

SECTOR WISE SLIP TEMPLATE: WATER SUPPLY

1. Assess the Service Level Gap

The first step is to assess the existing situation and service levels gaps for Water Supply (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 water supply system of the city? Detail out the data, information, plans, reports etc related to sector. Is zone wise information available? (75 words)

Source of baseline information is SLB prepared by 13th Finance Commission published in the Rajpatra on 31.03.2015 while recommending grant to local bodies for period 2010-11 to 2014-15. ULB is divided into 12 Zones

Yes, Zone wise information is available.

Have you collected census 2011 data? Are you aware of baseline survey data of MoUD? Have you correlated data from these and other sources? (75 words)

Yes. Collected Census 2011 data and baseline survey data of MoUD have been correlated.

What are existing service levels for water supply in the city? What is the coverage of water supply Connections? What is per capita supply of water? How much is the extent of metering? How much is non-revenue water? Provide information in table 1.1

Table 1.1 Status of Water Supply service levels

Sr. No.	Indicators	Present status	MOUD Benchmark
1	Coverage of water supply connections	62.10%	100%
2	Per capita supply of water	65 LPCD	135 LPCD
3	Extent of metering of water connections	0%	100%

4	Extent of non-revenue water	27.4%	20%
5	Quality of water supplied	64.9%	100%
6	Cost recovery in water supply services	60.5%	100%
7	Efficiency in collection of water supply related charges	60.40%	90%

(These information is taken from SLB Records)

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

The gaps in these service Levels are as below:-

Water supply connection: 37.90%

Per capita supply of water: 35%

Extent of metering : 100%

Extent of non-revenue water: 7.4%

Quality of water supplied : 35.10%

- Source of Water and Water Treatment System

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

- What is the existing source of water? Is it surface water source or under ground water source? What is the capacity of these sources?
- Is there any treatment provided to water from these sources? How much water is required to be treated daily? What is the treatment capacity installed in the city?
- What per capita water supply in LPCD (liter per capita per day) comes out, if you divide total water supply by the total population.

The Existing Source of water is Indravati River which is not a perennial river.

This is a surface water source, capacity : 20.0 MLD, approx.-

Existing 4.81 MLD treatment plant.

New Water Treatment Plant of 9.0 MLD is under construction.

Per capita water supply is 65 LPCD

Distribution Zones

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

- City is divided in how many zones for water supply ?

The City is divided in 12 Zones

- Provide details of total no of Households (HH) in each zone, no of HH with and without water tap connections in the Table 1.2.

Table 1.2: Zone Wise Coverage of Households

Zone No	Total No of Households	Households with Water tap Connection	Households without water tap connections
1	2355	1486	869
2	2594	1690	904
3	2092	1258	834
4	2072	1186	886
5	2528	1778	750
6	2838	1327	1511
7	3323	2092	1231
8	3007	2165	842
9	1744	1536	208
10	2180	1296	884
11	1756	1249	507
12	1695	1069	626
Total	28184	18132	10052

(The above data is collected from census 2011)

Storage of Water

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

- What is the total water storage capacity in the city ? What is capacity of elevated and ground water reservoirs?

Total water storage capacity : 5181 KL

Elevated water storage Tank Capacity : 4500 KL

Ground water reservoirs Tank Capacity : 681 KL

- In case of surface water, does city need to have ground level reservoirs to store raw/treated water?

YES,

Is water being supplied to consumers through direct pumping or through elevated reservoirs?

Water is being supplied to consumers through Elevated Service Reservoirs.

- Is storage capacity sufficient to meet the cities demand ?

NO,

Distribution Network

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

- What is the total length of water supply distribution pipe line laid in the city?
Total length of water supply distribution pipe line laid : 125 Km.
- What is the total road length in the city? Is the pipe lines are laid in all streets? Is the objective of universal coverage of water supply pipe line is achieved?

Total Road Length : 182.00 K.M.

No. Pipe lines have not been laid on all streets

No, The present objective of universal coverage of water supply has not been achieved.

- What are the kind of pipe materials used in distribution lines ?
Ductile Iron [DI] /Cast Iron [CI].
- Provide zone wise details of street length with and without water distribution lines in the Table 1.3.

Table 1.3: Zone Wise length of distribution network in KM.

Zone No	Total Street Length	Street length with water distribution pipe line	Street length without water distribution pipe line
1	13.80	7.545	6.26
2	16.52	9.790	6.73
3	15.60	5.710	9.89
4	14.20	7.630	6.57
5	15.30	8.635	6.67
6	15.20	8.570	6.63
7	15.20	6.830	8.37
8	16.10	5.420	10.68
9	14.10	4.840	9.26
10	13.80	3.490	10.31
11	16.82	7.150	9.67
12	15.60	4.390	11.21
Total	182.24	80.0	102.24

As per data collected by phed

Institutional Framework

Please provide information in 150 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 1.4.

Table 1.4: Functions, roles, and responsibilities

Planning and Design	Construction/ Implementation	O&M
ULB	ULB	ULB

- How city is planning to execute projects ?

Planning, designing , execution and O&M to be carried out by the ULB, as decided by the Authority.

