



GOVERNMENT OF TELANGANA

MISSION BHAGIRATHA DEPARTMENT



Foundation laid by Hon'ble CM at Choutuppal
on 08.06.2015



Hon'ble PM commissioned Gajwel scheme
on 07.08.2016

Road Map to Implementation of Jal Jeevan Mission “Presentation on MISSION BHAGIRATHA in Webinar”



07-08-2020



MISSION



- To provide **100 lpcd** of treated drinking water through functional household tap connection in rural habitations of Telangana.
- To provide bulk water supply to all Urban Local Bodies, to enable them to supply **@135 lpcd** in Municipalities and **@150 lpcd** in Municipal Corporations.
- To meet the needs of the Industry and provide them with raw/treated water as required (10% of the overall demand is committed for this purpose).



Mission Bhagiratha

Salient Features



- **Project Geographical Area** : 1.11 lakh sqkm
- **Coverage**
 - Rural Habitations : 23,968 (Outside ORR)
 - ULBs : 120 (66 Old + 54 New)
- **Population in lakhs** : 272.36 (2011)
 - Rural : 206.58
 - Urban : 65.78
- **Sources** : Krishna & Godavari rivers and their tributaries and reservoirs.
- **Water requirement - 2018** : 59.94 TMC
- **Water requirement - 2048** : 86.11 TMC
 - Krishna Basin : 32.43 TMC
 - Godavari Basin : 53.68 TMC
- **Project Outlay** : Rs 46,123.36 Cr

