



# Municipal Corporation, Raipur (C.G.)

Near Gandhi Chowk, New Head Office Building, Raipur

E-Mail : [dc\\_rmc@rediffmail.com](mailto:dc_rmc@rediffmail.com), Phone – 0771-2535780, 90 (O) 0771-2227395 (Fax)

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## TEMPLATE FOR SERVICE LEVEL IMPROVEMENT PLAN (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. For this City has to review all policy, plans, scheme documents etc. to identify service level gaps and hold discussions with officials and citizens. 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 seweragesystem 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)

**Ans-Census 2011, service level benchmarking 2014 and zone wise information is the main source of information available for sewerage system in the city.**

- 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)                   | 81.7% | 100% |
| 2 | Coverage of sewerage network services                            | 0%    | 100% |
| 3 | Efficiency of collection of sewerage                             | 0%    | 100% |
| 4 | Efficiency in Treatment: Adequacy of sewerage treatment capacity | N.A   | 100% |

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

**Ans- Gap in Coverage of latrines (individual or community) is 18.3%.The city have no sewerage network services so efficiency in collection of sewerage services is 0% Efficiency in Treatment and Adequacy of sewerage treatment capacity is not applicable.**

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

**Ans- The city has separate drainage system . city has no sewer lines for storm water separate drainage system are laid as per requirement.**

Sewerage network And Collection of Sewerage

- 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 | Households with Sewerage Network | Households with Septic Tank | Households without any outlets for toilets |
|---------|------------------------|----------------------------------|-----------------------------|--|
|         | 1,77,334               | N.A                              | 1,44.,882                   | 5649                                       |

- 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? (75 words)

**ANS -The city have no sewer lines so every houses should be connected to sewer lines.**

- 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? (75 words)

**Ans-yes. there is provision of cleaning of septic tank in the city.In case of overflow, overflow of septic tank discharged nearby drains.**

- 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? (100 words)

**ANS-N.A**

### Sewage Treatment System

- 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 % |
|---------|----------|----------------|-------------------------|-----------------|
|         | N.A      | -              | -                       | -               |

- Does decentralized waste treatment system exist or planned in the city? If yes, provide details (75 words)

**ANS-NO**

- 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? (100 words)

**ANS-NA**

- 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? (75 words)

**ANS-NA**

Institutional Framework

- 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 |
|---------------------|------------------------------|-----|
| ULB                 | ULB                          | ULB |

- 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? (75 words)

**ANS -Municipal Corporation**

**2. Bridging 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 2.4

Table 2.4: Status of Ongoing/ Sanctioned

| S<br>·<br>N<br>·<br>O<br>· | Name of Project | Scheme Name | Cost in Rs Crore | Month of Completion | Status (as on dd Month 2015) |
|----------------------------|-----------------|-------------|------------------|---------------------|------------------------------|
|                            | NIL             |             |                  |                     |                              |

- 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. (100 words)
- Does the city require additional infrastructure to improve the services? What kind of services will be required to fulfill the gap?

**ANS -Sewerage network should be laid in the city. All household should be connected by sewerage network system also sewerage treatment plant should be made for the city.**

- 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 3.5.

Based on assessment of existing infrastructure and ongoing / sanctioned projects, calculate existing gaps and estimated demand by 2021 for sewerage network, number of household to be provided with connections, and required enhancement in capacity of STP (MLD), area to be covered under septage management. Based on the demand and gap assessment, evolve objectives to achieve bridging these gap.

### 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 reply following questions in not more than 200 words.

- What are the possible activities and source of funding for meeting out the objectives?

**Ans- State government , ULB funds and AMRUT.**

- How can the activities be converged with other programmes like JICA/ ADB funded projects in the city etc?

**Ans- N.A**

- What are the options of completing the ongoing activities?

**Ans- N.A**

- How to address the bottlenecks in the existing project and lessons learnt during implementation of these projects?

**Ans- N.A**

- Has projects includes O&M of sewerage system?

- **Ans- N.A**

- 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.

