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## List of Acronyms

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<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>ADB</td>
<td>Asian Development Bank</td>
</tr>
<tr>
<td>AMRUT</td>
<td>Atal Mission for Rejuvenation and Urban Transformation</td>
</tr>
<tr>
<td>BCC</td>
<td>Behavioural Change Communications</td>
</tr>
<tr>
<td>BCM</td>
<td>Billion cubic metres</td>
</tr>
<tr>
<td>CAA</td>
<td>Constitutional Amendment Act</td>
</tr>
<tr>
<td>CCDU</td>
<td>Communication and Capacity Development Unit</td>
</tr>
<tr>
<td>CIPP</td>
<td>Customer Interest Protection Plan</td>
</tr>
<tr>
<td>CPHEEO</td>
<td>Central Public Health and Environmental Engineering Organisation</td>
</tr>
<tr>
<td>CSR</td>
<td>Corporate Social Responsibility</td>
</tr>
<tr>
<td>DA</td>
<td>District Authority</td>
</tr>
<tr>
<td>DAs</td>
<td>Development Authorities</td>
</tr>
<tr>
<td>DEWATS</td>
<td>Decentralized Wastewater Treatment Systems</td>
</tr>
<tr>
<td>DLB</td>
<td>Directorate of Local Bodies</td>
</tr>
<tr>
<td>DMA</td>
<td>District Metering Area</td>
</tr>
<tr>
<td>DPR</td>
<td>Detailed Project Reports</td>
</tr>
<tr>
<td>EPC</td>
<td>Engineering Procurement Construction</td>
</tr>
<tr>
<td>FYP</td>
<td>Five Year Plan</td>
</tr>
<tr>
<td>GIS</td>
<td>Geographic Information System</td>
</tr>
<tr>
<td>GWD</td>
<td>Ground Water Department</td>
</tr>
<tr>
<td>HQ</td>
<td>Head Quarter</td>
</tr>
<tr>
<td>HRD</td>
<td>Human Resource Development</td>
</tr>
<tr>
<td>IEC</td>
<td>Information, Education And Communication</td>
</tr>
<tr>
<td>INR</td>
<td>Indian rupees</td>
</tr>
<tr>
<td>IPC</td>
<td>Interpersonal Communication</td>
</tr>
<tr>
<td>JICA</td>
<td>Japan International Cooperation Agency</td>
</tr>
<tr>
<td>LIC</td>
<td>Life Insurance Corporation</td>
</tr>
<tr>
<td>LSGD</td>
<td>Local Self Government Department</td>
</tr>
<tr>
<td>MIS</td>
<td>Management Information System</td>
</tr>
<tr>
<td>MLD</td>
<td>Million Litres/ Day</td>
</tr>
<tr>
<td>NABARD</td>
<td>National Bank for Agriculture and Rural Development</td>
</tr>
<tr>
<td>NCR</td>
<td>National Capital Region</td>
</tr>
<tr>
<td>NRW</td>
<td>Non-Revenue Water</td>
</tr>
<tr>
<td>PHED</td>
<td>Public Health and Engineering Department</td>
</tr>
<tr>
<td>PPP</td>
<td>Public Private Partnership</td>
</tr>
<tr>
<td>RHB</td>
<td>Rajasthan Housing Board</td>
</tr>
<tr>
<td>RO</td>
<td>Reverse Osmosis</td>
</tr>
<tr>
<td>RPCB</td>
<td>Rajasthan State Pollution Control Board</td>
</tr>
<tr>
<td>RUIDP</td>
<td>Rajasthan Urban Infrastructure Development Project</td>
</tr>
<tr>
<td>RUIFDCo</td>
<td>Rajasthan Urban Infrastructure Finance &amp; Development Corporation</td>
</tr>
<tr>
<td>RWSSC</td>
<td>Rajasthan Water Supply and Sewerage Corporation</td>
</tr>
<tr>
<td>RWSSMB</td>
<td>Rajasthan Water Supply &amp; Sewerage Management Board</td>
</tr>
<tr>
<td>SAAP</td>
<td>State Annual Action Plan</td>
</tr>
<tr>
<td>SCADA</td>
<td>Supervisory Control And Data Acquisition</td>
</tr>
<tr>
<td>SLNA</td>
<td>State Level Nodal Agency</td>
</tr>
<tr>
<td>TDS</td>
<td>Total Dissolved Solids</td>
</tr>
<tr>
<td>TNA</td>
<td>Training Needs Assessment</td>
</tr>
<tr>
<td>UDH</td>
<td>Urban Development &amp; Housing</td>
</tr>
<tr>
<td>UIDSSMT</td>
<td>Urban Infrastructure Development Scheme for Small and Medium Towns</td>
</tr>
<tr>
<td>UIT</td>
<td>Union Territory</td>
</tr>
<tr>
<td>UITs</td>
<td>Urban Improvement Trusts</td>
</tr>
<tr>
<td>ULD</td>
<td>Urban Local Department</td>
</tr>
<tr>
<td>WRD</td>
<td>Water Resources Department</td>
</tr>
</tbody>
</table>
Nature and intend of the draft policy document

The Draft Rajasthan Water Policy aims to influence the thought process and deliberations that will set an overall direction to developmental activities in the urban water sector.

The Policy aims initially at recognizing issues related to urban water management in aspects related to drinking water. The other components of the Policy thereafter share the Government’s vision on how these issues could and should be addressed including implementation arrangements.

GoR has prepared a separate Draft Sewerage and Wastewater policy, which is in the process of deliberation and finalization. This is expected to set directions on aspects related to sewerage and septage management and waste water recycle / reuse. These aspects have been kept outside the scope of the draft water policy document. However, linkages between these two policies have been considered in various components described in the policy document. This is the objective underpinning this draft of the urban water and wastewater policy.

Process for finalising the policy document

This Policy is being drafted and promulgated by the Government of Rajasthan. In light of the precedent set during formulation of the state water policy (2010), the ability of the policy to influence water management in the state’s urban sector will crucially depend on the stakeholder-participatory approach to be followed during policy document finalisation. Hence, the Government of Rajasthan invites interested organisations and other stakeholders to comment on the draft policy document.

This policy draft should be viewed as the start of a process — a draft — required to be finalised through a stakeholder-participation process. Stakeholder comments are invited on aspects relating to suitability / need for such a policy, content and coverage of this policy, and scope for improvement, to make the exercise more effective and efficient.

It is important therefore for all concerned stakeholders to review the draft, and share their comments with GoR through RUIDP. The comments could be sent in English or Hindi to the following addresses either in hard copy, or email.

Attn: Project Director  
Subject: Comments on the discussion draft of Rajasthan Urban Water Policy  
Rajasthan Urban Infrastructure Development Project.  
AVS Building,  
Jawahar Circle,  
JLN Marg, Jaipur – 17  
Email: mail.ruidp@gmail.com, mailruidp@gmail.com
1. Background and introduction

This policy document has been drafted considering the requirements for providing sustainable water supply and sanitation services in urban areas of the state. The recommendations made under the Rajasthan State Water Policy, 2010; the National Water Policy of 2012; and the National Urban Sanitation Policy, 2008, have also been considered.

This policy intends to guide all stakeholders including government institutions, municipalities, parastatal bodies, water and sanitation service providers, and water users to improve efficiency and sustainability of water and sanitation services. The policy provides an overarching framework for addressing the legal, regulatory, institutional, administrative and environmental issues and challenges faced by the urban water and sanitation sector.

Rajasthan is a water-deprived state. According to the Vyas Committee Report (2009), the average annual per capita availability in the state⁠¹ is said to be less than 800 m³ [as against the generally accepted requirement of 1000 m³]. The state’s surface water resources form not more than roughly 1% of that in the country, while the state accounts for 6% of India’s total population. The groundwater level in Rajasthan has reportedly declined by more than 4 m over the last decade.⁠² The quality of available water needs attention too. On a national scale, 25% of all

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¹ Vyas Committee Report, Government of Rajasthan, 2009
² Source: http://wrmin.nic.in/forms/list.aspx?id=304
habitations with multiple quality issues in the country are located in Rajasthan, which include 40% of all fluoride-affected areas and, 83% of all salinity-affected areas and 23% of all nitrate affected areas.

Traditionally, Rajasthan’s socio-economic culture has relied on a system of sustainable water management. Both the surface water and groundwater systems have been serving the local human and livestock populations traditionally. In addition, a key operational factor common across both of them has been a high degree of community participation, and the idea of socio-economic values built around a common objective of ‘water for all’. The contemporary public water systems can be compared on utilising the potential of these systems.

Out of the state population of about 69 million, about 25% is urban, increasing at a rate close to 3% per annum. Currently, out of the total number of 185 urban local bodies (ULBs) in the state, 183 are covered by piped water supply. According to the State Planning Department, only 23 ULBs were able to provide more than 100 litres per capita a day (lpcd); 79 provide 60–80 lpcd of water and 74 provide 40–60 lpcd as against a service-level benchmark of 135 lpcd. On the other hand, frequency of water supply is another major focus area, with the gap between water supply hours ranging between one and three days.

1.1 Institutional structure

The PHED is the primary entity responsible for planning, designing, building, operating and maintaining urban and rural drinking water supply in the state. Under the 74th Constitutional Amendment Act (74th CAA), responsibility of the operation and maintenance of certain urban water supply schemes is to be handed over to ULBs. The availability of resources with ULBs—skilled staff and funding—is, therefore, brought under sharp relief as the factor directly determining their capability to carry out their functions.

It is felt in future, role of PHED should focus more on bulk water supply and local distribution. On the other hand, O&M of the urban scheme should be that of ULB’s who can manage independently and collect tariff to operate water supply on PPP or management contract basis.

1.2 Amount and quality of water supplied

Table 1: Per capita water supplied in selected towns

<table>
<thead>
<tr>
<th>Urban centres</th>
<th>Per capita water supplied (lpcd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kuchera</td>
<td>40.83</td>
</tr>
<tr>
<td>Makrana</td>
<td>33.90</td>
</tr>
<tr>
<td>Malpora</td>
<td>30.90</td>
</tr>
<tr>
<td>Kumher</td>
<td>28.00</td>
</tr>
<tr>
<td>Churu</td>
<td>126.61</td>
</tr>
<tr>
<td>Bhadra</td>
<td>79.75</td>
</tr>
<tr>
<td>Govindgarh</td>
<td>27.16</td>
</tr>
<tr>
<td>Baswa</td>
<td>16.77</td>
</tr>
<tr>
<td>Jaipur</td>
<td>133.66</td>
</tr>
<tr>
<td>Udaipur</td>
<td>182.27</td>
</tr>
<tr>
<td>Satalkheri</td>
<td>26.10</td>
</tr>
</tbody>
</table>

Table 1, which presents the amount of water supplied in certain towns of the state, highlights the difference between the supply quantities across various urban centres.

