

**PUNE MUNICIPAL CORPORATION,
PUNE**



WATER FOR PUNE'S FUTURE

24X7 WATER SUPPLY PROJECT



Presentation Topics



- Need for this Project
- Challenges of Present System
- Study & Design
- Existing & Proposed
- Present System Vs Smart System
- Gross Project Cost
- Holistic Approach
- Implementation Plan
- Project Evolution
- Project Impact

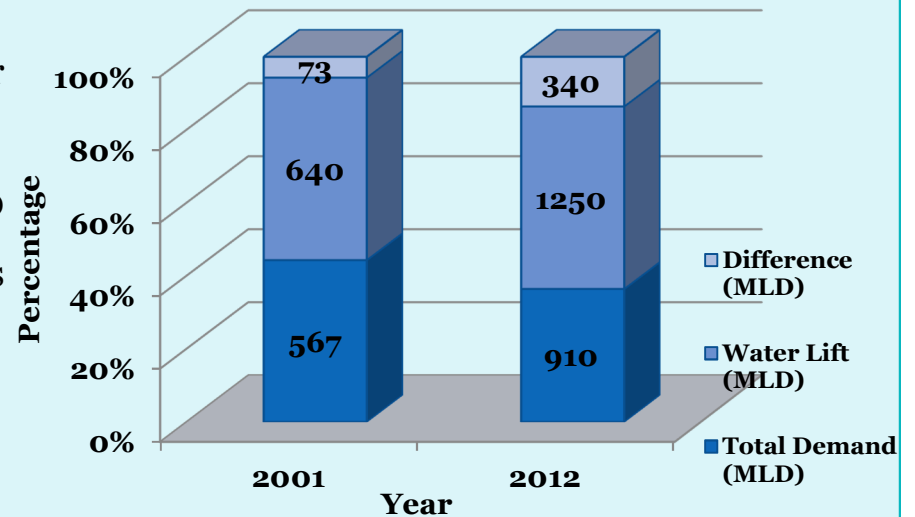


Need for this Project

- Water security till 2047
- Supply 24x7 water to the entire city
- Optimum use of water – using latest Technology
- NRW Reduction can provide more water for irrigation & Drinking purposes downstream
- Total Water Input to the PMC area is **1250 MLD** whereas required demand is **910 MLD** which proves the NRW of **340 MLD** which is equivalent to
 - Can fill **137 Olympic size swimming pools**
 - can bring **6620 Ha land under cultivation** per year
 - Can provide water to more than **1 00** near by villages
 - Saving of approx. **Rs. 30 Crore** per year

Increase in Excess Demand: Then & Now

Excess Water Demand
 2001 : 13% = 73 MLD
 2012 : 37% = 340 MLD



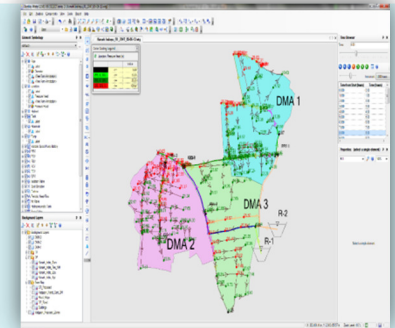
Challenges of Present System

- ❖ Intermittent supply-wide variation of supply hours
- ❖ Quantity of per capita supply varies substantially, very low in North of Mula-Mutha River
- ❖ Distribution network very old in many areas-high physical losses
- ❖ High level of Non Revenue Water (NRW)
- ❖ Inadequate storage capacity (23%)
- ❖ Reservoirs working as distribution reservoirs, and also feeding other SRs using distribution mains
- ❖ Fast depletion of reservoirs, resulting in high peak factors and small number of supply hours
- ❖ Manual Operations



Study & Design

- ❖ Entire Water Supply Network on Latest Satellite Image–**243 Sq. Km** area (**GIS PLATFORM**)
- ❖ Population projection & Demand calculation
- ❖ City divided in to **141 Water Supply Zones** & **328 DMA's**
- ❖ Consumer Survey & Water Audit for more than **10,000 connections** on Pilot basis
- ❖ Hydraulic Modeling - **3500 Km** pipe length
- ❖ Proposed **SMART Metering** for all consumers
- ❖ **Leakage detection** – Carried out for Bulk system for Two WTP's
- ❖ Zone wise **SCADA** system planned for entire city



