



RCUES  
Ministry of Housing & Urban Affairs,  
Government of India



Urban Development  
& Housing Department



# SERVICE LEVEL IMPROVEMENT PLAN OF WATER SUPPLY

## MUNICIPAL CORPORATION BEGUSARAI

### PREPARED BY

Regional Centre for Urban and  
Environmental Studies Lucknow

### IN CONSULTATION WITH

Begusarai Municipal Corporation  
&

Bihar Raj Jal Parshad

# **CITY NAME – BEGUSARAI MUNICIPAL CORPORATION**

## **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 available for water supply system of the city is taken from the DPR prepared by Begusarai Municipal Corporation prior to implementation of Water Supply Scheme in the City. In this DPR, all the information related to water Supply Scheme was taken from secondary data, plans, reports and primary survey data collected by Municipal Corporation Begusarai which is verified by other line agencies involved in the preparation of DPR and implementation of project from time to time.

Yes, Zone wise information was already mentioned in the DPR. Urban Development and Housing Department Government of Bihar had conducted a survey to collect information from household level and all the information is categorized ward and Zone wise.

In that Survey information related to the existing condition and the requirement raised by the citizens regarding the essential Services provided by Urban Development and Housing Department, Government of Bihar have been categorized ward and Zone wise.

The Primary and Secondary Data available with the Municipal Corporation and Parastatal Agencies have been utilized for the baseline information based on which the Service Level Improvement Plan for Water Supply Scheme for Begusarai Municipal Corporation has been prepared.

**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, we have collected the Census 2011 data from Census of India website. Yes, we are aware of the baseline survey data of Ministry of Urban Development.

Yes, we had correlated the data from Census of India, MoUD Survey Data, DPRs, Primary and Secondary Data available in Municipal Corporation and other Parastatal Agencies that were involved in urban development schemes while preparing the Service Level Improvement Plan.

|                                | Location of source of drinking water Population | Total number of house holds | Tap water from treated source |
|--------------------------------|---|-----------------------------|-------------------------------|
| Total population (census 2011) | Total Population = 2,52,008                     | 46,721                      | 3,990                         |
|                                | Within the premises                             | 32,531                      | 3,647                         |
|                                | Near the premises                               | 10,634                      | 255                           |
|                                | Away  | 3,556                       | 88                            |
| Departmental data 2015         |   | 50202                       | 1153                          |
| Departmental data 2017         |   | 50202                       | 1153                          |

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 |      |
|---------|--|----------------|------------|----------------|-------------|------|
|         |  | 2015           | 2017       |                | 2015        | 2017 |
| 1       | Coverage of water supply connections (1153/50202)          | 2.29%          | 2.29%      | 100%           | C           | C    |
| 2       | Per capita supply of water<br>$7.2/ 2,52,008 = 28.57$ LPCD | 28.57 LPCD     | 28.57 LPCD | 135 LPCD       | C           | C    |
| 3       | Extent of metering of water connections                    | 0%             | 0%         | 100%           | C           | C    |
| 4       | Extent of non-revenue water                                | 100%           | 100%       | 20%            | D           | D    |
| 5       | Quality of water supplied                                  | 70%            | 70%        | 100%           | D           | D    |
| 6       | Cost recovery in water supply services                     | 0%             | 0%         | 100%           | D           | D    |
| 7       | Efficiency in collection of water supply related charges   | 0%             | 0%         | 90%            | D           | D    |

**Note: Data not available regarding NRW, Cost recovery and efficiency in collection of water related charges.**

**QUESTION: WHAT IS THE GAP IN THESE SERVICE LEVELS WITH REGARD TO BENCHMARKS PRESCRIBED BY MOUD? (75 WORDS).**

| S.No | GAP IN SERVICE LEVELS IS AS UNDER: | Year 2015 | 2017-Existing |
|------|------------------------------------|-----------|---------------|
| 1.   | Gap in coverage of water supply    | 97.71%    | 97.71%        |

|    |   |                |                |
|----|---|----------------|----------------|
| 2. | Gap in Per capita water availability as per present population is about   | 106.43<br>LPCD | 106.43<br>LPCD |
| 3. | Gap in Metering is  | 100%           | 100%           |
| 4. | Gap in NRW include leakage and free water supply to social gathering festivals along with water supply through stand posts. | 80%            | 80%            |
| 5. | Gap in Quality of supplied water as per PHE norms.  | 30%            | 30%            |
| 6. | Gap in Cost recovery with expenditure on electricity and power.   | 100%           | 100%           |
| 7. | Gap in efficiency of water charges  | 90%            | 90%            |