---

3 Census of Rajasthan (2011 data): http://www.rajcensus.gov.in/admin.html and the State Commission on Urbanisation Report (Section 2.5.4)

4 Chapter 22, Mid-Term Review, Eleventh Five-Year Plan (2007-12), Planning Department, Government of Rajasthan

5 Benchmarking Of Urban Water Supply Schemes Of Rajasthan, Final Report, April 2013, SMEC International Pty. Limited, pp. 76-77
Some 70% of habitations in the state are facing contamination in their drinking water, which has high total dissolved solids (TDS) and too much salinity, fluoride and nitrates. Groundwater is a major source of water supply in the urban centres. Table 2 presents a select set of samples where the groundwater is the most unpotable.

### Table 2: Districts with a high proportion of unpotable groundwater sources\(^6\)

<table>
<thead>
<tr>
<th>District</th>
<th>Total number of samples</th>
<th>Total number of unpotable samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bhilwara</td>
<td>213</td>
<td>57</td>
</tr>
<tr>
<td>Nagaur</td>
<td>160</td>
<td>66</td>
</tr>
<tr>
<td>Bharatpur</td>
<td>199</td>
<td>42</td>
</tr>
<tr>
<td>Churu</td>
<td>248</td>
<td>31</td>
</tr>
<tr>
<td>Jaipur</td>
<td>1,868</td>
<td>350</td>
</tr>
<tr>
<td>Barmer</td>
<td>68</td>
<td>52</td>
</tr>
<tr>
<td>Jodhpur</td>
<td>55</td>
<td>26</td>
</tr>
<tr>
<td>Bundi</td>
<td>93</td>
<td>31</td>
</tr>
<tr>
<td>Udaipur</td>
<td>123</td>
<td>23</td>
</tr>
</tbody>
</table>

1.3 **Extent of piped water coverage**

Table 3: Towns and extent of piped water supply in select towns/cities\(^6\)

<table>
<thead>
<tr>
<th>Urban centres</th>
<th>Percentage of households in the jurisdiction with piped water connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandalgarh</td>
<td>49.80</td>
</tr>
<tr>
<td>Todaraisingh</td>
<td>64.70</td>
</tr>
<tr>
<td>Tonk</td>
<td>51.90</td>
</tr>
<tr>
<td>Uniara</td>
<td>37.80</td>
</tr>
<tr>
<td>Bayana</td>
<td>50.00</td>
</tr>
<tr>
<td>Deeg</td>
<td>31.80</td>
</tr>
<tr>
<td>Hindaun</td>
<td>8.00</td>
</tr>
<tr>
<td>Tijara</td>
<td>10.20</td>
</tr>
<tr>
<td>Gothra</td>
<td>21.60</td>
</tr>
<tr>
<td>Nimbahera</td>
<td>51.20</td>
</tr>
<tr>
<td>Satalkheri</td>
<td>41.30</td>
</tr>
</tbody>
</table>

At the policy level, it is intended to provide all households with a piped water connection and therefore, ULBs need to develop a strategy for extending pipe coverage in uncovered areas. Table 3 presents the situation in this regard in select urban centres of the state. The data is intended to highlight the gap between the existing coverage of piped water supply and the intended full coverage.

1.4 **Recovery of operations and maintenance (O&M) costs and efficiency of revenue collection**

At the policy level, O&M costs are hoped to be recovered. A vicious circle is often observed starting with low quality of assets, leading to poor service quality and, thus, unwillingness to pay. This in turn results in inadequate funding to improve asset quality. A branch of this circle covers higher dependence on subsidies (estimated at 74%\(^7\)) and cross-subsidies. The tariff revenues of water supply and sewerage collected cover approximately 35% of the current O&M costs. Poor metering, billing and collection rates on one hand, and un-rationalised tariff levels/structure on the other, are considered as the main factors responsible for this financial scenario.\(^8\)

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\(^7\) Rajasthan: Water Assessment, International Finance Corporation, 2013

To improve revenue collection, role of human activity for meter reading and assessment should be reduced. This can be undertaken by introducing latest meter & metering technology of smart meters & advance meter reading by remote.

Table 4 highlights the situation related to cost recovery (operating ratio\textsuperscript{9}) in certain towns of the state, showing the varying levels of O&M cost recovery as against the target of full recovery.

Table 4: Cost recovery in selected towns of the state\textsuperscript{6}

<table>
<thead>
<tr>
<th>Urban centres</th>
<th>Cost recovery (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beawar</td>
<td>0.95</td>
</tr>
<tr>
<td>Kekri</td>
<td>100.00</td>
</tr>
<tr>
<td>Goredi Chancha</td>
<td>5.40</td>
</tr>
<tr>
<td>Kuchera</td>
<td>5.50</td>
</tr>
<tr>
<td>Nagaur</td>
<td>5.40</td>
</tr>
<tr>
<td>Todabhim</td>
<td>1.00</td>
</tr>
<tr>
<td>Bikaner</td>
<td>23.50</td>
</tr>
<tr>
<td>Churu</td>
<td>52.20</td>
</tr>
<tr>
<td>Alwar</td>
<td>16.50</td>
</tr>
<tr>
<td>Jaipur</td>
<td>2.80</td>
</tr>
<tr>
<td>Udaipur</td>
<td>26.11</td>
</tr>
</tbody>
</table>

At a deeper level, the efficiency of collection of bills is reported to vary between near zero (e.g. Bhinder and Deogarh) and about 100% (e.g. Padampur and Udaipur). It is to be noted that the efficiency of billing (revenue assessment) itself needs to be monitored.

Table 5: NRW levels for selected towns in Rajasthan\textsuperscript{6}

<table>
<thead>
<tr>
<th>Urban centres</th>
<th>NRW level (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kuchera</td>
<td>47.02</td>
</tr>
<tr>
<td>Hindaun</td>
<td>60.39</td>
</tr>
<tr>
<td>Gangapur</td>
<td>68.20</td>
</tr>
<tr>
<td>Todra</td>
<td>65.12</td>
</tr>
<tr>
<td>Kherli</td>
<td>45.12</td>
</tr>
<tr>
<td>Jaipur</td>
<td>42.19</td>
</tr>
<tr>
<td>Bassi</td>
<td>52.90</td>
</tr>
<tr>
<td>Viratnagar</td>
<td>46.29</td>
</tr>
<tr>
<td>Churu</td>
<td>35.22</td>
</tr>
<tr>
<td>Bhadra</td>
<td>12.40</td>
</tr>
</tbody>
</table>

1.5 **Non-revenue water (NRW) levels**

NRW results in commercial and physical losses to the water service provider. A high quantity of NRW hinders coverage expansion and service-level improvement. Highlights the NRW levels of selected towns across Rajasthan, depicting the relatively high yet varying levels of NRW across the selected towns of the state.

1.6 **Sources of water supply: Groundwater/surface water**

Of the 222 schemes supplying water to the urban centres of the state, 14 (or 7%) depend on surface water, 54 (or 25%) on both surface and groundwater and the remaining 156 are entirely dependent on groundwater.\textsuperscript{10} Table 6 shows the extent of reliance of urban water supply on groundwater and surface water. These numbers are not exclusively for urban use. Currently, separate data monitoring urban reliance on ground/surface water sources is not being collected.

Table 6: Source of domestic water\textsuperscript{11}

<table>
<thead>
<tr>
<th>Source of water</th>
<th>Percentage of drinking water demand\textsuperscript{*} satisfied by these sources</th>
<th>Percentage of drinking water demand\textsuperscript{*} satisfied by these sources in Jaipur city</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundwater</td>
<td>91</td>
<td>75</td>
</tr>
<tr>
<td>Surface water</td>
<td>9</td>
<td>25</td>
</tr>
</tbody>
</table>

\textsuperscript{9} Total annual revenue assessed over total annual O&M costs

\textsuperscript{10} 2013, Rajasthan: Water Assessment, International Finance Corporation, pp. 38

\textsuperscript{11} Groundwater management- Rajasthan Perspective, Central Groundwater Board, Accessed at cseindia.org/userfiles/ranachatterjee_ground_management.pdf last on 13 August 2015 at 4:45 p.m.
Although this demand will include rural as well as urban areas, groundwater reliance in urban areas is likely to be even higher.

1.7 Metering

Data shows that over 32 urban centres in the state do not have metered household connections. The extent of metering where meters are installed varies from 17% (e.g. Beawar) to 87% (e.g. Udaipur).

1.8 Duration and frequency of water supply

While majority of the towns (161) receive water supply once every 24 hours, a considerable number receives it less frequently—49 towns once in 48 hours, and 12 towns once in 72 hours. The duration of water supply varies from 20 minutes to over one hour every day. The data demonstrates that cognisance has been taken of the difference between the current hours of supply and the intended 24×7 supply.

1.9 Tariff mechanism

Even though ULBs are technically independent to determine water tariffs (as per the 74th Constitutional Amendment Act or CAA), the legitimacy of their decisions needs further strengthening. As such, in practice, they are not using their rights and responsibilities to determine the tariffs.

Each ULD would need to look for its own tariff structure, depending on individual water supply input. Such situations exist in many states like Madhya Pradesh, Gujarat, Maharashtra etc.

1.10 Customer grievance redressal

The policy recognises that there may not be any easily accessible mechanism for customers to register grievances, owing to which many actual complaints do not even get registered. The reported redressal of a majority of customer grievances needs to be viewed in this context. Therefore, each water supply system should have an active customer service centre/call centre duly outsourced which is duly for providing effective redressal service.

1.11 Human resources

Staffing at ULBs becomes critical from the perspective of O&M of water supply and sanitation systems according to the 74th CAA. The current levels of vacancies across ULBs range from 18% (e.g. Hanumangarh) to 51% (e.g. Tonk). The intent of this data is to contextualise and drive the approach adopted to address institutional and human resource-related aspects of improving water supply services.

1.12 Water transfers due to demand-supply gap

It is projected that by 2045, a demand-supply gap of 3,037 MLD in both groundwater and surface water will force considerations for more effective solutions for satisfying demand. The policy recognises this in the way of adopting approaches for conjunctive water use and progressively greater use of recycled for non-consumptive usage.

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According to Vyas Committee report, by 2045 the state is estimated to experience water shortage of 9.4 BCM. In this shortage, surface water will contribute 2.4 BCM (25%) and groundwater 7.0 BCM (75%).

1.13 Investment in the sector

An outlay of 2,402.40 crore INR was provided for urban water supply sector in the 11th Five Year Plan or FYP 2007-2012, against which the actual expenditure incurred for the period 2007–11 was 1,749.99 crore INR (73%). For the 12th FYP (2012–2017), out of the total outlay of 14,615 crore INR for the water supply and sanitation sector, 5,394 crore INR (37%) is planned to be spent on urban water supply. The policy intends for: (a) future and planned investments to be correctly estimated; and (b) the intended investments to be effectively facilitated.

