City Name - MODINAGAR

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)

Jalkal Vibhag Nagar Palika Parishad Modinagar maintains water supply of the Modinagar city. Baseline of existing water supply system is available in detailed project report prepared by U.P. Jal Nigam in the year . The DPR consist reorganization of the existing water supply with reference to water supply production treatment and distribution of water supply lines

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)

Location of source of drinking water	Total Number of Households	Tap water from treated source
Total Population- 130168		
Total H.H	23523	13494
Within the premises	21742	12614
Near the premises	1206	395
Away	575	485
Departmental Data		
Total Population 135555		
H .H	23750	17103

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

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	72.01 %	100%	D
2	Per capita supply of water	191.29 LPCD	135 LPCD	D
3	Extent of metering of water connections	0%	100%	A
4	Extent of non-revenue water	41.70 %	20%	D
5	Quality of water supplied	100 %	100%	D
6	Cost recovery in water supply services	62.45 %	100%	D
7	Efficiency in collection of water supply related charges	70.98 %	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 27.99%

2. No gap in Per capita of water .

3. Gap in Metering is 100%.

4. NRW is about 21.70 % 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 as per PHE norms.

6. Gap in Cost recovery is 37.55% with expenditure on electricity and power.

7. Gap in efficiency of water charges/tax collection is about 19.02% .

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?
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.?

There are ground water sources. About 24.9 MLD water is supplied to the city and the per capita consumption is 191.29 lpcd.

The water demand of the city is met by underground sources. Yes, treatment is provided to the water. only chlorination is done for disinfection.

Installed capacity of treatment is 24.9 MLD. On the basis of produced water per capita daily supply comes out 191.29 lpcd whereas after deducting wastage, daily per capita supply is 135 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 ?

The water supply system of Modinagar is divided into 10 water supply zones. The wide coverage by distribution lines offers an opportunity to achieve universal tap coverage in the City.

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	4076	3127	949
2	3012	2300	712

Zone No.	Total No. of Households	Households with Water tap Connection	Households without Water tap Connection
3	2970	2200	770
4	1143	500	643
5	1525	998	527
6	2375	1680	695
7	2375	1705	670
8	1737	1235	502
9	1950	1503	447
10	2587	1855	732
TOTAL	**23750**	**17103**	**6647**

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?

The total storage capacity is 19.10 ML. The capacities of elevated & ground water reservoirs are 16.70 ML & 2.40 ML respectively.

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

No

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

Water is being supplied to consumers through elevated reservoirs as well as direct pumping.

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

Yes, storage capacity sufficient to meet the cities demand

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 water supply distribution pipe line in the city is 130.47Km

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 in the city is approx 168.47 Km. Yes.

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

Cast iron, mild steel , PVC, AC, DI & GI materials are used in distribution pipe 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	**30.32 KM**	**30.32 KM**	_
2	**21.90 KM**	**11.90 KM**	**10.00 KM**
3	**21.56 KM**	**19.56 KM**	**2.00 KM**
4	**7.08 KM**	**7.08 KM**	_
5	**10.11 KM**	**7.11 KM**	**3.00 KM**
6	**16.85 KM**	**10.85 KM**	**6.00 KM**
7	**16.85 KM**	**13.85 KM**	**3.00 KM**

Zone No.	Total Street Length	Street length with water distribution pipe line	Street length without water distribution pipe line
8	**11.79 KM**	**8.79 KM**	**3.00 KM**
9	**13.48 KM**	**7.48 KM**	**6.00 KM**
10	**18.53 KM**	**13.53 KM**	**5.00 KM**
TOTAL	**168.47 KM**	**130.47 KM**	**38.00 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 responsibilitis

Planning and Design	Construction/ Implementation	O&M
U.P. Jal Nigam	U.P. Jal Nigam	ULB, Modinagar

Question: How city is planning to execute projects ?

Modinagar Nagar Palika is the owner of the infrastructure and the Jalkal Department is the provider of water services in the City while UP Jal Nigam is the parastatal to do the work. On required demand by ULB the U.P Jal Nigam plans , designs & executes the project.

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 State Level Parastatal Agency U.P. Jal Nigam. Nagar Palika Parishad Modinagar 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)
	N/A				

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)

Metering and regularization water connections have to be done.

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

regularization of unregistered connection and improve universal coverage by motivating to citizens to take water connection.

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?

By improving universal coverage.

