

**BEFORE THE HONOURABLE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI.**

O.A. No. 13 of 2021

IN THE MATTER OF:

Tribunal on its own motion Suo Motu
based on the News Item in Deccan Chronicle English Newspaper,
Dt. 10.12.2020, "Kurnool shocked by quality of KMC Water

..Applicants

Versus

1. Union of India
Rep. by its Secretary,
Ministry of Environment, Forest & Climate Change,
Indira Paryavaran Bhavan,
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..... Respondents

REPORT FILED BY THE 12th RESPONDENT APPCB

26-02-2021



**M/S MADHURI DONTI REDDY
ADVOCATE**

**STANDING COUNCIL FOR GOVERNMENT OF
ANDHRA PRADESH**

**A.P. POLLUTION CONTROL BOARD
T.T.D. SUPREME COURT OF INDIA**

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COUNSEL FOR R2 to R10, R12 to R22

BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI
Original Application No. 13 of 2021 (SZ)

IN THE MATTER OF

Tribunal on its own motion-SUO MOTU Based on the
News item in Deccan Chronicle English Newspaper, Dated
10.12.2020, "Kurnool shocked by quality of KMC water."

...Applicant(s)

Versus

Union of India, Rep. by its Secretary and Others.

...Respondent(s)

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Place: Kurnool.
Date: 26.02.2021.


 For A.P. Pollution Control Board
Joint Chief Environmental Engineer
A.P. Pollution Control Board,
Zonal Office, KURNOOL.

Status Report in Original Application No. 13 of 2021 Honourable National Green Tribunal (NGT) Southern Zone, Chennai (SZ):

It is to submit that, the Honourable National Green Tribunal, Southern Zone, Chennai, has taken up Suo Motu in Original Application No. 13 Of 2021 (Sz) vide its order dt: 20.01.2021 based on the News Item In Deccan Chronicle English Newspaper, dated 10.12.2020 the incident of “Kurnool Shocked By Quality Of KMC Water” based on.

About River Tungabhadra:

River Tungabhadra is a river in India that starts and flows through the state of Karnataka during most of its course, before flowing along the border between Telangana, Andhra Pradesh and ultimately joining the Krishna River near Sangameswaram village in Kurnool district of Andhra Pradesh. The River Tungabhadra enters into Andhra Pradesh at Myaliganur Village in Kowthalam Mandal, Kurnool District which is about 45 Kilometers, upstream to the Mantralayam, Kurnool District from there it flows through Mantralayam and then enters into Bhavapuram upstream of Kurnool town further it receives tributary Handri River and then joins River Krishna near Alampur village of Jogulamba, Gadwal District of Talangana state. The Tunga and the Bhadra are 147 km and 171 km respectively. The total catchment area of the river is 69,552 km² (26,856 Sq miles) up to its confluence with Krishna. The length of the Tungabhadra River is 531Kms. On the occasion of the River Tungabhadra Pushkaram, 2020 the Board collected the water samples from various Ghats in Kurnool district from 20.11.2020 to 01.12.2020 to assess the water quality at Pushkar Ghats enclosed as **Annexure-X**.

In the Order, the Hon'ble NGT directed the authorities to submit their responses regarding the allegations made and the action taken and also the present status of the water quality in the river, implementation of Solid Waste Management Rules, 2016 and also Bio-Medical Waste Management Rules, 2016 and the pollution mechanism that is being adopted by the industries and other establishments from where the possible discharge of untreated effluents or sewage are likely to reach the river as one of the causes for pollution.

A detailed report duly covering the points mentioned in the Hon'ble NGT orders are as follows:

Item-1: It is alleged that, Citizens in Kurnool are shocked at the quality of water being supplied to them by Kurnool Municipal Corporation (KMC) in the wake of Eluru contamination that saw hundreds of people taking ill. Also alleged that KMC has no sewerage treat plant and every day it discharges 60 million litres (mld) into Tungabhadra river without any concerns for people's health. River pollution in Handri and Tungabhadra, the two rivers that flow across Kurnool city, have been

causing health issues to people residing on the river bank. Plastic waste and other non-degradable material, lead and cadmium that are in the river need to be cleared.

In response to the News published with “Kurnool Shocked by Quality of KMC Water” the Commissioner, the Kurnool Municipal Corporation vide rejoinder dt:10.12.2020, condemned that, the news is not correct in genuine. Copy of the rejoinder is enclosed as **Annexure-I** for kind perusal. With regard to drinking water supply the corporation declared that, the main source of supply to Kurnool town is K.C. Canal from Sunkesula Barrage not Tungabhadra River. After treatment at Ashok Nagar pump house, the water is being supplied to various parts of Kurnool town.

