

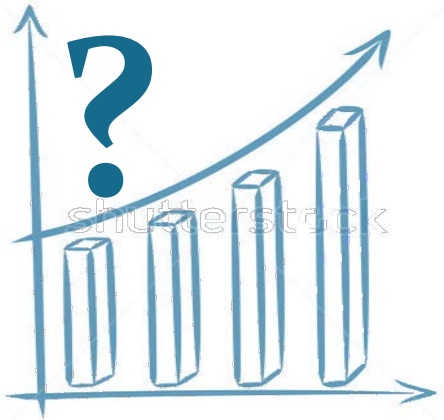
# SANIPLAN: IFSM GUIDANCE NOTE

# SANIPLAN Guidance Notes

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- SANIPLAN is a comprehensive tool to support citywide planning in water supply, waste water management and solid waste management sectors.
- However, some may want to use the tool for limited purposes such as FSM, making cities ODF, etc.
- Guidance notes enable easy use of SANIPLAN for such limited purposes.
- These notes provide step by step directions and cover all the three modules of SANIPLAN viz; performance assessment, action planning and financial planning.
- This Guidance Note provides stepwise instructions for using the SANIPLAN model to develop a citywide IFSM plan

# Key Components of SANI Plan



Performance  
Assessment

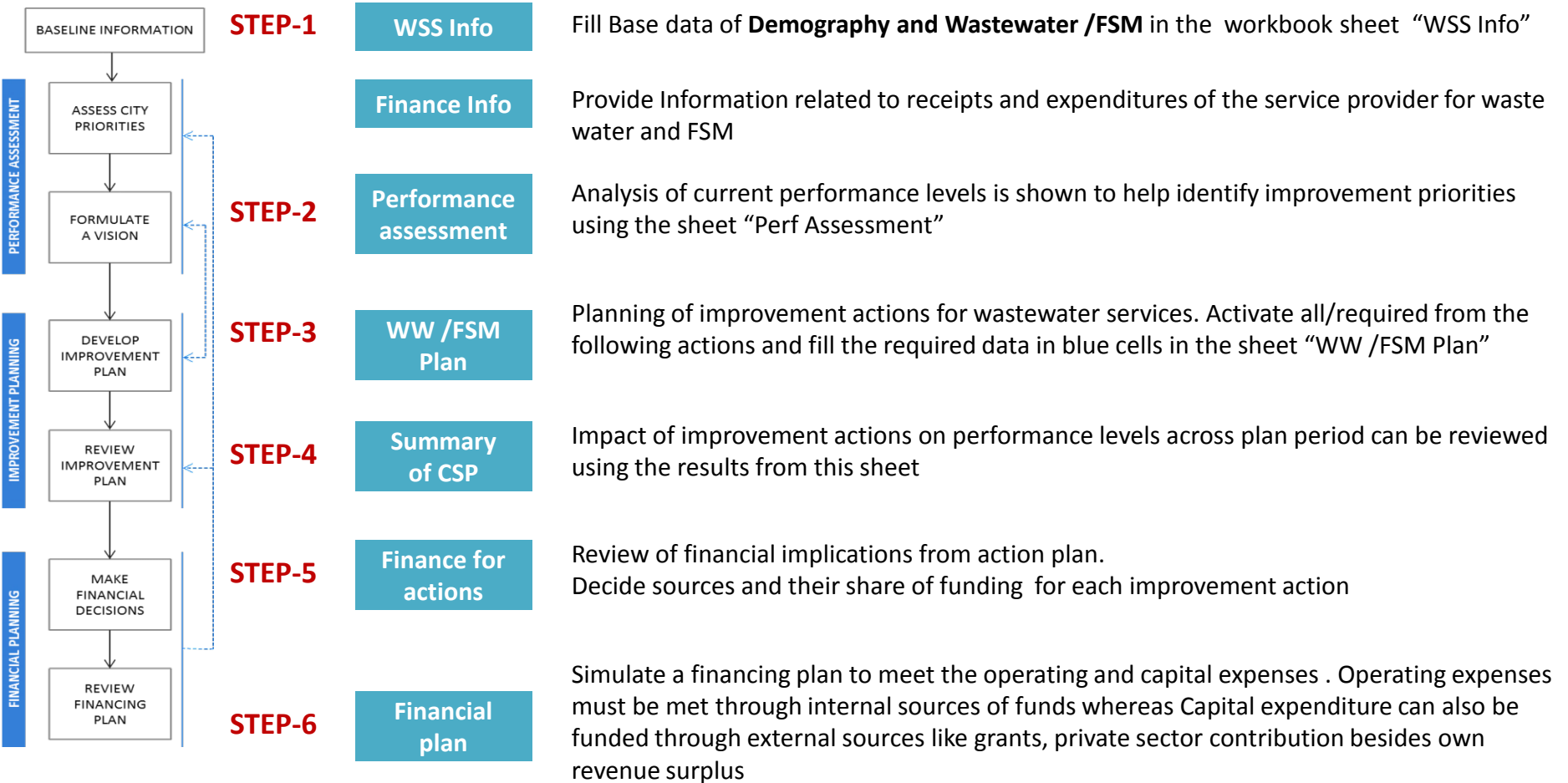


Action  
Planning



Financial  
Planning

# Summary of Steps



*Above steps (3-6) should be repeated for comparing different FSM Plan options*

**STEP-7** **Compare** Dashboard sheet helps compare different FSM plan options. Click “export dashboard sheet for upload”. New excel file will be created. Upload the files in Dashboard tool for comparing different sanitation options.

# Step-1 Baseline Information

**STEP-1 (A)**

WSS Info

Fill Base data of **Demography, Wastewater /FSM services** for present year in the workbook sheet “WSS Info”

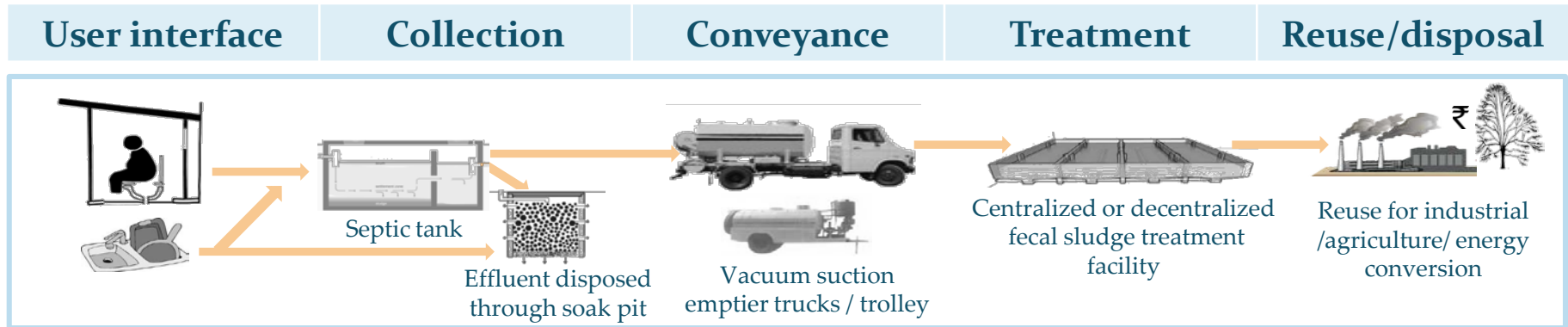
**STEP-1 (B)**

Finance Info

Provide Information related to receipts and expenditures of the service provider for wastewater and FSM

# Baseline Information

## Situational assessment of Sanitation across 'value chain'



Current performance levels of sanitation services are assessed and quantified in terms of Key performance indicators. To arrive at these results, comprehensive compilation of baseline information is required.

## Situational assessment of municipal finance

Functional classification of municipal budget :

(a) Revenue account, (b) Capital account, (c) Extraordinary account

### Budget recasting

Municipal budgets are generally not aligned with proper accounting structure as per National municipal accounting manual (NMAM). It is imperative to first re-classify all budget item heads properly as per their functions for any analysis.

### Budget past trends

Municipal finance information related to overall municipal account and separately for water supply, wastewater and solid waste services are to be filled here. To arrive at best trend estimates for municipal finance projections, past five years' budget figures are compiled for reference.

### Budget forecasting

Municipal finances are forecasted to assess financial strength of Local government for sustaining present services. They are projected for Business as Usual scenario for plan period of 10 years based on past trends. For revenue account, the budget estimates should relate to operating and maintaining of present services. Similarly, capital account should relate to ongoing or approved project for Local government

# Baseline Information

**STEP-1**  
**(A)**

**WSS Info**

Fill Base data of **Demography, Wastewater /FSM services** for present year in the workbook sheet “WSS Info”

## B Details of non-sewered areas in city

### i) Households with individual toilet facility

| Sr. No. | Particulars                                   |  | Non-slum households | Slum households | Source of information |
|---------|---|--|---------------------|-----------------|-----------------------|
|         | <b>Black water disposal system of toilets</b> | <b>Effluent disposal system of toilets</b> |                     |                 | Sanitation Department |
| 1       | Septic tanks                                  | Soak pits                                  |                     |                 |                       |
| 2       | Septic tanks                                  | Open/ closed drains (unsafe)               |                     |                 |                       |
| 3       | Pit latrines (unsafe)                         | Open/ closed drains (unsafe)               |                     |                 |                       |
|         | <b>Total</b>                                  |  | -                   | -               |                       |

### ii) Emptying of septic tanks

| Sr. No. | Suggested emptying cycle (number of years between successive emptying) |
|---------|--|
| 1       | For household level septic tanks                                       |
| 2       | For septic tanks of community/public toilets                           |

| Sr. No. | Particulars   | Urban local body (ULB) | Private service providers | Source of information   |
|---------|---|------------------------|---------------------------|---|
| 1       | Involvement in emptying septic tanks in the city (Yes/No)   |                        |                           | Sanitation department/<br>survey of private service providers |
| 2       | Number of suction emptier trucks used for cleaning septic tanks   |                        |                           |   |
| 3       | Aggregate capacity of all suction emptier trucks (kl)   |                        |                           |   |
| 4       | Number of trips made by a suction emptier truck (Trips/working day/truck)<br><i>NOTE : If trips are not made daily, then convert trip frequency into per day ratio. Eg: 1 trip is made every week then, 1/6 = 0.17 trips/ day</i> |                        |                           |   |

