

# NAME OF ULB - KHURJA

## 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 and DPR of khurja water supply reorganisation scheme prepared by up jalnigam.zonewise data is available.**

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
KHURJA	<b>As per census 2011 available</b>	Total Population (2011) = 1,11,062		
		Total Households	<b>22888</b>	<b>5337</b>
		Within the premises	<b>20865</b>	<b>5044</b>
		Near the premises	<b>1666</b>	<b>257</b>
		Away	<b>357</b>	<b>36</b>
	Departmental Data of NPP	Total Population( 2015) - 1,25,000		
		Total Households	<b>14756</b>	<b>5975</b>
		Near the premises		

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	<u>Coverage of water supply connections (5975/14756)</u>	40.49%	100%	D
2	<u>Per capita supply of water 19.8 MLD/0.125</u>	158 LPCD	135 LPCD	D
3	<u>Extent of metering of water connections</u>	0%	100%	A
4	<u>Extent of non-revenue water</u>	39.65%	20%	D
5	<u>Quality of water supplied</u>	94.50%	100%	D
6	<u>Cost recovery in water supply services</u>	15.40%	100%	D
7	<u>Efficiency in collection of water supply related charges</u>	24.90%	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 - 59.51 %
- 2) Per Capita of water supply - Nil
- 3) Extent of metering of water connections -100%
- 4) Extent of Non - Revenue water - 19.65%
- 5) Quality of water supply - 5.5%
- 6) Cost recovery in water supply -84.60%
- 7) Efficiency in collection of water supply charges -65.10%

#### SOURCE OF WATER AND WATER TREATMENT SYSTEM.

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

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?

**Underground water is the existing source ,Tube wells NO 15 with discharge 2000 LPM=19.8 MLD**

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?

**Chlorinating through sodium hypochloride( Liquid Chlorine), Electro mechanical type chlorinated plant ( Dozer) , Capacity - 14 lph each .**

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.?

**5) Per capita LPCD is 158 when we divide  $19.8/1,25,000= 158$  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 ?

**As per DPR prepared for KHURJA Water Supply re organisationscheme , city wise divided into - 5 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

<b>Zone No.</b>	<b>Total No. of Households</b>	<b>Households with Water tap Connection</b>	<b>Households without Water tap Connection</b>
<b>1</b>	<b>2850 HH</b>	<b>1154 HH</b>	<b>1696 HH</b>
<b>2</b>	<b>3000 HH</b>	<b>1215 HH</b>	<b>1785 HH</b>
<b>3</b>	<b>2780 HH</b>	<b>1126 HH</b>	<b>1654 HH</b>
<b>4</b>	<b>2500 HH</b>	<b>1012 HH</b>	<b>1488 HH</b>

<b>Zone No.</b>	<b>Total No. of Households</b>	<b>Households with Water tap Connection</b>	<b>Households without Water tap Connection</b>
<b>5</b>	<b>3626 HH</b>	<b>1468 HH</b>	<b>2158 HH</b>
<b>Total</b>	<b>14756H.H</b>	<b>5975 H.H</b>	<b>8781 H.H</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?

**Total OHT - 6 Nos. Total Storage capacity - 6950KL . Underground water reservoir - Nil .**

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

**No . Surface water hence not 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**

## 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 reorganizationscheme of KHURJA 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 62.18 Km enhanced and after execution the length of present distribution system is 67.18 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) - 62.18 Km and now increase of new residential between year 2011 to 2015 is approx. 5 Km that is total length is approx. 67.18 Km. Approximately 5 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 (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

<b>Zone No.</b>	<b>Total Street Length</b>	<b>Street length with water distribution pipe line</b>	<b>Street length without water distribution pipe line</b>
<b>1</b>	<b>10.36 Km</b>	<b>9.36 Km</b>	<b>1.00 Km</b>
<b>2</b>	<b>12.56 Km</b>	<b>12.56 Km</b>	<b>-</b>
<b>3</b>	<b>10.39 Km</b>	<b>7.89 Km</b>	<b>2.50 Km</b>
<b>4</b>	<b>14.4 Km</b>	<b>13.95 Km</b>	<b>0.50 Km</b>
<b>5</b>	<b>19.47 Km</b>	<b>18.47 Km</b>	<b>1.00 Km</b>
<b>Total</b>	<b>67.18 Km</b>	<b>62.18 Km</b>	<b>5.00 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>
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<b>Planning and Design</b>	<b>Construction/ Implementation</b>	<b>O&amp;M</b>
<b>UP Jal Nigam</b>	<b>UP Jal Nigam</b>	<b>NagarPalikaParishadKhurja</b>

Question: How city is planning to execute projects ?