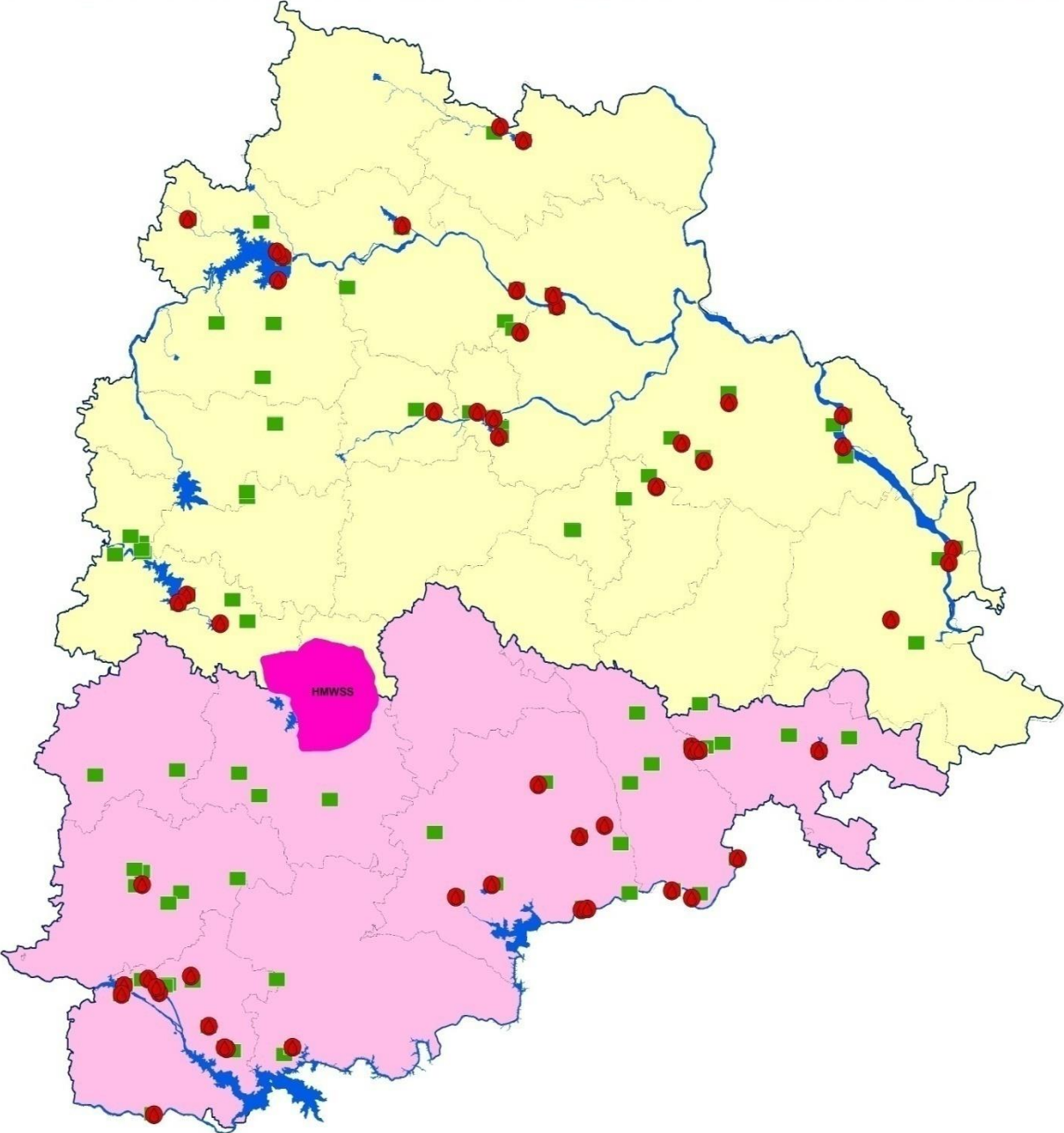


PRINICIPLE OF DESIGN



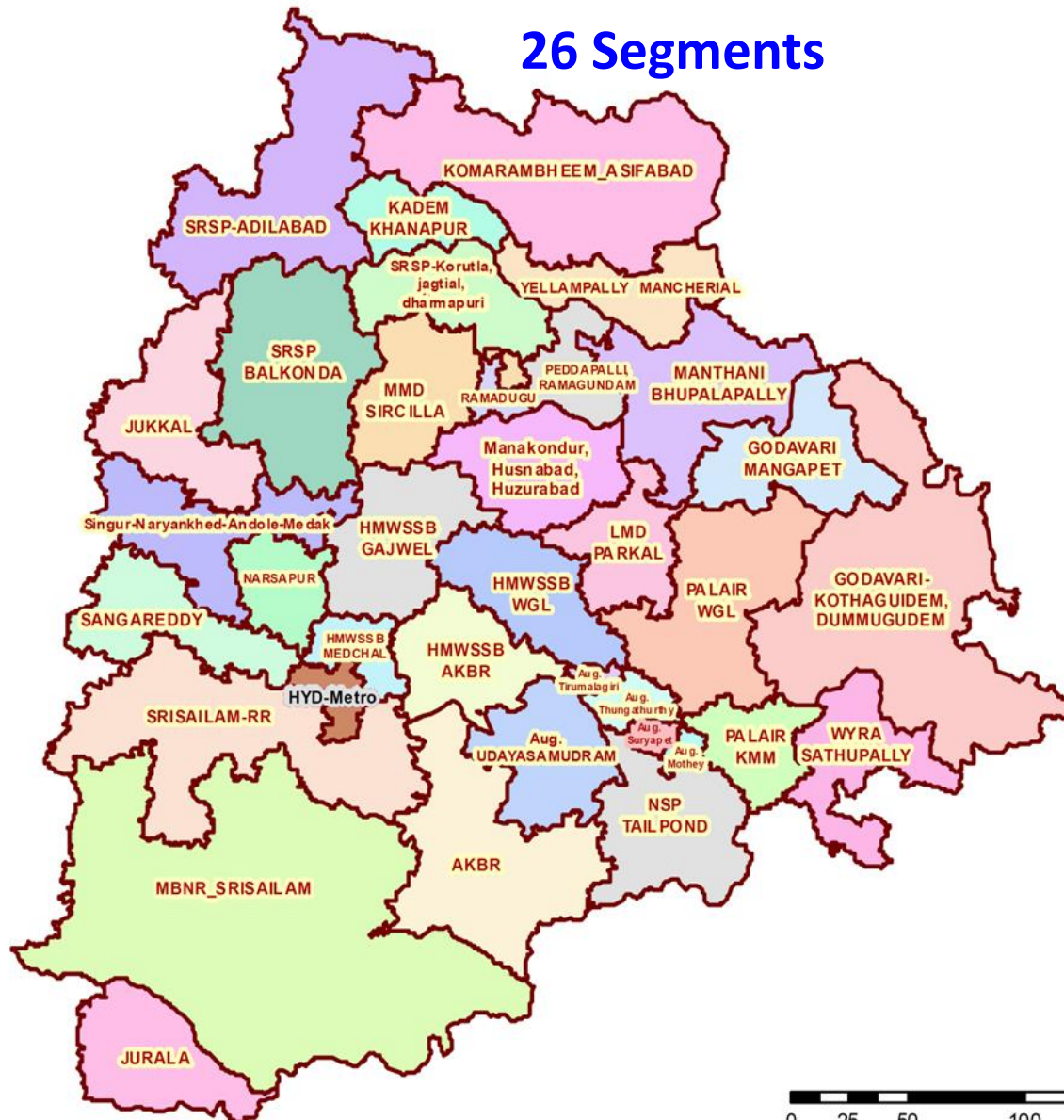
- It is an *end-to-end design solution*, planned to meet all requirements up to 2048.
- It relies on treating surface water from major rivers, **Godavari** (53 tmc) and **Krishna** (32 tmc).
 - For all the surface water bodies a reserve is maintained for drinking water purpose, by fixing MINIMUM DRAW DOWN LEVELS (MDDL) and monitored regularly.
- The fundamental principle inbuilt into its design, is that *water is to be conveyed by gravity(98%)*, reducing the capex & maintenance cost to lift pumps.