### iii) Faecal sludge treatment and disposal (FSTD) facility

| Sr. No. | Particulars   | Unit         | Value | Source of information  |
|---------|---|--------------|-------|--|
| 1       | Installed capacity of FSTD facility   | Cu.m./ month | -     | Log records at septage treatment facility, Sanitation Department |
| 2       | Functional capacity of FSTD facility  | Cu.m./ month | -     |  |
| 3       | Estimated percentage of by-product (manure) derived from septage treated at the plant | %            |       |  |
| 4       | Quantity of manure reused, if any   | Cu.m./ month |       |  |

WSS Info  
sheet of  
SANIPlan

# Baseline Information

**STEP-1  
(B)**

**Finance Info**

Provide Information related to receipts and expenditures of the service provider for wastewater and FSM

## II Wastewater revenue and expenditure

### A Wastewater revenue account

#### i) Wastewater revenue receipts

| Sr. No. | Particulars                  | 2009 (A)   | 2010 (A)   | 2011 (A)   | 2012 (A)   | 2013 (RE)  | 2014 (BE)  |
|---------|------------------------------|------------|------------|------------|------------|------------|------------|
| 1       | Wastewater tax               |            |            |            |            |            |            |
| 2       | Septic tank emptying charges |            |            |            |            |            |            |
| 3       | Sewerage user charges        |            |            |            |            |            |            |
| 4       | Grants                       |            |            |            |            |            |            |
| 5       | Miscellaneous                | 0.7        | 0.6        | 0.7        | 1.2        | 2.0        | 2.5        |
|         | <b>Total</b>                 | <b>0.7</b> | <b>0.6</b> | <b>0.7</b> | <b>1.2</b> | <b>2.0</b> | <b>2.5</b> |

#### ii) Wastewater revenue expenditure

| Sr. No. | Particulars                               | 2009 (A) | 2010 (A)   | 2011 (A) | 2012 (A)   | 2013 (RE)   | 2014 (BE)   |
|---------|---|----------|------------|----------|------------|-------------|-------------|
| 1       | Administrative and establishment expenses |          |            |          |            |             |             |
| 2       | Energy expenses                           |          |            |          |            |             |             |
| 3       | O&M of emptier trucks                     |          |            |          |            |             |             |
| 4       | Other O&M expenses                        | -        | 3.7        | -        | 7.4        | 17.0        | 13.5        |
| 5       | Miscellaneous                             |          |            |          |            |             |             |
| 6       | Interest payment                          |          |            |          |            |             |             |
|         | <b>Total</b>                              | <b>-</b> | <b>3.7</b> | <b>-</b> | <b>7.4</b> | <b>17.0</b> | <b>13.5</b> |

### B Wastewater capital account

#### i) Wastewater capital receipts

| Sr. No. | Particulars           | 2009 (A) | 2010 (A) | 2011 (A) | 2012 (A) | 2013 (RE)  | 2014 (BE)  |
|---------|-----------------------|----------|----------|----------|----------|------------|------------|
| 1       | State scheme grants   | -        | -        | -        | -        | -          | -          |
| 2       | Central scheme grants | -        | -        | -        | -        | 0.0        | 5.0        |
| 3       | External funds        | -        | -        | -        | -        | -          | -          |
| 4       | Others                | -        | -        | -        | -        | -          | -          |
|         | <b>Total</b>          | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>0.0</b> | <b>5.0</b> |

#### ii) Wastewater capital expenditure

| Sr. No. | Particulars  | 2009 (A)   | 2010 (A) | 2011 (A) | 2012 (A) | 2013 (RE)   | 2014 (BE)    |
|---------|--|------------|----------|----------|----------|-------------|--------------|
| 1       | Capital work in progress                           | 7.3        | -        | -        | -        | 50.0        | 100.0        |
| 2       | Principal repayments of external funds/ borrowings | -          | -        | -        | -        | -           | -            |
| 3       | Others   | -          | -        | -        | -        | -           | -            |
|         | <b>Total</b>                                       | <b>7.3</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>50.0</b> | <b>100.0</b> |

Finance Info  
sheet of  
SANIPlan



# Step-2 Performance Assessment

## STEP-2

### Perf assessment

Analysis of present performance levels is shown leading to identification of sectoral goals and improvement priorities in the sheet “Perf Assessment”. This uses special performance indicators to capture situations of cities with fully onsite sanitation as well as with mixed systems (partial onsite and partial sewerage)

# Performance Assessment

## Assessment across the service chain

User interface

Collection

Conveyance

Treatment

Re-use/  
disposal

## Thematically grouped service level benchmarks

Access, coverage  
and equity

Service levels  
and quality

Efficiency in service  
operations

Financial  
sustainability

## Comparison

With Benchmarks –  
identify gaps in service

With peers –  
set realistic targets

## Formulate a vision

100% coverage of  
individual toilets

Regulated septic tank  
emptying plan

100% septage  
treatment

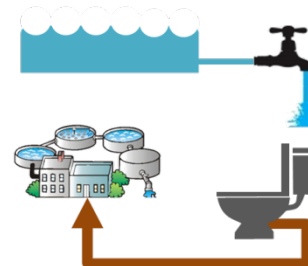
Comparison  
with  
benchmarks



Comparison  
with peer  
groups



Across  
service chain



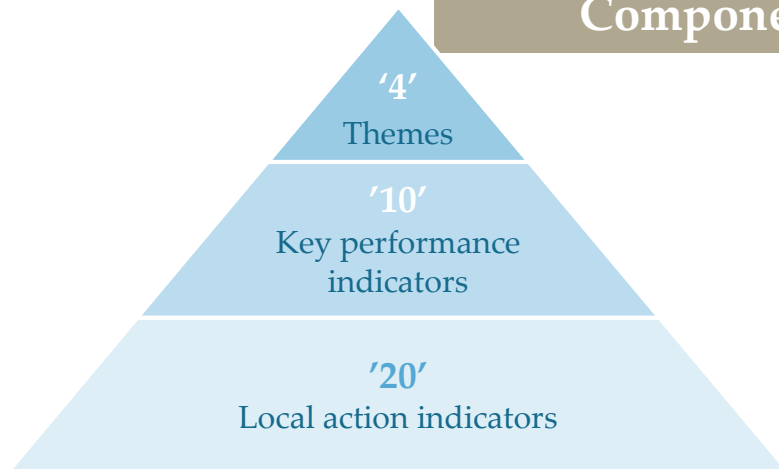
Inter and  
intra sectoral  
linkages



# Performance Assessment

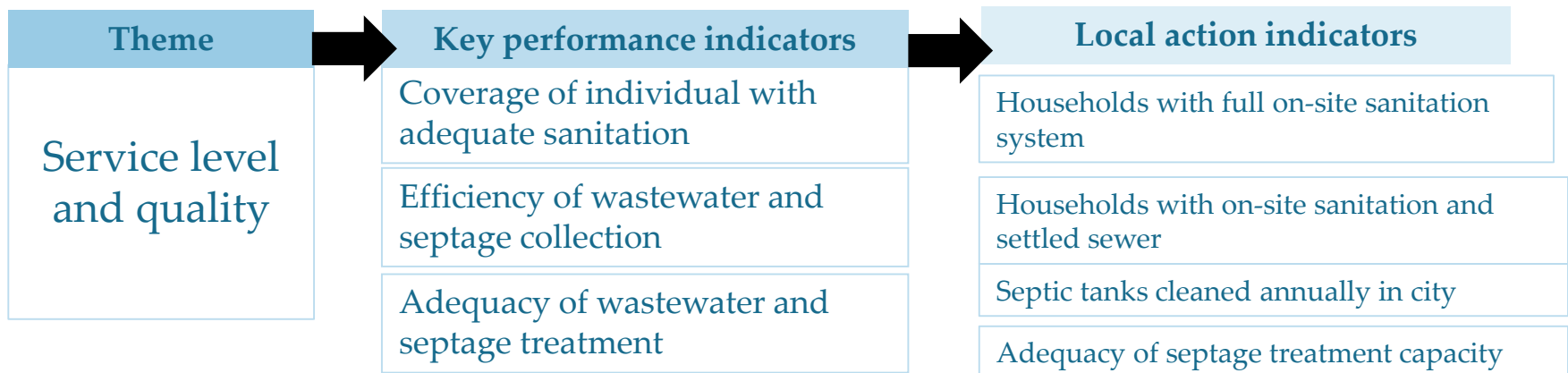
Analysis of performance results aims at identifying strengths and weaknesses of service delivery. The low KPIs point to core problematic areas of service delivery that needs to be targeted in improvement plan. These problematic areas are elaborated with corresponding LAIs to assess the actual reasons for low performance. Thus LAIs lead to set of localized actions that influence relevant contextual issue rather than promote only new infrastructure creation for city level plans. Identification of all such core problem areas and their corresponding local actions form the basis of Improvement Plan.