### 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 and capacity of the source (Total Nos of tube wells x Average discharge of each tube well) is  $6 \times 1.2 \text{ MLD} = 7.2 \text{ MLD}$

**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?**

Yes, chlorination of underground water supply is done. Chlorinator Dozers are provided for this purpose 34.02 MLD water is required to be treated daily. Total treatment Capacity installed in the city is 7.2 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?**

Existing source of water is ground water and already treatment facility is available. Per capita water supply in LPCD is  $=(\text{Total water supply} / \text{total Population}) \quad 7.2 \text{ MLD} / 2,52,008 \text{ Population} = 28.57 \text{ LPCD}$

### 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?**

The work of Water Supply in Rural and Urban areas of Bihar is done by the Public Health and Engineering Department of Bihar Government and same is maintained by Gram Panchayat and Urban

Local Bodies for smooth supply to the citizens but due to lack of proper infrastructure and shortage of funds it is impossible to achieve the desired results.

Ministry of Urban Development, Government of India introduced its flagship scheme AMRUT for enhancement of infrastructure related to water supply scheme and ensuring universal coverage. In line with the same Urban Development and Housing Department Government of Bihar took initiative and involved Bihar Raj Jal Parshad and BUDCIO as the Parastatal Agencies for preparation of Detailed Project Report and Implementation of the project under AMRUT.

In this above context, Bihar Raj Jal Parshad visited Municipal Corporation Begusarai and conducted a survey to collect information based on which the city was divided into 09 zones in zones total number of 45 wards.

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 connections |          |               |
|--------------|-------------------------|--------------------------------------|------|---------|--|----------|---------------|
|              |                         | 2015                                 | 2017 | Total   | 2015                                     | 2017     | Remaining gap |
| 1            | 4489 HH                 | -                                    | 0    | -       | 4489 HH                                  | 4489 HH  | 4489 HH       |
| 2            | 5687HH                  | 230 HH                               | 0    | 230 HH  | 5457 HH                                  | 5457 HH  | 5457 HH       |
| 3            | 4450 HH                 | -                                    | 0    | -       | 4450 HH                                  | 4450 HH  | 4450 HH       |
| 4            | 6957 HH                 | -                                    | 0    | -       | 6957 HH                                  | 6957 HH  | 6957 HH       |
| 5            | 8035 HH                 | 228 HH                               | 0    | 228 HH  | 7807 HH                                  | 7807 HH  | 7807 HH       |
| 6            | 4121 HH                 | -                                    | 0    | -       | 4121 HH                                  | 4121 HH  | 4121 HH       |
| 7            | 7802 HH                 | 465 HH                               | 0    | 465 HH  | 7337 HH                                  | 7337 HH  | 7337 HH       |
| 8            | 5556 HH                 | -                                    | 0    | -       | 5556 HH                                  | 5556 HH  | 5556 HH       |
| 9            | 3105 HH                 | 230 HH                               | 0    | 230 HH  | 2875 HH                                  | 2875 HH  | 2875 HH       |
| <b>Total</b> | 50202 HH                | 1153 HH                              | 0 HH | 1153 HH | 49049 HH                                 | 49049 HH | 49049 HH      |

## **STORAGE OF WATER**

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

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

Storage capacity of in the city is as follows:-

Total Elevated reservoir Storage Capacity Existing – 5 and capacity of reservoir is = 1475 KL

Total Elevated Reservoir proposed -09

Proposed capacity under AMRUT : 6808 KL

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

As per the existing situation, the city is using only ground water and there is no need of reservoirs for storage of treated raw water.

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

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

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

No, storage capacity is not sufficient to meet the city 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 of water supply distribution pipeline laid in the city 44 KM in 4 zones however the city is divided into 9 zones.

**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 224.72 KM. Pipe lines are not laid in all the streets. The objective of universal coverage of water supply is not achieved as pipe line is not laid in all streets.

