

NAME OF ULB – BANDA

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.

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)

Baseline information system is census 2011 Banda water supply reorganization scheme prepared by UP Jal nigram. Zone wise information available as per DPR

Question: 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)

2011 census data is available. Yes. The data is correlated.

Area Name	Source Of Information	Location of source of drinking water	Total Number of Households	Tap water from treated source
Bulandshahar	As per census 2011 available	Total Population = 160473		
		Total Households	28748	17591
		Within the premises	19923	14917
		Near the premises	6556	2213
		Away	2269	461
	Departmental Data of NPP RBL	Total Population(2015) - 1,71,706		
		Total Households	23241	15230
		Near the premises		

*As per the ULBs data and number of actual existing connection.

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

Table: Status of Water Supply service levels

Sr. No.	Indicators	Present Status	MOUD Benchmark	Reliability
1	Coverage of water supply connections 8011/15230	53%	100%	D
2	Per capita supply of water 34MLD/0.171	199 LPCD	135 LPCD	D
3	Extent of metering of water connections	70 %	100%	A
4	Extent of non-revenue water	40 %	20%	D
5	Quality of water supplied	90 %	100%	D
6	Cost recovery in water supply services	65 %	100%	D
7	Efficiency in collection of water supply related charges	65 %	90%	D

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

- 1) Coverage of water supply connections – 47%**
- 2) Extent of metering of water connections -100%**
- 4) Extent of Non - Revenue water - 27.25%**
- 5) Cost recovery in water supply - 80.83%**
- 6) Efficiency in collection of water supply charges -70.25%**

SOURCE OF WATER AND WATER TREATMENT SYSTEM.

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

Question: What is the existing source of water? Is it surface water source or under ground water source? What is the capacity of these sources?

Question: 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?

Question: What per capita water supply in LPCD (liter per capita per day) comes out, if you divide total water supply by the total population?

Existing source of water supply is Surface water and ground water 2 Numbers Intake well from Ken river is 6950 lpm in each=14MLD 20 Tube well Avg Discharge 1000 lpm = 20 MLD Total Capacity= 34 MLD Per Capita water supply = $34/0.171=198.83$ LPCD with NRW (Dozer) , Capacity - 14 lph each

DISTRIBUTION ZONES

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

Question: City is divided in how many zones for water supply ?

As per DPR prepared for Banda Water Supply re organisation scheme , city wise divided into - 6 Zones . However in the absence of Zone wise segregation of distribution system . Some Zones are inter connected , which need to be segregated .

Table: Zone Wise Coverage of Households

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

Ward No.	Total No. of Households (a)	Households with direct Water supply connection (b)	Households without direct Water supply connection
1	766 HH	554 HH	212 HH
2	1962 HH	1004 HH	688 HH
3	858 HH	526 HH	332 HH
4	893 HH	573 HH	320 HH
5	684 HH	452 HH	232 HH
6	884 HH	453 HH	431 HH
7	769 HH	556 HH	213 HH
8	706 HH	512 HH	194 HH
9	697 HH	497 HH	200 HH
10	868 HH	678 HH	190 HH
11	726 HH	506 HH	220 HH

Ward No.	Total No. of Households (a)	Households with direct Water supply connection (b)	Households without direct Water supply connection
12	727 HH	655 HH	72 HH
13	1033 HH	942 HH	91 HH
14	1045 HH	743 HH	303 HH
15	642 HH	427 HH	215 HH
16	783 HH	585 HH	198 HH
17	820 HH	658 HH	162 HH
18	712 HH	450 HH	262 HH
19	909 HH	596 HH	313 HH
20	821 HH	528 HH	293 HH
21	401 HH	320 HH	81 HH
22	878 HH	384 HH	494 HH
23	888 HH	586 HH	302 HH
24	836 HH	406 HH	430 HH
25	582 HH	320 HH	260 HH
26	887 HH	589 HH	298 HH
27	698 HH	323 HH	375 HH
28	766 HH	407 HH	359 HH
	23241 HH	15230 HH	8011 HH

STORAGE OF WATER

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

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

**Total OHT - 7 Nos. Total Storage of OHT capacity – 13.74 ML. Underground water reservoir – 7No
Total Storage capacity 4.56 ML.= Total Storage capacity= 18.34**

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

2 Nos of , Surface water is Applicable.

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

Water is being supplied to consumers through elevated reservoirs.

Question: Is storage capacity sufficient to meet the cities demand?

Yes 34 MLD / 3 = 11.33 MLD) existing storage capacity is -18.30 ML

DISTRIBUTION NETWORK

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

Question: What is the total length of water supply distribution pipe line laid in the city?