## Components of Performance assessment framework



Themes:

1. Access, coverage & equity
2. Service levels and quality
3. Efficiency in service operations
4. Financial sustainability



# Performance Assessment

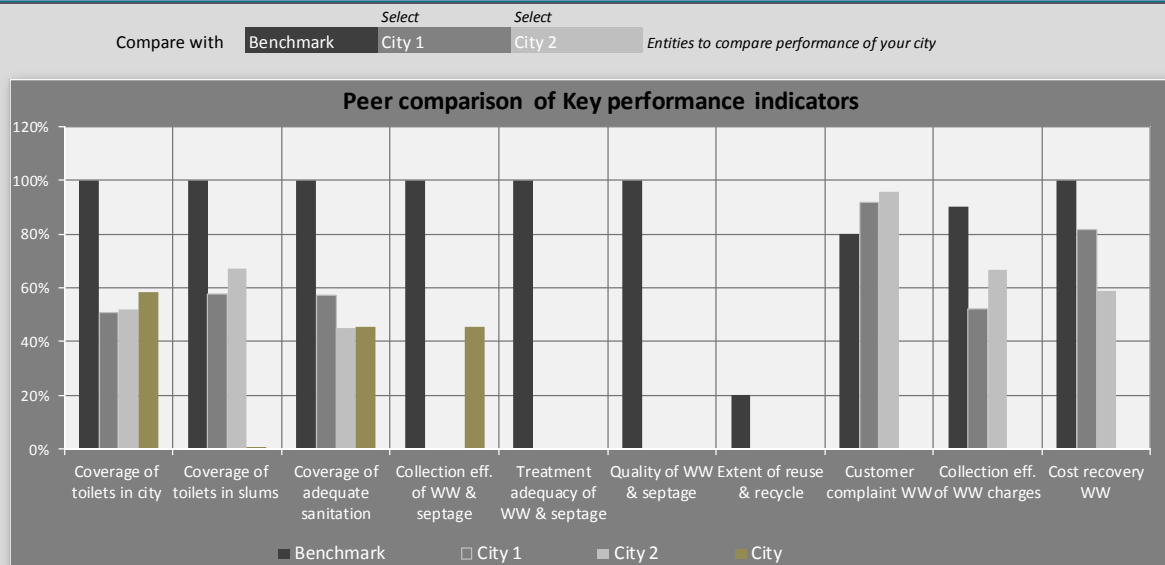
## STEP-2

### Perf assessment

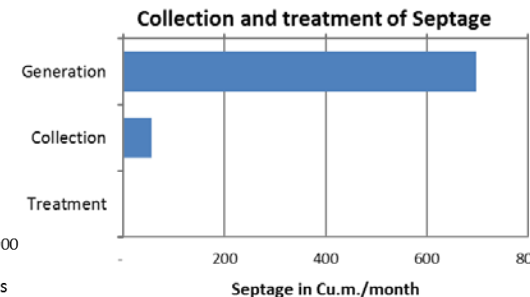
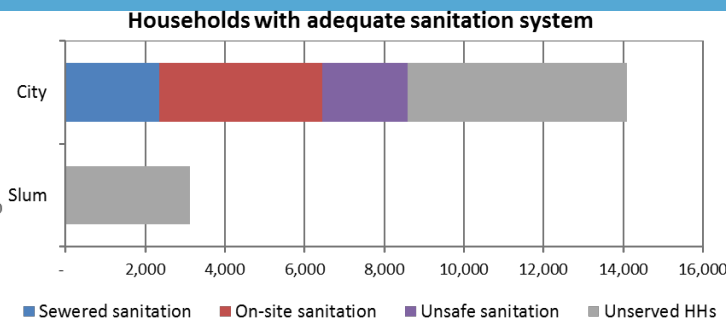
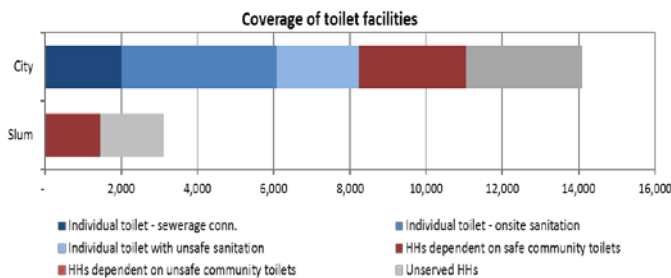
Analysis of present performance levels is shown leading to identification of sectoral goals and improvement priorities in the sheet "Perf Assessment". This uses special performance indicators to capture situations of cities with fully onsite sanitation as well as with mixed systems (partial onsite and partial sewerage)

## Key Performance Indicators - comparison against peer groups

| Key Performance Indicator   | Value |
|---|-------|
| <input checked="" type="checkbox"/> Coverage of households with individual toilets in city      | 58%   |
| <input type="checkbox"/> Coverage of households with individual toilets in slums                | 1%    |
| <input checked="" type="checkbox"/> Coverage of households with adequate sanitation system      | 46%   |
| <input checked="" type="checkbox"/> Efficiency of wastewater and septage collection system      | 45%   |
| <input checked="" type="checkbox"/> Adequacy of wastewater and septage treatment capacity       | 0%    |
| <input checked="" type="checkbox"/> Quality of wastewater and septage treatment                 | 0%    |
| <input checked="" 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%    |



## Local Action Indicators - indicated through graphs



# Step-3 Improvement Actions

**STEP-3**

WW/FSM  
Plan

Planning of improvement actions for wastewater services. Activate all/required from the following actions and fill the required data in blue cells in the sheet “WW /FSM Plan”.

# Improvement Actions

Sector wide approach of SANIPLAN is supported by wide range of improvement actions that are categorized under four types of intervention areas. These range from no cost to low-cost solutions like process and policy interventions and rehabilitation of existing infrastructure rather than concentrating only on creation of new assets.

| Type of interventions                         | Description   |
|---|---|
| <b>1. Data improvement actions</b>            | For most of the Local governments, quality of data is very poor. These actions shall help improve it but will not directly impact the KPI values. |
| <b>2. Process/policy improvement actions</b>  | This category highlights the understated process or policy areas that may have been primary hurdle in reform implementation.                      |
| <b>3. Existing system improvement actions</b> | This category highlights the scope for improving existing infrastructure to achieve desired results at low-cost by providing a range of options.  |
| <b>4. New infrastructure creation</b>         | This category complies a list of all the new infrastructure projects that can be undertaken.  |

# Action Planning

Performance assessment

Select and calibrate improvement actions

Makes desired impact

Financial planning

No

Yes

## Select improvement actions

Data improvement

Process changes/  
policy decisions

Improving existing infrastructure

New infrastructure

## Calibrate selected actions

Phasing

Technology

Capital Cost

Operating cost and revenue generated

## Assess impact of improvement actions

Temporal impact on service levels

Spatial spread of services

Impact on financial health

# Action Planning

## STEP-3

### WW/FSM Plan

Planning of improvement actions for wastewater services. Activate all/required from the following actions and fill the required data in blue cells in the sheet “WW /FSM Plan”.

#### User-Interface (toilets & Septic tanks)

**Action 1-** Improve condition of existing individual toilets by providing safe sanitation disposal system (WW05)

**Action 2-** Improve condition of existing Community toilets (WW06)

**Action 3-** Improve condition of existing Public toilets (WW07)

**Action 4-** Refurbishment of existing septic tanks in city (WW08)

#### Treatment

**Action 7-** Increase efficiency of all existing treatment plants (WW20)

**Action 8-** Construct/augment fecal sludge treatment plant (WW27)

#### Reuse/Disposal

**Action 9-** Increase in reuse/recycling of treated wastewater and septage (WW33)

#### Conveyance

**Action 5-** Increase septage collection with existing suction emptier trucks (WW19)

**Action 6-** Procure new suction emptier trucks (WW26)

#### Other Actions

**Action 10-** Conduct regular wastewater and septage quality tests at laboratory, if not done (WW34)

**Action 11-** Improve collection efficiency of wastewater charges and taxes (WW37)



# FSM related Improvement Actions in SANIPLAN

| Sr No                        | Action  |
|------------------------------|---|
| <b>Access &amp; coverage</b> |   |
| WW01                         | Household survey to assess wastewater services  |
| WW02                         | Surveys and monitoring of open defecation sites   |
| WW03                         | Computerise wastewater records  |
| WW04                         | Policy for providing sanitation services in slums   |
| WW05                         | Improve condition of existing individual toilets by providing safe sanitation disposal system |
| WW06                         | Improve condition of existing Community toilets   |
| WW07                         | Improve condition of existing Public toilets  |
| WW08                         | Refurbishment of existing septic tanks in city  |
| WW09                         | Information, education and communication (IEC) campaigns for sanitation awareness             |
| WW10                         | Construct new individual toilets  |
| WW11                         | Construct new group toilets   |
| WW12                         | Construct new community toilet blocks   |
| WW13                         | Construct new public toilet blocks  |

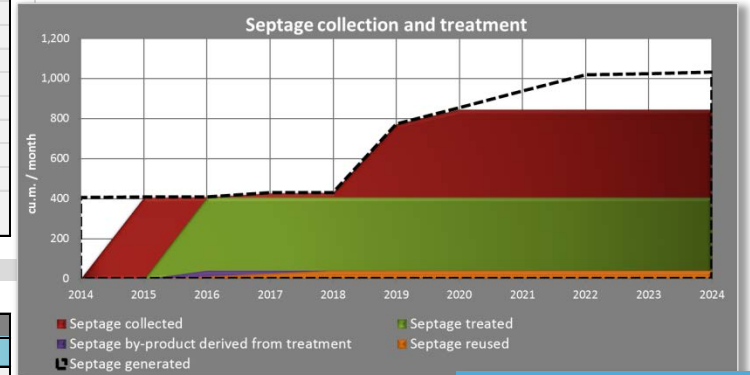
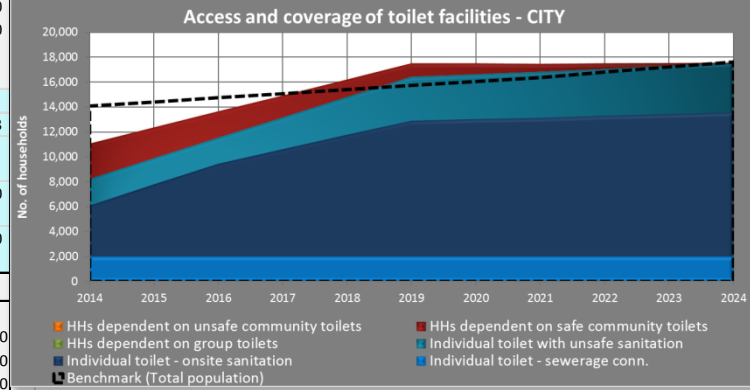
| Sr No                               | Action  |
|-------------------------------------|---|
| <b>Service levels &amp; quality</b> |   |
| WW19                                | Increase septage collection with existing suction emptier trucks                |
| WW20                                | Increase efficiency of all existing treatment plants                            |
| WW26                                | Procure new suction emptier trucks  |
| WW27                                | Construct/augment fecal sludge treatment plant                                  |
| WW29                                | Construct/augment sewage treatment plant  |
| <b>Efficiency in services</b>       |   |
| WW31                                | Improve wastewater and septage quality surveillance                             |
| WW32                                | Improve processes for management of consumer complaints                         |
| WW33                                | Increase in reuse/recycling of treated wastewater and septage                   |
| WW34                                | Conduct regular wastewater and septage quality tests at laboratory, if not done |
| WW35                                | Improve consumer grievance redressal system                                     |
| <b>Financial sustainability</b>     |   |
| WW36                                | Improve billing and collection of wastewater bills                              |
| WW37                                | Improve collection efficiency of wastewater charges and taxes                   |