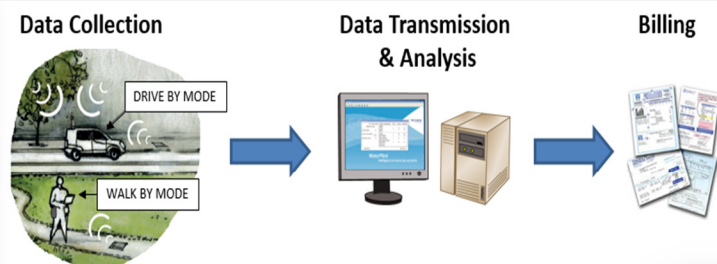
Existing & Proposed



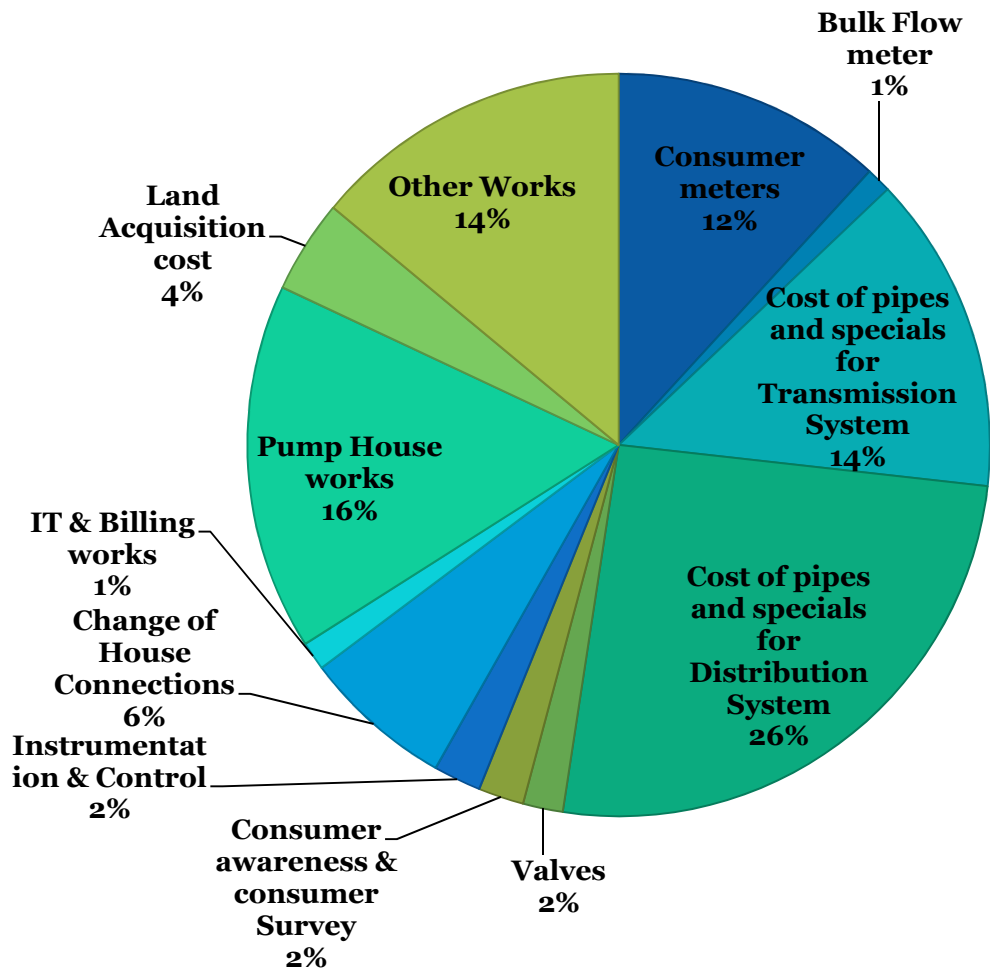
Sr. No.	Particulars	Existing/Under Construction	Proposed
1	Raw Water Source		
	Khadakwasla	1242 MLD	358 MLD (Mulshi Dam)
	Pavana River	22 MLD (Chikhali WTP) 200 MLD (Bhama Askhed)	85 MLD (Bhama Askhed)
2	WTP Capacities	1289 +200 MLD	552 MLD
3	Water Supply Zones	67	141
4	Service Reservoirs	58	103
5	Storage Capacity of Reservoirs	250.37 ML	384.00 ML
6	Distribution Network	2325.86 KM	1618.40 KM
7	Transmission Network	93.54 KM	139.23 KM
8	Automatic Meter Reading (AMR) System	-	3.15 Lakh

