

# NAME OF ULB – HAPUR

## 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)

**The Nagar Palika has DPR of Water Supply which consists of water supply production, treatment and distribution of water supply pipe lines. This DPR has been used as a reference in designing of the project.**

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).

**Yes, Census data of 2011 is available with Nagar Palika Parishad Hapur and it has been correlated. Nagar Palika Parishad Hapur is aware of MOUD survey data. The data is available and is being used as reference to develop SLIP.**

	Location of source of drinking water	Total number of house holds	Tap water from treated source
Total population (census 2011)	Population		
	Total		
	262983	44742	17107
	Within the premises	40285	16151
	Near the premises	3505	729
Away	952	227	
Departmental data 2015	284022	43801	14834

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 (14834/43801)	34%	100%	D
2	Per capita supply of water (25.9 MLD/ 0.284)	91 LPCD	135 LPCD	D
3	Extent of metering of water connections	0 %	100%	A
4	Extent of non-revenue water	46 %	20%	D
5	Quality of water supplied	97.6 %	100%	D
6	Cost recovery in water supply services	41.5%	100%	D
7	Efficiency in collection of water supply related charges	89 %	90%	D

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

**As per above table it is clear that gap in service levels is as under:**

1. Gap in coverage of water supply is 66.14 %
2. Gap in Per capita water availability as per present population is about 44 LPCD.
3. Gap in Metering is 100%.
4. NRW is about 26% which include leakage and free water supply to social gathering festivals along with water supply through stand posts.
5. No gap in Quality of supplied water is 2.4% as per PHE norms.
6. Gap in Cost recovery is 58.5% with expenditure on electricity and power.
7. Gap in efficiency of water charges/tax collection is about 1%.

## 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 underground water source? What is the capacity of these sources?

**Existing source of water supply is underground water only, Capacity of these sources (Total nos of tube wells x Average discharge of each tube well) is 37x 0.7MLD=25.9MLD**

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?

**Yes, chlorination of underground water supply is being done. Chlorinator Dozers are provided for this purpose. Treatment capacity is 25.9 MLD.**

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.?

**Groundwater is existing source of water. Water treatment facility is available. Per capita water supply is  $= (\text{Total water available} / \text{present Population}) 25.9 \text{MLD} / 0.284022 = 91.20 \text{LPCD}$**

## 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 ?

**City is divided into 10 zones.**

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

<b>Zone No.</b>	<b>Total No. of Households</b>	<b>Households with Water tap Connection</b>	<b>Households without Water tap Connection</b>
1	1568 HH	394 HH	1174 HH
2	5866 HH	1655 HH	4211 HH
3	4420HH	2039 HH	2381 HH
4	8064 HH	2345 HH	5719 HH
5	3128 HH	1059 HH	2069 HH
6	4782 HH	2553 HH	2229 HH
7	5774 HH	1415 HH	4359 HH
8	3893 HH	401 HH	3492 HH
9	1958 HH	689 HH	1269 HH
10A	1858 HH	403 HH	1455 HH
10B	2490 HH	1881 HH	609 HH
<b>Total</b>	<b>43801 HH</b>	<b>14834 HH</b>	<b>28967 HH</b>

## 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?

**Storage capacity of in the city is as follows:-**

**Total - -27.16 ML**

**Elevated reservoir capacity- 22.25 ML**

**Groundwater reservoir – 4.9 ML**

**Total Storage Capacity– 54.31ML.**

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

**Hapurcity does not need to have ground level reservoirs to store raw treated surface water?**

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

**Water being supplied to consumers through direct pumping as well as through elevated reservoir.**

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

**Yes storage capacity is sufficient to meet the city demand.**

Total demand is 48 MLD/3= 16 MLD but having storage capacity 54.31 ML storage capacity.

## 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?

**Total length of water supply distribution pipe line laid in the city is 332.63 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 is 522 Km. Pipe lines are not laid in all streets. The objective of universal coverage of water supply pipe line is not achieved.**

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

Following materials are used in distribution lines:- **PVC, A.C., D.I., C.I.**

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

Table: Zone Wise length of distribution network

<b>Zone No.</b>	<b>Total Street Length in KM</b>	<b>Street length with water distribution pipe line in KM</b>	<b>Street length without water distribution pipe line</b>
1	37 KM	18.20 KM	18.80 KM
2	61 KM	41.08 KM	19.92 KM
3	51 KM	49.80 KM	1.20 KM
4	49 KM	43.90 KM	5.10 KM
5	39 KM	30.30 KM	8.70 KM
6	19 KM	12.90 KM	6.10 KM
7	48 KM	23.55 KM	24.45 KM
8	59 KM	34.52 KM	24.48 KM
9	54 KM	29.50 KM	24.50 KM
10A	47 KM	24.24KM	22.76 KM
10B	58 KM	24.64 KM	33.36 KM
<b>Total</b>	<b>522 KM</b>	<b>332.63 KM</b>	<b>189.37 KM</b>

## 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

<b>Planning and Design</b>	<b>Construction/ Implementation</b>	<b>O&amp;M</b>
U.P. Jal Nigam	U.P. Jal Nigam and ULB Hapur	Nagar Palika Parishad, Hapur

Question: How city is planning to execute projects ?

