

NAME OF ULB – MUZAFFARNAGAR

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)

Water supply status report is available with U.P.JalNigam, Muzaffarnagar. The status report consists of existing water supply system with reference to water supply production, and distribution of water supply lines. In that DPR city has divided into 9 zones.

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. Data of census 2011 is available with agar Palika Parishad Muzaffarnagar and the source is NIC. Nagar Palika Parishad Muzaffarnagar is aware of MOUD survey data. The data available is being used as reference to develop the slip.

	Location of source of drinking water Population	Total Number of Households	Tapwater from treated source
Total Population (Census, 2011)	Population-392768		
	Total	69333	45234
	Within the premises	65795	44048
	Near the premises	2720	921
	Away	818	265
Departmental Data (2015)	Population-392768	68906	45159 *

*As per the existing data of ULB

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
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Sr. No.	Indicators	Present Status	MOUD Benchmark	Reliability
1	Coverage of water supply connections (45159/68906)	65.53%	100%	D
2	Per capita supply of water (75MLD/0.392)	191 LPCD	135 LPCD	D
3	Extent of metering of water connections	0%	100%	A
4	Extent of non-revenue water	41%	20%	D
5	Quality of water supplied	90%	100%	D
6	Cost recovery in water supply services	25 %	100%	D
7	Efficiency in collection of water supply related charges	50%	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 gap is 34.47%
2. Per capita supply of water gap is 0 LPCD
3. Extent of metering of water connections gap is 100 %
4. Extent of non-revenue water gap is 21%
5. Quality of water supplied gap 10%
6. Cost recovery in water supply services gap is 75 %
7. Efficiency in collection of water supply related charges gap is 40%

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?

Existing source of water is underground water, total no of tub well is 55. Capacity of these sources 20 tube well X 2 MLD = 40 MLD 35 tube well X 1 MLD = 35 MLD
Total MLD = 40MLD+35 MLD= 75 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?

Underground water chlorination is being done. Treatment capacity of ground water is 75 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.?

Source of water Capacity 75 MLD and Per Capita of Water Supply is = $75 \text{ MLD} / 0.392 = 191.32 \text{ LPCD}$ with NRW

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 ?

There are 9 zones for water supply in Nagar Palika Parishad Muzaffarnagar.

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

Zone No.	Total No. of Households	Households with Water tap Connection	Households without Water tap Connection
1	6750 HH	4320 HH	2430 HH
2 A	6750 HH	4320 HH	2430 HH
2 B	5300 HH	3392 HH	1908 HH
3	9008 HH	5766 HH	3242 HH
4 A	3905 HH	2499 HH	1406 HH
4 B	2387 HH	1527 HH	860 HH
5	8006 HH	5735 HH	2271 HH
6	11260 HH	7655 HH	3605 HH
7	3500 HH	2240 HH	1260 HH
8	8640 HH	5529 HH	3111 HH
9	3400 HH	2176 HH	1224 HH
Total	68906HH	45159HH	23747HH

As per the departmental data total number of household is 68906 and as per the census total household is 69333 in this above statement as per departmental data 23747 HH without tap connection and per census 24174 HH without tap water connection

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?

In Nagar Palika Parishad Muzaffarnagar water production is 75 MLD and 17 elevated reservoirs and the storage capacity is 33.90 ML.

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

Not apply in Nagar Palika Parishad Muzaffarnagar.

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

In Nagar Palika Parishad Muzaffarnagar water is being supplied to consumers through direct pumping as well as elevated reservoirs.

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

Yes storage capacity is sufficient to meet the city demand. In Nagar Palika Parishad Muzaffarnagar water production is 75MLD and storage capacity is 33.90 ML. Total city storage capacity demand is $75 \text{ MLD} / 3 = 25 \text{ ML}$ but availability is 33.90 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 total length of water supply distribution pipe line is 671.82 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?

The total road length is 680 KM. Pipe lines are not laid in 8.18 KM and universal coverage of water supply is not achieved.

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

PVC,DI, CI and GI pipe materials used in distribution lines.

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

Table: 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	66.60 KM	65.60 KM	1.00KM
2A	66.60 KM	65.60 KM	1.00 KM
2B	52.40 KM	52.00 KM	0.40 KM
3	89.64 KM	88.64 KM	1.00 KM

Zone No.	Total Street Length	Street length with water distribution pipe line	Street length without water distribution pipe line
4 A	38.50 KM	38.50 KM	0
4 B	27.40 KM	26.48 KM	0.98 KM
5	78.40 KM	78.10 KM	0.30 KM
6	100.28 KM	99.28	1.00 KM
7	34.68 KM	33.68 KM	1.00 KM
8	84.24 KM	83.24 KM	1.00 KM
9	41.26 KM	40.76 KM	0.50 KM
Total	680 KM	671.82 KM	8.18 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 MUZAFFARNAGAR	JAL NIGAM MUZAFFARNAGAR	N.P.P. MUZAFFARNAGAR ON CONTRACT BASE

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, gaps in pipe lines will be done by Nagar Palika Parishad Muzaffarnagar and nodal agency Jal Nigam Muzaffarnagar.