COVERAGE UNDER KRISHNA AND GODAVARI RIVER BASINS



MISSION BHAGIRATHA PROJECT-TELANGANA

26 Segments



Typical methodology





STAGES TO REACH HOUSEHOLD



Main stages involved are:

- ✓ Sourcing water, through **Intake Wells**, from major rivers or reservoirs fed by these rivers
- ✓ Purifying the raw water in nearby **Water Treatment Plant (WTP)**
- ✓ Pump treated water to **Over Head Balancing Reservoirs (OHBRs)** at the highest points
- ✓ Transmit from highest point through **secondary pipeline network** to all the OHBRs located in habitations by gravity
- ✓ Distribute to each household through a modern, rationalized intra village network by providing **tap connection to each household**



Pipe Policy



- ❖ The pipe policy for the project has been set based on the CPHEEO Guidelines and local terrain conditions
- ✓ Transmission Lines - Mild Steel, Ductile Iron, BWSCP, PCCP and HDPE
- ✓ Intra-Village Lines - HDPE and PVC

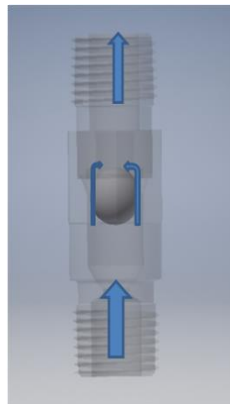
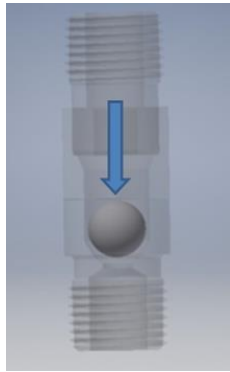


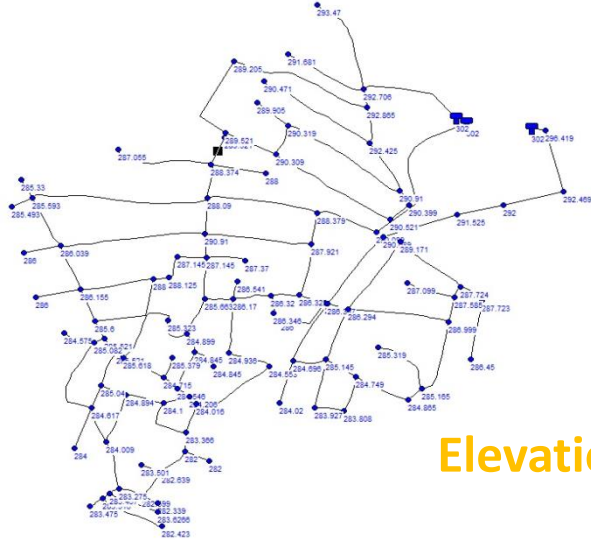


Intra Village System Cont.....