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

D.I., C.I. pipe materials are 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 In KM | Street Length With Water Distribution Pipe Line In Km |          |             | Street Length Without Water Distribution Pipe Line(In Kms) |                  |                  |
|--------------|---------------------------|---|----------|-------------|--|------------------|------------------|
|              |                           | 2015  | 2017     | Total       | 2015   | 2017             | Remaining Gap    |
| 1            | 20.12 KM                  | -   | 0        | -           | 20.12 KM   | 20.12 KM         | 20.12 KM         |
| 2            | 20.72 KM                  | 8.8 KM  | 0        | 8.8 KM      | 11.92 KM   | 11.92 KM         | 11.92 KM         |
| 3            | 22.64 KM                  | -   | 0        | -           | 22.64 KM   | 22.64 KM         | 22.64 KM         |
| 4            | 24.07 KM                  | -   | 0        | -           | 24.07 KM   | 24.07 KM         | 24.07 KM         |
| 5            | 29.34 KM                  | 8.8 KM  | 0        | 8.8 KM      | 20.54 KM   | 20.54 KM         | 20.54 KM         |
| 6            | 18.25 KM                  | -   | 0        | -           | 18.25 KM   | 18.25 KM         | 18.25 KM         |
| 7            | 37.11 KM                  | 17.6 KM   | 0        | 17.6 KM     | 19.51 KM   | 19.51 KM         | 19.51 KM         |
| 8            | 24.99 KM                  | -   | 0        | -           | 24.99 KM   | 24.99 KM         | 24.99 KM         |
| 9            | 27.48 KM                  | 8.8 KM  | 0        | 8.8 KM      | 18.68 KM   | 18.68 KM         | 18.68 KM         |
| <b>Total</b> | <b>224.72 KM</b>          | <b>44 KM</b>  | <b>0</b> | <b>44KM</b> | <b>180.72 KM</b>   | <b>180.72 KM</b> | <b>180.72 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

| Planning and Design |     |     | Construction/ Implementation | O&M                             |
|---------------------|-----|-----|------------------------------|---------------------------------|
| Bihar Parshad       | Raj | Jal | Bihar Raj Jal Parshad        | Municipal Corporation Begusarai |

**Question: How city is planning to execute projects?**

As per AMRUT Mission guidelines city is planning to achieve universal coverage by undertaking projects of water supply scheme to focus the activities under regularization of unauthorized water connection, branch distribution pipelines, gaps between pipelines, replacement of old pipeline, storage facility, metering and 24x7 water supply, SCADA etc..

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

Yes, implementation of the project will be done by parastatal Agencies in consultation with Urban Local Bodies

## 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 PROJECTS**

**2015-16 & 2016-2017**

| S.No. | Name of Project    | Scheme Name | Cost | Month of Completion | Status (as on dd /2017) |
|-------|--------------------|-------------|------|---------------------|-------------------------|
| 1     | No Ongoing Project |             |      |                     |                         |

**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).**

The existing system is unable to address the existing gap in water supply system. After the completion of State Sector Water Supply Scheme, there will be improved coverage of network in ----- KM along with Per



-Capita of Water Supply and Storage Capacity but there is no provision of household connection hence there will not be much improvement of Collection Efficiency.

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

Yes, the city requires additional infrastructure to improve the services. The following kind of services will be required to fulfill the gap:

1. Better coverage of water supply system by increasing length of pipelines and creating awareness among people towards proper usage of municipal water.
2. Regularization of unauthorized water connections.
3. Reduction in NRW water by replacement of old & damaged pipelines.
4. Automation of tube wells
5. Metering of water supply.

**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?**

Vision of the City is to optimize the current infrastructure and identify the grey areas by reducing the NRW and mainstreaming the illegal connections. City is bound to provide universal coverage by including the unserved areas in the second phase of development through parastatal agencies.

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

No, City has not conducted any assessment related to Non-Revenue Water but is planning to conduct a study on NRW for the purpose of reducing 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    | 2017    | Total |      | 2021   |     |
|-----------|---------|---------|-------|------|--------|-----|
|           | Present | Ongoing | 2015  | 2017 | Demand | Gap |
|           |         |         |       |      |        |     |

| Component                     | 2015    | 2017    | Total   |         | 2021      |           |
|-------------------------------|---------|---------|---------|---------|-----------|-----------|
|                               | Present | Ongoing | 2015    | 2017    | Demand    | Gap       |
|                               |         |         |         |         |           |           |
| Source                        | 7.2 MLD | -       | 7.2 MLD | 7.2 MLD | 55 MLD    | 48 MLD    |
| Treatment capacity            | 7.2 MLD | -       | 7.2 MLD | 7.2 MLD | 55 MLD    | 48 MLD    |
| Elevated Storage capacity     | 1475 KL | -       | 1475 KL | 1475 KL | 8283 KL   | 6808 KL   |
| Distribution network coverage | 44 KM   | 0 KM    | 44 KM   | 44 KM   | 224.72 KM | 180.72 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 un-served areas and to reduce NRW and enhance storage capacity.

