

## SECTOR WISE SLIP TEMPLATE: SEWERAGE

### 1. Assess the Service Level Gap

The first step is to assess the existing situation and service levels gaps for Sewerage (AMRUT Guidelines; para 3 & 6). This will also include existing institutional framework for the sector. AMRUT is focused on improvement in service levels. The zone wise data shall be used in identifying the gaps. These zone-wise gaps will be added to arrive at city level service gaps. While assessing service level gap reply following questions not more than word indicated against each question.

- What kind of baseline information is available for sewerage system of the city? Detail out the data, information, plans, reports etc related to sewerage available with city. Is zone wise information available? Have you correlated your data with census 2011 data? (100 words)
- What are existing service levels for sewerage for coverage of sewerage network services, efficiency of collection of sewerage and efficiency in treatment. Provide information in table 2.1

Table 2.1: Status of sewerage network and Service Levels

Sr. No.	Indicators (as per SLB framework)	Existing Service Level	MOUD Benchmarks
1	Coverage of latrines (individual or community)		100%
2	Coverage of sewerage network services		100%
3	Efficiency of collection of sewerage		100%
4	Efficiency in Treatment: Adequacy of sewerage treatment capacity		100%

- What is the gap in these service levels with regard to benchmarks prescribed by MoUD? (75 words)

- Does city has separate drainage system or sewer lines take care of storm water?  
(50 words)

### Sewerage network And Collection of Sewerage

Please provide information in 150 words on the above responding to (however not limited to) following questions.

- How much of the area of the city is covered by sewerage network? What is the status of household connections in each zone? What are the areas covered under septage? Provide information in Table 2.2.

Table 2.2: Zone Wise Coverage of Households

Zone No	Total No of Households (HH)	Households with Sewerage Network	Households with Septic Tank		Households without any outlets for toilets
			with soak pit	without soak pit	

- Are there any areas where sewer lines have been laid but still households are not connected to sewer lines? Are there any areas where toilets may be connected to sewer lines but kitchen or bathroom waste are not connected to sewerage system?
- Is there any systematic and organized method to collect and treat waste from septic tanks? What is the duration of cleaning of septic tanks (monthly, quarterly, semiannually or annually)? Indicate status of overflows of septic tanks, either in the nearby drains /open fields/ sewerage lines etc?
- What is the situation of O&M of the existing sewerage system? Does the city has routine maintenance system or breakdown maintenance system? What is the duration of cleaning of sewer lines (monthly, quarterly, semiannually or annually)? Indicate infrastructure available for O&M of the sewerage system i.e sewer jetting machines etc?

## Sewage Treatment System

Please provide information in 150 words on the above responding to (however not limited to) following questions.

- Does city has Sewage Treatment Plant (STP)? Which areas are covered under each of the STPs? Provide details in Table 2.3.

Table 2.3: Status of Existing STPs

Sr. No.	Location	Capacity (MLD)	Inflow in the STP (MLD)	Efficiency in %

- Does decentralized waste treatment system exist or planned in the city? If yes, provide details
- How much of sewerage is generated in the city? How much of this sewerage generated reaches the STPs? What is the Biological Oxygen Demand (BOD) of incoming and outgoing sewage of each STP?
- Is treated sewage being reused or recycled? Is treated water being used for irrigation or industrial purpose? Does the option of power generation being explored?

## Institutional Framework

Please provide information in 100 words on the above responding to (however not limited to) following questions.

- Define role and responsibilities in terms of O&M, policy planning, funding, service provision in table 2.4.

Table 2.4: Functions, roles, and responsibilities

Planning and Design	Construction/ Implementation	O&M
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- Please also detail that how city is planning to execute projects. Shall the implementation of project be done by Municipal Corporation or any parastatal body?

## 2. Bridge the Gap

Once the gap between the existing Service Levels is computed, based on initiatives undertaken in different ongoing programs and projects, objectives will be developed to bridge the gaps to achieve universal coverage. (AMRUT Guidelines; para 6.2 & 6.3, Annexure-2; Table 2.1). Each of the identified objectives will be evolved from the outcome of assessment and meeting the opportunity to bridge the gap.

- List out initiatives undertaken in different ongoing programs and projects to address these gaps. For this provide details of ongoing projects being carried out for sewerage system under different schemes with status and when the existing projects are scheduled to be completed? Provide information in Table 2.5

Table 2.5: Status of Ongoing/ Sanctioned

S · N O ·	Name of Project	Scheme Name	Cost in Rs Crore	Month of Completion	Status (as on dd Month 2015)
		JnNURM/ JICA/ ADB etc			

Please provide information in 150 words on the above responding to (however not limited to) following questions.

- How much the existing system will able to address the existing gap in sewerage system? Will completion of above will improve the coverage of network and collection efficiency? If yes, how much.
- Does the city require additional infrastructure to improve the services? What kind of services will be required to fulfill the gap?

- How does the city visualise to take the challenge to rejuvenate the projects by changing their orientation, away from expensive asset replacement programs, to focusing on optimum use of existing assets?

Provide information in Table 2.6

Table 2.6: Demand Gap Assessment

Component	2015			2021	
	Existing	Ongoing projects	Total	Demand	Gap
Sewerage network (km)					
No of Households covered under sewerage system					
Sewerage Treatment Plant (MLD)					

### Objectives

Based on above, objectives will be developed to bridge the gaps to achieve universal coverage. While developing objectives following question shall be responded so as to arrive at appropriate objective.

- Does each identified objectives will be evolved from the outcome of assessment?
- Does each objective meet the opportunity to bridge the gap?

Please provide List out objectives to meet the gap in not more than 100 words.