- Shall the implementation of project be done by Municipal Corporation or any parastatal body? Please refer para 8.1 of AMRUT guidelines.

Yes Implementation by Municipal Corporation..

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 sector under different schemes with status and when the existing projects are scheduled to be completed? Provide information in Table 1.4

Table 1.4: Status of Ongoing/ Sanctioned

S. No.	Name of Project	Scheme Name	Cost	Month of Completion	Status (as on ddmm 2015)
1	-----	JnNURM/ JICA/ ADB etc	-----	-----	-----
2	Jagdapur Augmentati on Water Supply Scheme	(under grant & Loan scheme from govt.)	2627.65 Lacs	Mar 2016	Work In Progress

- How much the existing system will be able to address the existing gap in water supply system? Will completion of above will improve the coverage of network and collection efficiency? If yes, how much. (100 words)

NO, existing system will not be able to address the existing gap. Completion of existing works shall improve the coverage of network. However, collection efficiency will not be improved.

- Does the city require additional infrastructure to improve the services? What kind of services will be required to fulfill the gap?

YES

1. Construction of Intake-Well
2. Construction of Water Treatment Plant: Capacity 31.17 MLD
3. Construction of Elevated Service Reservoir 12 Nos.
4. Construction of Electrical Sub Station 02 Nos.
5. Construction of distribution network of 157 KM.

- How does the city visualize 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?

Existing distribution network is proposed to be utilized.

- Has city conducted assessment of Non Revenue Water? If yes, what is the NRW level? Is city planning to reduce NRW?

Yes. Non Revenue Water: 27.4%. NRW will be reduced to 20% by increasing the number of household connections.

Based on assessment of existing infrastructure and ongoing / sanctioned projects, calculate existing gaps and estimated demand by 2021 for water supply pipe network, number of household to be provided with tap connections, and required enhancement in capacity of water source/ treatment plant (MLD). Gaps in water supply service levels be provided as per Table 1.5.

Table 1.5 . Demand Gap Assessment for Water Supply Sector

Component	2015			2047	
	Present	Ongoing projects	Total	Demand	Gap
Source	6.2 MLD	10.8 MLD	17.0 MLD	59.90 MLD	42.90MLD
Treatment capacity	5.13 MLD	9.0 MLD	14.13 MLD	45.30 MLD	31.17MLD

Elevated Storage capacity	681 KL	4500.00	5181KL	15855 KL	10674
Distribution network coverage	35%	7.0%	43.0%	100%	57%

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?

Ans- YES

- Does each objective meet the opportunity to bridge the gap?

Ans- YES

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

Construction of Intake-Well

Construction of 31.17 MLD Water Treatment Plant

Construction of Elevated Service Reservoir : 12 Nos, 10674 KL

Construction of Electrical Sub Station: 02 Nos.

Providing Raw Water Pumping Main 2500 Mtr. and Clear water Pumping main 8000 Mtr. Water Distribution Networks

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. 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)

The possible activities:

Intake-Well, 31.17 MLD WTP, ESR : 12 Nos, 10674 KL, 2nos. Electrical SubStation

Raw Water Pumping Main and Distribution Networks,

Source of funding: Levying of user charges and efficient collection of revenues.

- How can the activities be converged with other programme like JICA/ ADB funded projects in the city etc? (100 words)

Ans- NA

- What are the options of completing the ongoing activities? (75 words)
Ongoing works 80% completed. Balance to be completed in 2016.
- What are the lessons learnt during implementation of similar projects? (100 words)

Bottlenecks: Site Clearance, Land Issues,

Lessons learnt: Land availability to be ensured well in time.

Comprehensive Planning and implementation of Urban Infrastructure so that roads and public inconveniences

not repeated for every service.

- Have you analysed best practices and innovative solutions in sector? Is any of the practice be replicated in the city?(75 words)
- What measures may be adopted to recover the O&M costs?(100 words)

Regularize all existing NRW connections, install water meters at each household, levy and effectively collect user charges from all households.

- Whether reduction in O&M cost by addressing NRW levels be applied?(75 words)

Yes. By eliminating NRW water, the wastage and consequent O&M charges shall be reduced.

- Are different options of PPP such as Design-build-Operate-Transfer (DBOT), Design Built Finance Operate and Transfer (DBFOT) are considered?(100 words)

Ans- different options of PPP such as Design-build-Operate-Transfer (DBOT), Design Built Finance Operate and Transfer (DBFOT) are considered by authority to be best for city.