# WW Plan sheet

2

## Existing system improvement measures

| Learn more  | Activate   | Increase septage collection with existing suction emptier trucks                               | 2015                | 2017 |
|-------------|------------|--|---------------------|------|
| WW19        | Baseline   | - Suction emptier trucks of ULB  | Numbers             | 1.0  |
|             |            | - Average number of trips by a suction emptier truck of ULB                                    | Trips/day           | 1.0  |
|             |            | - Suction emptier trucks of private operators used within city limits                          | Numbers             | -    |
|             |            | - Average number of trips by a suction emptier truck of private operator                       | Trips/day           | -    |
|             |            | - Suction emptier trucks of ULB that need repair and maintenance                               | Numbers             | -    |
|             |            | - Additional trips that can be made by a suction emptier truck of ULB                          | Trips/truck/day     | 3    |
| Improvement |            | - Additional trips that can be made by a suction emptier truck of private operator             | Trips/truck/day     |      |
|             |            |  |                     |      |
| Finance     |            | - Cost of all repair and maintenance job of suction emptier trucks of ULB (lump-sum)           | Rs. lakhs           | 2.0  |
|             |            | - O&M expenses incurred for additional trips made by suction emptier trucks of ULB             | Rs./additional trip | 150  |
| WW20        | Deactivate | Increase efficiency of all existing treatment plants   |                     |      |
| Baseline    |            | <u>Non-functional capacity of treatment plant as compared to total installed capacity:</u>     |                     |      |
|             |            | - Fecal sludge treatment facility  | Cu.m./ month        | 0/0  |
|             |            | - Primary treatment plant for effluent and sullage   | MLD                 | 0/0  |
|             |            | - Sewage treatment plant   | MLD                 | 0/0  |
| Improvement |            | <u>Non-functional capacity of treatment plant to be repaired and made functional:</u>          |                     |      |
|             |            | - Fecal sludge treatment facility  | Cu.m./ month        |      |
|             |            | - Primary treatment plant for effluent and sullage   | MLD                 |      |
|             |            | - Sewage treatment plant   | MLD                 |      |
|             |            | <u>Waste from on-site sanitation system to be treated at Sewage treatment plant, if any</u>    |                     |      |
|             |            | - Additional quantity of sullage to be treated   | MLD                 |      |
|             |            | - Additional quantity of septage to be treated   | Cu.m./ month        |      |
|             |            | - Total cost of carrying out of this activity (lump-sum)                                       | Rs. lakhs           |      |
|             |            | - Additional operating costs for these treatment plants, if any                                | Rs. / month         |      |
|             |            | - Additional revenue to be generated for ULB by selling treated wastewater and septage, if any | Rs./ month          |      |



**Impact of activated actions on performance**

3

## Create new infrastructure

### PROVIDE WASTEWATER COLLECTION & CONVEYANCE SYSTEM TO HOUSEHOLDS

| Learn more  | Activate | Procure new suction emptier trucks  | 2015             | 2017 |
|-------------|----------|---|------------------|------|
| WW26        | Baseline | - Suction emptier trucks with ULB at present  | Numbers          | 1    |
|             |          | - Suction emptier trucks with private operators at present  | Numbers          | -    |
| Improvement |          | <u>Suction emptier trucks of ULB</u>  |                  |      |
|             |          | - Additional trucks to be procured by ULB   | Numbers          | 1    |
|             |          | - Aggregate capacity of all new suction emptier trucks  | kilo liters      | 5.0  |
|             |          | - Number of trips by a suction emptier truck  | Trips/ truck/day | 4.0  |
|             |          | <u>Suction emptier trucks of Private operators</u>  |                  |      |
|             |          | - Additional number of trucks expected to be procured by private operators to function within city limits | Numbers          |      |
|             |          | - Aggregate capacity of all new suction emptier trucks  | kilo liters      |      |
|             |          | - Number of trips by a suction emptier truck within city limits   | Trips/ truck/day |      |
| Finance     |          | - Block cost for a suction emptier truck to be procured by ULB  | Rs. lakhs/truck  | 10   |
|             |          | - O&M expenses for new trucks procured by ULB   | % of CapEx/annum | 25%  |

**Calibration of improvement actions**

# Step-4 Impact of Improvement actions on performance levels

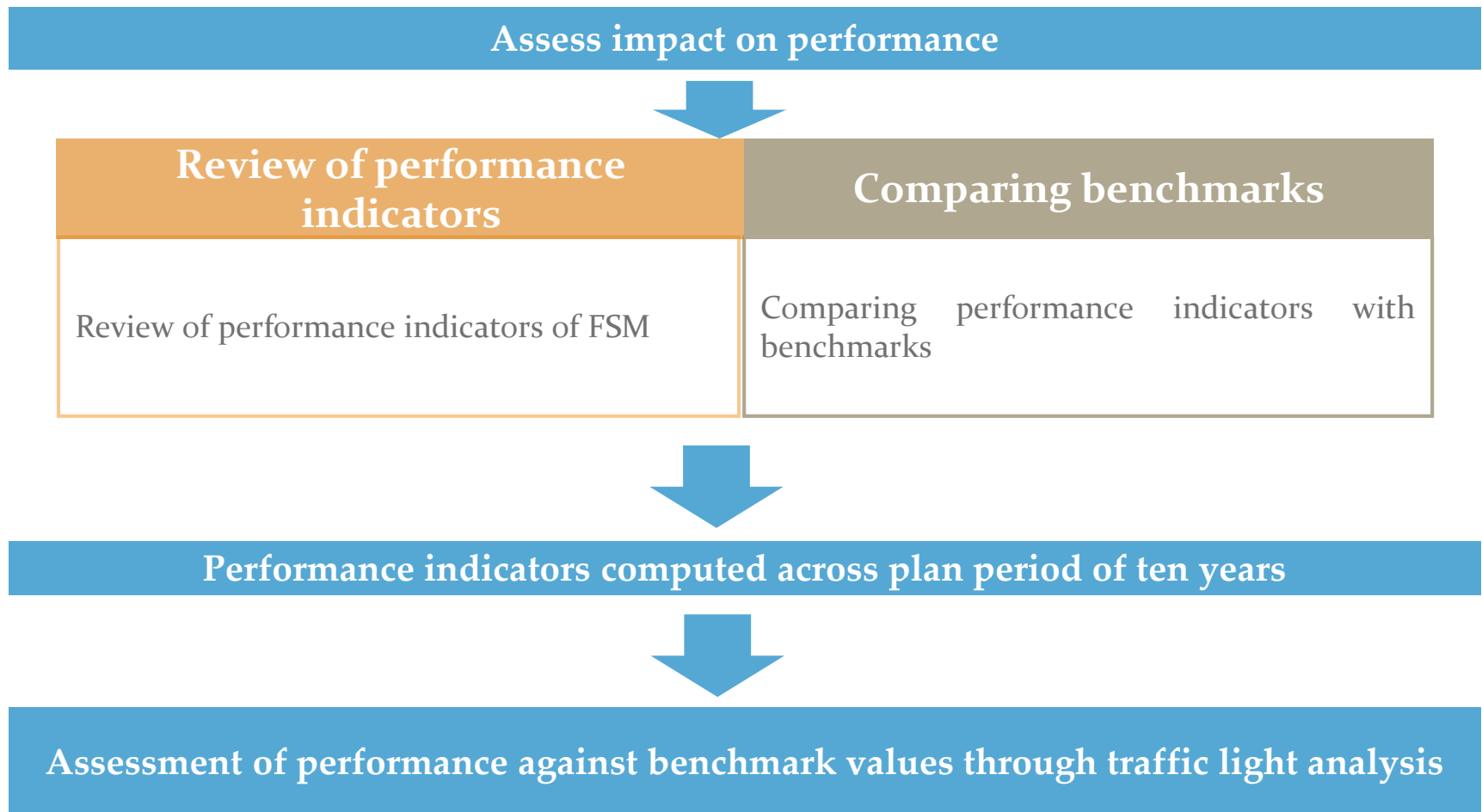
**STEP-4**

Summary  
of CSP

Impact of improvement actions on performance levels across plan period could be seen from this sheet

# Assessing impact of Action Plan on performance

Improvement actions activated for each sector will have combined effect on performance of all three sectors – Water Supply, Wastewater and Solid Waste Management. The impact of Action Plan on service levels is assessed through a range of Performance Indicators. KPIs are reported along with its corresponding LAIs for all four themes. Traffic light analysis is done across time series with respect to benchmark values of KPIs.