### 3. Examine Alternatives and Estimate Cost

The objective will lead to explore and examine viable alternatives options available to address these gaps. These will include out of box approaches. (AMRUT Guidelines; Para 6.4 & 6.8 & 6.9). This will also include review of smart solutions. The cost estimate with broad source of funding will be explored for each alternative. While identifying the possible activities, also examine the ongoing scheme and its solutions

including status of completion, coverage and improvement in O&M. Please provide information on the above responding to (however not limited to) following questions.

- What are the possible activities and source of funding for meeting out the objectives? (75 words)
- How can the activities be converged with other programme like JICA/ ADB funded projects in the city etc? (75 words)
- What are the options of completing the ongoing activities? (75 words)
- What are the lessons learnt during implementation of similar projects? (100 words)
- Has projects includes O&M of sewerage system? (75 words)
- What measures may be adopted to recover the O&M costs? Can the option of sale of treated wastewater be applicable to recover the O&M cost. (100 words)
- What are innovative alternative solutions explored in achieving objectives? (100 words)
- Are different options of PPP such as Design-build-Operate-Transfer (DBOT), Design Built Finance Operate and Transfer (DBFOT) are considered? (100 words)
- How the recycle and reuse of water will be done? How much quantity of treated water may be reused? (100 words)
- Have you analysed best practices and innovative solutions in sector? Is any of the practice be replicated in the city? (75 words)
- Have you identified the areas for decentralized waste treatment system? Explore the approaches for septage management i.e People Public Private Partnership (PPPP) model or replacing septic tanks by bio-digesters, bioremediation etc. (100 words)

The alternative activities to meet these activities be defined as per Table 2.7

Table2.7 Alternative Activities To Meet Objectives

Sr. No.	Objective	Activities	Financing Source

#### 4. Citizen Engagement

ULBs will organize and conduct city level citizen consultation and receive feedback on the suggested alternatives and innovations. Each alternative will be discussed with citizens and activities to be taken up will be prioritized to meet the service level gaps. ULB will prioritize these activities and their scaling up based on the available resources. (AMRUT Guidelines; Para 6.6, 6.7 & 7.2). Please explain following questions in not more than 200 words detailing out the needs, aspirations and wishes of the local people.

- Has all stakeholders involved in the consultation?
- Has ward/ zone level consultations held in the city?
- Has alternatives explored are crowd sourced?
- What is feedback on the suggested alternatives and innovations?
- Has alternative taken up for discussions are prioritized on the basis of consultations?
- What methodology adopted for prioritizing the alternatives?

#### 5. Prioritize Projects

Based on the citizen engagement, ULB will prioritize these activities and their scaling up based on the available resources to meet the respective objectives. While prioritizing projects, please reply following questions in not more than 200 words.

- What are sources of funds?
- Has projects been converged with other program and schemes?
- Has projects been prioritized based on “more with less” approach?
- Has the universal coverage approach indiated in AMRUT guidelines followed for prioritization of activities?

#### 6. Conditionalities

Describe in not more than 300 words the Conditionalities of each project in terms of availability of land, environmental obligation and clearances, required NOC, financial commitment, approval and permission needed to implement the project.

## **7. Resilience**

Required approvals will be sought from competent authority and organizations. The resilience factor would be built in to ensure environmentally sustainable sewerage scheme. Describe in not more than 300 words regarding resilience built in the proposals.

## **8. Financial Plan**

Once the activities are finalized and prioritized after consultations, investments both in terms of capital cost and O&M cost has to be estimated. (AMRUT Guidelines; para 6.5) Based on the investment requirements, different sources of finance have to be identified. Financial Plan for the complete life cycle of the prioritized development will be prepared. (AMRUT Guidelines; para 4, 6.6, 6.12, 6.13 & 6.14). The financial plan will include percentage share of different stakeholders (Centre, State and City) including financial convergence with various ongoing projects. While preparing finance plan please reply following questions in not more than 250 words

- How the proposed finance plan is structured for transforming and creating infrastructure projects?
- list of individual projects which is being financed by various stakeholders ?
- Has financial plan prepared for identified projects based on financial convergence and consultation with funding partners?
- Is the proposed financial structure is sustainable? If so then whether project has been categorized based on financial considerations ?
- Have the financial assumptions been listed out ?
- does financial plan for the complete life cycle of the prioritized development?

- does financial plan include percentage share of different stakeholders (Centre, State, ULBs and)
- does it include financial convergence with various ongoing projects.
- Does it provide year-wise milestones and outcomes?

Details in financial plan shall be provided as per Table 2.7, 2.8, 2.9, 2.10 and 2.11. These tables are based on AMRUT guidelines tables 2.1, 2.2, 2.3.1, 2.3.2, and 2.5.

Table 1.7 Master Plan of Sewerage Projects for Mission period  
 (As per Table 2.1 of AMRUT guidelines)

(Amount in Rs. Cr)

Sr. No.	Project Name	Priority number	Year in which to be implemented	Year in which proposed to be completed	Estimated Cost
Grand Total					

Table 1.8 Master Service Levels Improvements during Mission Period

(As per Table 2.2 of AMRUT guidelines)

(Amount in Rs. Cr)

Sr. No.	Project Name	Physical Components	Change in Service Levels			Estimated Cost
			Indicator	Existing (As-Is)	After (To-be)	



Table 1.10 Annual Fund Sharing Break-up for Sewerage Projects

(As per Table 2.3.2 of AMRUT Guidelines)

Sr. No.	Project	Gol	State			ULB			Convergence	Others	Total
			14 <sup>th</sup> FC	Others	Total	14 <sup>th</sup> FC	Others	Total			
1											
2											
3											
4											
5											
	Total										

(Amount in Rs.Cr)

