

MUNICIPAL CORPORATION, AMBIKAPUR, SURGUJA (C.G.)

SLIP TEMPLATE FOR 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)

Base line information for water supply system is taken out from the: -

- 4 years service level benchmark.
- City Development Plan
- Census 2011 Data.
- Master Plan Horizon year-2021
- GIS based household survey.
- CSP of SBM & SBM Survey.
- Bhagirathi NalJal Data.

Ward wise Demand registers and GIS data is available for ULB Area.

- 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, we are preparing SLIP with consideration of Census data 2011 issued by Govt. of India. MoUD baseline data and other relatives data are considered as secondary data for this exercise.**

- 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	50.90%	100%
2	Per capita supply of water	87.50 LPCD	135 LPCD
3	Extent of metering of water connections	5.60%	100%
4	Extent of non-revenue water	37.80%	20%
5	Quality of water supplied	96.30%	100%
6	Cost recovery in water supply services	57.50%	100%
7	Efficiency in collection of water supply related charges	76.22%	90%

- What is the gap in these service levels with regard to benchmarks prescribed by MoUD?(75 words)
 - **To achieve 100% coverage of water supply new water supply augmentation scheme from another water source (Ghunghutta Dam) is proposed under which water treatment plan, pipe line networking and metered households connection's, Metering in existing connection are proposed. State sponsored Bhagirathi NalJalYojana is also running for water supply connection to urban poor families. Regular Water and energy audit is proposed for cost recovery and to achieve bench mark for collection efficiency online system is on board.**

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 underground water source? What is the capacity of these sources?
 - **The existing water source is surface water from canal intake on Banki dam 6.00 Km. from WTP and perennial Banki river pickup weir at a distance of 3.00 Km. by town area. There are 22 Nos. of tube wells for underground water supply source. Total capacity of water through these source are 22 and 02 MLD respectively that is total as 24 MLD.**
- 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?
 - **Yes, There is water treatment plant installed for canal intake water and water taken out from Banki river pickup weir total installed capacity of WTP is 22 MLD. There is not any water treatment facility for underground water source.**
- What per capita water supply in LPCD (liter per capita per day) comes out, if you divide total water supply by the total population.
 - **Average water supply per capita per day is 87.5 LPCD as per the data of service level notification.**

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 whole ULB area is divided in 10 water supply zones as per elevated service reservoir coverage area.**
- 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
	25023	14056	10967
Total	25023	14056	10967

- ULB is having ward wise data for household and household with water tap connection but zone wise data bifurcation is not available at present. We are preparing the zone wise data for household and water tap connection.

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?
 - **There are total 15 Nos. of elevated service reservoir in different locations having total capacity of 8.5 MLD. At present this reservoir are filled twice a day.**
- In case of surface water, does city need to have ground level reservoirs to store raw treated water?
 - **No, in present system we are using sump wells to lift the treated water in elevated service reservoir.**
- Is water being supplied to consumers through direct pumping or through elevated reservoirs?
 - **Water is being supplied to the consumers through elevated service reservoir.**
- Is storage capacity sufficient to meet the cities demand ?
 - **No, there is an additional requirement of elevated service reservoir of 2500 KL.**

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?
 - **234 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 in ULB area is 231.10 KM. In 80 KM road length we have both side pipe line and in 74 KM one side pipe line that is total 154 KM roads are covered with water supply pipe line network.**
- What are the kind of pipe materials used in distribution lines ?
 - **ACP, DI , PVC & CI pipes.**

- 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

Zone No	Total Street Length	Street length with water distribution pipe line	Street length without water distribution pipe line
	231.10 Km.	154.00 Km.	77.10 Km
Total	231.10 Km.	154.00 Km.	77.10 Km

Note- Existing pipe line [(2 x 80) + 74] = 234

Above mentioned data in table 1.3 is for whole ULB area zone wise data is not available at present.