The latest water quality of River Tungabhadra at Pushkar Ghats, in Kurnool city:

- To assess the latest water quality of River Tungabhadra at Pushkar Ghats, in Kurnool city i.e., Pumphouse, Sankal bhag, Naga Sai temple, Rambotla temple, Raghavendra mutt, Sri Sai baba temple, Munagalapadu and Nagareswara swami temple collected samples on 09.02.2021 it is observed that, the parameters "**Bio-Chemical Oxygen Demand (BOD)**" and "**Total coilform**" were exceeding the CPCB standards. The location and date wise Analysis reports are enclosed as Annexure-II.
- Earlier, the Officials and staff of APPCB, Kurnool Zone, collected water samples during **Pushkaram, 2020** and it was observed that, the parameters "**Bio-Chemical Oxygen Demand (BOD)**" and "**Total coilform**" were exceeding the CPCB standards in and around Kurnool city i.e., Pumphouse, Sankal bhag, Naga Sai temple, Rambotla temple, Raghavendra mutt, Sri Sai baba temple, Munagalapadu and Nagareswara swami temple from 20.11.2020 to 27.11.2020. Immediately the Regional Office, Kurnool, has issued a Show cause Notice to the Kurnool Municipal Corporation duly communicating the analysis reports and requested to take **appropriate measures may be taken, so that the water quality at Pushkar Ghats/showers shall comply with the standards stipulated by the CPCB water quality criteria for designated outdoor bathing. Copy enclosed as Annexure-III**
- In response to the above notice Kurnool Municipal Corporation, replied that, with great difficulty they have completed all the components i.e., construction of sump wells of various diameters, erection of sewage pump sets and its accessories and laying of different dia of HDPE pipe lines of 18.65 KM within 18 days, including laying of 12.6KM through stagnated water in Tungabhadra river and started diversion of sullage water from above said sumps to downstream side of last ghat from 18-11-2020 onwards to till to date and completely avoiding mixing of sullage water from Ameer Hyder colony to Rambotal temple Ghat duly deploying staff in three shifts to monitor sewage pump sets including arranging generators to run the sewage pump sets in case of power interruption period.

- Further, stated that, Rendu vagulu which is the only one drain joins Tungabhadra River near old Tungabhadra pump which is mixed up with KC canal leakage water around 100 cusecs before joining Tungabhadra River through escape gates near karlmarks nagar. To divert such huge quantity of 100 cusecs, there is no space available to construct of larger dia sump to collect water, procurement of larger dia of pipes of 6.50KM, crossing of railway track and laying of pipes through water in Tungabhadra River not possible with in short period. To improve water quality parameters of rendu vagulu which is mixed with KC canal water , Kurnool Municipal Corporation has made arrangements to disinfect Rendu Vagulu water and for reducing BOD, Bio remediation process also taken up which involves dozing of Bio-Enzymes daily. Even though necessary measures taken, but due to meager flows in Tungabhadra River and due to stagnated water in gorge portion of Tungabhadra River from Sankalbagh ghat to Raghavendra swamy Mutt Ghat, water quality parameters are slightly above the CPCB water quality criteria for designated outdoor bathing norms. Copy of the reply is enclosed as **Annexure-IV** for kind perusal.

1.0 Present status of the water quality River Tungabhadra at National Water Quality Monitoring Programme locations, in Kurnool District:

- 1.1** The water quality of River Tungabhadra and its tributaries is being monitored at four locations i.e., Mantralayam (**after entering into Andhra Pradesh**), Bhavapuram (**Upstream of Kurnool town**), Gondiperla (**Downstream of industries**) and Padidempadu (**Downstream of Kurnool town before joining the River Krishna**) on monthly basis by the A.P. Pollution Control Board, Kurnool under National Water Quality Monitoring Programme (NWMP). The statement showing the average values from January, 2020 to December, 2020 is enclosed as **Annexure-V**.
- 1.2** From the Analysis reports, pertaining to four locations mentioned above it may be noted, the values of **pH, DO & BOD** are almost meeting the quality criteria for Class-B (Outdoor bathing- organized) and the parameters **Lead and Cadmium** are within the inland surface water standards except the concentrations of **Total Coliform count is not meeting the quality criteria for Class-B (Outdoor bathing-organized)**, due to mixing of sewage into the River. Hence, the allegation made by the Deccan Chronicle English Newspaper, dated: 10.12.2020 that, the river water also contains metals like Lead and Cadmium is false.
- 1.3** To meet the CPCB designated water quality criteria, the Kurnool Municipal Corporation has to construct sewage treatment plants for the remaining 57.6 MLD and divert all the sewage generated from the Kurnool town, avoid the joining of sewage into river, after treatment shall be utilized for industrial purposes and for onland application to reduce the water consumption, then only the water quality of the River Tungabhadra will improve.
- 1.4** The water quality of River Tungabhadra and its tributaries is being monitored at four locations i.e., Mantralayam (**after entering into Andhra Pradesh**), Bhavapuram

(Upstream of Kurnool town), Gondiperla (Downstream of industries) and Padidempadu (Downstream of Kurnool town before joining the River Krishna) on monthly basis by the A.P. Pollution Control Board, Kurnool under National Water Quality Monitoring Programme (NWMP). The statement showing the average values from January, 2020 to December, 2020 is enclosed as Annexure-V.