**For achieving universal coverage Nagar PalikaHapur will take up activities like regularization of unauthorized water connection, branch distribution pipe lines, gaps between pipe lines etc Other activities will be done by Nodal agency U P Jal nigamHapur.**

Question: 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 projects will be done by State Level Parastatal Agencies as per instructions given by U P government and as per MOUD. Smaller projects like branch distribution pipe lines, gaps between pipe lines etc will be done by Municipal board Hapur.**

## 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 Completion	Status (as on dd mm 2015)

Question: 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).

**Hapur water supply reorganization Scheme Existing system has been completed on 31/12/2013. But the existing system will be unable to address the existing gap in water supply system to achieve universal coverage.**

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

**Yes, city requires additional infrastructure to improve the services**

- 1. Increase coverage of water supply system by increasing length of pipe lines and making awareness about quality of municipal water supply among people.**
- 2. Regularization of unauthorized water connection.**
- 3. Reduction in NRW water by replacement of old-damaged pipelines.**
- 4. Automation of tube wells**
- 5. Provision of metering of water connection.**

Question: How does the city visualize taking the challenge to rejuvenate the projects by changing their orientation, away from expensive asset replacement programs, to focusing on optimum use of existing assets?

**Municipal Board Hapur will motivate its people to take water connections by making awareness and importance of municipal drinking water quality. Municipal Board Hapur will make efforts by meeting and registering water connections by advertisements.**

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

**No, Municipal Board Hapur having NRW 46%. So will conduct a study on NRW to reduce it.**

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	25.90 MLD	-	25.90 MLD	48.0 MLD	22.10 MLD
Treatment capacity	25.9 MLD	-	25.9 MLD	48.0 MLD	22.10 MLD
Elevated Storage capacity	22.25ML	-	22.25ML	16 ML	-
Distribution network coverage	332.6 KM	-	332.6 Km	522 Km	189.4 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?

**Yes. The objective is to increase the coverage to unserved areas and to reduce NRW and enhance storage capacity of raw water.**

1. **Universal coverage of water connections by laying of water supply pipe lines in shortfall areas and legalization of unauthorized water connections.**
2. **To improve the quality of water establishment of water testing lab.**
3. **To make the system energy efficient solar energy for continuous electricity supply replacement of inefficient pumps and motors.**
4. **To enhance Efficiency of water charges collection metering system in water supply system and online billing, tracking system and spot billing machine will be introduced.**

**5. To reduce NRW provision of replacement of old pipe lines, leakage detection machine and automation of tube-wells will be made.**

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

**Yes, each objective meets the opportunity 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)

**The source of funding of activities shall be:**

- 1. AMRUT,**
- 2. 14th Finance Commission**
- 3. State Government Funds**

**The funding for meeting out the each objective will 50% from GOI and remaining 50% from state government and ULB.**

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

**No on going project like JICA/ ADB**

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

**No on going project**

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

- 1. To increase universal coverage of water connections by laying of water supply pipe lines in shortfall areas and legalization of unauthorized water connections.**
- 2. To improve the quality of water establishment of water testing lab.**
- 3. To make the system energy efficient solar energy for continuous electricity supply replacement of inefficient pumps and motors.**
- 4. To enhance Efficiency of water charges collection metering system in water supply system and online billing, tracking system and spot billing machine will be introduced.**
- 5. To reduce NRW provision of replacement of old pipe lines, leakage detection machine and automation of tube-wells will be made.**

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

**The O&M cost shall be recovered by:**

- 1. Increasing the coverage of water supply to un-served areas,**



2. Regularization of unauthorized water connections.
3. By increasing user charges
4. By reducing NRW

Question: Will metering system for billing introduced?