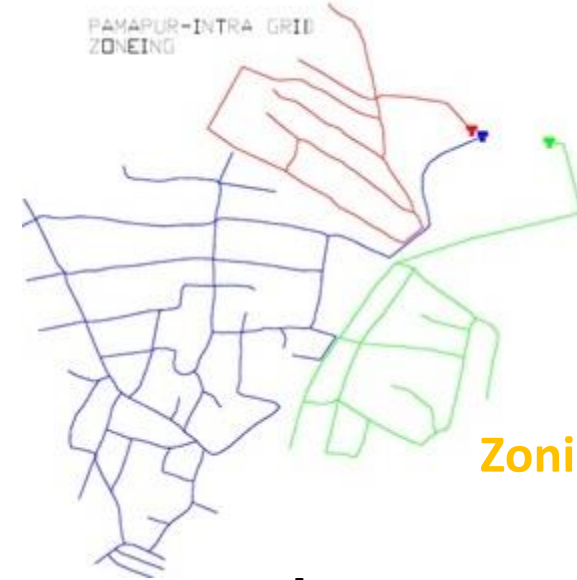


- House Connections are provided for each and every household.
- Flow control valves are being installed with a design flow of 5 LPM at household connection point. Flow control valve also disables drawing excess water through pumps by the individuals.
- The required capacity of OHSRs, i.e 50% of the demand, are being constructed duly integrating the existing OHSRs which are in good condition.
- All the estimates are prepared based on Standard Schedule of Rates(SSR) approved by the State Government

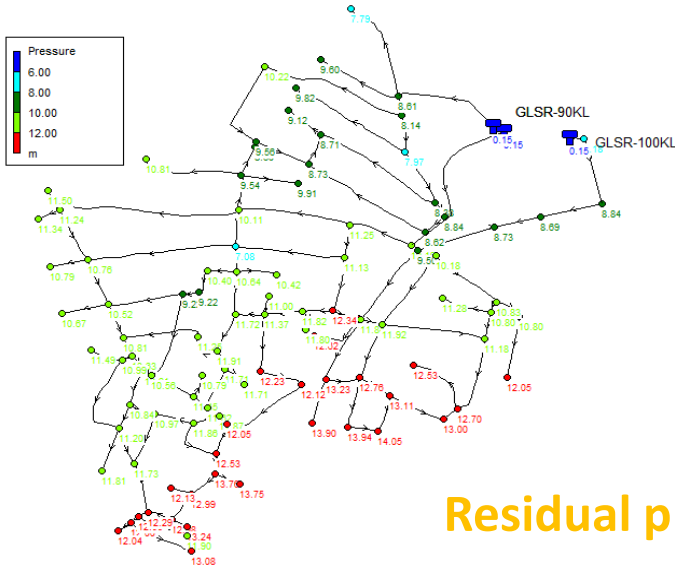




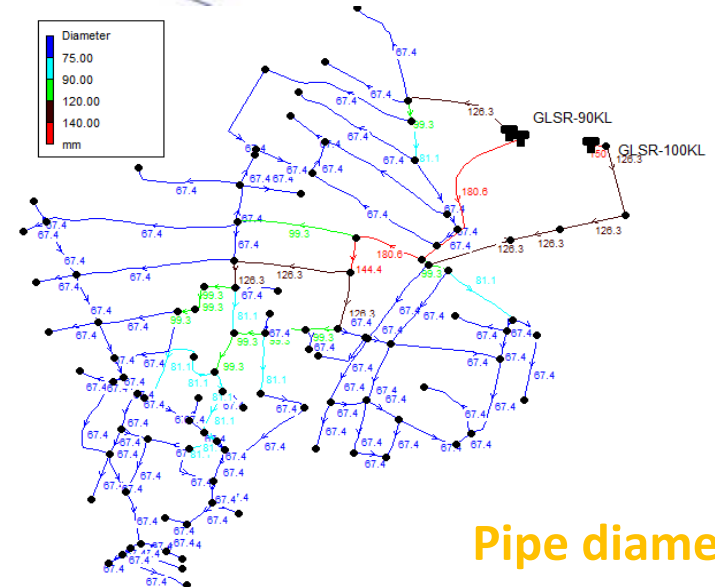
Elevations



Zoning



Residual pressure



Pipe diameter



DEVELOPMENT OF UTILITIES




In a **record-time of 3 years** under MB created the following infrastructure:

