



Municipal Corporation, Raipur (C.G.)

Near Gandhi Chowk, New Head Office Building, Raipur
E-Mail : dc_rmc@rediffmail.com, Phone – 0771-2535780, 90 (O) 0771-2227395 (Fax)

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)

Ans- Census 2011, service level benchmarking 2014 , house hold survey of property tax system,number of total water supply connection and tax collected from connection holders are the base line of information for water supply services.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)

Ans- Yes we have collected census 2011 data .we are not aware of base line survey data of MoUD.

- 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	47	100%
2	Per capita supply of water	127	135 LPCD
3	Extent of metering of water connections	2	100%
4	Extent of non-revenue water	42	20%
5	Quality of water supplied	98	100%
6	Cost recovery in water supply services	60	100%
7	Efficiency in collection of water supply related charges	75	90%

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

Ans- In Raipur city pipeline network is not properly laid and illegal public tap connections increases in NRW. By increasing household connection prescribed bench mark level will be achieved.

Gap in coverage is 53% per capita water supply gap is 8 lpcd in metered connection gap is 98% .NRW gap is 22%.gap in quality of water is 5% cost recovery in water supply services is 40% gap in efficiency in collection of water charges is 15%.

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.
- Water source are surface and underground surface water is treated and per capita water supply about 127 lpcd.

**Ans- yes .the existing source of raw water is from kharun river.about 170 MLD water is treated at daily basis.treatment capacity is 275 mld.
per capita water supply is 135 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 ?
Ans- the city is divided in 8 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	18317	6965	11352
2	23236	13012	10,224
3	20076	12573	7503
4	25862	9939	15923
5	24915	9199	15716
6	25493	9460	16033
7	16435	9390	7045
8	23000	13770	9230
Total	177334	84308	82812

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?

Ans- Total storage capacity of elevated tank is 92.5 MLD.

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

Ans- No

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

Ans- Through elevated reservoir and alternative water supply is directly by pumps which is underground water.

- Is storage capacity sufficient to meet the cities demand ?

Ans- not sufficient .

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?

Ans- about 1200 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?

Ans- about 1500 km.

- What are the kind of pipe materials used in distribution lines ?

Ans- DI and GI.somewhere about 0.1% AC pressure 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
1	120.5	96	5.82
2	162.65	130	46.29
3	223.91	179	4.192
4	341	273	9.8
5	247.4	220	14
6	216.1	173	69.30
7	140.2	112	6.00
8	117.11	94	44.62
Total	1595.9	1277	200.00

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 ?

Ans- As per house hold survey and water auditing & enery auditing of water supply system and water quantity is assessed and accordingly projects are planned and executed.

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

Ans- 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 dd mm 2015)
1	Improvement of water supply scheme of kushalpur, Nalghar & Krishi upaj Mandi	Strengthen of water supply scheme sanction under state govt. 70:30	23.26 crore	March 2016	40%
2.	Up gradation Operation and Maintenance of 150 MLD Water supply Network System	Strengthen of water supply scheme sanction under state govt.	97.33 crore	March 2018	NIL
3	Installation of Water meter	Information System improvement plan	5.17 crore	March 2014	65%

- How much the existing system will 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)

Ans- NO Ongoing projects is there to fill the gap project will be planned under mission Amrut.

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

Ans- yes.elevated tanks new pipelines and replacement of some old AC and CI pipelines

yes.elevated tanks new pipelines and replacement of some old AC and CI pipelines

- 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?

Ans- Regularise illegal connection and try to reach every household for connection and monitor smartly on leakage of pipelines so that NRW will reduce

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

Yes.it is 42% we will planning upto 20% in mission period.

- 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 (Reserve capacity of water in gangrel dam)	3.62 TMC	--	----	2.12 TMC	---
Treatment capacity	275 MLD	N.A	275 MLD	202	NIL
Elevated Storage capacity	92.5 MLD	9 MLD	101.5 MLD	15 MLD	15 MLD.
Distribution network coverage	1200KM	140KM	1340KM	200 KM	200 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?

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.

Ans- After laying of pipelines in proper manner and cover whole city for household connections with minimup residual pressure by constructing elevated reserve wire.

