379	1,411	1,415	1,528	1,316	1,400	1,476	1,540	
Total expenditure	1,315	1,793	1,373	1,419	1,475	1,534	1,291	1,355	1,424	1,508	
Closing balance	-	-	6	(8)	(60)	(6)	25	45	52	32	

3 Surplus created in WSS revenue a/c can be transferred to WSS Capital A/c

5 The capital account requirements have been met.



KEY FINANCING DECISIONS

Financing Plan	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
WATER SUPPLY AND SANITATION OPERATING PLAN											
1. Income generated from PIP actions											
Additional income generated	-	15	23	22	8	4	3	2	2	2	81
2. Revise WSS charges and tariffs											
Additional income generated	-	-	-	-	-	31	32	32	33	33	288
3. Revise own income sources											
Additional income generated	-	-	-	-	-	1	1	1	1	1	33
4. Allocate Non-WSS revenue surplus for WSS services											
Non-WSS revenue surplus	381	334	339	406	415	426	436	884	1,343	1,812	8,888
Propose allocation of surplus for WSS OpEx	284	377	393	359	370	388	391	0%	0%	0%	312
Non-WSS	75%	36%	38%	88%	89%	91%	0%	0%	0%	0%	250
Non-WSS	37	17	6	47	45	38	0%	0%	0%	0%	4%
Operating ratio	1.0	0.8	0.8	0.9	1.0	1.0	4.7	***	***	***	
WATER SUPPLY AND SANITATION CAPITAL PLAN											
1. External sources of funds											
Already approved WSS Capln	-	-	-	-	-	-	-	-	-	-	-
Grants from Central & State government	-	36	38	40	36	39	-	-	-	-	189
Private contribution through PPP and Beneficiaries	-	160	183	166	158	146	-	-	-	-	813
2. Allocate WSS revenue surplus for capital funding											
WSS revenue surplus	-	111	117	61	22	3	-	-	-	-	314
Propose allocation of surplus for WSS CapEx	-	111	117	61	22	3	-	-	-	-	314
	-	100%	100%	100%	100%	100%	-	-	-	-	100%
3. Allocate Non-WSS Capln for WSS capital funding											
Non-WSS Capln surplus	-	-	-	-	-	-	-	-	-	-	-
Propose allocation of surplus for WSS CapEx	-	-	-	-	-	-	-	-	-	-	-
4. External borrowings											
Debt from Action Plan finance	-	-	-	-	-	131	-	-	-	-	-
Additional debt required	-	-	-	61	105	-	-	-	-	-	164
Terms and conditions of debt						Rate of interest (%)	10%				
						Moratorium period (Number of years)	3				
						Period of Borrowing (Number of years)	10				
Debt servicing requirement	-	-	-	-	6	16	30	35	44	54	184
Debt service coverage ratio	NA	NA	NA	NA	4.67	1.19	-13	-24	-30	-34	-

1. These transfers cover WSS revenue deficit and also provide surplus for all the capital works

2. Additional funding mobilised through debts

3. Positive DSCR suggests sufficient surplus in WSS revenue to repay debt

IMPACT OF FINANCING PLAN ON MUNICIPAL FINANCES

Budget heads	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
REVENUE ACCOUNT										
Water supply and sanitation services (WSS)										
Opening balance	-	-	-	-	-	-	-	(422)	(872)	(1,355)
Revenue receipts	371	439	526	433	489	503	114	114	115	115
Revenue expenditure	371	388	409	432	467	500	536	564	598	633
WSS Revenue account status	-	111	117	61	22	-	(422)	(872)	(1,355)	(1,873)
Services other than water supply and sanitation (Non-WSS)										
Opening balance	-	-	-	-	-	-	-	436	884	1,343
Revenue receipts	-	-	-	-	-	1,158	1,208	1,261	1,316	1,373
Revenue expenditure	-	-	-	-	335	339	772	813	857	904
Non-WSS Revenue account status	381	334	339	406	415	426	436	884	1,343	1,812
CAPITAL ACCOUNT										
Water supply and sanitation services (WSS)										
Opening balance	-	-	-	-	-	-	-	-	-	-
Capital receipts	-	307	339	328	319	318	-	-	-	-
Capital expenditure	-	307	339	328	319	318	-	-	-	-
WSS Capital account status	-	-	-	-	-	-	-	-	-	-
Services other than water supply and sanitation (Non-WSS)										
Opening balance	-	-	-	-	-	-	-	-	-	-
Capital receipts	-	-	-	-	-	-	-	-	-	-
Capital expenditure	-	-	-	-	-	-	-	-	-	-
Non-WSS Capital account status	-	-	-	-	-	-	-	-	-	-
EXTRAORDINARY ACCOUNT										
Opening balance	-	-	-	-	-	-	-	-	-	-
Receipts	-	-	-	-	-	-	-	-	-	-
Expenditure	-	-	-	-	-	-	-	-	-	-
Extraordinary account status	-	-	-	-	-	-	-	-	-	-
OVERALL MUNICIPAL FINANCE										
Total receipts	1,315	1,793	1,883	1,866	1,918	1,979	1,322	1,389	1,443	1,476
Total expenditure	1,315	1,793	1,883	1,866	1,918	1,979	1,308	1,377	1,455	1,537
Closing balance	-	-	-	-	-	-	14	12	(12)	(61)

4. Almost all the surplus will be consumed for WSS revenue deficit. Need to revise WSS tariffs

END