❖ Intake wells:

 Total	69
● New	19
● Existing integrated	50

❖ Water Treatment Plants:

 Total	113	Total Capacity	4,109 MLD
● New	50		3,349 MLD
● Existing integrated	63		760 MLD

❖ OHBRs/BPTs:

 Total	895	Total Capacity	1,00,730 KL
● New	573		74,540 KL
● Existing integrated	322		26,190 KL

❖ GLBRs:

			Total Capacity
+	Total	189	1,07,350 KL
•	New	149	96,070 KL
•	Existing	40	11,280 KL

❖ Sumps: integrated

			Total Capacity
+	Total	624	9,00,150 KL
•	New	441	7,40,850 KL
•	Existing integrated	183	1,59,300 KL

❖ Pipelines:

+	Total	1.47	Lakh Kms
•	New	1.07	Lakh Kms
•	Existing	0.40	Lakh Kms
	integrated		



❖ Village OHSRs:

+ Total	36,300	15,32,690 KL
• New	18,609	7,24,600 KL
• Existing integrated	17,505	8,08,090 KL

Total Capacity

❖ Crossings:

+ Total	13,901
• Railway crossings	- 242
• NH crossings	- 560
• Canal crossings	- 1,453
• River/Rivulet crossings	- 167
• R&B road crossings	- 4,526
• PR road crossings	-

6,953



❖ Power required:

187 MW

+ HT Connections **164**

- 220 KV 2
- 33 KV 42
- 11 KV 120

+ LT Connections **253**

❖ Pump sets:

Total Capacity

+ Total	1,128	2,48,086 KW
● LT	916	1,71,856 KW
● HT	212	76,230 KW



BEST PRACTICES – UTILITY DEVELOPMENT



- **Avoiding** usage of non sustainable pipe materials like **GRP and AC**
- Right of User (RoU) Act brought for laying of pipelines in Private Land
- **Vendor Registration** introduced for pipes, valves, house connection materials for procuring best quality and capable Firms
- **No mobilization advance** to Agencies
- Sick firms were avoided by introducing **CDR clause**
- **Coordination Meetings** with manufacturers before commencement to meet the demand
- **Recycling system** has been introduced to minimize the wastage of water during back wash of the Filters at Water Treatment Plants
- Inhouse trainings to all the Engineers
- Regular review meetings from the highest level of the Government and motivational speeches.



Hon'ble Chief Minister of Telangana Addressing All Water Supply Engineers on Govt. Vision on 10.09.2014





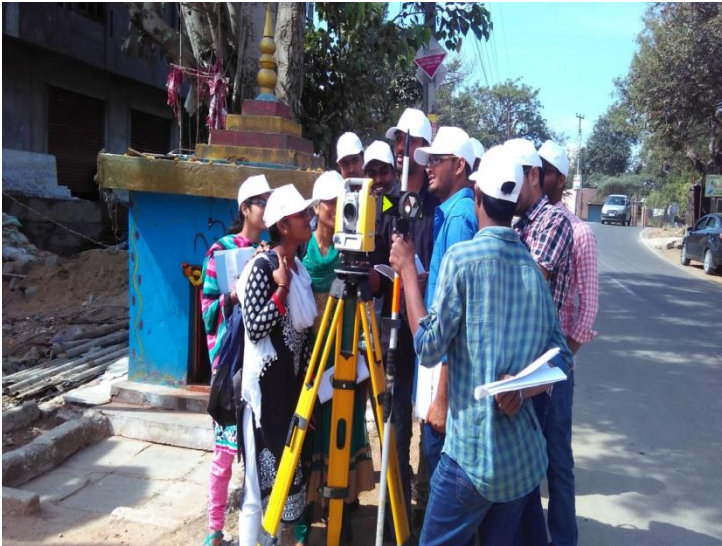
DGPS /TOTAL STATION - TRAINING



DGPS Survey training at Karimnagar



Total Station Survey training at Medak





TRAINING TO AEEs/AEs





Present stage



➤ Total target habitations	-	23,968
• Number of habitations supplied with bulk supply	-	23,968
➤ Household connections		
• Total households	-	54,37,739
• Functional till date	-	54,37,739
➤ Construction of new village OHSRs		
• Sanctioned	-	18,795
• Completed	-	18,662
• Balance	-	133
➤ Total ULBs under MB	-	120
• Completed bulk supply connections	-	120