1.14 Private sector participation

The following table presents selected new initiatives proposed to be taken up through private sector partnership as part of the 12th FYP.

Table 7: Selected new initiatives for PPP/EPC projects as per the 12th FYP

<table>
<thead>
<tr>
<th>Name of the project</th>
<th>Project brief</th>
</tr>
</thead>
</table>
| Chambal-Bhilwara Urban Water Supply Scheme: Augmentation (Phase-II) | - 2.5 million residents of nine towns and 1,688 villages in Bhilwara and Kota districts, and 68 villages en route to Chittorgarh district will be covered. Source will be the Chambal river, near Bhainsroadgarh situated upstream of Jawahar Sagar  
- 2.5 billion INR on turnkey basis  
- Cluster scheme of 205 villages of Asind tehsil in Asind town |
| Preparation of model concession agreement for public-private partnership for improvement and management of the city’s water supply distribution system | - Covers the towns of Ajmer and Udaipur  
- Focuses on developing additional sources of water and improving the existing water supply and sewerage systems in Udaipur and Ajmer |

1.15 Rainwater harvesting

Efforts to harvest rainwater in urban areas are still underway. The following table presents the rise in groundwater level in Buja village achieved through the construction of johad (earthen check dams that catch rainwater). The intent of this data is to demonstrate the potential of rainwater harvesting and traditional methods in improving the levels of groundwater.

13 Section 22.18-22.37, Chapter 22, 12th FYP, Government of Rajasthan

14 http://www.cmie.com/kommon, last accessed at 8:55 p.m. on 13 August 2015
Table 8: Rise in groundwater level due to traditional water harvesting methods

<table>
<thead>
<tr>
<th>Total depth of well (m)</th>
<th>Depth of water level before construction of johad (1985)</th>
<th>Depth of water level after construction of johad (1994)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25.30</td>
<td>19.30</td>
<td>7.63</td>
</tr>
<tr>
<td>20.40</td>
<td>90.40</td>
<td>8.05</td>
</tr>
<tr>
<td>13.10</td>
<td>8.50</td>
<td>2.44</td>
</tr>
</tbody>
</table>

1.16 Institutional framework of the urban water supply sector

The following table presents an overview of the institutional framework applicable to the urban water supply sector in Rajasthan.

Table 9: Institutional framework for urban sector

<table>
<thead>
<tr>
<th>Institutions/Agencies</th>
<th>Roles/Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>State government</td>
<td>• Policy, funding and tariff determination</td>
</tr>
<tr>
<td>SWRPD</td>
<td>• Policy, planning</td>
</tr>
<tr>
<td>PHED</td>
<td>• Policy, asset creation, O&amp;M, billing and collection, quality monitoring</td>
</tr>
<tr>
<td>RWSSSC/RWSSMB</td>
<td>• Institutional decisions and financing for water supply projects of PHED</td>
</tr>
<tr>
<td>WRD/GWD</td>
<td>• Overall water resources management, monitoring and regulation of groundwater</td>
</tr>
<tr>
<td>Urban development and housing</td>
<td>• Administrative department of urban development and housing; monitoring and supervising DAs/UITs/RHB (Rajasthan Housing Board)</td>
</tr>
<tr>
<td>LSGD/DLB</td>
<td>• Administrative department of local government/ULBs; monitoring and supervision of ULBs</td>
</tr>
<tr>
<td>RPCB</td>
<td>• Environmental regulation and pollution control</td>
</tr>
<tr>
<td>RUIDP</td>
<td>• Special project unit for urban water supply, sewerage and sanitation infrastructure creation for RUIDP project towns (funded by ADB)</td>
</tr>
<tr>
<td>RUIDFDCo</td>
<td>• Channelising funds for ULBs, nodal agency for JnNURM, UIDSSMT, Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and others project units (asset creation for all towns)</td>
</tr>
<tr>
<td>ULBs</td>
<td>• Urban development; creation of developed land parcels; infrastructure development and service delivery for areas under jurisdiction</td>
</tr>
<tr>
<td></td>
<td>• Operation and management of urban water supply in some ULBs</td>
</tr>
</tbody>
</table>

15 http://gwadi.org/sites/gwadi.org/files/CaseAlwar2.pdf last accessed at 5:30 p.m. on 13 August 2015
<table>
<thead>
<tr>
<th>Rajasthan Urban Infrastructure Development Project (RUIDP)</th>
<th>• Rajasthan Urban Infrastructure Finance &amp; Development Corporation (RUIFDCo)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special project unit for urban water supply, sewerage and sanitation infrastructure creation for RUIDP project towns (funded by ADB)</td>
<td>• Channelising funds for ULBs, nodal agency for JnNURM, UIDSSMT, Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and others project units (asset creation for all towns)</td>
</tr>
<tr>
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</tr>
<tr>
<td>Development Authorities (DAs)/Urban Improvement Trusts (UITs)</td>
<td>• Urban development; creation of developed land parcels; infrastructure development and service delivery for areas under jurisdiction</td>
</tr>
<tr>
<td>ULBs</td>
<td>• Operation and management of urban water supply in some ULBs</td>
</tr>
<tr>
<td>Private operators</td>
<td>• Management of urban water supply and sewerage in full of part – water treatment plants (WTPs), STPs, etc.</td>
</tr>
</tbody>
</table>
2. Need for a comprehensive policy

"Planning, development, operation and maintenance of all water resources.... in response to the growing need for drinking water..... [for] a general improvement of living conditions and employment is of utmost importance."

Rajasthan State Water Policy, 2010

GoR remains fully committed to the provision of safe drinking water and sanitation services for all of its citizens as a basic human right fulfilling a fundamental need.

In order to address the complex technical, institutional, social, environmental and sustainability challenges facing urban settlements, a comprehensive and specific urban water policy has been envisaged.

The Rajasthan State Water Policy, 2010, provides recommendations for drinking water:

Adequate drinking water facilities shall be provided to the entire population both in urban and in rural areas. Future irrigation and multipurpose projects shall invariably include a drinking water component wherever there is no dependable alternative source of drinking water. Drinking water needs of human beings and animals shall be the first charge on any available water and following actions shall be taken to fulfil this need:

i. Increased budget shall be allocated for upgrading urban and rural domestic and livestock water supply.

ii. Water rates shall be gradually increased to self-support the operation of urban and rural piped schemes.

iii. Finance of rural water supply schemes shall be continued.

iv. Water quality standards shall be ensured.

v. Strict control over activities that endanger sources shall be exercised.

vi. Water supply project shall be integrated with wastewater management.

In addition to these, the goal of the state’s urban water policy is to ensure socio-economic development and improved health status of urban population, especially the poor and disadvantaged with emphasis on gender specific issues, through the provision of sustainable water supply and sanitation services and protection of the environment. These provisions should be implemented keeping a balance between the notion of increasing future urban population and optimal usage of state water resources to meet overall state water requirements in sectors other than urban.

In this regard, the policy specifically endorses the following core principles:

i. Environmentally and socially sustainable distribution and utilisation of water resources

ii. Inclusive and participatory decision-making

iii. Transparent decision-making processes to achieve socio-environmental as well as economic-financial objectives
iv. Capacity-building for enhanced institutional ability to govern the sector effectively

v. Ensuring, protecting and optimising investments

vi. Public-private partnership (PPP) in the most appropriate manner

vii. Public outreach for environment- and health-related outcomes

viii. Establishment of an efficient, effective, affordable and accountable system for managing urban water supply and sanitation

ix. Effective monitoring and evaluation of the initiatives taken up to improve water and sanitation services

x. Financially self-sustainable water distribution systems, through full recovery of O&M costs

xi. Clearly defined roles for bulk and retail distribution of water

xii. Incorporation of wastewater management in water supply projects.

3.1 Vision of the policy

The policy envisions providing universal and continuous access to potable piped water supply and sanitation services at an affordable price and in an equitable, sustainable and environmentally sustainable manner in all urban areas of the state. The following aspects are critical to achieve this goal:

i. Coverage of all citizens in the urban areas for service provisioning

ii. Adequate water and sanitation services provided to all urban customers

iii. Equity across the geographic and demographic fabric of the customer base

iv. Ensuring the system’s financial sustainability in a progressive manner through improved efficiency, tariff rationalisation, corporatised operations, and decreased dependence on unsustainable resources

v. Improving service levels in a well-defined and phased manner by ensuring interventions in the spheres of infrastructure, institution, autonomy and management, monitoring mechanisms and regulatory framework

vi. Performance-linked appraisals and other incentive mechanisms for successful and professional operations of service-providing organisations

vii. A mixed time frame of 5, 15 and 30 years according to the complexity and scale of the objectives to be achieved

viii. Guidelines to decide water use, with priority for drinking water to be drawn from surface sources & guidelines for reducing service level & frequency of supply in time of drought & disaster.

The state drinking water policy recognises water as a prime natural resource, a basic human need and a precious asset of the state. The Sector Vision for 2025 as stated in the policy is: “Support socio-economic development of state by ensuring safe, potable, affordable, accessible, reliable and equitable drinking water supply to all its citizens by creating robust and sustainable infrastructure backed up by strong institutional and financial structure and comprehensive legal and regulatory framework.” In addition, the state would focus on increasing PHED share in all water bodies by using better irrigation practices such as sprinkle, drip, and other water saving irrigation instead of flow irrigation to augment existing water supply levels.
4. Objectives of the policy

GoR aims to provide safe and reliable water supply through piped distribution systems to all households at an affordable price. Briefly, the objectives are:

1. **Water coverage**: To provide 100% coverage to all households in urban areas of the state with at least 135 lpcd of potable water, supplied through 24x7 piped and metered individual water supply connections with reduced NRW levels; at the same time, priority will be given to increasing the coverage of water supply and sanitation services, especially in slum areas.

2. **Sustainable water supply**: To ensure the availability, quality and sustainability of domestic water supplies by: (a) conserving existing water sources; (b) improving the efficiency of existing schemes (including reduction of losses) and their financial viability; (c) using all possible options of water treatment as per requirement; and (d) developing new and sustainable water sources.

3. **Sector regulation**: To regulate the urban water and sanitation sector using institutional and legal means so as to provide adequate water to all users, ensure efficient use of water, ensure the safety and security of service provisioning systems, and facilitate long-term financial sustainability of the sector; to provide guidelines on the legal/ regulatory framework, and make efficient institutional arrangements for sustainable water supply services.

4. **Environmental sustainability**: To improve the quality of life and environment through effective and efficient management of water services and formulation of guidelines for the conservation of Rajasthan’s depleting water resources.

5. **Restoration of traditional water management practices**: Focus on improving key infrastructure, local/community participation-based maintenance and revitalisation of traditional water systems so as to provide water services to the masses in a comparatively shorter period of time and with more efficient investment.