# Summary of CSP

STEP-4

Summary  
of CSP

Impact of improvement actions on performance levels across plan period could be seen from this sheet

| Performance levels   | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|--|------|------|------|------|------|------|------|------|------|------|
| <b>Service level and quality</b>   |      |      |      |      |      |      |      |      |      |      |
| <b>Coverage of households with adequate sanitation system</b>  | 6%   | 7%   | 8%   | 8%   | 9%   | 10%  | 10%  | 11%  | 12%  | 12%  |
| 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.   |      |      |      |      |      |      |      |      |      |      |
| <b>Efficiency of wastewater and septage collection system</b>  | 6%   | 7%   | 8%   | 8%   | 9%   | 10%  | 10%  | 11%  | 12%  | 12%  |
| 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. |      |      |      |      |      |      |      |      |      |      |
| <b>Adequacy of wastewater and septage treatment capacity</b>   | 0%   | 0%   | 1%   | 1%   | 1%   | 1%   | 1%   | 1%   | 1%   | 1%   |
| 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%   | 7%   | 8%   | 8%   | 9%   | 10%  | 10%  | 11%  | 12%  | 12%  |
| 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%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   |
| 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%   |
| Number of households with individual connections to sewerage network, as percentage of total households in city.   |      |      |      |      |      |      |      |      |      |      |
| Spatial coverage of closed surface drains  | 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.   |      |      |      |      |      |      |      |      |      |      |
| Septic tanks cleaned annually in city  | 33%  | 33%  | 33%  | 33%  | 33%  | 33%  | 33%  | 33%  | 33%  | 33%  |
| Number of septic tanks (includes septic tanks of individual toilets, community and public toilets) cleaned annually as percentage of total septic tanks in city.   |      |      |      |      |      |      |      |      |      |      |
| Adequacy of sewage treatment capacity  | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   |
| Quantum of sewage that can be treated at secondary treatment plants as percentage of normative sewage collected by sewerage network.   |      |      |      |      |      |      |      |      |      |      |
| Adequacy of treatment plant capacity for effluent and sullage  | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   |
| Quantum of sullage and effluent that can be treated at primary treatment plants as percentage of normative sullage and effluent collected by settled sewer or drains (unsafe way)  |      |      |      |      |      |      |      |      |      |      |
| Adequacy of septage treatment capacity   | 0%   | 0%   | 118% | 117% | 115% | 113% | 112% | 110% | 108% | 107% |
| Quantum of septage that can be treated at faecal sludge treatment plant as percentage of normative septage generated in city.  |      |      |      |      |      |      |      |      |      |      |

# Step-5 Financial Planning

**STEP-5  
(A)**

Action  
Finance

Review of financial implications from action plan – capital and O&M exp requirements.  
Decide sources and their share of funding for each improvement action.

**STEP-5  
(B)**

Financial  
Plan

Simulate a financing plan to meet the operating and capital expenses . Operating expenses must be met through internal sources of funds whereas Capital expenditure can also be funded through external sources like grants, private sector contribution besides own revenue surplus.

# Financial Planning (1/7)

## Financial implications of each improvement action

Capital expenditure

O&M expenditure

Revenue from PIP

## Aggregated financial requirement

The process of matching the financial requirements with the available funds in an iterative manner



## Total available funds

### BAU Revenue surplus

Projections of revenues and operating expenses based on past trends

### Enhance internal sources

Revise taxes and user charges

New taxes / charges for enhanced services

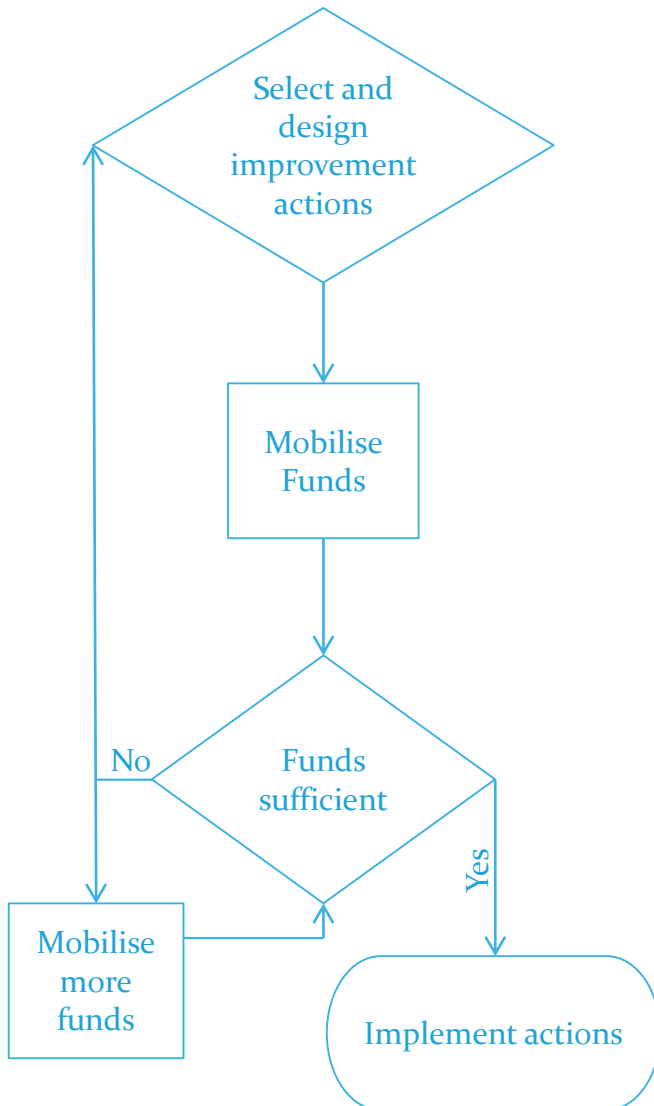
### External sources

Grants/VGF

PPP

Debt

Donations/CSR



# Financial Planning (2/7)

**STEP-5  
(A)**

**Action  
Finance**

Review of financial implications from action plan – capital and O&M expenditure requirements.

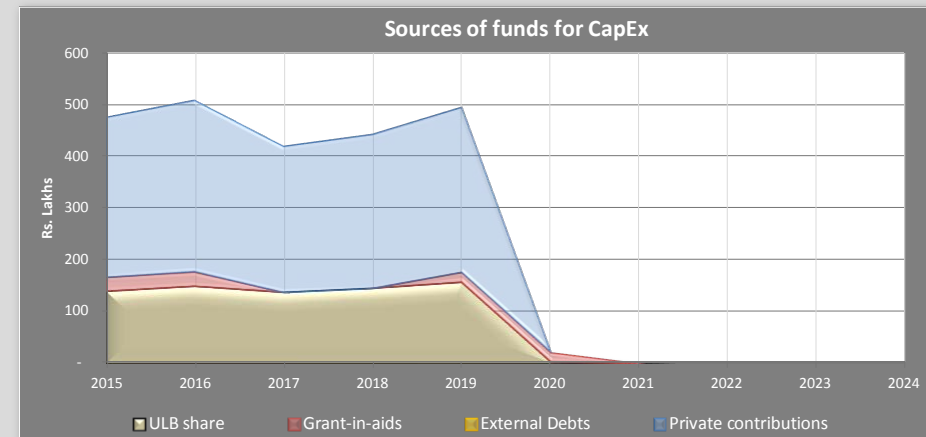
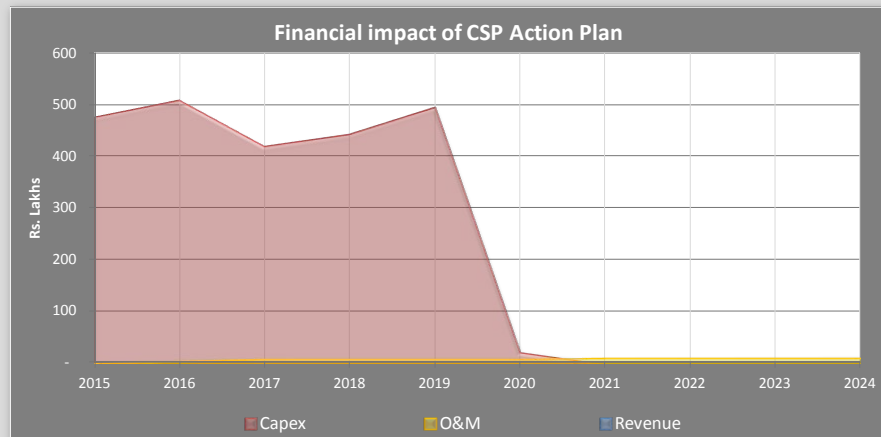
## Review of Financial Implications of the actions activated

### I Financial summary

|               |                    |
|---------------|--------------------|
| Select SECTOR | <b>WASTE WATER</b> |
|---------------|--------------------|

| Financial Summary      | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | Total |
|------------------------|------|------|------|------|------|------|------|------|------|------|-------|
| Capital expenditure    | 475  | 508  | 418  | 442  | 493  | 21   | -    | -    | -    | -    | 2,356 |
| Additional O&M expense | 0    | 3    | 6    | 6    | 6    | 7    | 8    | 9    | 9    | 9    | 63    |
| Additional revenue     | 0    | 0    | -    | -    | -    | -    | 0    | 0    | 0    | 0    | 0     |

| Sources of funds  | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | Total |
|-------------------|------|------|------|------|------|------|------|------|------|------|-------|
| Central Grants    | 15   | 16   | -    | -    | 10   | 11   | -    | -    | -    | -    | 51    |
| State Grants      | 12   | 13   | -    | -    | 8    | 8    | -    | -    | -    | -    | 41    |
| External Debts    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     |
| Private/ PPP      | 3    | 4    | 4    | -    | -    | -    | -    | -    | -    | -    | 11    |
| Beneficiary share | 307  | 329  | 278  | 298  | 319  | -    | -    | -    | -    | -    | 1,531 |
| ULB share         | 137  | 147  | 135  | 144  | 156  | 2    | -    | -    | -    | -    | 722   |





# Financial Planning (3/7)

The financial implications of each activated action is reported in terms of capital expenditure required to implement the action, its operational and maintenance costs and its phasing. Financial summary of all the activated actions together is evaluated year-on-year basis to assess funding requirement across plan period.