O&M - SERVICE DELIVERY



- Cluster level monitoring team is being deployed during the summer to ensure 1) Quality 2) Quantity 3) Timings 4) Regularity of bulk supply to all the habitations in the state
- Also sub Divisional level monitoring team is being deployed to ensure service delivery of supply through household connection as part of stabilization programme
- GP resolution is obtained for 100% household functionary taps provided
- Contact No of the concerned Engineers being displayed at GP office to contact for any grievance
- O&M workshops and trainings were conducted
- Reaching of bulk supply to the habitation/tank is monitored on daily basis and log sheets signed by the respective GPs are scanned and put up on website on weekly basis.



Community Participation



Institutional Mechanism: SWSM, DWSM and VWSCs are existing in Telangana state. Strengthening/re-constitution will be done as per JJM guidelines

- **The main functions of VWSCs are**
- ✓ Overall Management/Supervision and smooth functioning of Intra village water supply system
- ✓ Issuing a Gram Panchayat resolution certifying that all Households are provided with FHTC in the Gram Panchayat
- ✓ Signing of daily log sheet by the Sarpanch, Chairman of the VWSC duly accepting the receipt of drinking water as per the norms of demand.
- ✓ Cleaning of OHSRs, Sumps, Valve Chambers etc.,
- ✓ To ensure that villagers consume treated safe water supplied through FHTC
- ✓ Liaisoning with Mission Bhagiratha department to ensure regular supply of water (Informing MB department about pipeline leakages/break downs if any and safeguarding the infrastructure created for water supply
- ✓ Ensuring water conservation and effective functioning of Waterman.
- ✓ Creating awareness
 - about health hazards of consuming R.O. water and stop supplies of R.O water Cans in Gram Panchayat
 - Proper disposal of waste water
 - Regarding health benefits of consuming Mission Bhagiratha water
 - Handling of Drinking water at House Hold level.
 - Upkeeping of House Hold Taps.
 - Owning of the taps provided.



Dr. Sunil.KR.BARNWAL, Secretary to CM, Jarkhand tastes MB tap water at Gajwel during Dec 2019



Sri. Ravi Kanth, HUDCO CMD Tastes the MB tap Water at Pothireddypallygudem of PAPally(M) during Dec 2019



Dr. Tamilisai Soundararajan, Hon'ble Governor, Telangana - inaugurating tap at Mulugu





Water Reaching up to 1st Floor of the House me flow



Measuring the Flow from Taps



STABILIZATION





O&M WORKSHOPS





COMMUNITY INVOLVEMENT



- Trainings were imparted to Gram Sarpanches, village secretaries, Anganwadi Workers, VWSC members and village Watermen
- Awareness programme being organised at WTP level involving public representatives and village watermen to explain about quality of water being produced.
- Health hazards of consuming R.O water is explained as part of trainings and awareness programme



WORKSHOPS at Village Level



Warangal (U)



Medak



Mahabubnagar



Suryapet



AWARENESS CAMPS



Bommarasipet(M)



Jagitiyal(M)



Darmasagar(M)



Peddapally (M)



AWARENESS CAMPS



BADRADRI-KOTHAGUDEM

ADILABAD





Hon'ble Prime Minister's inauguration



➤ Gajwel Sub-segment Commissioned by Hon'ble PM on 7.8.2016



➤ Work completed in **record time of 9 months.**

➤ Coverage

- Population -3.350 Lakhs
- Geographical Area -9690 Sqkm
- House holds -0.78 lakhs
- Habitations and ULBs -244



Hon'ble Chief Minister 's inauguration



➤ Suryapet Sub-segment Commissioned by Hon'ble CM on 12.10.2017



Intake wells



Palair segment



55m x 12m x 14m Intake well



Singur Medak segment



Singur Reservoir capacity: 29.61 TMC ;
Annual requirement: 1.88 TMC
Habs covered: 873

30m x 12m Intake well at Singur reservoir near Peddareddipet



Yellore Segment

130.25 x 36m Intake Well at Yellore



Srisaïlam capacity: 215.8 TMC ; Dead storage : 53.85 TMC
Annual requirement: 9 TMC ; Habs covered: 4469 (3088 MBNR+1381 RR)