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 project shall be done by Nagar Palika Parishad Muzaffarnagar as well as State Level Parastatal Agency U.P. Jal Nigam. Nagar Palika Parishad Muzaffarnagar 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	UIDSSMT	Muzaffarnagar Water Supply Reorganization Schem. Tub well- 17,OHT-11,Distribution System -148.25 Rising main - 14.655,ZPS-05,Staff Quarters -11	54.553 Cr	2013	98 % March 2016

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)

Yes in this above said project address the existing gap in terms of per capita of water supply, pressure and water production.

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

Yes.City required additional work like regularization of unregistered connections, and to motivate citizens to take connection will increase coverage and reduction of NRW, Improve Quality of Water as well as metering will improve efficiency of collection and operation.

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?

Nagar Palika Parishad Muzaffarnagar will make its people aware of the importance of drinking water. Nagar Palika Parishad Muzaffarnagar will make efforts by meetings & 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?

City has not conducted any assessment related to NRW Nagar Palika Parishad Muzaffarnagar have approximate NRW level is 41 %

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	75 MLD	-	75 MLD	60.97 MLD	0
Treatment capacity	75MLD	-	75 MLD	60.97 MLD	0
Elevated Storage capacity	33.90ML	-	33.90ML	20.32 ML	0
Distribution network coverage	671.82 KM	-	671.82 KM	680 KM	8.18 KM

OBJECTIVES

PBased 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?

- **IEC activities for 20636**
- **Universal Coverage by Regularizing of 1799 Household and laying of pipe line 8.18 KM in uncovered area**
- **Reduction of NRW by Leakage Detection**
- **Improve the quality of Water through establishment of Lab and implementation of online water testing and Monitoring System**
- **Efficiency of charges collection-. Metering system in water supply system and online billing, tracking system & spot billing machine.**

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

YES,

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 funding for meeting out the each objective will 50% from AMRUT and remaining 50% from state and Nagar Palika Parishad Muzaffarnagar.

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

There are no ongoing project under JICA/ADB but activities is converged with UIDSSMT

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

In this above ongoing project no need of money for completion of the project.

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

In Nagar Palika Parishad Muzaffarnagar there is a staff shortage for running the project and focusing toward enhancement of coverage. During the implementation of water supply scheme awareness among public was most challenging activities.

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

Nagar Palika Parishad Muzaffarnagar will minimize non-revenue water by regularizing unregistered water connections & make more efforts from collection staff & introducing metering system & automation of tube wells.

Question: Will metering system for billing introduced?

Yes. Nagar Palika Parishad Muzaffarnagar will introduce metering system for billing under AMRUT scheme.

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

By regularizing of water connection through IEC activities, Introduce metering of water connections, improve the collection efficiency.

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

YES.

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

Table: Alternative Activities To Meet Objectives

Sr. No.	Objective	Activities	Cost (Cr)	Financing Source
1	To achieve the universal coverage	IEC activities for 20636 HH 20636 X 50Rs	0.10 cr	
		To universal coverage by regularizing – 1799 HH 1799 HH X5000 Rs	0.90 Cr	AMRUT/State and ULBs
		Laying of Pipe line in uncovered areas 8.18 KM X 0.25Cr	2.05Cr	AMRUT/State and ULBs
2	To make the system efficient by reduction of NRW water	Replacement of old pipe line 10 KM X 0.25 Cr	2.5 Cr	AMRUT/State and ULBs
		Household Level Metering 69333 HH X2500 Rs	17.33 Cr	
3	To improve the quality of water	Establishment/rehab of water testing lab and implementation of online water testing & monitoring systems and water testing van	0.50 Cr	AMRUT/State and ULBs
4	Efficiency of charges collection	Metering system in water supply system, and online billing, tracking system & spot billing machine	0.90 Cr	AMRUT/State and ULBs
	Total		24.28 Cr	

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?

Nagar Palika Parishad Muzaffarnagar passes the proposals which are put up by ward members. Thus all stakeholders involve in the consultations on 25 June 2015

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

In Nagar Palika Parishad Muzaffarnagar ward/zone level consultations has held under the chairmanship of ward members on
2nd October, 2015 ward no -29
3rd October, 2015 ward no-13
5th October, 2015 ward no-16
7th October, 2015 ward no-34
8th October, 2015 ward no-04
9th October, 2015 ward no-10
10th October, 2015 ward no-17
15th October, 2015 ward no-14

Question: Has alternative proposed above are crowd sourced?

Yes. Suggestions and views of the crowd are taken into consideration on website www.muzaffarnagar.nic.in

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

90% of the people are agreed to regularization of connection and improvement of quality of water supply & metering of water connections.