Click to view Phasing,  
CapEx or OpEx

| IMPROVEMENT ACTIONS   |                    |            |             | SUMMARY OF CAPITAL EXPENDITURE   |      |      |      |      |      |      |  |
|---|--------------------|------------|-------------|--|------|------|------|------|------|------|--|
| Sector colour code  | Water supply       | Wastewater | Solid waste | <a href="#">Click here to view Summary of</a> <input type="radio"/> PHASING <input checked="" type="radio"/> CAPEX PLAN <input type="radio"/> O&M PLAN |      |      |      |      |      |      |  |
| Actions   | Type               | 2015       | 2016        | 2017   | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |  |
| Improve condition of existing individual toilets by providing safe sanitation | Existing system    | 80         | 85          |  |      |      |      |      |      |      |  |
| Construct new individual toilets  | New infrastructure | 361        | 386         | 413  | 442  | 473  |      |      |      |      |  |
| Increase septage collection with existing suction emptier trucks              | Existing system    | 1          | 1           | 1  |      |      |      |      |      |      |  |
| Procure new suction emptier trucks  | New infrastructure | 3          | 4           | 4  |      |      |      |      |      |      |  |
| Construct/augment fecal sludge treatment plant                                | New infrastructure | 30         | 32          |  |      |      |      |      |      |      |  |
| Construct/augment sewage treatment plant                                      | New infrastructure |            |             |  |      | 20   | 21   |      |      |      |  |

# Financial Planning (4/7)

To prepare feasible Financing Plan, various external sources of funds are explored to fund improvement actions. These are evaluated separately for each activated action.

Decide Source of finance and their share for each improvement action. Local government will have to mobilise the remainder from its budget or borrowings

Grant – in – aids

External debts

Private participation (PPP)

Beneficiary contribution

| IMPROVEMENT ACTIONS   |  |             |                | SOURCES OF FUNDS FOR CAPITAL EXPENDITURE  |      |             |             |                             |     |
|---|--|-------------|----------------|---|------|-------------|-------------|-----------------------------|-----|
| Sector colour code  | Water supply   | Wastewater  | Solid waste    | 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 |             |                |   |      |             |             |                             |     |
| Actions   | Type   | Total CapEx | Central Grants | State Grants  | Debt | Private/PPP | Beneficiary | ULB share (% and Rs. lakhs) |     |
| Improve condition of existing individual toilets by providing safe sanitation | Exisiting system   | 165         |                |   |      |             | 80%         | 20%                         | 33  |
| Construct new individual toilets  | New infrastructure   | 2,075       |                |   |      |             | 67%         | 33%                         | 676 |
| Increase septage collection with existing suction emptier trucks              | Exisiting system   | 2           |                |   |      |             |             | 100%                        | 2   |
| Procure new suction emptier trucks  | New infrastructure   | 11          |                |   |      | 100%        |             |                             |     |
| Construct/augment fecal sludge treatment plant                                | New infrastructure   | 62          | 50%            | 40%   |      |             |             | 10%                         | 6   |
| Construct/augment sewage treatment plant                                      | New infrastructure   | 41          | 50%            | 40%   |      |             |             | 10%                         | 4   |

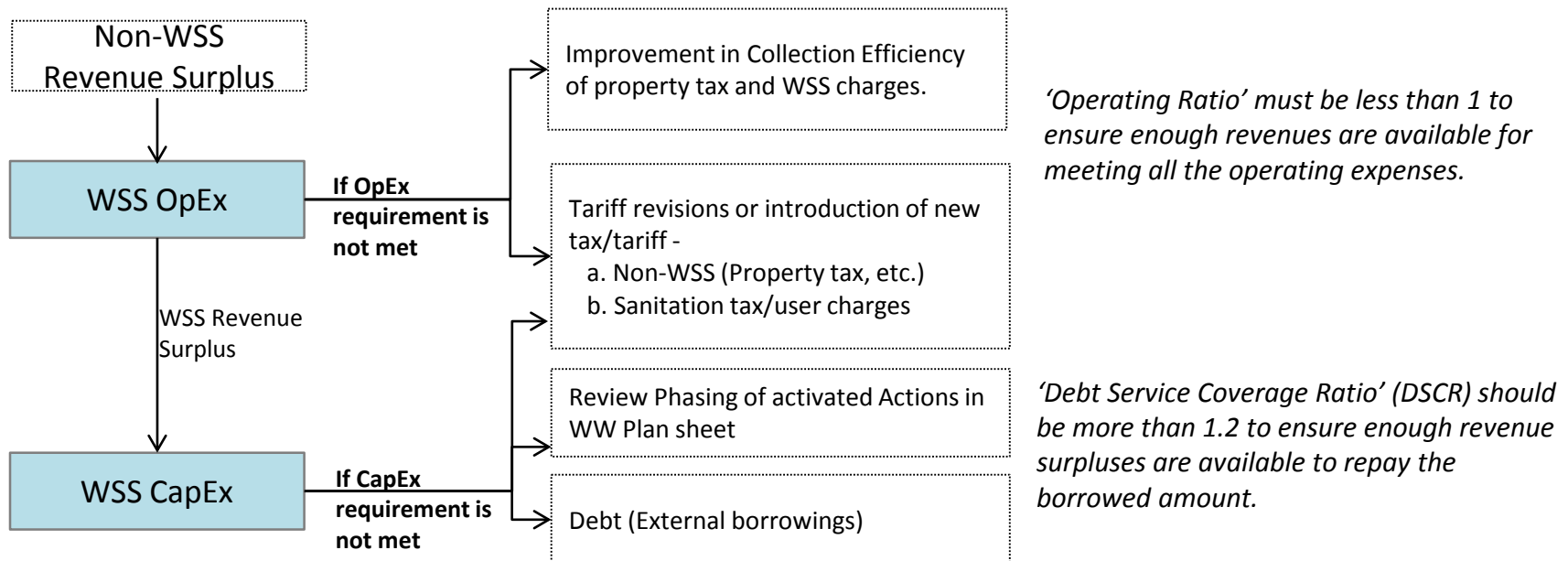
# Financial Planning (5/7)

## STEP-5 (B)

### Financial Plan

Simulate a financing plan to meet the operating and capital expenses . Operating expenses must be met through internal sources of funds whereas Capital expenditure can also be funded through external sources like grants, private sector contribution besides own revenue surplus.

Detailed steps for preparing a Financing Plan are given below.  
This sequence of steps is iterative and have to be assessed year by year



# Financial Planning (6/7)

## Simulate for Capex and Opex

### Water supply and sanitation Financing Plan

#### KEY FINANCING DECISIONS

| Financing Plan  | 2013 | 2014 | 2015 | 2016 | 2017   | 2018  | 2019 | 2020 | 2021 | 2022 | Total |
|---|------|------|------|------|--------|-------|------|------|------|------|-------|
| <b>WATER SUPPLY AND SANITATION OPERATING PLAN</b>   |      |      |      |      |        |       |      |      |      |      |       |
| <b>1. Income generated from PIP actions</b>   |      |      |      |      |        |       |      |      |      |      |       |
| Additional income generated   | -    | 58   | 67   | 67   | 53     | 49    | 5    | 4    | 4    | 4    | 311   |
| <b>2. Revise WSS charges and tariffs</b> <small>Link to <a href="#">Revise WSS tariffs</a></small>                    |      |      |      |      |        |       |      |      |      |      |       |
| Additional income generated   | -    | 41   | 47   | 54   | 62     | 68    | 73   | 77   | 82   | 87   | 591   |
| <b>3. Revise own income sources like Property tax</b> <small>Link to <a href="#">Revise own tax sources</a></small>   |      |      |      |      |        |       |      |      |      |      |       |
| Additional income generated   | 36   | 43   | 65   | 65   | 98     | 103   | 116  | 120  | 134  | 138  | 918   |
| <b>4. Allocate Non-WSS revenue surplus for WSS services</b> <small>Link to <a href="#">Review post trends</a></small> |      |      |      |      |        |       |      |      |      |      |       |
| Non-WSS revenue surplus   | 409  | 544  | 544  | 523  | 512    | 528   | 552  | 703  | 857  | 995  | 6,167 |
| Propose allocation of surplus for WSS OpEx  | 291  | 459  | 490  | 523  | 512    | 528   | 416  | 438  | 469  | 504  | 4,630 |
| Non-WSS   | 71%  | 84%  | 90%  | 100% | 100%   | 100%  | 75%  | 62%  | 55%  | 51%  | 75%   |
| Operating ratio   | 1.0  | 0.6  | 0.6  | 0.6  | 0.7    | 0.7   | 1.0  | 1.0  | 1.0  | 1.0  | 1.0   |
| <b>WATER SUPPLY AND SANITATION CAPITAL PLAN</b>   |      |      |      |      |        |       |      |      |      |      |       |
| <b>1. External sources of funds</b>   |      |      |      |      |        |       |      |      |      |      |       |
| Already approved WSS Capln *  | -    | -    | -    | -    | -      | -     | -    | -    | -    | -    | -     |
| Grants from Central & State government #  | -    | 93   | 99   | 106  | 89     | 95    | -    | -    | -    | -    | 482   |
| Private contribution through PPP and Beneficiaries #  | -    | 229  | 245  | 259  | 179    | 171   | -    | -    | -    | -    | 1,083 |
| <small>* Linked from Municipal Finance sheet, # Linked from Action Plan finance sheet</small>                         |      |      |      |      |        |       |      |      |      |      |       |
| <b>2. Allocate WSS revenue surplus for capital funding</b>  |      |      |      |      |        |       |      |      |      |      |       |
| WSS revenue surplus   | -    | 251  | 268  | 282  | 210    | 189   | -    | -    | -    | -    | 1,200 |
| Propose allocation of surplus for WSS CapEx   | -    | 251  | 268  | 282  | 210    | 189   | -    | -    | -    | -    | 1,200 |
| WSS CapEx   | -    | 100% | 100% | 100% | 100%   | 100%  | -    | -    | -    | -    | 100%  |
| <b>3. Allocate Non-WSS Capln for WSS capital funding</b> <small>Link to <a href="#">Review past trends</a></small>    |      |      |      |      |        |       |      |      |      |      |       |
| Non-WSS Capln surplus   | -    | -    | -    | -    | -      | -     | -    | -    | -    | -    | -     |
| Propose allocation of surplus for WSS CapEx   | -    | -    | -    | -    | -      | -     | -    | -    | -    | -    | -     |
| <b>4. External borrowings</b>   |      |      |      |      |        |       |      |      |      |      |       |
| Debt from Action Plan finance   | -    | -    | -    | 5    | 97     | 139   | -    | -    | -    | -    | 241   |
| Additional debt required  | -    | -    | -    | 5    | 97     | 139   | -    | -    | -    | -    | 241   |
| Rate of interest (%)  | -    | -    | -    | -    | -      | 10%   | -    | -    | -    | -    | -     |
| Moratorium period (Number of years)   | -    | -    | -    | -    | -      | 3     | -    | -    | -    | -    | -     |
| Period of Borrowing (Number of years)   | -    | -    | -    | -    | -      | 10    | -    | -    | -    | -    | -     |
| Debt servicing requirement  | -    | -    | -    | -    | 1      | 10    | 24   | 25   | 33   | 45   | 137   |
| Debt service coverage ratio   | NA   | NA   | NA   | NA   | 211.00 | 19.90 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00  |