**Total road length in the city (as per water supply DPR completion certificate -2011) - 62.18 Km and now increase of new residential between year 2011 to 2015 is approx. 5 Km that is total length is approx. 67.18 Km. Approximately 5 km pipe line is required to be increased . Yes Universal coverage of water supply pipe line will be achieved .**

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 JalNigam .**

## 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

<b>S.No.</b>	<b>Name of Project</b>	<b>Scheme Name</b>	<b>Cost</b>	<b>Month of Compilation</b>	<b>Status (as on dd mm 2015)</b>
<b>1</b>	<b>Nil</b>	<b>Nil</b>	<b>Nil</b>	<b>2011</b>	<b>Completed</b>

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)

**Now increase of new residential between year 2011 to 2015 is approx. 5 Km and total length is approx. 67.18 Km. Approximately 5 km pipe line is required to be increased**

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

**Now increase of new residential between year 2011 to 2015 is approx. 5 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 5 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 survey has been conducted . However on the basis of rough calculation NRW work out to be -40.49% .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(15 tubewell X 2000 LPM Each )	19.80 MLD	-	19.80 MLD	19.80 MLD	No Gap
Treatment capacity	19.80 MLD	-	19.80MLD	19.8 MLD	No Gap
Elevated Storage capacity ( 6 Nos O.H.T )	6.95ML	-	6.95ML	6.95ML	No Gap
Distribution network coverage	67.18 Km	-	62.18 Km	5 Km	5 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,

1. 5 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	Coverage of water supply connection -8781 HHX5000	4.39Cr	AMRUT
2	Achieve universal coverage of Pipeline	Laying of 5 Km distribution network @ 30 lacs/Km	1.50 Cr	AMRUT/ State Gov./ ULBs
3	N.R.W	Zone making 6X0.5 Cr	3.00 Cr	
4	Quality of water supply	Sample testing laboratory	2.00 Cr	AMRUT/ State Gov./ ULBs
5	Collection Efficiency	Hand billing & online billing	0.10Cr	
Total	-	-	10.99 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)

**For universal coverage through IEC activities cover 8781 HH water Operation and maintenance is funded by revenue collected in form of water tax and water Charges. Existing 40.49 % coverage through.**

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

**Not required**



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

**Regularization of illegal connection, increase water connection through IEC activities, Capacity building of Jalkal staff and in-house implementation by Jalkal Alternative, Capacity building of UPJN staff and in-house implementation by UPJN, Improvement in O&M through a performance based NRW reduction, Improvement in O&M through a Comprehensive Performance based Operating Contract for entire operations of Jalkal**

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

**Regular efforts will be made to address the following bottlenecks. Dispute on land earmarked for WTP, the completion of project is affected. road cutting permission from local authorities and Forest Department.**

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 unserved areas,**
- 2. By increasing user charges**
- 3. By reducing NRW Nagar Palika Parishad KHURJA has already adopted a system of water tax and water charges by approval of Board to meet the O&M cost.**

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	Coverage of water supply connection -8781 HHX5000	AMRUT
2	Achieve universal coverage of Pipeline	Laying of 5 Km distribution network @ 30 lacs/Km	AMRUT/ State Gov./ ULBs
3	N.R.W	Zone making 6X0.5 Cr	AMRUT/ State Gov./ ULBs
4	Quality of water supply	Sample testing laboratory	AMRUT/ State Gov./ ULBs
5	Collection Efficiency	Hand billing & online billing	AMRUT/ State Gov./ ULBs

## 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 also discussed in the Board meeting .Where all the members who directly elected from wards public of town participate.**

SNO	Type of Consultation(eg. Board meeting, ward committee meeting, zone committee, public meeting etc	Date of Consultation	Mode of Consultation(eg through media , newspaper, internet, website, pamphlets, Audio
1	Board meeting April, 2015,	One meeting is necessary per month	Through media , newspaper, internet, website, pamphletsWhat,s App No

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?

**No**

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

**Feedback on the suggested alternatives and innovations are being considered to complete all the ongoing projects on time and the work proposed for future should also be planned in such a way that during the work the hazards faced by citizens must be minimized to a tolerable extent.**

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.

**Except ongoing project activities taken under objectives do not require land and environmental obligation and 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 2.1 of 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	Universal coverage of water supply	1	2015	2018	4.39 Cr
2	Achieve universal coverage of Pipeline	2	2015	2016	1.50 Cr
3	N.R.W	3	2015	2019	3.00Cr
4	Quality of water supply	4	2015	2018	2.00 Cr
5	Collection Efficiency	5	2015	2018	0.10Cr
	total				10.99 Cr

## 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	Coverage of water supply connection - 8781 HH	House connections hold	Coverage of water supply connection	40.49%	100%	4.39 Cr
2	Laying of 5 Km distribution network @ 30 lacs/Km	Extention of Pipeline	Coverage of water supply connection	62.18Km	67.18Km	1.50 Cr
	N.R.W	TubewellAutomisation with SCADA	Reduction of N.R.W	39.65%	20%	3.00 Cr
4	Quality of water	Establishment of laboratory	Quality of water	94.5 %	100%	2.00 Cr
5	Collection efficiency	Hand billing & online billing	Collection efficiency	24.9%	90%	0.10Cr
	<b>Total</b>					<b>10.99Cr</b>

## 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	Coverage of water supply connection -8781 HH@ 5000	4.39 Cr	2.195 Cr	2.195 Cr	-	-	4.39 Cr
2	Laying of 5 Km distribution network @ 30 lacs/Km	1.5 Cr	0.75 Cr	0.75 Cr	-	-	1.5 Cr
3	N.R.W	2.30Cr	1.5Cr	1.5 Cr	-	-	3.00 Cr
4	Quality of water	2.00 Cr	1.00 Cr	1.00 Cr	-	-	2.00 Cr
5	Collection efficiency	0.10 Cr	0.05 Cr	0.05 Cr	-	-	0.10 Cr
	<b>Total</b>	<b>11.99 Cr</b>	<b>5.495Cr</b>	<b>5.495Cr</b>	-	-	<b>10.99 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	Coverage of water supply connection	50%	-	50%	50%	-	-	-	-	100%	