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Yellore Segment



Intake Well @ Yellore **130.25 x 36m Intake Well at Yellore**



SHOT ON REDMI NOTES PRO
MI DUAL CAMERA



LMD Parkal segment



Intake well @ Chali vagu



Pusuru sub segment – Khammam Dist



8m dia Intake at Godavari Pusuru (Wazeedu mandal)



Wyra segment – Khammam Dist



Intake well @ Wyra Reservoir



Intake at Dummugudem



పాననీయత అనుబంధం, నాణ్యత నిపుణులు తీసు





Treatment Plants



Jurala Segment



70 MLD WTP @ Jurala





Peddapally Ramagundam segment

160 MLD WTP @ Murmur





AKBR segment 70 MLD @ Batlapally





Singur Jukkal Segment



సాగునీటి అభివృద్ధి, నాణ్యత నిర్ధారణ



145 MLD WTP @ Peddareddy pet



LMD MHH Segment



125 MLD WTP @ LMD colony





Palair segment



90 MLD WTP @ Jeellacheruvu





Singur Medak segment

90 MLD WTP at Peddareddipet





Yellore Segment



31 MLD WTP @ Yellore





Structures & Pipelines



HMWSSB Gajwel segment



550 KL & 150 KI OHBRs @Komatibanda

14000 KL GLBR@Komatibanda



HMWSSB -Warangal segment



1800 KL OHBR @ komaravelly



SRSP Adilabad segment





AKBR segment -GLBRs on Gollakonda hillock





LMD Parkal segment -GLBRs on Ramappa hillock





MHH segment -GLBRs on Porandla hillock





Yellore Segment



Internal welding of MS Pipe 2300mm dia near Kalwakurthy
Dt: Mahabubnagar



2.4 mtrs dia MS Pipe line



Yellore Segment





Pumpsets @ Mallannagutta WTP





Srisailam segment



120 KL @ Shabad



1000 KL OHBR @ Rakamcherla



Electrical Sub stations





Railway crossing executed with Horizontal drilling by jack pushing method



Railway crossing @ Vangapally



Canal & Highway crossings





Intra Village system-OHSRs





HMWSSB Gajwel segment





Last mile connectivity at Bhadrachalam tribal areas





Excavation for Pipeline laying in Agriculture fields of Hon'ble CM at Yerravally, Medak dist as per ROU act





Inspection of Bhagiratha Works by H.E Governor and Hon'ble Chief Minister





Appreciations

✓ HUDCO presented award thrice during 2014-15, 2016-17 & 2018-19 for best outstanding contribution in the infrastructure sector through innovative initiatives.





- ✓ Hon'ble Prime Minister made special mention of Mission Bhagiratha in his "Man ki Bath" on 22.5.2016 and applauded the efforts made by the Telangana government in water supply sector

✓ Skoch award 2018 for Mission Bhagiratha online monitoring system and Mobile Apps developed inhouse.





Appreciations



➤ Ministry of Jalshakthi, GOI awarded 1st Prize and Cash Award under National Water Mission Awards-2019 for Increasing water use efficiency by 20% (Public Agencies-ULBs / Cities, Govt. Organisations etc.,)





Appreciations



✓ This project received encomium from Hon'ble Prime Minister, Hon'ble Union Minister for PR, Niti Aayog, HUDCO, Secretary 15th FC and other states like UP , West Bengal, Maharashtra ,Tamilnadu, Bihar, Madhya Pradesh, Karnataka, Andhra Pradesh, Jharkhand & Odisha.

Appreciations



Sri K.T.Rama Rao, Hon'ble Minister, Government of Telangana with Sri Akhilesh Yadav, Hon'ble CM, Uttar Pradesh (dt15.10.2015) discussing on the Telanagana Drinking Water Project model



Appreciations



Sri Sushil Kumar Modi, Hon'ble Deputy Chief Minister, Bihar visit to Bhagiratha sites on 10.9.2017

'Mission Bhagiratha a model for all States'

HUDCO CMD lavishes praise watching potable water flow from taps

STAFF REPORTER
PEDDA ADISELLA PALAY,
NALGONDA

It was a walk down the memory lane for M. Ravi Kanth, Chairman and Managing Director of Housing and Urban Development Corporation Limited (HUDCO), when saw water flowing from the taps in Pothireddypally Gudem habitation near here on Saturday.