The alternative activities to meet these activities be defined as per Table 1.6

Table1.6 Alternative Activities To Meet Objectives

Sr. No.	Objective	Activities	Financing Source
01	AUGMENTATION OF INTAKE WELL	Construction of Water Treatment Plant Of Capacity 4.0 MLD	Gol and State Govt./ULB
2	AUGMENTATION OF TREATMENT CAPACITY	Construction of Water Treatment Plant Of Capacity 12.0 MLD	Gol and State Govt./ULB
3	AUGMENTATION OF STORAGE CAPACITY	Construction of Elevated Service Reservoir 15400 KL	Gol and State Govt./ULB
4	WATER SUPPLY FOR 4 ZONES	Construction of Electrical Sub Station 02 Nos.	Gol and State Govt./ULB
5	WATER SUPPLY FOR 4 ZONES	Providing Raw Water and Pumping Main and Distribution Networks	Gol and State Govt./ULB

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?
- **Yes, first phase consultation completed during “citython”, held July 14 to 18, 2015. Stakeholders informed of the proposals and their suggestions on each proposal discussed and the same incorporated in the submission. Suggestion to provide an efficient underground service with household**

water meters and online fault and pressure monitoring proposed. Suggestions for a mechanism to receive on-online complaints and their quick disposal, including a quick remedy also received.

- Has ward/ zone level consultations held in the city?
Yes, ward/ zone level consultations held in the city.
- Has alternative proposed above are crowd sourced?
Yes, alternative proposed above are crowd sourced.
- What is feedback on the suggested alternatives and innovations?
Positive feedback.
- Has alternative taken up for discussions are prioritized on the basis of consultations?
YES
- What methodology adopted for prioritizing the alternatives?
Methodology adopted for prioritizing the alternatives includes cost- benefit analysis and the number of households that would benefit.

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?
- **Gol / State Govt. grant and ULB contribution from taxes and fee collected from local population.**
- Has projects been converged with other program and schemes?
Yes,
- Has projects been prioritized based on “more with less” approach?
Yes, projects been prioritized based on “more with less” approach.
- Has the universal coverage approach indicated in AMRUT guidelines followed for prioritization of activities?
Yes, the universal coverage approach, as indicated in the AMRUT guidelines for prioritization of activities, has been adopted.

6. Conditionality's

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.

The conditionalities of availability of land, environmental obligations and clearances, required NOC, financial commitment, approval and permission for each project. shall be ensured at the time of preparation of DPR.

7. Resilience

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

The required approvals shall be sought from ULB and competent authority and Resilience factor would be built in to ensure environmentally sustainable water supply system.

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?

Different sources of financing the prioritized activities have been identified by the ULB in accordance with the AMRUT guidelines and shall be detailed in the DPR. The proposed financial plan shall be structured for transforming, creating and maintaining the infrastructure projects.

- list of individual projects which is being financed by various stakeholders ?

Construction of Water Treatment Plant Of Capacity 31.17 MLD

Construction of Elevated Service Reservoir 10674 KLD

Construction of Electrical Sub Station 02 Nos.

Providing Raw Water Pumping Main 2500 Mtr. and Clear water

Pumping main 8000 Mtr. Water Distribution Networks

- Has financial plan prepared for identified projects based on financial convergence and consultation with funding partners?

Yes,

- Is the proposed financial structure is sustainable? If so then whether project has been categorized based on financial considerations ?

Yes,

- Have the financial assumptions been listed out ?

Yes,

- Does financial plan for the complete life cycle of the prioritized development?

Yes,

- does financial plan include percentage share of different stakeholders (Centre, State, ULBs and)

Yes,

- Does it include financial convergence with various ongoing projects.

- **Yes,**

- Does it provide year-wise milestones and outcomes ?

Yes,

Details in financial plan shall be provided as per Table 1.7, 1.8, 1.9, 1.10 and 1.11. 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 Water Supply 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
1.	Jagdalpur Augmentation Water Supply Scheme Part-II	1	2016-2017	2019-2020	74.00
Grand Total					74.00

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)	
01	WATER SUPPLY SCHEME PART-ii	1.Treatment Plant 2. Raw water raising 3. Clear water raising 4. Over Head Tank 5. Distribution Network		62.0%	100%	74.00
	Total					74.00

Table 1.9 Annual Fund Sharing Pattern for Water Supply Projects
 (As per Table 2.3.1 of AMRUT guidelines)

(Amount in Rs. Cr)

Sr. No.	Name of Project	Total Project Cost	Share				
			GOI	State	ULB	Others	Total
01	WATER SUPPLY SCHEME PART-ii	74.00	37.00	37.00	0	0	74.00
	Total	74.00	37.00	37.00	0	0	74.00

Table 1.10 Annual Fund Sharing Break-up for Water Supply Projects
(As per Table 2.3.2 of AMRUT Guidelines)

(Amount in Rs.Cr)

Sr. No.	Project	Gol	State			ULB			Convergence	Others	Total
			14 th FC	Others	Total	14 th FC	Others	Total			
1	water supply Scheme part-II	37.00	37.00	0	74.00	0		0			74.00
	Total	37.00	37.00	0	74.00	0		0			74.00

Table 1.11 Year wise Plan for Service Levels Improvements
(As per Table 2.5 of AMRUT guidelines)

Proposed Projects	Project Cost	Indicator	Baseline	Annual Targets (Increment from the Baseline Value)					
				FY2016		FY 2017	FY 2018	FY 2019	FY 2020
				H1	H2				
Water Supply									
water supply Scheme part-II	74.00	Coverage of water supply connection, per capita supply of	62.10%		65%	75%	85%	100%	
					9.5	30.05	20.75	13.8	