6. **User participation**: To ensure effective participation of users in developing, operating and maintaining water supply services and to empower them to manage their own water supply services while ensuring gender-sensitivity and sustainability in sectoral decision-making; in addition, to encourage judicious allocation of water, with universal access to safe drinking water as the top priority.

7. **Institutional capacity**: To improve institutional capacity and human resources of related departments and governing agencies so as to provide efficient, effective and sustainable water and sanitation services by working with empowered and capacitated local communities.

8. **Integrated approach** towards improving water supply, sanitation and hygiene behaviour, ensuring that water of appropriate quality is supplied for corresponding water uses (for example use of potable water for flushing etc, is not always appropriate).

9. Apart from this, **key objectives of the policy are**:
   a. To ensure 100% sanitised cities
   b. To improve water supply services by focussing on customer satisfaction, coverage, frequency and reliability
   c. To raise public awareness and consciousness on water usage, issues related to unsustainable water practices, and water conservation
   d. To provide pointers on sustainable financing arrangements including PPP and community participation for water and sanitation sector.
   e. To assure accelerated growth by contributing to the state’s economic and social advancement.

10. To aim for financial sustainability of systems for water distribution.

11. To allocate responsibility of bulk water distribution to PHED, and of retail water distribution to ULBs.
5. Structure and components of the policy

The structure of the policy

The policy starts by recognising the ground-level concerns and situation in the water and sanitation sector in Rajasthan. The objectives of the policy are based on the on-ground situation and the concerns to be addressed. The policy then proceeds to present the approach to be adopted, and the guidelines to be followed for addressing the concerns and achieving the objectives.

To achieve this, the structure of the policy covers envisioned functions of key stakeholders in urban water supply and sanitation sector of the state. These key stakeholders include key departments (PHED, UDH, LGSD), ULBs and other governing agencies. Key components of the policy include the following:

i. Water supply service coverage
   a. Provision of individual water supply and sewerage connections to households in slums and poor settlements

ii. NRW reduction

iii. Operationalisation of 24x7 water supply

iv. Corporatisation of utilities

v. Sustainable water management

vi. Capacity-building and institutional strengthening

vii. Effective multilayer and multilevel grievance redressal mechanism
6. Principles for implementation of the policy

The key principles that will govern the roadmap for implementation of this policy cover:

a. **Autonomy of institutions/agencies**: The institutions/agencies in consideration shall have certain independence to make decisions for management of operations in their area/jurisdiction. The autonomy shall be balanced by procedural measures to ensure accountability and consideration of views of all stakeholders.

b. **Transparency**: State agencies shall voluntarily disclose information about project implementation, O&M, financial status and performance indicators in a manner that is easily accessible to the public.

c. **Accountability**: The agencies shall build in-house capacity to ensure prompt responses to comments, grievances and queries shared by all stakeholders. The responsible department in the agency shall be trained to be up-to-date with key developments in the agencies, and ensure references to relevant public orders/notifications, while drafting responses to the queries or grievances.

d. **Water allocation priorities**: Principle of equity and social justice must be adhered to for allocation of water. For urban water allocation, priorities shall remain same as directed in the state water policy vide section 1.1.1. In case of water scarcity or stress, agencies shall ensure that basic drinking water needs of human beings and animals are met first.

e. **Public participation**: A well-structured and reasonable processes for public deliberation (to be carried out before a draft of a decision or an order is prepared) and consultation (to be carried out after a first draft of a decision or an order is ready) shall be carried out targeting all stakeholders. Some of these stakeholders include civil societies (such as non-governmental organisations or NGOs), educational and research institutions, donor organisations, democratically elected representatives and the customers themselves.

f. **Capacity-building of stakeholders (especially beneficiaries) to enable them to participate in the decision-making process**: For the state agencies to meet requirements of the abovementioned principles, relevant in-house capacity is required to implement functions related to transparency, accountability and public participation. The relevant governing agencies should, therefore, focus on developing vision and formulating plans to meet the requirements of training, human resource development and skill development as instrumental components to ensure self-sustenance of all the agencies concerned. On the other hand, beneficiaries should be capacitated to provide comments/suggestions by creating awareness about the issues related to water supply. They should also be provided with comfortable media to comment on such matters.

6.1 Relationship between PHED and ULBs

1. The state is committed to the decentralised management of urban water supply and sanitation schemes, in accordance with the 74th CAA, by strengthening ULBs to manage schemes and provide improved services, with PHED as a partner and facilitator. It is also committed to continue with an integrated sector-wide approach to the development, execution and management of urban water supply and sanitation schemes through ULBs.

2. GoR will adopt a gradual approach to moving the service delivery responsibility to ULBs as per Constitutional requirements. PHED and UDH/LSGD/RUDSICO, therefore, will continue to play a key role, particularly as they bring technical expertise and experience. In addition,
PHED would be restructured into: (i) a bulk water supply service provider to city utilities; and
(ii) an O&M agency that will provide O&M and distribution services to ULBs and city utilities
under a contractual framework.

3. PHED shall continue to be the nodal department for the implementation of drinking water
supply projects in urban areas of Rajasthan. All projects shall either be implemented or
coordinated by PHED so that the funds received from various sources are utilised optimally.

4. PHED shall also provide inputs on policymaking, planning and development, resource
mobilisation and allocation, monitoring and evaluation, and information management.

5. PHED shall ensure time-bound implementation of all policies. The responsibility for
implementation and service delivery will continue to be shared between PHED’s operations
wing and ULBs.

6. PHED shall, therefore, undertake the following:

a. Hand over the function of all single-town/city-level schemes to ULBs in a time-bound
manner. This can be done in a three phased manner, viz. preparatory, transition and
transfer. Planning for handing over would be done in the preparatory phase. In transition
phase, PHED would gradually hand over the responsibilities to the ULBs and build their
capacity for carrying out these responsibilities. In this phase, engineers from PHED can
be deputed to ULBs, until these is a separate cadre for ULBs. In Transfer phase, all the
powers and responsibilities for urban water supply would be with the ULBs. PHED would
only be responsible for bulk water supply to ULBs for drinking purpose.

b. Implement new schemes in all the towns that demand such services by passing a
resolution in the ULB council, agreeing to the conditions of self-management, including
beneficiary contribution towards capital cost, and taking over the management of created
assets on a sustainable basis.

c. Transfer funds to implement new single-town schemes and all intra-town works of multi-
town/ city schemes to ULBs, which will take responsibility for planning, technology
selection (type of scheme), procurement (bid invitation, award), and construction
activities. This includes providing funding support for major repairs in the schemes
handed over.

d. Provide technical support and undertake major repairs for all schemes operated and
maintained by ULBs.

e. Provide special considerations to all habitations predominantly inhabited by
underprivileged or disadvantaged groups, persons belonging to scheduled castes, and
persons residing in economically backward and other special areas (e.g. towns/cities
along the international border, flood-prone and waterlogged areas, and so on).

f. Continue to be responsible for construction of common infrastructure, such as
waterworks, laying of distribution pipelines up to the entry point of each town/city in multi-
town/city schemes, and highly technical works such as sanitation facilities and reverse
osmosis (RO) plants.

g. Provide teams to build the capacity of ULBs to strengthen these institutions and inculcate
good governance systems and practices until they are able to take primary responsibility
for the implementation and management of their water supply and sanitation systems:

  • These teams may be sourced from in-house resources and other departments
(government institutions or universities).
specific capacities to be enhanced shall include enforcement of rules and regulations, accountancy and bookkeeping, supervision of the work of technicians and pump operators, liaising with government departments, and managing minor repairs.

h. Provide a range of capacity-building services for ULBs, including training courses, practical training and exposure visits.

i. During transition phase, provide teams to create and capacitate community-based organisations (CBOs) such as youth groups and mothers’ clubs, as well as retired government officials and ex-servicemen, so they can participate in the sectoral decision-making by the ULBs. On gender-related aspects, this includes promoting the contracting of local women’s groups for O&M of water schemes.

j. Assist ULBs to address a range of issues, including the following:

- Motivate the community to share the responsibility for managing of town/city water supply and sanitation systems. This covers being responsive and responsible for promptly reporting the issues and problems in the systems.
- Computerise books of accounts for greater transparency and accountability and to publicise information and make it easily accessible to all stakeholders.
- Build strong partnerships with the community, based on transparency and trust.
- Set up strong conflict resolution mechanisms within the town/city.

6.2 Indirect support to ULBs for effective implementation of the policy

In addition to the direct support components, components of indirect support shall also be considered. These components are of the nature of liaison between various departments in the following activities:

1. Engaging educational institutions for furthering community involvement and participation in decision-making
2. Clubbing water bills with other utility bills to facilitate payments; furthermore, coordination with banks to expand the outreach of billing and collection mechanisms
3. Legal support to recover water charges and fines from defaulters and to take punitive actions against unauthorised tapping from distribution networks.
7. Water management and source sustainability

The state government and water utilities (PHED and ULBs) shall take the following initiatives for effective water management in urban and surrounding areas:

a. Harnessing economically utilisable surface water through improved planning, design and construction; promotion of the conjunctive use of groundwater and surface water to provide multiple sources of water supply to the town/city, and thus promote water security: such measures shall include rooftop rainwater harvesting, storm water harvesting, recycling and reuse of wastewater

b. ‘Water Grid’ to interlink bulk water systems to enhance source sustainability

c. Water conservation in all sub-sectors of urban water supply by optimum utilisation, use of water saving devices and improved practices

d. Comprehensive and integrated planning for use of surface and groundwater resources including conjunctive use

e. Investigating the economic and technical potential of the reuse of treated wastewater, and environmentally sustainable water resources development, reuse of treated sewage and urban effluents and mitigation of environmental degradation

f. Financially sustainable development of water resources with pricing structure to reflect the use tariff as a tool to achieve multi-dimensional objectives of water management

g. Encourage use of alternative cost-effective technologies for WTPs; life cycle-based process selection

h. Involvement of private sector and local communities in development and O&M of sustainable water resources

i. Effective efforts to reach out to all stakeholders to ensure sustainable water management

j. Efficient and adequate human resources development and institutional infrastructure for adopting new technologies/practices and an innovative approach to achieve the objectives of sustainable water management

k. Devising a studied proposal for establishing a tariff mechanism for treated wastewater

l. Evaluation of the potential for groundwater recharging with particular emphasis on water-critical and overexploited areas

m. Aquifer mapping and introduction of aquifer-wise planning based on modern technologies and setting up of community organisations at the town/city and aquifer level to plan and manage groundwater resources with a focus on drinking water supply

n. Enhanced and informed public participation to manage groundwater extraction so as not to exceed the average medium-term recharge potential

o. Catchment area administration shall be basis for conservation and ensuring sustainability of water bodies.

p. Developing alternate sources of drinking water to manage the risk in case of scarcity of water.
8. Water supply service coverage

The focus shall be on providing piped water to all households of the urban centre on equitable and continuous basis. The PHED and ULBs shall jointly prepare a roadmap for covering the entire population with piped water supply with special emphasis on targeting the urban poor.