The water supply reorganization scheme of Banda town was started in -2008 and completed in 2011 under UIDSSMT (Urban infrastructure development scheme for small and medium towns) .In this scheme then the existing distribution system of 245.50 Km enhanced and after execution the length of present distribution system is 205.80 Km .

Question: 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 the city (as per water supply DPR completion certificate -2011) – 245.80 Km 40 km pipe line is required to be increased. Yes Universal coverage of water supply pipe line will be achieved.

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

Distribution pipe line material is AC/PVC /DIK-7(as per water supply DPR completion certificate - 2011)

Question: Provide zone wise details of street length with and without water distribution lines in the Table?

Table: Zone Wise length of distribution network

1	7.66 KM	5.65 KM	2.01 KM
2	21.62 KM	10.24 KM	11.38 KM
3	9.58 KM	8.26 KM	4.68 KM
4	9.93 KM	8.73 KM	1.20 KM

5	7.84 KM	6.95 KM	0.89 KM
6	8.84 KM	7.60 KM	1.24 KM
7	8.69 KM	7.80 KM	0.89 KM
8	8.06 KM	7.32 KM	0.74 KM
9	6.97 KM	5.97 KM	1.00 KM
10	8.68 KM	7.94 KM	0.74 KM
11	9.26 KM	7.60 KM	1.66 KM
12	7.27 KM	6.25 KM	1.02 KM
13	13.33 KM	12.50 KM	0.83 KM
14	14.45 KM	12.40 KM	2.05 KM
15	8.42 KM	7.27 KM	1.15 KM
16	7.83 KM	6.85 KM	0.98 KM
17	8.20 KM	7.68 KM	0.52 KM
18	9.12 KM	7.50 KM	1.62 KM
19	11.09 KM	9.10 KM	1.99 KM
20	8.21 KM	6.28 KM	1.93 KM
21	6.01 KM	5.28 KM	0.73 KM
22	8.78 KM	5.82 KM	2.96 KM
23	8.88 KM	6.86 KM	2.02 KM
24	8.36 KM	6.26 KM	2.10 KM
25	6.82 KM	4.20 KM	2.62 KM
26	8.87 KM	6.90 KM	1.97 KM
27	7.98 KM	5.33 KM	2.65 KM
28	7.75 KM	5.26 KM	2.49 KM
	245.80 KM	205.80 KM	40.00 KM

INSTITUTIONAL FRAMEWORK

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

Question: Define role and responsibilities in terms of O&M, policy planning, funding, service provision in table

Table: Functions, roles, and responsibilities

Planning and Design	Construction/ Implementation	O&M
UP Jal Nigam	Jal Sansthan Banda	NagarPalika Parishad Banda

Question: How city is planning to execute projects ?

The execution of the projects will be done as per instructions given by the state government as well as MOUD & smaller projects like branch lines,40K.M. gaps in pipe lines will be done by Nagar Palika Parishad Banda and nodal agency Jal Nigam Banda

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

Yes the project will be implemented by UP Jal Nigam . Implementation of the project shall be done by State Level Parastatal AgencyJal Sansthan Banda . Nagar Palika Parishad Banda will follow the para 8.1 of the AMRUT Guidelines while execution of the project.

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.

Question: 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

Table: Status of Ongoing/ Sanctioned

S.No.	Name of Project	Scheme Name	Cost	Month of Compilation	Status (as on dd mm 2015)
1	Nil	Nil	Nil	Nil	Nil

Question: 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)

NA No ongoing project

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

Yes city will require additional infrastructure for increase of new residential between year 2011 to 2015 is approx. 40 Km.

Question: 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 system is working efficiently hence only 40 Km distribution network is required.

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

No, Assessment or any survey has been conducted. However on the basis of rough calculation NRW work out to be 50%. Yes, by effective maintenance to reduce leakages and making provision for use of optimum water for park etc. The NRW level is proposed to be brought to required level of 20%.

Question: 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

Component	2015			2021	
	Present	Ongoing	Total	Demand	Gap
Source Surface +Ground	14MLD+20 MLD = 34 MLD	-	34 MLD	27 MLD	Surplus

Component	2015			2021	
	Present	Ongoing	Total	Demand	Gap
Treatment capacity	35 MLD		35 MLD	27 MLD	Surplus
Elevated Storage capacity	18.34	-	18.34ML	9MLD	Surplus
Distribution network coverage	205.80 KM	-	205.80 KM	245.80 KM	40 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.

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

Question: Does each identified objectives will be evolved from the outcome of assessment?

1. 40 Km distribution network is required. 2. Improvement in O&M in order to reduce NRW Level through an appropriate management model 3. Rejuvenation and refurbishment of intake works and treatment plant.