- **Ans- selling of treated waste water is the best method to recover the O&M Cost. And details will be figured out at the time of DPR preparation Stage.**

- What are innovative alternative solutions explored in achieving objectives?
- **Septage management combined with Sewerage to achieve universal coverage.**
- Are different options of PPP such as Design-build-Operate-Transfer (DBOT), Design Built Finance Operate and Transfer (DBFOT) are considered?
- **Will be figured out at the time of DPR preparation Stage.**
- How the recycle and reuse of water will be done? How much quantity of treated water may be reused?
- **Will be figured out at the time of DPR preparation Stage.**
- Have you analyzed best practices and innovative solutions in sewerage sector? Is any of the practice be replicated in the city?
- **Ans- Will be figured out at the time of DPR preparation Stage.**
- 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
- **Ans- Yes.**

For each identified activity and alternative indicate the cost estimate with broad source of funding will be explored for each alternative in Table 3.6

#### **4. Citizen Engagement**

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 reply following questions in not more than 200 words.

- Has all stakeholders involved in the consultation?  
**ANS- YES**
- Has ward/ zone level consultations held in the city?  
**ANS- YES**
- Has alternatives explored are crowd sourced?  
**ANS- YES**
- What is feedback on the suggested alternatives and innovations?  
**ANS- Septic tank cleaning should be done at regular basis. And all the properties should be connected to sewerage system.**
- Has alternative taken up for discussions are prioritized on the basis of consultations?  
**• ANS- YES**
- What methodology adopted for prioritizing the alternatives?  
**• ANS-some area in the city sewerage network line is laid but it is not functioning.survey of existing sewer system is done by GIZ. Details will be figured out at the time of DPR preparation Stage.**

## 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?  
**ANS- Gov assistance, State Share , ULB Share and By PPP or self generated sources (User Charges).**
- Has projects been converged with other program and schemes?  
**ANS- N.A**
- Has projects been prioritized based on “more with less” approach?  
**ANS- YES**
- Has the universal coverage approach indicated in AMRUT guidelines followed for prioritization of activities?  
**ANS- YES**

## 6. Conditionalities

Describe 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. Please reply following questions in not more than 100 words.

## 7. Resilience

Required approvals will be sought from competent authority and organisations. The resilience factor would be built in to ensure environmentally sustainable sewerage scheme. Please reply following questions in not more than 100 words.

**ANS- Approval from ULB general body and state government will be required and we assure we will get it.**

## 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 200 words

- 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 ?

work and Service Levels

| Sr. No. | Indicators | Existing Service Level | MOUD Benchmarks |
|---------|------------|------------------------|-----------------|
|---------|------------|------------------------|-----------------|

|   |  |       |      |
|---|--|-------|------|
| 1 | Coverage of latrines (individual or community)                   | 81.7% | 100% |
| 2 | Coverage of sewerage network services                            | 0%    | 100% |
| 3 | Efficiency of collection of sewerage                             | 0%    | 100% |
| 4 | Efficiency in Treatment: Adequacy of sewerage treatment capacity | N.A   | 100% |

Table 3.2 Zone Wise Coverage of Households

| Zone No | Total No of Households | Households with Sewerage Network | Households with Septic Tank | Households without any outlets for toilets |
|---------|------------------------|----------------------------------|-----------------------------|--|
|         | 177334                 | N.A                              | 1,44,882                    | 5649                                       |

Table 3.3: Status of Existing STPs

| Sr. No. | Location | Capacity (MLD) | Inflow in the STP (MLD) | Efficiency in % |
|---------|----------|----------------|-------------------------|-----------------|
|         | N.A      |                |                         |                 |

Table 3.4: Status of Ongoing/ Sanctioned

| S.No. | Name of Project | Scheme Name | Cost in Rs Crore | Status (as on dd Month 2015) |
|-------|-----------------|-------------|------------------|------------------------------|
|       | NO              |             |                  |                              |

Table 3.5: Demand Gap Assessment

| Component                                      | Existing | Ongoing projects | Existing + Ongoing | 2021 (Short term) |         |
|--|----------|------------------|--------------------|-------------------|---------|
|  |          |                  |                    | Demand            | Gap     |
| Sewerage network (km)                          |          |                  |                    | 1062KM            | 1062 KM |
| No of Households covered under sewerage system |          |                  |                    | 80%               | 80%     |
| Sewerage Treatment Plant (MLD)                 |          |                  |                    | 220 MLD           | 220 MLD |

Table 3.6: Cost Estimate for each Objective:

| S.No            | Activity             | Amount in Cr  |
|-----------------|----------------------|---------------|
| 1               | Zone 1 U.G. Sewerage | 330.52        |
| 2               | Zone 3 U.G. Sewerage | 185.77        |
| 3               | Zone 4 U.G. Sewerage | 125.67        |
| 4               | Septage Management   | 10.00         |
| <b>Total :-</b> |                      | <b>651.96</b> |