8.1 Provision of individual water supply and sewerage connections to households in slums and poor settlements

The state government aims to take water closer to the households. The actual extent of the initiative (especially to determine how many public stand-posts will be removed to provide how many connections) shall be thoroughly discussed with and endorsed by all concerned stakeholders through a transparent process. The following points carry special significance in this regard:

a. Priority will be to provide connections to poor households at affordable tariff, and follow a pro-poor connection charge policy. Options covering subsidies, rationalising or block tariff for this shall be considered by PHED, ULBs and the government, in consultation with the stakeholders.

b. Priority will be to ensure a progressively reasonable maximum coverage of poor households under the given constraints.

c. Priority will be to identify the poor, and prevent non-deserving groups to benefit from any pro-poor initiatives.
9. Operationalising 24x7 water supply

The state is keen on providing 24x7 water supply to: (a) ensure continuous pressurisation of the piped system, and (b) eliminate the drudgery associated with intermittent water supply at odd hours of the day.

The following aspects shall be focussed on in this regard:

a. The government shall develop schemes that would encourage 24x7 water supply and provide subsidies in a transparent and accountable manner as necessary.

b. Technical guidelines shall be promulgated to govern the implementation of 24x7 water supply schemes.

c. Technical support shall be provided to all ULBs to move towards metered 24x7 water supply systems in the future.
10. Release of connections, and metering

The state is committed to providing 100% individual metered household connections in all urban areas of Rajasthan. Accordingly, the PHED shall pursue the following initiatives:

a. Delivery of free/reasonably priced water meters to all towns/cities with 100% private individual household water connections demanding 24x7 water supply

b. Converting all existing unmetered water connections to metered ones within the next five years

c. Ensuring that all household connections from new water supply schemes are metered

d. Assisting ULBs on demand to procure and supply good-quality meters and ensure cost-effectiveness and quality control (similar arrangement to be provided for meter repairs, replacement of old meters and recalibration of meters)

e. Providing a standard design of household connections to ULBs subject to amenability of last mile connectivity with individual connection. Especially release of connections in multi-storey buildings shall be subject to consultation and approval of various concerned agencies.

f. Assist in training local plumbers to ensure use of good quality materials for household water connections and proper connection of water meters

g. Providing subsidised private water connections for slums and poor settlements in all towns/cities
11. NRW reduction

Reduction in NRW is envisaged to make more water available for distribution, and enhance the financial sustainability of the service providers. The following measures shall be undertaken to realise this vision:

a. Establishment of a strong and dedicated governance framework to monitor levels of NRW and to demonstrate effects of NRW on financial indicators such as tariff and level of recovery of costs: An NRW cell shall be established in the large ULBs, and at the level of clusters of ULBs in the smaller ones.

b. Non-revenue water shall be at a reasonable level: The reasonable level to be targeted at each of the urban centres shall be devised based on a comprehensive study and discussion among the PHED and the ULB officials.

c. The following measures shall be undertaken to achieve reduction in NRW levels:
   i. Planning and implementation of district metering area (DMA)-based water supply distribution systems
   ii. Achieving 100% metering in service areas
   iii. Installation of bulk water meters at nodal levels
   iv. Replacement and repair (as applicable) of leaking and worn-out pipelines
   v. Replacement of inefficient pumping installations

d. NRW shall be directly linked to the reporting parameters on efficiency of the ULB as a service provider and the PHED as a facilitator of water supply service

e. The NRW reduction measures shall be part of reorganisation, rehabilitation and extension of existing water supply schemes. Similarly it will be an integral part of O&M of new water supply schemes.
12. Development of water supply and sewerage GIS

An effective and comprehensive GIS-based database and MIS correctly mapping the assets, user base and the status of operations shall be established.

The following measures shall be taken in this regard:

a. GIS technology shall be used for ground and surface water-mapping and conservation.

b. GIS shall be used to map the accurate status on lifespan, usability and the levels of maintenance needed for proper operation of assets for water supply and sanitation.

12.1 Computerised gender-disaggregated customers’ database

Women are often the most-affected group of beneficiaries when it comes to reliability, quality and quantity of water supply. Gender-disaggregated database of customer profiles shall be used for determining the location and details of such higher-affected community sections. The following points shall be considered in this regard:

a. Incentives shall be provided for water sector organisations to prioritise gender disaggregation in database creation, maintenance and use.

b. Institutional constraints that restrict gender disaggregation shall be removed. Roles and responsibilities of PHED and the ULBs shall explicitly cover gender-related functions.

c. The information collected from the GIS-based system and MIS shall be analysed, and all future water initiatives shall take the results into consideration so as to empower women.
13. Corporatisation of utilities in major urban centres

Corporatised approach to service provisioning shall be adopted to make the services more focused and responsive to the needs of the situation. The arrangement shall aim to bring in economies of scale, operational autonomy, transparent management, more accountability, incentives to employees, and internal control systems in the form of audits, etc. which are necessary elements in delivering better public services.

The following guiding principles shall be adopted to devise a roadmap for corporatisation of water/sanitation service provisioning in major urban centres of the state:

a. Determination of the urban centres eligible for corporatisation. For instance, the scale of Jaipur could be considered as suitable for corporatisation.

b. Taking an integrated, holistic service delivery approach, undertaking technical/system efficiency measures, and ensuring administrative and financial efficiency measures

c. Increasing the coverage of supply, including to the poor, reducing non-revenue water and improving supply reliability, and incentivising demand side management

d. Taking technical efficiency measures complemented by administrative efficiency measures like proper HRD policies and planning

e. Robust business planning and improvement in revenue, with effective management of cash flows to improve financial management

f. Transferring ongoing business, assets, liabilities, staff, rights, and service obligations to a ring-fenced, professionally-run entity

The corporatised entity shall have the following characteristics:

a. Separate legal entity: The organisation shall be legally established as an independent entity.

b. Managerial autonomy: Management will have control over all inputs and issues related to business within the proposed area of operations. The control and autonomy shall be balanced by transparency and accountability measures elaborated in various sections of this policy.

b. Transparency and reporting: The entity will be subject to corporate law, which has evolving principles of good governance and accounting rules in the country.

d. Staffing: The entity shall have its own staffing policies and rules, allowing for workforce benefits such as performance incentives and bonuses, together with more flexibility on hiring/retention of staff and over other disciplinary procedures.

e. Economic regulation: The entity shall, in an autonomous, transparent, accountable and participatory manner, adjust tariffs. It shall manage its functions, ensuring benefits to the urban poor, preparing a roadmap for the ‘Water for All’ and ‘100% sanitised city’ policies as per the National Urban Sanitation Policy, on a sustainable and affordable basis.

f. Partnerships: The entity shall promote involvement of PPPs, NGOs/CBOs, corporate social responsibility (CSR) wings and take other measures to ensure greater acceptance and ownership among stakeholders. The corporatised entity shall have a board of independent directors consisting of renowned representatives of all categories of stakeholders, namely, academicians, NGOs, CBOs, eminent citizens, corporates and other significant stakeholders.
14. Tariff adjustment

Tariffs shall be treated as a comprehensive overlap among social, economic, financial, political and environmental objectives of good sectoral governance. Tariff setting shall, therefore, be viewed as a tool to achieve such multi-dimensional objectives. One of the key financial/economic objectives recognised by the policy is full O&M cost\textsuperscript{16} recovery, which is a beginning for ensuring long-term financial viability of water supply and sewerage services.

\textit{Note: In this context, the procedure for tariff determination is of the utmost importance. In the subsequent part of this section, the policy is focussing on two major key components in tariff determination, starting from procedural approach to tariff methodology followed by cost rationalisation.}

The following guidelines shall be followed for tariff adjustment:

a. Tariffs shall be ideally set so as to be able to cover the ‘reasonable and efficient’ cost of service delivery. At the same time, tariffs shall be set such that they are affordable to the people. The trade-off between these aspects shall be duly considered to achieve a balance.

b. Utilities shall pay reasonably for extraction of raw water from resources.

c. Transparent, accountable and participatory processes shall be carried out by governing agencies in charge of determining the tariff.

d. Connection charges may be incentivised to encourage people to take water supply and sewerage service connections.

e. Financial performance of the service providers shall be monitored based on performance benchmarks to focus on efficiency in operations.

f. Tariffs shall be adjusted annually to reflect the annual changes in prices.

14.1 Framework principles for water and sewerage tariff in urban areas

a. A lifeline slab based on average consumption of an urban poor or other vulnerable household (generally between 6–8 kilolitres or kl per month per connection) and tariff level kept at an affordable level shall be defined so that these needy communities are protected with assured water services.

- The net operating subsidy required to meet the lifeline needs shall be cross-subsidised from other customer groups.

b. For optimal revenue collection, tariff shall have at least three slabs. Demand management considerations shall be reflected in the slab levels.

c. High-consumption customers and commercial customers who use water for other than drinking and personal hygiene purposes shall be levied with higher than the average cost

\textsuperscript{16} Although there are cases where capital as well as O&M costs can be loaded on utility tariffs, in the current context the prevailing thinking is reflected in the preference for recovering only O&M costs.
of water both for recovering full cost of water; financing the subsidy for poor and to
discourage wastage of water to encourage demand management. At the same time,
measures shall be carried out to ensure sensitivity towards judicious use of water and
avoid the ‘I pay, I will waste’ mentality.

d. Considering differential socio-economic conditions of different categories of urban local
bodies, the respective tariff levels shall be separately fixed.

e. Transparent subsidy framework shall be developed and instituted so that the poor and
other vulnerable communities are protected and the cost recovery is insulated.