Present System Vs Smart System

	Present System	New "SMART" Water Supply
Distribution Infrastructure	<ul style="list-style-type: none"> No metering and volumetric measurement 	<ul style="list-style-type: none"> 100% consumer metering Accountability for Water balance Promotes transparency
Tariff and incentives	<ul style="list-style-type: none"> Fixed Tariff No incentive for conservation 	<ul style="list-style-type: none"> Volumetric Tariff Promotes conservation of water
Service levels to Citizens	<ul style="list-style-type: none"> Intermittent water supply High proportion of NRW/UFW 	<ul style="list-style-type: none"> Pressurised 24x7 water supply High reduction in NRW/ UFW High Service Level Benchmark



Gross Project Cost



FINANCING OF PROJECT

DESCRIPTION	TOTAL AMOUNT (INR Crore)
Outflows	
Capex	2819
IDC	494
Total Outflow (A)	3312
Inflows	
Under SMART City	299
Stand alone PMC Contribution	749
Loan Amount	2264
Total Inflow (B)	3312

Holistic Approach for 24x7 Water Supply Project

Water Security

**Sustainable
Source**

**Adequate
Supply**

Willingness

Political

Citizens

Administration

Policies

**Service Level
Benchmark**

**Stake
Holders
Consultation**

**Volumetric
Tariff**

Bylaws/Act

Funding

Infrastructure

**Source To
Consumer**

**Organizational
Structure**

Atomization

**Customer
Service**

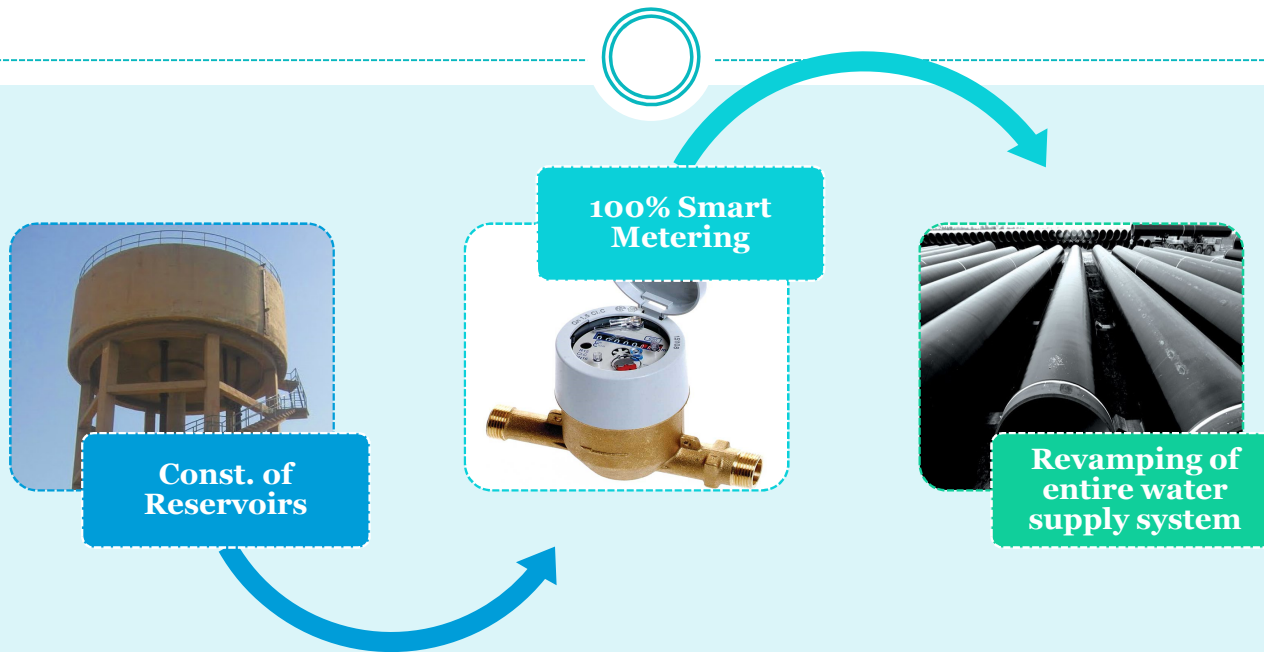
O & M

**Service
Level
Benchmark**

**Supply Side
Efficiency**

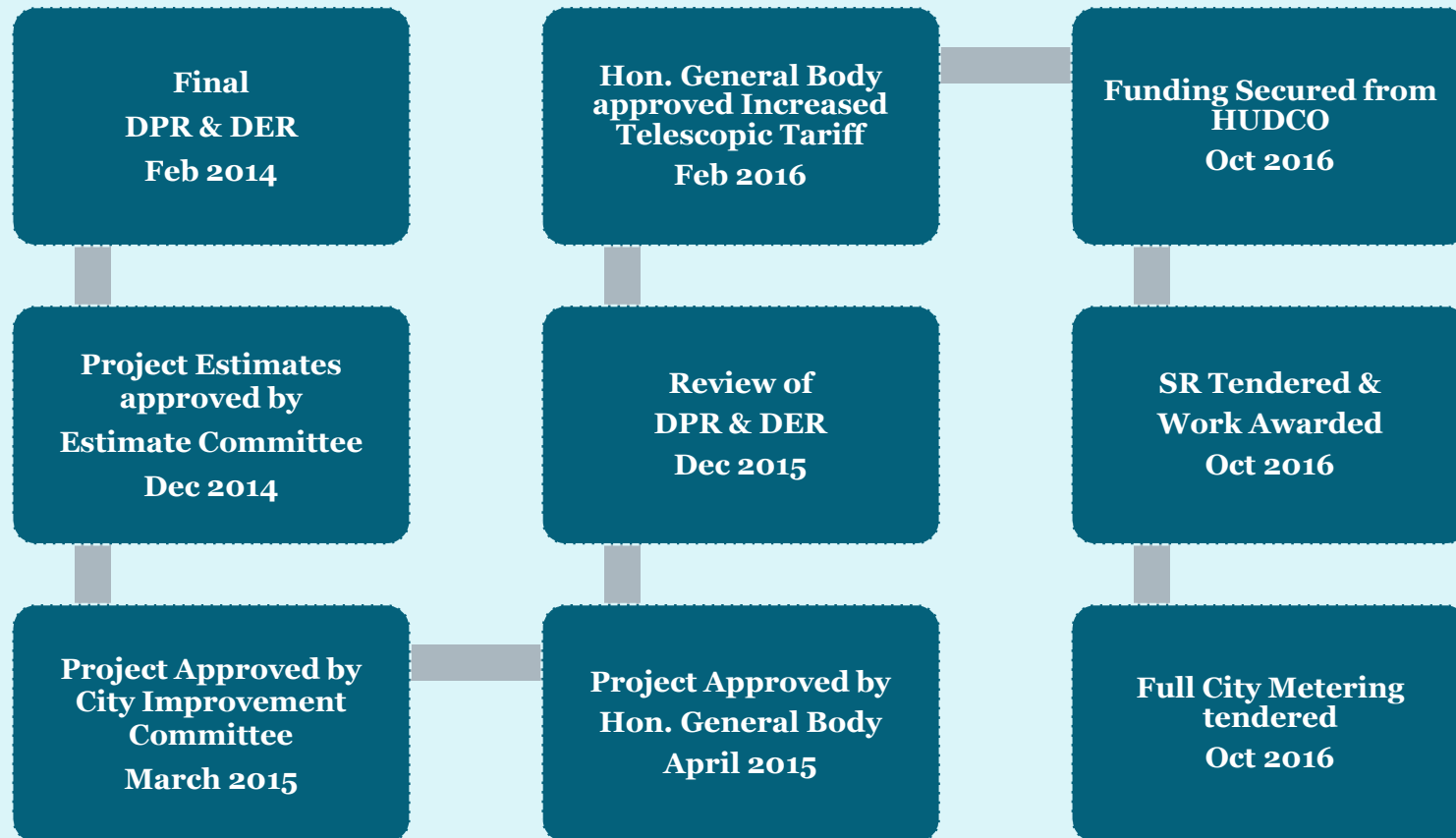
**Demand
Side
Efficiency**

Implementation Plan



No	Package Description	2016		2017				2018				2019				2020				2021			
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Construction of Reservoirs (5 Lots)																						
1.1	Reservoirs in Warje & Holkar																						
1.2	Reservoirs in Vadgaon																						
1.3	Reservoirs in Parvati																						
1.4	Reservoirs in Cantonment																						
1.5	Reservoirs in Bhama Askhed																						
2	Smart Consumer Metering																						
2.1	Metering in Warje & Holkar																						
2.2	Metering in Vadgaon																						
2.3	Metering in Parvati																						
2.4	Metering in Cantonment																						
2.5	Metering in Bhama Askhed																						
3	Revamping of Entire Water Supply System																						
3.1	Revamping in Warje & Holkar																						
3.2	Revamping in Vadgaon																						
3.3	Revamping in Parvati																						
3.4	Revamping in Cantonment																						
3.5	Revamping in Bhama Askhed																						

Project Evolution



Preparation of tender documents for revamping of the entire water supply system in progress

Impact of 24 x 7 Water Supply Project



- No contamination in the drinking water
- Increases accessibility of water which eventually results for good sanitation practices
- Increases consumer health index
- Assures better demand management due to effective leakage control
- Steady pressure in the pipes increases life of distribution networks