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

Assessment of NRW has been conducted. NRW level is 58%. Yes, city is planning to reduce NRW.

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	24.90 MLD	-	24.90 MLD	21.95	Surplus
Treatment capacity	24.90 MLD	-	24.90 MLD	21.95	Surplus
Elevated Storage capacity	16.70 ML	-	16.70 ML	10.80	Surplus
Distribution network coverage	130.47 KM	-	38.00 KM	180.00	49.53

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.

100% coverage of water supply system, reduce NRW, Tube well automation, 100% metering.

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

Yes. After universal coverage ,installation of proper water meters and regularization of unregistered connections.

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)

Sr. No.	Objective	Activities	Financing Source
1	UNIVERSAL COVERAGE	Regularization unauthorized connection and increase the coverage	AMRUT
2	Tube well automation	SCADA system installation	AMRUT
3	Efficiency of charges collection	metering	AMRUT

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

Nagar palika parishad modingar is not yes associated with JICA/ADB

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

There is no ongoing project

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

In some dense populated areas due to congestion and crowed streets difficulty are faced in laying of distribution line sometime also in unavailability for water tanks and pump houses .

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

Question: Will metering system for billing introduced?

It is required. Its is to be covered through AMRUT scheme. Billing will be done by metering.

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

Yes, O&M cost will certainly reduce after reduction in NRW.

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	Regularization unauthorized connection and increase the coverage	GOI/STATE /NPP
2	Tube well automation	SCADA system installation	GOI/STATE /NPP
3	Efficiency of charges collection	Metering	GOI/STATE /NPP

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 on 18 September 2015 in Board Meeting at Nagar Palika Parishad Modinagar.

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 on 15 September Govind Puri ward number -13

Question: Has alternative proposed above are crowd sourced?

No

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

Yes Feedback 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

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?

There is no project ongoing.

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 indiated in AMRUT guidelines followed for prioritization of activities?

Yes, Universal coverage approach indiated 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.

Land is not required and no environmental consideration.

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 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.

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

N/A

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

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	Universal coverage	1-Regularization unauthorized connection and increase the coverage	2016	2018	0.0332 Cr
2	Tube well automation	2-SCADA system installation	2017	2018	0.62 Cr
3	Efficiency of charges collection	3-metering	2018	2019	23.75 cr
				total	24.40 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-ls)	After (To-be)	
1	**TO ACHIEVE UNIVERSAL COVERAGE** INCREASE HOUSEHOLD CONNECTIONS – 166 HH Numbers X 2000 Rs	HOUSING CONNECTION	Nos.	72.01%	100%	0.0332 Cr

Sr. No.	Project Name	Physical Components	Change in Service Levels			Estimated Cost
			Indicator	Existing (As-ls)	After (To-be)	
2	**<u>TO MAKE SYSTEM EFFICENT BY NRW</u>** AUTOMISATION OF TUBEWELL THROUG SCADA – 31 TUBEWELLS X @ 2 LACS	SCADA system	automation	41.70%	20%	0.62 Cr
3	Efficiency of charges collection	metering		70.98%	90%	23.75 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	Universal coverage	0.0332 Cr	0.0166 Cr	-	-	0.0166 Cr	0.0332 Cr
2	Tube well automation	0.62 Cr	0.31cr	-	-	0.31 Cr	0.62 Cr
3	Efficiency of charges collection	23.75 cr	11.875 cr	-	-	11.875 cr	23.75 cr
Total		24.40 cr	12.20 cr			12.20 cr	24.40 cr

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	Universal coverage	0.0166 Cr		0.0166 Cr						0.0166 Cr	0.0332 Cr
2	Tube well automation	0.31cr		0.31 Cr						0.31 Cr	0.62 Cr
3	Efficiency of charges collection	11.875 cr		11.875 cr						11.875 cr	23.75 cr
Total		12.20 cr								12.20cr	24.40 cr

YEAR WISE PLAN FOR SERVICE LEVELS IMPROVEMENTS

(As per Table 2.5of AMRUT guidelines)

Proposed Projects	Project Cost	Indicator	Baseline	Annual Targets (Incremet from the Baseline Value)					
				FY 2016		FY 2017	FY 2018	FY 2019	FY 2020
				H1	H2				
1	Universal coverage	Coverage 100%	72.01%		80%	90%	100%		
2	Tube well automation	NRW 20%	41.70%			30%	20%		
3	Efficiency of charges collection	90%	70.98 %				80%	90%	