### 14.2 Cost rationalisation

a. Rationalisation of the costs to be recovered through tariffs for water supply, reuse and
recycle shall be a pre-requisite in the tariff adjustment process taking into considerations
local parameters such as willingness to pay, support for tariff collection and support for
imposition penalties in case on non-submission.

b. A draft methodology document shall be prepared, detailing the steps for approving the
costs to be recovered through tariffs.

c. Comments/suggestions shall be invited about the cost components from all relevant
stakeholders based on the draft methodology document publicised through easily
accessible media.

d. The draft methodology document shall be circulated to relevant departments of the
government, concerned NGOs in the relevant sector(s), academic institutions, service
providers dealing with provision of water or sanitation services, and experts in the relevant
fields.

e. Copies of the draft methodology paper shall be made available at all relevant government
offices followed by due communication of its availability through relevant public media
such as newspapers and social media (in all relevant languages).

f. Public hearings (with the official quorum capacitated to understand all relevant state
languages) shall be held at all major urban centres of the state to consider the views and
comments of the stakeholders on the draft methodology document.

g. Dates and venues for the public hearings shall be fixed and published in widely accessible
public media such as newspapers and social media, in advance for a considerable period
prior to the date of the public hearing.

h. The process mentioned in steps (a to (g) shall be completed within a stipulated time period,
unless extended by the respective governing agencies, with due publicity of this fact.

i. Upon receiving the comments/suggestions on the draft methodology document, a list
relating to approval of costs to be recovered through tariff shall be prepared, expressing
the views of the stakeholders. The list shall be publicised through easily accessible media.

j. The methodology document based on the comments and inputs received shall be revised
upon publicising the comments/suggestions for a reasonable time.

k. The revised methodology document shall be considered as final and binding until a review
is taken up as per the procedure determined by the governing agencies concerned.

l. The costs approved through the above steps shall be considered for preparation of tariff
proposal.
14.3 **Tariff methodology**

a. Support shall be provided to the ULBs on demand to determine and devise rationalised tariffs that incentivise the conservation of water and minimise wastage.

b. The RWSSMB shall be made fully functional. The board shall provide regular inputs to all service providers to oversee the implementation of the urban water policy.

c. A draft methodology document shall be prepared for fixing the methodology for adjustment of water tariff, subject to (g below).

d. Comments/suggestions shall be invited from all relevant stakeholders on draft methodology document publicised through easily accessible media.

e. The draft methodology document shall be circulated to relevant departments of the government, NGOs concerned in the relevant sector(s), service providers dealing with provision of water or sanitation services, and experts in the relevant fields.

f. Copies of the draft methodology document shall be made available at all relevant offices, followed by due communication of its availability through relevant public media such as newspapers and social media (in all relevant languages).

g. Public hearings (with the official quorum capacitated to understand all relevant state languages) shall be held at all major urban centres of the state to consider views and comments of the stakeholders on the draft methodology document.

h. Dates and venues for the public hearings shall be fixed and published in widely accessible media such as newspapers and social media in advance for a considerable period prior to the date of the public hearing.

i. The process mentioned in (a to h above) shall be completed within a stipulated time period, unless extended with due publicity of this fact.

j. Upon receiving the comments/suggestions on the draft methodology document, a list of comments received shall be prepared expressing the views by the stakeholders relating to tariff, followed by publicising the same through easily accessible media.

k. The methodology document based on the comments received and inputs shall be revised upon publicising the comments/suggestions for a reasonable time.

l. The revised methodology document shall be considered as final and binding until a review is taken up as per the procedure determined by the governing agencies.

m. The revised methodology document shall be complete with a pro forma for drafting of tariff proposal. This shall be made publicly available to all relevant service providers.

n. Inflation adjustment shall be considered in a transparent manner with or without the procedure of public consultation.

o. The tariff adjustment process shall duly consider the achievements of the service providers in improving their performance. Tariffs across various service provider jurisdictions shall be different, based on the differences between their performances.

p. Incentives shall be provided for maintenance to ULBs for achievements of envisaged goals in the urban water policy.
15. Performance monitoring of service providers

The following steps shall be carried out for effective performance monitoring of service providers:

a. A performance monitoring template shall be prepared, that covers key performance indicators to assess the level of performance of the service providers.

b. The template shall be finalised based on the stakeholders’ comments and views obtained through easily accessible public media.

c. The service providers shall provide regularly reports on their performance according to the performance monitoring template.

d. The reports of the service providers shall be publicised through easily accessible media, and stakeholder comments shall be invited on the performance reports.

e. The template as well as performance management plans of the service providers shall be updated based on stakeholder comments.

f. Customer satisfaction surveys shall form an essential component of reporting on the performance of service providers.

g. Reports of performance monitoring of service providers shall be available online for public reference.

h. Real-time monitoring system shall be developed.
15.1 **Design framework for service-level improvement**

Each service provider shall prepare service-level improvement plans (SLIPs) to cover all households with water supply and sewerage (including septage). The PHED will also prepare State Annual Action Plan (SAAP) which will be state-level service improvement plan indicating the year-wise improvements in water supply and sewerage connections to households. These plans shall be prepared for next 30 years with short-term, medium-term and long-term plans.

The detailed project reports (DPR) for water supply, sewerage and septage management shall be prepared as per best engineering practices, socio-economic consideration and guidelines widely acceptable. However, the units which can be developed in modules (e.g. water treatment plants, sewage treatment plants, pumping stations, on-site treatment facilities, septage management, etc.) may be designed for appropriate shorter period as stipulated in the Central Public Health and Environmental Engineering Organisation (CPHEEO) manual.

The state government shall take up the projects for financial support in following order of priority:

i. District HQ towns
ii. Towns of strategic importance
iii. NCR towns/heritage/tourism/water body towns
iv. Other cities with each with a population of more than 50,000
v. Not fully connected on the basis of coverage
vi. Rest of the towns

15.2 **Earmarking of land for setting up water treatment plants**

Earmarking of land for setting up water treatment facilities and pumping stations shall be done for all ULBs while preparing the master plans. Appropriate land allotment/transfer shall be done by the DA/UIT/state government.

15.3 **Service-level benchmarks for urban water supply**

It is intended to achieve the following benchmarks in the cities as per the priority order above:

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Proposed indicator</th>
<th>Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Coverage of water supply connections</td>
<td>100%</td>
</tr>
<tr>
<td>2</td>
<td>Per capita supply of water</td>
<td>Minimum 135 lpcd, with 150 lpcd for Jaipur and NCR urban centres</td>
</tr>
<tr>
<td>3</td>
<td>Extent of non-revenue water</td>
<td>15%</td>
</tr>
<tr>
<td>4</td>
<td>Extent of metering</td>
<td>100%</td>
</tr>
<tr>
<td>5</td>
<td>Continuity of water supplied</td>
<td>24 hours</td>
</tr>
<tr>
<td>6</td>
<td>Efficiency in redressal of customer complaints</td>
<td>80%</td>
</tr>
<tr>
<td>7</td>
<td>Quality of water supplied</td>
<td>100%</td>
</tr>
<tr>
<td>8</td>
<td>Cost recovery</td>
<td>100%</td>
</tr>
<tr>
<td>9</td>
<td>Efficiency in collection of water charges</td>
<td>90%</td>
</tr>
</tbody>
</table>
16. Customer interest protection and promotion, and grievance redressal

The following steps shall be considered for ensuring protection and promotion of customer interests:

a. A customer interest protection plan (CIPP) shall be prepared by all service providers, specifying clearly the steps planned to be taken for the protection and promotion of customer interests. This plan shall ideally be prepared together with the tariff proposal.

b. The CIPP shall cover, but not be limited to, interfacing between customers and service providers, grievance redressal, as well as plans of the service providers to run their operations to best protect and promote interests of various categories of customers.

c. The CIPP shall be finalised and modified as required based on comments and inputs from all stakeholders, obtained from easily accessible public media in languages including regional and local languages.

d. The CIPP shall be used to monitor the performance of the service providers against the plans to protect and promote customer interests.

e. The CIPP as well as the results of monitoring performance of the service providers in this aspect shall be publicised through easily accessible media.

16.1 Grievance redressal

A well-functioning system to register and address complaints regarding water supply and sanitation systems, and also to provide redressal of disputes shall be established targeting all customers of systems set up and operated jointly by ULBs and PHED. The PHED shall, therefore, explore all options for the following:

a. Improving the existing system of customer care and making this improved system available to all urban habitations of the state

b. Setting up a multi-level grievance redressal mechanism ranging from area sabhas to municipal wards and regional centres (multi-town/city level), which shall be well-staffed with competent members who are familiar with the nature of complaints likely to be received

c. Setting up an effective, transparent and accountable mechanism to redress grievances of customers regarding water supply services, such as billing and collection
17. Water quality monitoring systems

The following guidelines shall be considered for monitoring the quality of water:

a. It is ultimately the state government’s responsibility (through respective agencies such as PHED) to take steps to protect and ensure quality of water.

b. Appropriate independent monitoring mechanisms to keep a check on all water resources and water supply systems should be established, including mechanisms to check the quality of treated wastewater being discharged into the environment.

c. The government should place a proper framework to address defiance of rules pertaining to the quality or polluting of water resources.

17.1 Water quality and water safety planning

With PHED in charge for bulk water supply and ULB- in charge of distribution system, the PHED shall undertake the following steps to address issues related to water quality in the state:

a. Encourage ULBs to motivate local communities to shift to public water supply systems from individual or private sources of water.

b. Provide support, in the interim, to all households that continue to use private water supply sources to test and advise on treating their water supply accordingly before use.

c. PHED shall test samples drawn from all publicly provided common and household-level water supply sources for physical, chemical and bacteriological parameters, as per the CPHEEO norms, and display the results regularly through easily accessible public media.

d. In case of disasters such as epidemics, floods or major failures of regular water supplies, water testing efforts shall be intensified beyond regular testing and appropriate treatment or alternative sources provided to ensure the supply of potable water (e.g. water tankers, drilling of supplementary bore-wells, connection to other water systems through additional pipelines, and so on).

e. In areas where the water supply from deep tube-wells or hand pumps has higher-than-threshold-level of contaminants, including fluoride, salinity, or total dissolved solids (TDS), efforts shall be made to shift from groundwater-based sources to safer alternatives, such as conjunctive water supply, surface water sources, or RO systems.

f. The PHED shall constantly explore and adopt new water treatment technologies, wherever applicable and effective.

g. A water safety plan shall be prepared annually for each of the service providers, in consultation with all relevant stakeholders; it shall ideally be prepared together with the tariff proposal and the business plan.

17.2 Participatory water testing and safety monitoring

1. **Bacteriological quality** shall be tested by the community at common-source systems and at the household level, particularly where private individual sources like hand-pumps and submersible pumps are being used.
a. For community-level water testing, hydrogen sulphide (H2S) vials shall be distributed and awareness regarding the use of H2S vials shall be spread within the local communities through all possible means (e.g. in local schools, area sabhas, meetings of ULBs, public health centres or PHCs, etc.)

b. Wherever testing reveals poor water quality, the community shall be made aware of household-level treatment options (such as chlorine tablets, boiling of water and treatment with sand and activated charcoal) and ULBs shall monitor disinfection efforts, until the water quality is improved to the satisfaction of ULBs and PHED.

2. **Chemical quality** for basic parameters shall be tested by the community using field test kits (FTKs) at common-source systems and at the household level, particularly where private individual sources like hand-pumps and submersible pumps are being used.

   a. **Physical quality** parameters such as taste and odour shall be included in the tests.

   b. FTKs shall be placed in common locations within the community, such as local schools, water works sites and in panchayat offices, etc.

3. **Heavy metals**: Additional tests shall be carried out to test heavy metals in addition to the standard parameters used for chemical quality testing.

   a. All public water supply schemes shall be tested at state-level for heavy metals regularly.

   b. All schools in the state having a private water source shall test their water supply for all basic parameters including heavy metals regularly.