1. Universal coverage of water connections by laying of water supply pipe lines in shortfall areas and legalization of unauthorized water connections.
2. To reduce NRW, provision of replacement of old pipe lines, leakage detection machines 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 each objective will 50% from GOI and remaining 30% from state government and 20% from ULB.

**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 projects funded by JICA/ADB running in the city.

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

Ongoing Project is funded by State Sector Scheme which has already reached 90% completion stage hence the remaining work will be funded through State only.

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

Begusarai Municipal Corporation had to face many a bottlenecks while executing the existing projects, primary being the lack of skilled workers, technically trained staff, lack of innovative technology, etc. Under the capacity building component of the AMRUT scheme the corporation is making headway into creating a skilled and technically sound human resource for upcoming projects. The corporation has also felt the need to speed up their work by automation of Tube Wells.

**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
5. Metering of Water Supply Connection

**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, Begusarai Municipal Corporation will minimize NRW level to enhance O&M Cost by regularizing of unauthorized connections and replacement of old pipe lines with new ones. 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, each objective meet the opportunity to bridge the gap.

**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         | Household Connection along with laying of Water Supply Line in uncovered areas | AMRUT            |
| 2       | Per Capita of Water Supply | Installation of Tube-Well  | AMRUT            |
| 3       | Reduction of NRW           | Replacement of Old-line along with Metering                                    | AMRUT            |

## 4. CITIZEN ENGAGEMENT

ULBs will organize and conduct city level citizen consultation and receive feedback on the suggested alternatives and innovations. Each alternative will be discussed with citizens and activities to be taken up will be prioritized to meet the service level gaps. ULB will prioritize these activities and their scaling up based on the available resources. (AMRUT Guidelines; Para 6.6, 6.7 & 7.2). Please explain following questions in not more than 200 words detailing out the needs, aspirations and wishes of the local people.

**Question: Has all stakeholders involved in the consultation?**

Yes, all stakeholders are involved in the consultation process of formulation of Service Level Improvement Plan.

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

Yes, ward/ zone level consultations are being held in the city.

**Question: Has alternative proposed above are crowd sourced?**

Yes, alternative proposed above are crowd sourced.

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

Feedbacks are regularly taken each month both in monthly MIC meetings 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.

**Question: What methodology adopted for prioritizing the alternatives?**

On the basis of consultation made in MIC Begusarai Municipal Corporation, firstly regularization of water connections, replacement old pipelines, laying of new pipelines in uncovered areas, as per requirement Installation of tube wells 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.

**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 a sharing of fund as follows is adopted: 50% from GOI and remaining 30% from State Govt and 20% from ULB.

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

Water Supply Phase I & Phase II

**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 i.e. GOI, 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     | Water Supply Phase-1 | 1               | November,2018                   | November,2020                 | 68.39 Cr       |
| 2     | Water Supply Phase-2 | 2               | July, 2018                      | July, 2020                    | 50.05 Cr       |

**MASTER SERVICE LEVELS IMPROVEMENTS DURING MISSION PERIOD**

| S.No | Project Name                        | Physical Components   | Indicator                  | Change in Service Levels |            |          | Estimated Cost |
|------|-------------------------------------|---|----------------------------|--------------------------|------------|----------|----------------|
|      |                                     |   |                            | 2015                     | 2017       | 2020     |                |
| 1    | Water Supply Phase-1 Zone-1,2,3,5,6 | Tube well -14, Distribution Network -93.48 KM, House service connection- 28900 HH, Public Stand post -95, Chlorinator-5, IPR-05, 5 Over head tank-3630 KL, SCADA-5, Transformer and Pump House-14 | Coverage                   | 2.29%                    | 2.29%      | 100%     | 68.39 Cr       |
|      |                                     |   | Per Capita Of Water Supply | 28.57 LPCD               | 28.57 LPCD | 135 LPCD |                |
|      |                                     |   | NRW                        | 100%                     | 100%       | 20%      |                |
|      |                                     |   | Quality                    | 70%                      | 70%        | 100%     |                |
| 2    | Water Supply Phase-2 Zone-4,7,8,9   | Tube well-10, 4Over head tank-3178 KL , Distribution pipeline-87.26 Km, House Connection - 20149 , Chlorinator-4, SCADA-Transformer and Pump House-10   | Coverage                   | 2.29%                    | 2.29%      | 100%     | 55.02 Cr       |
|      |                                     |   | Per Capita Of Water Supply | 16.66 LPCD               | 16.66 LPCD | 135 LPCD |                |
|      |                                     |   | NRW                        | 100%                     | 100%       | 20%      |                |
|      |                                     |   | Quality                    | 70%                      | 70%        | 100%     |                |