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

Yes.

Question: What methodology adopted for prioritizing the alternatives?

After the consultation made in Nagar Palika Parishad Muzaffarnagar board meetings as the discussion regularization of water connections ,laying of pipe lines, metering of water connections, establishment of Lab .

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

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

There is no other scheme running in the city.

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 through IEC activities.

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

YES

6. Conditionalities

Describe in not more than 300 words the Conditionalities of each project in terms of availability of land, environmental obligation and clearances, required NOC, financial commitment, approval and permission needed to implement the project.

Public awareness to increase the coverage of water supply, Augmentation of water supply system No need of Land, environment clearance and NOC for meet the GAP for universal coverage and quality of water.

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.

Disaster and environmental related factor will be considered while preparation of DPRs

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 will be developed. The share of State and ULB will be decided in High power committee.

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

There is no such individual project.

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. GOI, State 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 2.1 of 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 Cr
1	To achieve the universal coverage	IEC activities for 20636 HH 20636 X 50Rs	1	2017	2018	3.05 Cr
		To universal coverage by regularizing – 1799 HH 1799 HH X 5000 Rs				
		Laying of Pipe line in uncovered areas 8.18 KM X 0.25Cr				
2	To make the system efficient by reduction of NRW water	Replacement of old pipe line 10 KM X 0.25 Cr	2	2017	2019	19.83 Cr
		Household Level Metering 69333 HH X 2500 Rs				
3	To improve the quality of water	Establishment/rehab of water testing lab and implementation of online water testing & monitoring systems and water testing van	4	2018	2019	0.50 Cr

S.No.	Objective	Project Name	Priority number	Year in which to be implemented	Year in which to be completed	Estimated Cost Cr
4	Efficiency of charges collection	Metering system in water supply system, and online billing, tracking system & spot billing machine	5	2018	2020	0.90 Cr
Total						24.28Cr

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	To achieve the universal coverage	IEC activities for 20636 HH 20636 X 50Rs	Survey and IEC 20636 HH X 50 Rs	100%	65.53%	100%	3.05 Cr
		To universal coverage by regularizing – 1799 HH 1799 HH X5000 Rs	regularizing – 1799 HH 1799 HH X5000 Rs				
		Laying of Pipe line in uncovered areas 8.18 KM X 0.25Cr	Pipe line in uncovered areas 8.18 KM X 0.25Cr				
2	To make the system efficient by reduction of NRW water	Replacement of old pipe line 10 KM X 0.25 Cr	5KM X 0.06 Cr	20%	41%	20%	19.83 Cr
		Household Level Metering 69333 HH X2500 Rs	69333 HH X 2000 Rs				

3	To improve the quality of water	Establishment/rehab of water testing lab and implementation of online water testing & monitoring systems and water testing van	water testing lab and implementation of online water testing & monitoring systems and water testing van	100%	90%	100%	0.50
4	Efficiency of charges collection	Metering system in water supply system, and online billing, tracking system & spot billing machine	Metering system in water supply system, and online billing, tracking system & spot billing machine	90%	25%	90%	0.90Cr
Total							24.28Cr

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	U L B	Ot her s	Total
1	To achieve the universal coverage	IEC activities for 20636 HH20636 X 50Rs, to universal coverage by regularizing – 1799 HH 1799 HH X5000 Rs, laying of Pipe line in uncovered areas 8.18 KM X 0.25Cr	3.05 Cr	1.525 Cr	1.525 Cr			3.05

2	To make the system efficient by reduction of NRW water	Replacement of old pipe line 10 KM X 0.25 Cr, Household Level Metering 69333 HH X2500 Rs	19.83 Cr	9.915 Cr	9.915 Cr			19.83 Cr
3	To improve the quality of water	Establishment/rehab of water testing lab and implementation of online water testing & monitoring systems and water testing van	0.50 Cr	0.25 Cr	0.25 Cr			0.50 Cr
4	Efficiency of charges collection	Metering system in water supply system, and online billing, tracking system & spot billing machine	0.90 Cr	0.45 Cr	0.45 Cr			0.90 Cr
		TOTAL	24.28 Cr	12.14 Cr	12.14 Cr			24.28 Cr

ANNUAL FUND SHARING BREAK-UP FOR WATER SUPPLY PROJECTS

(As per Table 2.3.2 of AMRUT guidelines)

Sr. No.	Objective	Project	GO I	State			ULB			Co n v e r g e n c e	o t h e r s	Total
				14th FC	Oth ers	Total	14t h FC	Ot he rs	To tal			
1	To achieve the universal coverage	IEC activities for 20636 HH20636 X 50Rs,to universal coverage by regularizing – 1799 HH 1799 HH X5000 Rs, laying of Pipe line in uncovered	50 %	-	50 %	50%	-	-	-	-	-	100%