4. **Testing facilities**: In addition to regular testing by the PHED at their own facilities, the following activities shall be carried out:

   a. If a PHC exists in the town/city, the pharmacists and other relevant staff at the PHCs shall be guided and an additional incentive given for testing basic parameters and guiding users accordingly.

   b. Wherever applicable, equipment may be provided to engineering colleges (such as those attached to the Rajasthan University, Jaipur) after signing a Memorandum of Understanding (MoU) for testing and awareness generation of local communities.
18. Billing and collection efficiency

a. A proper mechanism should be established that will allow water service providers to pursue appropriate legal action against defaulters provided the defaulters can economically afford to pay the bill.

b. DMAs shall be created for effective management of billing and collection mechanisms.

c. 100% billing shall be carried out, with alerts on billing being sent to the customers through both email and SMS.

d. The collecting agency shall collect bills on a monthly basis, and the bills shall be volume-based. Also, the collecting agency shall use relevant technological equipment such as computerised customer databases, SCADA, online billing and payment, etc. that will encourage a higher bill collection rate.

e. The service providers shall create incentives and disincentives that will allow people to pay on time. However, it should be noted that these should not be used to exploit the poor.

f. A metered water connection shall ideally be installed within 10 working days of the water connection being approved and payment of the water connection fee.

g. Set up a system of ‘SMS Alert’ for customers related for various activities related to billing and collections.
19. Water and wastewater linkages with economic growth and competitiveness of cities

Living conditions of a city are influenced to a large extent by availability of safe drinking water and wastewater facilities, which is critical to determine key growth factors, such as competitiveness, economic growth and prosperity. Priority shall be to focus on aspects of enhancing economic growth and competitiveness of urban centres in Rajasthan. These include:

- Designing a smooth and simple process for applying and obtaining water and sewerage connections

- Formulation of user-friendly web portal for online application of water and sewerage connections, checking status of applications, complaints and grievance redressal

- Providing incentives to realtors, developers for treatment of wastewater, decentralised treatment options, septage management, recharge of groundwater, rainwater harvesting, efficient and judicious use of water

- Introducing innovative uses of water to encourage tourist activities in major tourist centres of the state (e.g. Jaipur, Jaisalmer, Udaipur or Jodhpur)

- Integrating water distribution and wastewater management systems with town development mechanisms. This shall include stronger communication among the town planning department, urban development department, and the water resources department

- Undertaking projects that highlight the importance of water in deserts, highlighting key traditional ways of water conservation like khadin

- Encouraging use of traditional water conservation techniques and water connection in feasible areas.
19.1 Towns included in large-scale development initiative

Towns included in large-scale development initiative, such as towns falling under influence of Delhi Mumbai Industrial Corridor (DMIC), are projected to receive a significant influx of population as well as industrial activities. There will be increased demands on water sources of the region. Planning for water supply, based on projected demand as well as availability is necessary. While planning for growth of activities in these regions, whether residential, commercial or industrial, water needs of these shall be taken into account. Arrangements for treatment of wastewater are also necessary.

Government has planned and proposed Greenfield developments, including integrated townships. Rajasthan Township Policy, 2010 regulates development of such projects. It is necessary that these Greenfield developments be developed as exemplary models of water use efficiency. Measures for efficient water usages such as rainwater and storm water harvesting; wastewater treatment, reuse and recycle; District Metering Area; etc. shall be adopted. Such models will become inspiration for other towns and cities.

Allocation of water shall be in such a manner that sustainability of water sources can be ensured. This will include supply from urban sources as well as from extraction of groundwater, among other sources.
20. Roadmap for achieving policy goals

A variety of reforms need to be initiated in the urban water and sanitation sector in Rajasthan. GoR has already taken the important step for the formation of the water sector reforms committee. This committee should take the leadership in driving the reform process in the entire sector. In addition, the policy is envisaged to achieve service-level benchmarks described above in a definite time frame.

Table 10: Key targets envisaged for the water and wastewater sector

<table>
<thead>
<tr>
<th>City</th>
<th>Base year (2015-16)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water supply system (including WTPs) and sewage system (including STPs)</td>
<td>5 years</td>
</tr>
<tr>
<td>District headquarters towns</td>
<td></td>
</tr>
<tr>
<td>National capital region towns</td>
<td></td>
</tr>
<tr>
<td>Heritage/tourism/waterbody towns</td>
<td></td>
</tr>
<tr>
<td>Towns having less than 100% coverage</td>
<td></td>
</tr>
<tr>
<td>Towns with population above one lakh</td>
<td></td>
</tr>
<tr>
<td>Towns with population more than half but less than one lakh</td>
<td>10 years</td>
</tr>
<tr>
<td>Rest of the towns, with population below half a lakh</td>
<td>15 years</td>
</tr>
<tr>
<td>Property connection</td>
<td></td>
</tr>
<tr>
<td>(i) Where system is already commissioned, 100% coverage of connections to be achieved</td>
<td>Within six months</td>
</tr>
<tr>
<td>(ii) New networks with 100% household connections</td>
<td>Within 90 days of commissioning of the system</td>
</tr>
<tr>
<td>Water supply systems for priority towns</td>
<td></td>
</tr>
<tr>
<td>Towns having drinking water supply interval greater than 48 hours and covered under AMRUT</td>
<td>As per AMRUT guidelines(^{17})</td>
</tr>
</tbody>
</table>

\(^{17}\) [http://www.amrut.gov.in/writereaddata/Final_SAAP_Rajasthan.pdf](http://www.amrut.gov.in/writereaddata/Final_SAAP_Rajasthan.pdf)
21. Institutional, legal and financial set-up

The proposed projects shall be executed by PHED/ULBs/parastatal agencies or any agency authorised by them. The RUDSICO/PHED will act as SLNA (state level nodal agency) to provide technical and financial support for the following key components.

21.1 Behavioural change communications (BCC)

The PHED shall devise and implement appropriate BCC strategies (messages, materials, reach, etc.) and related institutional mechanisms, including the following:

At community level:
- With PHED in-charge of bulk water supply and ULB in charge of water distribution (as per 73rd and 74th Constitutional Amendment) community level work will be relevant in ULBs.
- Continual information, education and communication (IEC) activities through publications (brochures, pamphlets, newsletters and posters), folk media, print and electronic media, rallies, campaigns, workshops, interpersonal communication (IPC), street plays/puppet shows, public announcements, social mapping, etc. in relevant regional languages.

Government officials:
- Expert-led workshops for PHED staff to promote a spirit of social engineering and change management.
- Awareness generation and motivation by trained experts for PHED officials and officers at intermediary and grass-roots levels.

21.2 Capacity-building

The policy wishes to specifically focus on the septage management part for capacity-building. The capacity-building measures shall be carried out with explicit and separate focus on all aspects of water supply, sewerage management and septage management.

The PHED shall design and implement a support programme, in conjunction with other competent institutions and resource persons at state and district levels, to cover the following aspects of capacity-building:

Government officials
a. A training needs assessment (TNA) shall be designed and implemented through appropriate programmes for all state- and district-level officers of PHED involved in mainstreaming the approach to achieve the policy objectives.

b. Training and capacity-building to PHED and ULB officials shall be provided to understand and design effective tariff adjustment procedure and mechanism involving full community deliberation and consultation.

c. Training programmes shall be designed and carried out, based on the TNA, using high-quality training materials and resource persons, whose performance shall be evaluated.

d. A specialised training institution for PHED shall be set up to provide continual training for all staff using tailored and highly-specialised training materials on technical and non-technical issues (e.g. social, IEC, administrative, time management, legal issues, and so on).

e. Exposure visits for all levels of technical and non-technical officers and officials shall be provisioned, with adequate preparation prior to the visit and feedback subsequent to the visit to share lessons learnt.
f. Regular induction and refresher trainings to all levels of PHED staff shall be provided.

h. Capacity-building performance shall be included as a criterion for annual performance appraisals and promotions.

i. Training/orientation of personnel engaged in construction, testing/commissioning and O&M of water supply and sewerage works shall be provided on regular intervals. The executing agency (PHED/ULB/contractor) shall take all precautionary measures to ensure the safety of workers as well as the general public.

**Community and elected representatives**

a. PHED shall prepare training materials and organise resource persons and training programmes to build the capacity of community women and men to oversee their water supply and sanitation schemes.

b. Community capacity shall be developed to enable them to comment on tariff proposals and other matters inviting comments from stakeholders.

c. The subject matter of these trainings shall cover all aspects of the pre-planning, planning, implementation, monitoring and post-implementation activities of water supply and sanitation schemes, including issues such as operation and maintenance (especially preventive maintenance), water management and conservation, accountancy and bookkeeping, hygiene awareness, behavioural change communication (BCC), etc.

d. Women's participation will be encouraged and facilitated to attend training programmes by making special provisions (e.g. training near the town/city, non-residential trainings, and convenient timings) based on an assessment of their preferences.

e. Regular induction and refresher trainings and orient all new ULB elected members shall be regularly provided.

### 21.3 Pre-legislative processes for urban sector legislation

The following steps shall be followed before drafts of legislation are prepared:

1. Stakeholder consultations shall be held to determine the purpose, extent and scope of the legislations.

2. A reasoned response to all comments received from the stakeholders shall be publicised in easily accessible media.

3. The first draft of the legislations shall be prepared based on these comments from the stakeholders.

4. Public and stakeholder consultations (including incorporation of views from civil society, corporates, academic institutions, government departments, independent institutions and the general public) shall be carried out to finalise the draft of the legislation.

5. Updates shall be publicised by the concerned governing agency on the status of the legislation in the state assembly or at other relevant forums within the government as applicable.

### 21.4 Legal arrangements

The PHED shall carry out the following activities to prevent vandalism and to be able to penalise offences:

1. Review the existing legal framework to identify amendments necessary in existing laws and new legal documents necessary to support the reform policy.
2. Draft new legislation based on the needs identified in the review of existing legal provisions.

3. In the interim period while new legislation is being drafted, include penal provisions in relevant existing legislations against offences such as the theft of water, illegal connections and pumping equipment and non-payment of water and sewerage bills.

4. In the absence of such legal documents, executive orders by the government are to be issued to penalise offenders and protect state water supply and sanitation infrastructure.

21.5 Financing arrangements

To achieve the objectives of this policy, GoR shall explore all possible funding sources, including (but not restricted to) the following:

a. Departmental funds of the PHED

b. District-level pooled funds on IEC and BCC from different departments such as education and health

c. Allocations from GoI, including the funds allocated under the National Urban Drinking Water Programme

d. Financial assistance including grants from various multilateral agencies such as the World Bank, ADB or JICA

e. Loans from financing institutions such as NABARD, LIC, etc.

f. PPPs

g. Regulatory escrow accounts and regulatory fees paid by the service providers in wake of the establishment of independent regulatory authorities.

h. Viability gap funding: GoI provides 20% viability gap support for PPP projects to the extent of 20% of the project cost. The state will also provide additional viability gap funding up to 20% of the project cost, subject to other conditions of the financing being met.