#### IMPACT OF FINANCING PLAN ON MUNICIPAL FINANCES

| Budget heads   | 2013  | 2014  | 2015  | 2016  | 2017  | 2018  | 2019  | 2020  | 2021  | 2022  |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>REVENUE ACCOUNT</b>   |       |       |       |       |       |       |       |       |       |       |
| <b>Water supply and sanitation services (WSS)</b>                |       |       |       |       |       |       |       |       |       |       |
| Opening balance  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Revenue receipts   | 371   | 638   | 685   | 724   | 707   | 725   | 574   | 600   | 635   | 675   |
| Revenue expenditure  | 371   | 387   | 417   | 442   | 497   | 536   | 574   | 600   | 635   | 675   |
| WSS Revenue account status                                       | -     | 251   | 268   | 282   | 210   | 189   | -     | -     | -     | -     |
| <b>Services other than water supply and sanitation (Non-WSS)</b> |       |       |       |       |       |       |       |       |       |       |
| Opening balance  | -     | 118   | 85    | 54    | -     | -     | -     | 136   | 265   | 388   |
| Revenue receipts   | 972   | 1,019 | 1,084 | 1,128 | 1,207 | 1,260 | 1,324 | 1,380 | 1,449 | 1,511 |
| Revenue expenditure  | 563   | 593   | 625   | 659   | 695   | 732   | 772   | 813   | 857   | 904   |
| Non-WSS Revenue account status                                   | 409   | 544   | 544   | 523   | 512   | 528   | 552   | 703   | 857   | 995   |
| <b>CAPITAL ACCOUNT</b>   |       |       |       |       |       |       |       |       |       |       |
| <b>Water supply and sanitation services (WSS)</b>                |       |       |       |       |       |       |       |       |       |       |
| Opening balance  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Capital receipts   | -     | 572   | 612   | 652   | 575   | 595   | -     | -     | -     | -     |
| Capital expenditure  | -     | 572   | 612   | 652   | 575   | 595   | -     | -     | -     | -     |
| WSS Capital account status                                       | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| <b>Services other than water supply and sanitation (Non-WSS)</b> |       |       |       |       |       |       |       |       |       |       |
| Opening balance  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Capital receipts   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Capital expenditure  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Non-WSS Capital account status                                   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| <b>EXTRAORDINARY ACCOUNT</b>                                     |       |       |       |       |       |       |       |       |       |       |
| Opening balance  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Receipts   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Expenditure  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Extraordinary account status                                     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| <b>OVERALL MUNICIPAL FINANCE</b>                                 |       |       |       |       |       |       |       |       |       |       |
| Revenue  | 1,343 | 2,347 | 2,466 | 2,558 | 2,489 | 2,580 | 1,898 | 2,116 | 2,349 | 2,574 |
| Capital Receipts   | 1,225 | 2,262 | 2,412 | 2,558 | 2,489 | 2,580 | 1,762 | 1,851 | 1,961 | 2,083 |
| Capital Expenditure  | 118   | 85    | 54    | -     | -     | -     | 136   | 265   | 388   | 491   |

Allocate non-WSS revenue surplus

Check operating ratio

Required debts with terms of borrowing

Check debt service coverage ratio (DSCR)

# Financial Planning (7/7)

## Set/revise tariffs

### TARIFFS FOR FSM AND WASTEWATER SERVICES

Click [Back to WSS O&M Plan](#)

#### 3. Wastewater tax based on flat rate

|  |      |      |      |                  |                      |      |                |      |      |      |
|--|------|------|------|------------------|----------------------|------|----------------|------|------|------|
| Are wastewater charges based on flat rate levied presently by ULB? | NO   |      |      | Mode of charging | -                    |      | Flat rate/unit | 0    |      |      |
| If No, and if planned to levy then start it from which year?       | Year |      |      | 2015             | Number of properties |      | 200            |      |      |      |
| Percentage increment in flat rate based user charges               | 2015 | 2016 | 2017 | 2018             | 2019                 | 2020 | 2021           | 2022 | 2023 | 2024 |
|  |      |      |      | 20%              |                      | 20%  | 20%            | 20%  |      |      |

#### 4. Wastewater tax linked to general property tax

|  |      |  |  |                           |      |      |      |      |      |      |      |      |      |
|--|------|--|--|---------------------------|------|------|------|------|------|------|------|------|------|
| Is property tax linked wastewater tax levied presently by ULB? | NO   |  |  | % of general property tax | 0.0% |      |      |      |      |      |      |      |      |
| If No, and if planned to levy then start it from which year?   | Year |  |  | 2015                      | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| Revised percentage of general property tax for wastewater tax  |      |  |  |                           |      |      |      |      |      |      |      |      |      |

#### 5. Septic tank emptying charges

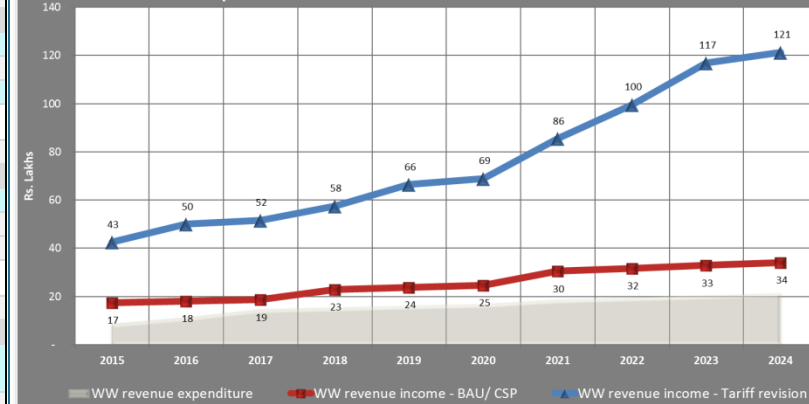
|   |      |      |      |                  |                                      |      |                |      |      |      |
|---|------|------|------|------------------|--------------------------------------|------|----------------|------|------|------|
| Does the city provide septic tank emptying service  | No   |      |      | Mode of charging | Annual charge for scheduled emptying |      | Flat rate/unit | 100  |      |      |
| If No and if planned to levy, then start it from which year?  | Year |      |      | 2017             | At the time of emptying              |      | 50             |      |      |      |
| If Yes and charged at time of emptying, when does the city plan to charge annually and provide scheduled emptying | Year |      |      | 2017             | Annual charge for scheduled emptying |      | 100            |      |      |      |
| Percentage increment in flat rate based user charges  | 2015 | 2016 | 2017 | 2018             | 2019                                 | 2020 | 2021           | 2022 | 2023 | 2024 |
|   |      |      |      | 20%              |                                      | 20%  |                |      |      |      |

#### 6. Sewerage user charges

|  |      |  |  |                     |      |      |      |      |      |      |      |      |      |
|--|------|--|--|---------------------|------|------|------|------|------|------|------|------|------|
| Is sewerage user charges levied presently by ULB?            | NO   |  |  | Rs/connection/annum | 0    |      |      |      |      |      |      |      |      |
| If No, and if planned to levy then start it from which year? | Year |  |  | 2015                | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| Percentage increment in user charges                         |      |  |  |                     |      |      |      |      |      |      |      |      |      |
|  |      |  |  | 20%                 |      | 20%  |      |      |      |      |      |      |      |

Set/revise tariff for waste water service

Improvement in revenues of FSM and wastewater services



Check impact on finance

## Sanitation options for comparison

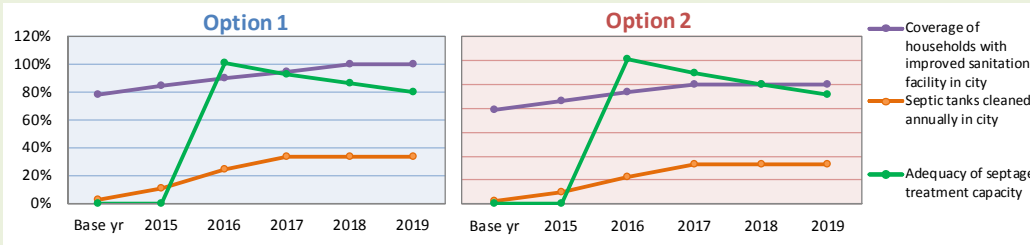
Create your options by selecting appropriate mode to improve coverage of toilets, wastewater management and financing mechanism

|                             |   |   |                             |
|-----------------------------|---|---|-----------------------------|
| Select Toilet option        | <input type="text" value="Individual toilets"/> | <input type="text" value="Individual toilets"/>             | Select Toilet option        |
| Select Conveyance regime    | <input type="text" value="Regulated- 3 yrs"/>   | <input type="text" value="Regulated- 3 yrs"/>               | Select Conveyance regime    |
| Select Treatment technology | <input type="text" value="SDB"/>                | <input type="text" value="Sintex Package treatment Plant"/> | Select Treatment technology |
| Select financing mechanism  | <input type="text" value="Innovative finance"/> | <input type="text" value="Innovative finance"/>             | Select financing mechanism  |