**Yes, Metering System will be introduced.**

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

**Yes, municipal Board Hapur will minimize NRW level to enhance O&M Cost by regularizing of unauthorized connections and replacement of old pipe lines with new. To enhance Efficiency of water charges collection metering system in water supply system and online billing, tracking system and spot billing machine will be introduced.**

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	Cost in Cr	Financing Source
1	To Increase The Coverage of water supply	regularizing of unauthorized connections. laying of water supply pipe lines in shortfall areas	20.5	AMRUT
2	Minimization of NRW	Replacement of old pipe lines, leakage detection machine and automation of tube-wells will be made.	02.75	AMRUT
3	Enhancement in service efficiency	Automation of Tube well & Metering	10.00	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 is being involved in the consultation. The proposals are put before ward**

**members of municipal board Hapur.**

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

**Yes, ward/ zone level consultations is being held in the city. Ward zone level consultations has held under the chairmanship of ward members. Meetings were held on 11/09/2015 and on 07/10/2015 at Hapur City.**

Question: Has alternative proposed above are crowd sourced?

**No**

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

**Feedbacks are regularly taken each month in monthly meeting and at ward level meetings. Feedbacks on the suggested alternatives and innovations are being considered.**

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, firstly regularization of unauthorized water connection and metering of water.**

Question: What methodology adopted for prioritizing the alternatives?

**On the basis of consultation made in municipal board Hapur. Firstly regularization of water connections, replacement old pipelines, then metering of water connections and automation for increasing service efficiency.**

## 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?

**The source of funding of activities shall be:**

- 1. AMRUT,**
- 2. 14th Finance Commission**
- 3. State Government Funds**
- 4. ULB**

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

**The convergence factor shall be 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 universal coverage of water connections.**

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 which are proposed to be taken do not require land and NOC.**

## 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, disaster and environmental related factors would be built in to ensure environmentally sustainable water supply scheme.**

## 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 in which 50% from GOI and remaining state govt and ULB.**

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

**Yes, projects which is being financed by various stakeholders**

- 1. GOI**
- 2. State Government**
- 3. ULB**

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, GOT, state government and ULB.

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.	Project Name	Priority number	Year in which to be implemented	Year in which to be completed	Estimated Cost
1	regularizing of unauthorized connections. laying of water supply pipe lines in shortfall areas	1	2016	2018	20.50 Cr
2	Replacement of old pipe lines, leakage detection machine and will be made.	2	2016	2018	02.75 Cr
3	Automation of Tube well	3	2016	2019	10.00 cr

S.No.	Project Name	Priority number	Year in which to be implemented	Year in which to be completed	Estimated Cost
	& Metering				
	<b>Total</b>				<b>33.25 cr</b>

## 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	regularizing of unauthorized connections. laying of water supply pipe lines in shortfall areas	24134 HH To reduce 1317 unauthorized connections + 190 km new pipeline in uncovered pockets	To Increase the Coverage of water supply	38.2%	100%	20.50 Cr
2	Replacement of old pipe lines, leakage detection machine and will be made.	Replacement of old pipeline & procurement of leakage deduction machine & excavation machine	Minimization of NRW	46%	20%	02.75 Cr
3	Automation of Tube well & Metering	Automation of 37 tube well & metering on 40,000 HHs	Enhancement in service efficiency	41.5%	100%	10.00 cr

## 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
1	regularizing of unauthorized	20.50 Cr	10.25 Cr	10.25 Cr.	0	0	20.50 cr

Sr. No.	Name of Project	Total Project Cost	Share				
			GOI	State	ULB	Others	Total
	connections. laying of water supply pipe lines in shortfall areas						
2	Replacement of old pipe lines, leakage detection machine and will be made.	02.75 Cr	1.375 Cr	1.375 Cr.	0	0	02.75 Cr
3	Automation of Tube well & Metering	10.00 cr	05.00 Cr.	05.00 Cr.	0	0	10.00 Cr
	<b>Total</b>		<b>16.625 Cr</b>	<b>16.625 Cr</b>			<b>33.25 cr.</b>

## ANNUAL FUND SHARING BREAK-UP FOR WATER SUPPLY PROJECTS

(As per Table 2.3.2 of AMRUT guidelines)

Sr. No.	Project	GOI	State			ULB			Convergence	others	Total
			14th FC	Others	Total	14th FC	Others	Total			
1	Regularizing of unauthorized connections. laying of water supply pipe lines in shortfall areas	50%	0	50%	0	0	0	0			100%
2	Replacement of old pipe lines, leakage detection machine and will be made.	50%	0	50%	0	0	0	0			100%
3	Automation of Tube well & Metering	50%	0	50%	0	0	0	0			100%

## 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				
regularizing of unauthorized connections. laying of water supply pipe lines in shortfall areas	20.50 Cr	To Increase the Coverage of water supply	38.2%		45%	60%	100%		
Replacement of old pipe lines, leakage detection machine and will be made.	02.75 Cr	Minimization of NRW	46%		40%	35%	20%		
Automation of Tube well & Metering	10.00 Cr	Enhancement in service efficiency	41.5%		45%	60%	80%	100%	