**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 Approved By SHPSC | Share    |          |          |        |          |
|---------|----------------------|--------------------------------------|----------|----------|----------|--------|----------|
|         |                      |                                      | GOI      | State    | ULB      | Others | Total    |
| 1       | Water Supply Phase-1 | 16/09/2016                           | 34.20 Cr | 20.52 Cr | 13.67 Cr | -      | 68.39 Cr |
| 2       | Water Supply Phase-2 | 22/12/2017                           | 27.51 Cr | 16.51 Cr | 11.00Cr  | -      | 55.02Cr  |
| Total   |                      |                                      | 61.71 Cr | 37.03 Cr | 24.67 Cr |        | 123.41   |

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

(As per Table 2.3.2 of AMRUT guidelines)

| Sr. No. | Total Project Cost Approved By SHPSC | GOI | State   |        |       | ULB     |        |       | Convergence | others | Total    |
|---------|--------------------------------------|-----|---------|--------|-------|---------|--------|-------|-------------|--------|----------|
|         |                                      |     | 14th FC | Others | Total | 14th FC | Others | Total |             |        |          |
| 1       | Water Supply Phase-1                 | 50% | -       | 30%    | 30%   | -       | 20%    | 20%   | -           | -      | 68.39 Cr |
| 2       | Water Supply Phase-2                 | 50% | -       | 30%    | 30%   | -       | 20%    | 20%   | -           | -      | 55.02 Cr |
|         | Total                                | 50% | -       | 30%    | 30%   | -       | 20%    | 20%   | -           | -      | 123.41Cr |

## YEAR WISE PLAN FOR SERVICE LEVELS IMPROVEMENTS

(As per Table 2.5 of AMRUT guidelines)

| Proposed Projects                            | Project Cost | Indicator                  | 2015       | Annual (Increment from the Baseline Value) |    |         |         |          | Targets  |         |
|--|--------------|----------------------------|------------|--|----|---------|---------|----------|----------|---------|
|  |              |                            |            | FY 2016                                    |    | FY 2017 | FY 2018 | FY 2019  |          | FY 2020 |
|  |              |                            |            | H1   | H2 |         |         |          |          |         |
| Water Supply Scheme Phase- 1 Zone- 1,2,3,5,6 | 68.39 Cr     | Coverage                   | 2.29%      |  |    |         | 20%     | 80%      | 100%     |         |
|  |              | Per Capita Of Water Supply | 28.57 LPCD |  |    |         | 70 LPCD | 100 LPCD | 135 LPCD |         |
|  |              | NRW                        | 100%       |  |    |         | 60%     | 40%      | 20%      |         |
|  |              | Quality                    | 70%        |  |    |         | 80%     | 90%      | 100%     |         |
| Water Supply Phase-2 Zone- 4,7,8,9           | 55.02 Cr     | Coverage                   | 2.29%      |  |    |         | 20%     | 80%      | 100%     |         |
|  |              | Per Capita Of Water Supply | 28.57 LPCD |  |    |         | 70 LPCD | 100 LPCD | 135 LPCD |         |
|  |              | NRW                        | 100%       |  |    |         | 60%     | 40%      | 20%      |         |
|  |              | Quality                    | 70%        |  |    |         | 80%     | 90%      | 100%     |         |
| Total  | 123.41 Cr    |                            |            |  |    |         |         |          |          |         |

### DATA COLLECTION , DISCUSSION AND VALIDATION BY

|   |  |
|---|--|
| Name of the officer deputed in ULB                |  |
| Designation                                       | Municipal Commissioner /Executive Officer/ Chief Engineer/.....                                    |
| Signature   |  |
| Name of Parastatal Agency                         | Bihar Raj Jal Parshad  |
| Officer of Parastatal Agency deputed for the task | Er. A.P .Mandal<br>Assistant Engineer<br>Bihar Raj Jal Parshad Patna<br>Contact Number- 6203296626 |
| Signature   |  |
| Date of Finalization                              |  |