SNO	Objectives	Activities	Cost in crores	Financial Sources
1	Universal coverage of water supply	To regularization of unauthorized water connection-1808 HH@ 5088 Rs	0.92 Cr	AMRUT
		Laying of 40 Km DI (due to bundle-khand region) distribution network @ 40 lacs/Km	16.00 Cr	AMRUT/ State Gov./ ULBs
2	NRW	Atomization of Tube Well through SCADA 20Tube well x 0.05 cr	1.00 Cr	AMRUT/ State Gov./ ULBs
3	Quality of water supply	Sample testing laboratory	2.50Cr	AMRUT/ State Gov./ ULBs
4	Collection efficiency	Online Billing Spot Billing	0.50 Cr	
Total	-	-	20.92 Cr	AMRUT/ State Gov./ ULBs

Question: Does each objective meet the opportunity to bridge the gap?

Yes. it will meet the objectives to bridge the 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. 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.

Question: What are the possible activities and source of funding for meeting out the objectives? (75 words)

Possible activities are regularization of unauthorized water connection, water supply connection, laying of distribution network, atomization of tube well, laboratory, online billing system and source of funding is only AMRUT.

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

Required

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

No ongoing project

Question: How to address the bottlenecks in the existing project and lessons learnt during implementation of these projects? (75 words)

NA

Question: What measures may be adopted to recover the O&M costs? (100 words)

By improving service standards and coverage as well as revision of user charges, full O&M costs can be recovered. The O&M cost shall be recovered by:

- 1. Increasing the coverage of water supply to unnerved areas,**
- 2. By increasing user charges**
- 3. By reducing NRW.**

Question: Will metering system for billing introduced?

As per guidelines of UP Govt. the metering has yet not been introduced and shall be introduced only after direction from UP Govt.

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

Leakages control and reduction in Number of public stand post are supported to reduce O&M cost.

Question: Does each objective meet the opportunity to bridge the gap?

Yes, Objectives have been identified to bridge the current service level gaps

THE ALTERNATIVE ACTIVITIES TO MEET THESE ACTIVITIES BE DEFINED AS PER TABLE

Table: Alternative Activities To Meet Objectives

Sr. No.	Objective	Activities	Financing Source
1	Universal coverage of water supply	To regularization of unauthorized water connection- 1808 HH@ 5088 Rs	AMRUT sources
		Laying of 40 Km distribution network	AMRUT/ State Gov./ ULBs
2	NRW	Automization of tubewells	AMRUT
3	Quality of water supply	Sample testing laboratory	AMRUT/ State Gov./ ULBs
4	Collection Efficiency	Spot billing and Online billing	AMRUT

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.

Question: Has all stakeholders involved in the consultation?

Yes, all stakeholders are being involved in the consultation also discussed in the Board meeting of Jal Sansthan

Question: Has ward/ zone level consultations held in the city?

Yes, ward/ zone level consultations is being held in the city, Before submission /execution, activities considered under objectives ward level/ zone level consultations will be held.

Question: Has alternative proposed above are crowd sourced?

Yes. The alternatives proposed above are crowd sourced through our Jal Sansthan website

Question: What is feedback on the suggested alternatives and innovations?

Feedback on the suggested alternatives and innovations are being considered to complete all the proposed activities.

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

Yes, alternatives taken up for discussions are prioritized on the basis of consultations

Question: What methodology adopted for prioritizing the alternatives?

Alternatives have been prioritized based on demand raised through consultation with citizens, officials and parastatal agencies.

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.

Question: What are sources of funds?

AMRUT, 14th Finance commission, State Government Funds

Question: Has projects been converged with other program and schemes?

The convergence factor has been considered while designing and funding of project.

Question: Has projects been prioritized based on “more with less” approach?

Yes the projects are being prioritized based on “more with less” approach

Question: Has the universal coverage approach indicated in AMRUT guidelines followed for prioritization of activities?

Yes, universal coverage approach indicated in AMRUT guidelines has been 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.

Activities proposed do not require land and environmental clearance. So far as financial commitment is concerned, state government and ULB will contribute their respective share.

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.

Yes, Resilience factor would be built in to ensure environmentally sustainable infrastructure.

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

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

As per the guidelines of the AMRUT, the structured plan of the project has been developed.

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

Presently, is financed by following stakeholders 1- GOI 50% 2-(GoUP & ULB) 50%

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

Yes, financial plan prepared for identified projects are based on financial convergence and consultation with funding partners. Reduction in non revenue water (NRW), Water supply which includes intake works, rejuvenation of treatment works, online water quality control system, e-governance, strengthening of billing/collection system.