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?
 - **ULB is planning for planning designing, preparation of DPR and implementation of project along with operation and maintenance through a dedicated cell for constituted for this purpose in ULB.**
- Shall the implementation of project be done by Municipal Corporation or any parastatal body? Please refer para 8.1 of AMRUT guidelines.
 - **Implementation of the project will be done by ULB (Municipal Corporation, Ambikapur)**

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 30.07 2015)
	Bhagirathi Nal-Jal-Yojana	State Sponsored Scheme	1.89 Cr.	March 16	50%

- 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, This Bhagirathi Nal-Jal-Yojana is for providing end point connection to urban poor families. After completion of this scheme coverage of water supply connection will be completed in urban poor families where pipe line network is already available.**
- Does the city require additional infrastructure to improve the services? What kind of services will be required to fulfill the gap?
 - **Yes, the city required new infrastructure to improve the services of water supply in the ULB area. New water supply augmentation scheme which covers WTP elevated service reservoir and pipe line network. is required to fill the gap in water supply system.**
- 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?

- **We cannot rejuvenate the old assets because water requirement is increasing day by day. Capacity is limited in existing infrastructure. New infrastructure is required for newly added area in ULB Limits and sump part of the old town.**
- Has city conducted assessment of Non Revenue Water ? if yes, what is the NRW level?
Is city planning to reduce NRW ?
 - **ULB is planning for water and energy audit to assess actual NRW level and reduce it up to limits of SLB.**
- 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			2021	
	Present	Ongoing projects	Total	Demand	Gap
Source	17.07 MCum	-	17.07 MCum	12.45 MCum	-
Treatment capacity	22.00 MLD	-	22.00 MLD	31.00 MLD	9.00 MLD
Elevated Storage capacity	8.50 ML	-	8.50 ML	15.00 ML	6.50 ML
Distribution network coverage	234.00 Km.	-	234.00 Km.	311.10 Km.	77.10 Km.

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?

The town had a piped water supply scheme of 4.5 MLD and elevated service reservoir with CI and ACP distribution network this scheme is based on perennial Banki river a pickup weir is constructed across this river to store water for lean season a capacity of 0.173 MCum. As per time to time requirement of town this project is augmented up to 16.5 MLD finally this project is upgraded to a capacity of 22 MLD with 8.5 ML elevated reservoir capacity and pipe line network of 234.00 KM.

The source of Raw water for this scheme is Banki River. An Irrigation dam has been constructed on this river at a distance of 5.8 KM. from intake side at Takiya Village since beginning to till date existing water supply scheme of the town is based on this river. Requirement of Raw water for town water supply scheme is about 12.45 MCum live storage capacity banki dam is 17.07 MCum is almost reserved for towns water supply scheme but due to construction of several stop dam in the catchment area of Banki dam and due to some other reason Banki dam is continuously not filling up to its desire live storage capacity in past few year. Live storage capacity of the dam is decreasing rapidly and come up to 4-5 MCum at the beginning of the summer season therefore water resource department has suggested to switch over to Ghunghutta Dam for towns water supply scheme which is a distance of 14.00 Km from the town area. In the present system of water supply we have a 22.00 MLD installed capacity of WTP out of which the infrastructure of 4.5 MLD WTP is more than 30 yrs old that why elimination of this 4.5 MLD WTP is proposed. As per the intermediate period demand of 31.00 MLD, 17.50 MLD is proposed from old WTP and a WTP having capacity of 13.50 MLD is proposed for new construction.

- Does each objective meet the opportunity to bridge the gap?
 - **Yes, the new augmentation water supply scheme is proposed to bridge the gaps in all assessed component with the base period year 2018 intermediate period year 2033 and ultimate period year 2048. This proposal comprising of the main component as canal intake cum pumping station, water treatment plant, clear water pumping, and conveyance distribution network, end point connection, replacement of distribution network more than 30 year old, electrical substation etc.**

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)
 - **To meet out the objective proposed under water supply project are grant from Govt. of India and state Govt. through different schemes.**

- How can the activities be converged with other programme like JICA/ ADB funded projects in the city etc? (100 words)
 - **There is no JICA / ADB schemes running / proposed in Ambikapur.**
- What are the options of completing the ongoing activities? (75 words)
 - **There not any existing scheme running for water supply system.**
- What are the lessons learnt during implementation of similar projects? (100 words)
 - **During the implementation of previous water supply project we have learnt that there should be a proper assessment of requirement proper surveying and should be a full proof DPR before commencement of work, for the implementation of the project there should be a dedicated cell having proper domain knowledge and capacity to conduct the project.**
- Have you analyzed best practices and innovative solutions in sector? Is any of the practice be replicated in the city?(75 words)
 - **Yes, best practice of Kawardha Municipal Council for Bhagirathi Nal-Jal-Yojana has been studied and the ULB is following the key objective of the scheme.**
- What measures may be adopted to recover the O&M costs?(100 words)
 - **Water and energy audit system for proper recovery of O&M cost will be included in the DPR.**
- Whether reduction in O&M cost by addressing NRW levels be applied?(75 words)
 - **Yes, the State Govt. is developing urban water policy the ULB will by adopt this policy to reduce the O&M cost by addressing NRW level.**
- Are different options of PPP such as Design-build-Operate-Transfer (DBOT), Design Built Finance Operate and Transfer (DBFOT) are considered?(100 words)
 - **Yes, the State is developing urban water policy.**