"I never drank safe drinking water all my childhood. The tank in our habitation in Palakollu, infested with algae and water hyacinth, was the year-long source of water. I've grown immune to all that," he recalled.

On Saturday, Mr. Ravi Kanth along with a team of officials, including HUDCO State and regional heads, turned on the taps tasting water here, after visiting its source – off-take point at Akkampally Balancing Reservoir and filtration project at Kodandapur.

The Kodandapur segment of the Mission Bhagiratha – the State's programme to provide safe and tapped



HUDCO CMD M. Ravi Kanth tastes water through a Mission Bhagiratha tap outside a house in Pothireddypally gudem habitation of PA Pally mandal in Nalgonda district on Saturday. •SINGAR VENKATARAMANA

drinking water to every household – supplies to 352 habitations in the area.

Major role
HUDCO, 'Mini Ratna' public sector undertaking that promotes sustainable habitat development, was one of the

first ones to sanction a loan for Mission Bhagiratha. The 'greenfield project' was released ₹ 4,750 crore in two phases, say officials. And all the intake wells from the source point here were built from those funds.

"I always felt happy for

my role as a Telugu man in sanctioning that loan. But witnessing development, in a fluoride-affected place like Nalgonda, which I didn't experience as a child is very different," Mr. Ravi Kanth said, interacting with residents of Pothireddypally Gudem.

Role model
He was all praise for the mega project Mission Bhagiratha and said the State government by fulfilling the basic need of safe drinking water soon will be a model for other states.

Interacting with the media, Mr. Ravi Kanth, a 1986-batch Kerala cadre IAS officer, recalled his association with *The Hindu*. "It used to cost 35 paise when I started reading *The Hindu* in 1979. Then, the paper was delivered at Andhra University in the afternoon, with the arrival of a train from Hyderabad. I think I owe my success to your newspaper," he signed off and turned to interact with more residents in the village.



Sri Babarao Lonikar, Hon'ble Minister RWS&Sanitation Maharashtra visit to Bhagiratha sites at Medak dist

'Mission Bhagiratha will be replicated in Marathwada'

Groundwater level in eight districts of Marathwada region has fallen to as low as 1,000 feet

R. AWADHANI

PEDDAREDDYPET (MEDAK DISTRICT), Maharashtra Water Supply and Sanitation Minister Babarao Lonikar said that Mission Bhagiratha will be replicated in Marathwada region to address the water problem.

He said that this scheme would be discussed in their cabinet shortly and requested the officials to present details of the scheme so that it would be easy for him to explain his colleagues.

Along with a team of officials, Mr. Babarao visited ongoing Mission Bhagiratha works at Peddareddypet near Singoor Project. Spending about an hour, the Minister enquired as to how the programme was planned and being implemented.

During his visit to the Singoor Dam he also asked as to how the water is being distributed with the Mission Bhagiratha. Later, speaking to reporters Mr. Babarao said that it was amazing to see that the newly formed Telan-



STUDY TOUR: Maharashtra Water Supply and Sanitation Minister Babarao Lonikar inspecting a check dam in Medak district on Sunday. — PHOTO: MOHA ABB

gana was able to make a progress on planning and implementation of schemes like Mission Bhagiratha within a short period of one year.

"We are facing a serious drinking water problem in Marathwada and to Lathur in tanks and sometimes even

in trains. Groundwater level in eight districts of Marathwada region fell to as low as 1,000 feet. We have used 4,000 tankers to supply drinking water for the purpose," said Mr. Lonikar.

The Minister said that Chief Minister Devendra Fadnis had sent them here to study Mission Bhagiratha

Scheme and they were also studying the Gujarat model where drinking water supply was good. He informed that both the models would be replicated to supply drinking water in Marathwada.

Mission Bhagiratha Engineering in Chief Suresh Reddy and others were present.



Chief Engineers & Team of Sr level Engineers, Tamilnadu visit to Bhagiratha sites



Madya Pradesh Sr level Engineers Technical Tour to Bhagiratha Works in Nagar kurnool & Sangareddy dists during September 2017



Visit of Senior IAS/IPS officers to Bhagiratha sites



THANK YOU