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

Yes, the proposed financial structure is sustainable and project has been categorized based on financial considerations.

Question: Have the financial assumptions been listed out ?

Yes, financial assumptions have been listed out.

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

Yes, Financial plan has been done for the complete life cycle of the prioritized development

Question: does financial plan include percentage share of different stakeholders (Centre, State, ULBs)

Yes, financial plan include percentage share of different stakeholders (Centre, State and ULB)

Question: Does it include financial convergence with various ongoing projects.

Yes, it includes financial convergence with various ongoing projects.

Question: Does it provide year-wise milestones and outcomes ?

Yes, Year-wise milestones and outcomes have been provided.

DETAILS IN FINANCIAL PLAN SHALL BE PROVIDED AS PER TABLE 8.1, 8.2, 8.3, 8.4 AND 8.5. THESE TABLES ARE BASED ON AMRUT GUIDELINES TABLES 2.1, 2.2, 2.3.1, 2.3.2, AND 2.5.

Table 8.1 Master Plan of Water Supply Projects for Mission period
(As per Table 2.1of AMRUT guidelines)

(Amount in Rs. Cr)

S.No.	Objective	Project Name	Priority number	Year in which to be implemented	Year in which to be completed	Estimated Cost
1	Universal coverage of water supply	To regularization of unauthorized water connection- 1808 HH@ 5088 Rs	1	2015	2017	0.92 cr
		Laying of 40 Km distribution network @ 40 lacs/Km	1	2015	2018	16.00 cr
2	NRW	NRW Automization of tubewells with Scarda	2	2015	2017	1.00 cr
3	Quality of water supply	Sample testing laboratory	3	2015	2018	2.50 cr

S.No.	Objective	Project Name	Priority number	Year in which to be implemented	Year in which to be completed	Estimated Cost
4	Collection efficiency	Collection efficiency Spot billing and online billing	4	2015	2017	0.50 cr
		Total				20.92 Cr

MASTER SERVICE LEVELS IMPROVEMENTS DURING MISSION PERIOD

(As per Table 2.2 of AMRUT guidelines)

(Amount in Rs. Cr)

Sr. No.	Objective	Project Name	Physical Components	Change in Service Levels			Estimated Cost
				Indicator	Existing (As-Is)	After (To-be)	
1	Universal coverage of water supply	To regularization of unauthorized water connection-1808 HH@ 5088 Rs	Survey	Coverage of water supply connection	70.88%	100%	0.92 cr
		Laying of 40 Km distribution network @ 30 lacs/Km	New Pipeline	Coverage of water supply connection			16.00 cr
2	NRW	NRW	Tubewell automization with scarda	Coverage of water supply connection	40%	20%	1.00 cr

Sr. No.	Objective	Project Name	Physical Components	Change in Service Levels			Estimated Cost
				Indicator	Existing (As-Is)	After (To-be)	
3	Quality of water supply	Sample testing laboratory	Establishment of laboratory	Quality of water supply	100%	100%	2.50 cr
4	Collection efficiency	Collection efficiency	Spot billing and online billing	Collection of revenue	74.5%	90%	0.50 cr
		Total					20.92 Cr

ANNUAL FUND SHARING PATTERN FOR WATER SUPPLY PROJECTS

(As per Table 2.3.1 of AMRUT guidelines)

(Amount in Rs. Cr)

Sr. No.	Objective	name of Project	Total Project Cost	Share				
				GOI	State	ULB	Others	Total
1	Universal coverage of water supply	To regularization of unauthorized water connection-1808 HH@ 5000 Rs	0.90 Cr	0.46 Cr	0.46 Cr	-	-	0.92 cr
		Laying of 40 Km distribution network @ 30 lacs/Km	16.00 cr	8.00 cr	8.00 cr	-	-	16.00 cr

Sr. No.	Objective	Project	GOI	State			ULB		Convergence		others	Total
				14th FC	Others	Total	14th FC	Others	Total			
	supply	unauthorized water connection-1808 HH@ 5088 Rs										
		Laying of 15 Km distribution network	50%	-	50%	-	-	-	-	-	-	100%
2	NRW	NRW Tubewell atomization with SCADA	50%	-	50%	-	-	-	-	-	-	100%
3	Quality of water supply	Sample testing laboratory	50%	-	50%	-	-	-	-	-	-	100%
4	Collection efficiency	Sample testing laboratory	50%	-	50%	-	-	-	-	-	-	100%

YEAR WISE PLAN FOR SERVICE LEVELS IMPROVEMENTS

(As per Table 2.5 of AMRUT guidelines)

Objective	Proposed Projects	Project Cost	Indicator	Baseline	Annual Targets (Increment from the Baseline Value)