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
1	New augmentation water supply scheme	Intake-well	GOI & State Govt.
		Raw water pumping	GOI & State Govt.
		Raw water conveyance	GOI & State Govt.
		Water treatment plant (WTP)	GOI & State Govt.
		Clear water pumping	GOI & State Govt.
		Clear water conveyance	GOI & State Govt.
		Elevated service reservoirs	GOI & State Govt.
		Distribution network	GOI & State Govt.
		Electric Sub-Station	GOI & State Govt.
		Metering of household connection	GOI & State Govt.
		Replacement of old (More than 30 yrs) pipe line network	GOI & State Govt.

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?
 - **First Phase of citizen consultation “CityThon” has been completed all the state holder were involved in this consultancy. Crowd sourcing platform is ready.**
- Has ward/ zone level consultations held in the city?
 - **Yes, the ward wise citizen consultation has been completed in the month of August 2015**
- Has alternative proposed above are crowd sourced?
 - **Will start Crowd Sourcing.**

- What is feedback on the suggested alternatives and innovations?
 - **During the citizen consultation most of the citizen has been suggested for the objective of new augmented water supply scheme.**
- Has alternative taken up for discussions are prioritized on the basis of consultations?
 - **Yes**
- What methodology adopted for prioritizing the alternatives?
 - **For the prioritizing the alternatives of project objectives different technical aspect of the project has been considered.**

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?
 - **GOI & State Govt. grant**
- Has projects been converged with other program and schemes?
 - **No.**
- Has projects been prioritized based on “more with less” approach?
 - **Yes. It is the necessity for the city and will be done on the priority basis.**
- Has the universal coverage approach initiated in AMRUT guidelines followed for prioritization of activities?
 - **yes**

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.

- **Initial Survey has been done on every aspect availability of Raw water identification of land for project have been done all other necessary clearances and NOC will be optioned after selecting the source of fund.**

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.

- **All the required approval will be obtained before the commencement of project. As per our primary survey Govt. land is available for implementation of project not any private land will be required for this project. Under this project we will ensure for the environmental protection.**

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?
 - **Financing plan will be as per the guidelines of GOI and state Government.**
- list of individual projects which is being financed by various stakeholders ?
 - **Till Not any project has been financed by stakeholders.**
- Has financial plan prepared for identified projects based on financial convergence and consultation with funding partners?
 - **Municipal Corporation has its own budget. It include all the activities like Water supply etc.**
- 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, It will be heard by GOI, State Govt. and ULB inform of user charges.**

- Does financial plan for the complete life cycle of the prioritized development?
 - **Yes. It is made for the overall development.**

- does financial plan include percentage share of different stakeholders (Centre, State, ULBs and)
 - **Yes, As per the guidelines of GOI**

- Does it include financial convergence with various ongoing projects.
 - **No**

- 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 MasterPlan 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 (Rs. in lac)
1	New Augmentation Water supply scheme	1	2015	2017	4616.04
Grand Total					4616.04

Table 1.8 Master Service Levels Improvements during Mission Period

(As per Table 2.2 of AMRUT guidelines)

(Amount In Rs. lac)