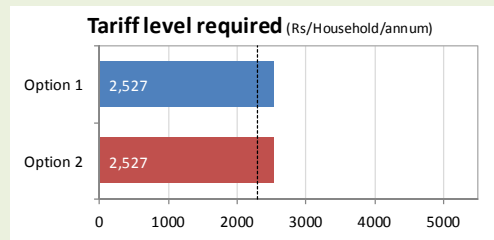
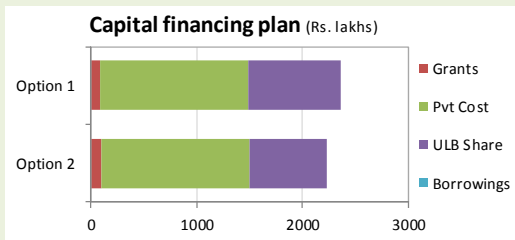
|                   | Option 1           | Option 2                       |
|-------------------|--------------------|--------------------------------|
| <b>Toilet</b>     | Individual toilets | Individual toilets             |
| <b>Conveyance</b> | Regulated- 3 yrs   | Regulated- 3 yrs               |
| <b>Treatment</b>  | SDB                | Sintex Package treatment Plant |
| <b>CapEx</b>      | 2161.59            | 2177.36                        |
| <b>O&amp;M</b>    | 19.91              | 29.15                          |

All figures are in Rs. Lakhs

Impact on service levels



Financial implications



Summary of Action plan

Select mode:

|                                     | 2015  | 2016  | 2017  | 2018  | 2019  |
|-------------------------------------|-------|-------|-------|-------|-------|
| <b>Option 1</b>                     |       |       |       |       |       |
| Improve existing individual toilets | 168.5 | 180.3 | -     | -     | -     |
| New individual toilets              | 292.8 | 313.2 | 335.2 | 358.6 | 383.7 |
| Increase septage collection with    | 0.7   | 0.7   | 0.8   | -     | -     |
| New suction emptier trucks          | 10.0  | 10.7  | 11.4  | -     | -     |
| Fecal sludge treatment plant        | 95.0  | -     | -     | -     | -     |
| <b>Option 2</b>                     |       |       |       |       |       |
| Improve existing individual toilets | 170.3 | 182.2 | -     | -     | -     |
| New individual toilets              | 292.8 | 313.2 | 335.2 | 358.6 | 383.7 |
| Increase septage collection with    | 0.7   | 0.7   | 0.8   | -     | -     |
| New suction emptier trucks          | 10.0  | 10.7  | 11.4  | -     | -     |
| Fecal sludge treatment plant        | 107.0 | -     | -     | -     | -     |

# SaniPlan Dashboard: Compare Options (1/2)

SANIPLAN Dashboards for IFSM enable easy selection and comparison of a set of options during a stakeholder consultation.

Users can choose across: a) toilet coverage, b) Conveyance mechanism c) treatment options and d) financing.

The dashboards compare their impacts on a) expenditure requirements, b) service performance, and c) financial implications.

The graphic illustrates a comparison - between septage treatment options - for a small town; though similar levels of service can be achieved in both options, Sludge Drying Bed (SDB) treatment option - comes out as economical and with low O&M cost.

## Sanitation options for comparison

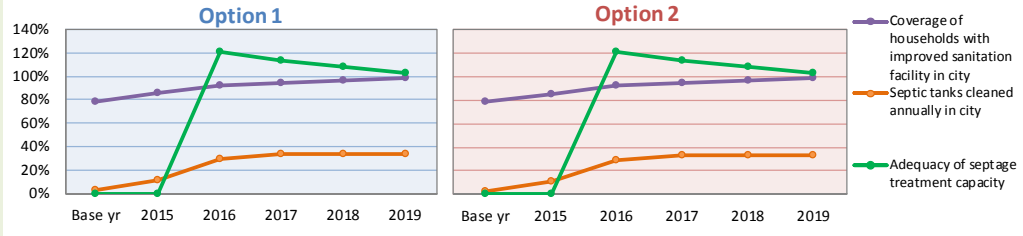
Create your options by selecting appropriate mode to improve coverage of toilets, wastewater management and financing mechanism

|                             |   |   |                             |
|-----------------------------|---|---|-----------------------------|
| Select Toilet option        | <input type="text" value="Individual + Community toilets"/> | <input type="text" value="Individual + Community toilets"/> | Select Toilet option        |
| Select Conveyance regime    | <input type="text" value="Regulated- 3 yrs"/>               | <input type="text" value="Regulated- 3 yrs"/>               | Select Conveyance regime    |
| Select Treatment technology | <input type="text" value="SDB"/>                            | <input type="text" value="Sintex Package treatment Plant"/> | Select Treatment technology |
| Select financing mechanism  | <input type="text" value="Innovative finance"/>             | <input type="text" value="Innovative finance"/>             | Select financing mechanism  |

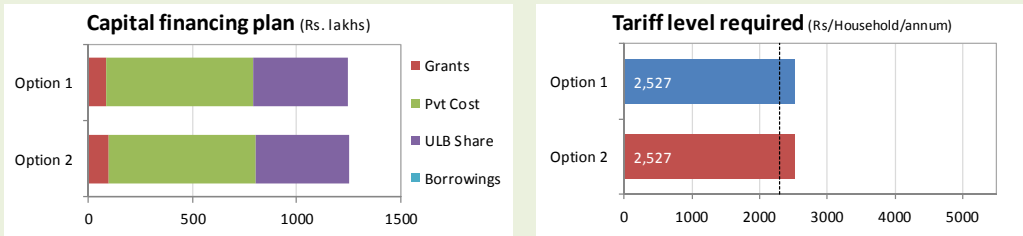
|                   | Option 1                       | Option 2                       |
|-------------------|--------------------------------|--------------------------------|
| <b>Toilet</b>     | Individual + Community toilets | Individual + Community toilets |
| <b>Conveyance</b> | Regulated- 3 yrs               | Regulated- 3 yrs               |
| <b>Treatment</b>  | SDB                            | Sintex Package treatment Plant |
| <b>CapEx</b>      | 1185.55                        | 1196.11                        |
| <b>O&amp;M</b>    | 22.39                          | 31.63                          |

All figures are in Rs. Lakhs

Impact on service levels



Financial implications



### Summary of Action plan

Select mode: CAPITAL EXPENDITURE

|                                     | 2015  | 2016  | 2017  | 2018  | 2019  |
|-------------------------------------|-------|-------|-------|-------|-------|
| <b>Option 1</b>                     |       |       |       |       |       |
| Improve existing individual toilets | 170.3 | 182.2 | -     | -     | -     |
| Improve existing Community toilets  | 4.2   | 4.5   | -     | -     | -     |
| New individual toilets              | 107.0 | 114.5 | 122.5 | 131.1 | 140.3 |
| New community toilet blocks         | 38.5  | 41.2  | -     | -     | -     |
| Increase septage collection with    | 0.7   | 0.7   | 0.8   | -     | -     |
| New suction emptier trucks          | 10.0  | 10.7  | 11.4  | -     | -     |
| Fecal sludge treatment plant        | 95.0  | -     | -     | -     | -     |
| <b>Option 2</b>                     |       |       |       |       |       |
| Improve existing individual toilets | 170.3 | 182.2 | -     | -     | -     |
| Improve existing Community toilets  | 4.2   | 4.5   | -     | -     | -     |
| New individual toilets              | 106.8 | 114.2 | 122.2 | 130.8 | 139.9 |
| New community toilet blocks         | 38.5  | 41.2  | -     | -     | -     |
| Increase septage collection with    | 0.7   | 0.7   | 0.8   | -     | -     |
| New suction emptier trucks          | 10.0  | 10.7  | 11.4  | -     | -     |
| Fecal sludge treatment plant        | 107.0 | -     | -     | -     | -     |

# SaniPlan Dashboard: Compare Options (2/2)

As compared to previous scenario of individual toilets, option of individual and community toilets are low in capital expenditure but has high lifecycle cost.

# Glossary of terms (1/2)

- **Base year of Model:** Year for which all the base information is used. In case the Financial Year stretches over two calendar years, use the starting year. Ex for FY 2014-15, use 2014 as base year.
- **Tax:** A financial charge or other levy imposed by a state to fund public expenditures.
- **User Charges/ tariffs:** A sum of money paid for a service one chooses to access/use
- **Flat charges:** A system where a fixed amount is charged periodically, irrespective of the quantum of service utilized in that period.
- **Volumetric charges:** A system where users are charged for the volume of waste water they produce
- **Slum:** Census Definitions: “All notified areas in a town or city notified as ‘Slum’ by State, Union territories Administration or Local Government under any Act including a ‘Slum Act’ may be considered as notified slums. All areas recognised as ‘Slum’ by State, Union territories Administration or Local Government, Housing and Slum Boards, which may have not been formally notified as slum under any act may be considered as recognized slums. Identified slum: A compact area of at least 300 population or about 60-70 households of poorly built congested tenements, in unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities”.



# Glossary of terms (1/2)

- **Revenue Account:** The account that records all the recurring revenues and expenditures from/on existing assets, production and rendering service, interest on loans, etc

*Reference: Presentation on Municipal budgeting and accounting structure by RaviKant Joshi*

- **Capital Account:** Receipts and Expenditures incurred for creation of assets or enhance their life through major improvements, repayment of principal amount are recorded in this account.

*Reference: Presentation on Municipal budgeting and accounting structure by RaviKant Joshi*

- **Extra-ordinary Account:** Receipts and expenditures on behalf of others or transactions of temporary nature are recorded in extra-ordinary account.

*Reference: Presentation on Municipal budgeting and accounting structure by RaviKant Joshi*

- **Debt service coverage ratio (DSCR):** A financial ratio that measures an entity's ability to service its current debts by comparing its net operating income with its total debt service obligations.  $DSCR = \text{Revenue surplus} / \text{Debt service obligations}$ .