21.6 Monitoring implementation of schemes

The state water policy envisages “a rolling programme of water auditing…for all industries…to compile a register of industrial water usages”. Water audits shall be used for monitoring water consumption. In order to monitor the implementation of water supply and sanitation schemes and to evaluate the feedback, the PHED shall take the following initiatives:

State level

1. RWSSMGB shall check the overall performance (including financial and physical) of all water supply and sewerage schemes handed over to ULBs in the state, and to take remedial action as necessary.

2. Third parties shall be contracted to carry out performance verification, water audits and social audits.

City/town level

1. Setting up a city-level monitoring committee to check the overall performance (including financial and physical) of water supply and sewerage schemes handed over to the respective ULB

2. Contracting third-parties to carry out performance verification, water audits and social audits
3. Ensure regular visits to ULBs by the local government’s staff (e.g. junior engineers and sub-divisional engineers of PHED) to attend meetings at ULBs and to address local problems

21.7 Communication and dissemination

1. The PHED shall formulate and implement a communication and dissemination strategy, through its communication and capacity development unit (CCDU). This shall cover issues such as implementation status and progress of water supply initiatives, water quality, grievance redressal, tariff rates, collection and cost recovery, BCC, PPPs, climate change, case studies of best practice and special studies.

2. Methods of dissemination shall include the print and electronic media, video documentaries, websites and blogs, and social media, in English and local languages. Successful and long-running advertisement campaigns such as Amul shall be considered as examples.

21.8 Interdepartmental coordination

The following steps shall be taken to ensure seamless interdepartmental coordination:

1. The health department shall guide urban communities on ways to control the health impacts of contaminated water and environmental pollution.

2. The education department shall inform school students regarding water quality and hygiene (including menstrual hygiene).

3. The Women and Child Development Department shall create awareness of water quality and hygiene among urban women.

4. The LSGD shall coordinate with PHED, PWD and UDHD to optimise the construction of roads, laying down of water supply pipes, and sewer network to minimise digging and reducing disturbance to existing systems and services.

5. The PHED shall forge inter-sectoral linkages with other line departments such as health, education, women and child welfare, urban development and housing as well as Jaipur Development Authority (and other local development authorities as applicable) through multilateral MoUs for cost-effective, efficient and integrated delivery of water supply, sanitation and hygiene-related programmes. This may include BCC including IEC, community mobilisation, capacity-building and awareness generation at the household, town/city or institutional level (e.g. schools and colleges).

6. For water bodies that fall in urban areas, but with catchments in rural areas outside the jurisdiction of ULBs (or vice versa), it is necessary that ULBs coordinate with respective agencies for restoration, protection and sustainability of water bodies and their ecosystem. It is a multi-agency, multi-departmental exercise, which needs to be pursued for improvement in and sustainability of water structures.

21.9 Career paths

Measures shall be taken by all the departments and organisations concerned to ensure a progressive career path exists for professionals aspiring to contribute to the water and sanitation sector of the state. For instance, grievance redressal mechanism can hire entry-level graduates from non-engineering fields who can grow to become IEC, BCC, grievance redress or other non-technical experts. These initiatives shall supplement the existing career paths of engineering, etc.
22. Procurement and private sector participation

1. Informed investment decisions shall be made through thorough analysis that considers financial, social and environmental impacts (positive and negative) and implementation risks throughout the life cycle of the project to be implemented through private sector participation.

2. Analysis of planning options shall identify the long-term financial impact (e.g. recurrent costs, including depreciation and customer charges) of all planning outcomes before proceeding with capital investment decisions.

3. All feasible potential options to meet service levels, including non-asset solutions shall be considered in the options analysis. The assumptions underlying the analysis of options shall be justified and clearly documented in detailed project reports.

4. Stakeholders, including asset owners, shall be made aware of issues and risks associated with the implementation of projects proposed through a planning study.

5. PPPs shall be considered and designed with a long-term perspective to avail of new opportunities for the rapid expansion of urban water supply services, and to merge the skills, expertise and experience from public and private sectors to improve the services delivered to beneficiaries.

6. PHED shall explore and adopt appropriate options under the PPP model. Such PPP contracts shall be actively explored and adopted for options such as the following:
   - Build, operate and transfer (BOT) contracts for the installation and O&M of highly technical systems, such as RO plants, sewerage and other systems
   - Management contracts of O&M of groundwater and surface water-based water supply schemes.
   - PPPs involving the government, private sector, and also the communities to deploy locally tailored models for effective and sustainable service delivery
   - E-procurement of all works under national competitive bidding

7. Appropriate level of private investment shall be attracted and leveraged its efficiency to provide quality treatment facilities and services at optimal costs.

8. PPP/revenue-sharing may be proposed to build a wastewater recycling and reuse plant along with the associated sewerage network on design-build-finance-operate-transfer (DBFOT) basis or any other methodology of PPP/revenue-sharing option. The concession period may be high up to 30 years. Further, innovative solutions will be encouraged to make sure new concepts and unconventional ideas are not left out of the solution set.

9. Various sources of revenue to make the projects viable shall be explored. For instance,
   - Sale of reclaimed water
   - Sale of certified emission reductions (CER)
   - Sale of electricity/biogas/renewable energy certificates (RECs)
   - Fertiliser

10. A provision of at least 30% of treated wastewater may be made for reuse by retail consumers with further bifurcation as follows:
    - Minimum 15% to small farmers as per rate decided by GoR
• Minimum 15% by auction for other entities for individual and landscaping purpose.

11. Criterion for selection of PPP/revenue-sharing operators: One or a combination of the following criteria may be adopted for PPP operator selection through competitive bidding:

• Lowest bid in terms of user fee from consumers
• Royalty paid to ULB per unit of treated waste water
• Highest upfront fees
• Lowest present value of subsidy
• Lowest capital cost and O&M cost for projects
• Highest equity premium
• Quantum of state’s support solicited in present value
23. Climate change

Given the potential impact of climate change on water supply sources and usage pattern in the state, the PHED shall commission studies and formulate an appropriate climate change adaptation strategy for water supply and sanitation either as a standalone strategy or as a part of a larger climate change adaptation strategy for the state as a whole.

**Water availability** will be impacted due to climate change, either seasonally or throughout the year. To augment the water availability, state water policy and state environment policy envisage planning at state and river basin level as well as importing water from water rich regions. For augmenting water availability at urban level, wastewater treatment and in-situ use of treated water shall be incentivised (using tariff or any other mechanism as applicable), wherever potable quality of water is not required in accordance with applicable rules and regulations.

Traditional water harvesting structures can be very effective in coping with seasonal variation. Given that knowledge for their sustainable use is relatively simple, communities can be empowered for their sustainable use in distress situation. Their restoration shall be promoted and awareness for the same shall be generated among the people for the importance of their up-keeping and sustainable use.

**Water Demand** will increase among various consumers due to climate change and associated temperature increase. For accurately accessing water demand, water audit shall be promoted in all units, residential as well as industrial. Water audits shall be implemented as an effective measure for water demand management. These audits will also be able to provide inputs for
restricting unnecessary water consumption and water heavy devices such as rain shower, swimming pool, etc. in water stress areas.

Water need (in terms of both quality and quantity) for ecological systems shall be accessed for their sustainability, so that appropriate measures can be taken for water availability. Existing water ecosystems shall be protected and restored and new ones should be generated. Awareness, for impact of climate change and coping strategies, shall be generated among stakeholders and beneficiaries.

Coordination among agencies responsible for urban water supply and climate change mitigation is necessary. Channels of communication with larger public, for participation of various stakeholders and beneficiaries, is also need of the hour. State environment policy 2010, along with Rajasthan Environment Mission and Climate Change Agenda for Rajasthan (2010-2014) lists down efforts that need to be taken for mitigating impact of climate change. Such efforts shall be adhered to by executive agencies in urban water sector, wherever they fall under their jurisdiction.
24. Revision and refinement of the policy

This policy document shall evolve based on the feedback collected from monitoring as well as comments and inputs from all stakeholders. The policy shall be revised every five years through a comprehensive consultative and deliberative process involving all stakeholders in the water and sanitation sector.
25. Implementation arrangements

It should be noted that the policy is not a justiciable document that can be enforced to the letter. It is a document where GoR has put in the best of efforts to: (a) envisage the future of the state’s urban water sector; and (b) identify the roles that various stakeholders can play in realising the vision.

In this context, it will be crucial to note that in addition to a few ‘new responsibilities’ that may be required to be carried out by the stakeholders, they will have to dispense their existing responsibilities in ‘new ways’ of mutual coordination, by incorporating the principles of transparency, accountability, participation and capacity-building. In addition, the policy envisages to enhance technical capability to establish an exclusive state level design centre for identifying standardised technical parameters and levels by engaging with technical institutions and academia.

Based on this, the following broad aspects are considered important for implementing the policy:

a. The RUIDP’s Policy Support Unit (PSU) will be the anchoring entity for the policy. That is, the PSU will compile the comments from various stakeholders and ensure that the policy is revised accordingly.

b. The PHED, LSGD and ULBs will work fully in sync with each other. The stakeholder inputs, media campaigns and routine decision-making shall be managed by fully coordinating with each other.

c. According to the roles defined by the 74th CAA and this policy, the focal points of the decision-making will be entities that will ‘host’ or ‘house’ the processes required for decision-making. For example, ULBs will host the processes needed for rationalisation of the tariff as described in the policy. The other stakeholders (GoR, PHED, LSGD as well as the general public) shall be made parties to the decision-making through transparent, accountable and participatory mechanisms as described in the policy. A similar approach shall be taken for carrying out other responsibilities described in the policy for PHED, LSGD, ULBs, and the general public.
26. Endnotes on reference documents

- **State Water Policy**: http://waterresources.rajasthan.gov.in/
- **Groundwater management- Rajasthan Perspective**, Central Groundwater Board, Accessed at cseindia.org/userfiles/ranachatterjee_ground_management.pdf last on 13 August 2015 at 4:45 p.m.
- **Swachh Bharat Abhiyan**: http://pmindia.gov.in/en/government_tr_rec/swachh-bharat-abhiyan-2/; https://swachhbharat.mygov.in
- **State Five Year Plan**, Section 22.18-22.37, Chapter 22, 12th FYP, Government of Rajasthan
- **Ministry of Urban Development**, http://moud.gov.in/
- **Rajasthan Urban Infrastructure Development Project (RUIDP)**, ruidp.rajasthan.gov.in/,
- **Central Public Health And Environmental Engineering Organisation**, cpheeo.nic.in/
- http://www.cmie.com/kommon, last accessed at 8:55 p.m. on 13 August 2015
- http://gwadi.org/sites/gwadi.org/files/CaseAlwar2.pdf last accessed at 5:30 p.m. on 13 August 2015