Sr. No.	Project Name	Physical Components	Change in Service Levels			Estimated Cost
			Indicator	Existing (As-Is)	After (To-be)	
1	New Augmentation Water supply scheme	Construction of RCC canal intakewell cum pumping station at Ghunghutta RBC near Jagdishpur.	Quality of water supplied	96.30%	100%	96.00
		Construction of 13.50 MLD capacity RCC water treatment plant.	Quality of water supplied	96.30%	100%	398.00
		Provision for water meter in household connections. (15000 Connections)	Cost recovery	57.50%	100%	600.00
			extent of metering	5.60%	100%	
		Replacement of ACP distribution network (80 to 150 mm dia) more than 30 yrs old. (45.00 Km)	Quality of water supplied	96.30%	100%	900.00
			Extent of NRW	37.80%	20%	
		Installation of SCADA system for old WTP and Distributaries network (17.50 MLD)	Quality of water supplied	96.30%	100%	26.25
		Provision of 2 Electric sub - Station of 100 KVA & 315 KVA capacity transformer each with 100% standby at intake & T.P. site and extension of H.T. lines upto intake & T.P. site.	Quality of water supplied	96.30%	100%	63.00
			Coverage of water supply connection	50.90%	100%	
			Per capita supply of water	87.50 LPCD	135.00 LPCD	
		Providing and installation of raw water centrifugal pumps set 2 Nos of 90 H.P. capable of discharging 197 LPS water against 26 M head i/c all accessories complete.	Quality of water supplied	96.30%	100%	54.00
		Providing, laying and jointing of 450 mm dia. D.I. pipe CI-K9 R.W. Rising main 2500 Mtrs. in length i/c all fitting etc. complete.	Quality of water supplied	96.30%	100%	215.49

		Providing and installation of clear water centrifugal pumps set 2 nos of 70 HP and 2 nos. of 40 H.P. for reservoirs i/c all accessories complete.	Coverage of water supply connection	50.90%	100%	59.40
			Per capita supply of water	87.50 LPCD	135.00 LPCD	
		Providing, laying and jointing of D.I. pipe CL-K9 C.W. Rising main of 350 mm dia to 150 mm dia 16510 M i/c all fittings etc. complete.	Coverage of water supply connection	50.90%	100%	330.20
			Per capita supply of water	87.50 LPCD	135.00 LPCD	
		Construction of 4 nos RCC service reservoirs of total capacity 2500 KL (3 nos. 600 KL & 1 no 700 KL) over 12 M to 15 M staging i/c all pipes & fittings.	Coverage of water supply connection	50.90%	100%	375.00
			Per capita supply of water	87.50 LPCD	135.00 LPCD	
		Installation of SCADA system for old WTP and Distributaries network (13.50 MLD)	Quality of water supplied	96.30%	100%	20.25
		Provision for water meter in household connections. (15000 Connections)	Cost recovery	57.50%	100%	600.00
			extent of metering	5.60%	100%	
		Providing, laying & jointing of distribution system of 350 to 80 mm dia D.I. pipe (K-7), 37200 Mtrs. in length i/c water meters, specials & valves all complete.	Coverage of water supply connection	50.90%	100%	878.45
			Per capita supply of water	87.50 LPCD	135.00 LPCD	
TOTAL						4616.04

Table1.9 Annual Fund Sharing Pattern for Water Supply Projects
 (As per Table 2.3.1of AMRUT guidelines)

(Amount in Rs.lac)

Sr. No.	Name of Project	Total Project Cost	Share				
			GOI	State	ULB	Others	Total
01	New Augmentation Water supply scheme	4616.04	2308.02	1384.81	923.21	-	4616.04
	Total	4616.04	2308.02	1384.81	923.21	-	4616.04

1.1

Table 1.10 Annual Fund Sharing Break-up for Water Supply Projects

(As per Table 2.3.2 of AMRUT Guidelines)

Sr. No.	Project	Gol	State			ULB			Convergence	Others	Total
			14 th FC	Others	Total	14 th FC	Others	Total			
1	New Augmentation Water supply scheme	2308.02	-	1384.81	1384.81	-	923.21	923.21	-	-	4616.04
	Total	2308.02	-	1384.81	1384.81	-	923.21	923.21	-	-	4616.04

(Amount in Rs lac)

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 Base line Value)					
				FY2016		FY 2017	FY 2018	FY 2019	FY 2020
				H1	H2				
Water Supply									
New Augmentation Water supply scheme	4616.04	Coverage of water supply connections	50.90%	60%	70%	100%			
		Per capita supply of water	87.50 LPCD	95.00 LPCD	110.00 LPCD	135.00 LPCD			
		Extent of metering of water connections	5.60%			100%			
		Extent of non-revenue water	37.80%			20%			
		Quality of water supplied	96.30%		100%	100%			
		Cost recovery in water supply services	57.50%			100%			
		Efficiency in collection of water supply related charges	76.22%			90%			