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)

Ans- State government and AMRUT .

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

Ans- N.A

- What are the options of completing the ongoing activities? (75 words)

Ans- N.A

- What are the lessons learnt during implementation of similar projects? (100 words)

- 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)

Ans- Reducing illegal connection .reducing NRW so that water tax will be recovered more and meet out O&M Cost.

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

Ans- YES. Yearly O &M cost of water supply is about 21.00 crore.

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

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	IMPROVEMENT OF WATER SUPPLY SYSTEM	Water auditing and Energy Auditing with preparation of DPR	State govt.
2	INFORMATION SYSTEM IMPROVEMENT PLAN	House hold Survey with GIS mapping	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?

Ans- YES

- Has ward/ zone level consultations held in the city?

Ans- YES.

- Has alternative proposed above are crowd sourced?

Ans- By WEBSITES.

- What is feedback on the suggested alternatives and innovations?

Ans- Public wants good quality portable water and regular water supply and for this services public ready to pay .

- Has alternative taken up for discussions are prioritized on the basis of consultations?

Ans- YES.

- What methodology adopted for prioritizing the alternatives?

Ans- Public opinion and assessments of problem and gaps.

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- AMRUT and state governments.

- 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 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.

Ans- For distribution network and elevated tanks govt. land is available and no environmental approval required. financial commitment from state government .

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.

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 250 words

- How the proposed finance plan is structured for transforming and creating infrastructure projects?

Ans- State government through AMRUT

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

Ans- NIL

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

Ans- NA

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

Ans- Yes.financial structure is sustainable .

- Have the financial assumptions been listed out ?

Ans- first line estimates.

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

Ans- yes.

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

Ans- yes.

- does it include financial convergence with various ongoing projects.

Ans- NA

- Does it provide year-wise milestones and outcomes ?

Ans- 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	Strengthening of water supply network	1	2016	2018	24.00 crore
2	Augmentation of water supply scheme due to addition of 7 villeges in Raipur Municipal Corporation	2	2016	2019	50.00 crore
3	Installation of water meter System	2	2016	2019	64.00 crore
4	Augmentation of the Existing water infrastructure with Remote Computerized Wireless Surveillance System at RMC, Raipur	3	2016	2019	9.60 crore
Grand Total					147.60 crore

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)	
1	Water supply	Construction of over head tank and laying of pipe line with water meter household connections	Coverage of water supply connections	47	100%	
			Per capita supply of water	127	135 LPCD	
			Extent of metering of	2	100%	
			Extent of non-revenue water	42	20%	
			Quality of water supplied	98	100%	
			Cost recovery in water supply	60	100%	
			Efficiency in collection of	75	90%	

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

(Amount in Rs. Cr)

Sr. No .	Name of Project	Total Project Cost	Share				
			GOI	State	ULB	Others	Total
1	Strengthening of water supply network	24.00	7.92	16.08			24.00
2	Augmentation of water supply scheme due to addition og 7 villeges in Raipur Municipal	50.00	16.5	33.5			50.00
3	Installation of water meter System	64.00	21.12	42.8			64.00
4	Augmentation of the Existing water infrastructure with Remote Computerized Wireless	9.60	3.16	6.44			9.60
	TOTAL	147.60	48.7	98.90			147.60

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	Strengthening of water supply network	7.92	16.08								
2	Augmentation of water supply scheme due to addition of 7 villages in Raipur Municipal	16.5	33.5								
3	Installation of water meter System	21.12	42.8								
4	Augmentation of the Existing water infrastructure with Remote	3.16	6.44								
	TOTAL	48.7	98.90								

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)					
				FY 2016		FY 2017	FY 2018	FY 2019	FY 2020
				H1	H2				
Water Supply									
		Coverage of water supply connections	47	0	60	70	80	90	100
		Per capita supply of water	127	0	135				
		Extent of metering of water connections	2	0	10	34	56	78	100
		Extent of non-revenue water	42	0	0	35	30	25	20
		Quality of water supplied	98	0	100				
		Cost recovery in water supply services	60	0	60	70	80	90	100
		Efficiency in collection of water supply related charges	75	0	75	77	80	85	90