1.5 From the Analysis reports, pertaining to four locations mentioned above it may be noted, the values of pH, DO & BOD are almost meeting the quality criteria for Class-B (Outdoor bathing- organized) and the parameters Lead and Cadmium are within the standards. Hence the allegation made by the Deccan Chronicle English Newspaper, dated: 10.12.2020 that, the river water also contains metals like Lead and Cadmium was false. However the concentrations of Total Coliform count at above locations are not meeting the quality criteria for Class-B (Outdoor bathing- organized), due to mixing of sewage into the River.

2.0 Solid Waste Management in Kurnool City:

The Kurnool city generates about 170 Tons per day of Municipal Solid Waste. Out of that 40 Tons is Dry waste and 130 Tons is Wet waste and the total waste is being sent to Gargeyapuram Dump yard. The Corporation is not dumping the Municipal solid waste on the banks of Tungabhadra River. However the Municipal Corporation was directed to utilize the wet waste for Vermi Compost and to Establish Material Recovery Facility (MRF) to handle the Dry waste and shall keep them operational for recovery of recyclable waste. Also requested to submit the Action plan for bio-mining of legacy waste and to clear the old dump sites further utilization.

3.0 Bio-Medical Waste Management:

3.1 In Kurnool town there are about 250 Health Care Facilities are existing and they generates about approximately 450 Kg's/day. To cater the Bio-medical waste generated from Kurnool town and other parts of Kurnool district the Board has issued permission to CBMWTF i.e., M/s. Medical waste Solutions.

3.2 The facility is collecting the Bio-Medical waste of about 900-950 Kg's/day generated from the 620 HCEs of capacity – 8300 bed strength in Kurnool District including the Kurnool town, and treating & disposing the Bio-medical waste through incinerator of capacity – 100 Kg's/hr along with auto-clave and shredding equipments. The facility has established Bar coding system and Global Positioning System (GPS) in Kurnool District for handling/tracking the collection of Bio Medical Waste. During the District Level Committee meetings the Kurnool Municipal Corporation was requested not to collect/mix the Bio Medical waste with general Municipal Solid waste. No dumping of Bio-medical waste in and around the banks of River Tungabhadra.

4.0 Pollution mechanism adopted by the industries:

4.1 River Tungabhadra makes its way into the state of Andhra Pradesh near Mantralayam and passes through the Kurnool Municipality and joins river Krishna at Sangameswaram, border between Andhra Pradesh and Telangana State. Hence,

the major settlements in Kurnool town located along the river stretch of river Tungabhadra.

4.2 There are five major industries located in the neighborhood of river Tungabhadra near Kurnool town the details are as follows:

a) M/s. TGV SRAAC Ltd., (Formerly M/s. Sree Rayalaseema Alkalies and Allied Chemicals Limited) Gondiparla Village, Kurnool District, The details of waste water generation and ETP & its method of disposal located in the banks of Tungabhadra River is as follows:

- I.** M/s. **TGV SRAAC LTD.**, consists of four divisions. The industry has provided separate ETPs for chloro alkali plant, Castor oil/ fatty acid plant and Co-generation plants. The total waste water generation of M/s. **TGV SRAAC LTD** is 2060.5 KLD. For Chloro alkali and Chloro Methane divisions they have provided ETP of capacity 480 KLD consisting of Equalization tank Acid dosing tank (FRP), Alkali dosing tank(FRP), Pre-settling tank, Flocculent storage tank, Flocculent mixer & Secondary clarifier, UF-RO Plant of capacity 20 M³/hr. After treatment in ETP, the treated waste water is further treated in the UF-RO plant, the permeate is recycled into the process and RO Rejects is utilized for brine makeup.
- II.** For the effluents generated from the Power Plant i.e., DM Plant regeneration/RO Rejects/ Cooling tower & boiler blow downs they have provided Acid dosing tank, Caustic dosing tank, Neutralization tank & Treated effluent tank. After treatment, maximum quantity i.e., 1200 KLD is being reused for brine make up for chloro alkali plant and partly used for green belt development.
- III.** For Oil and Fatty Division and domestic waste water of about 90 KLD generated from TGV SRAAC, they have provided 400 KLD capacity of Effluent Treatment Plant consists of Equalization tank / Oil trap DAF Settling tank, Aeration tank, Secondary clarifier, Holding tank, Sand filter & Activated Carbon Filter - 25^{m³}/hr. Filter press/ alternatively decanter is also provided as a standby Sludge drying beds.. After treatment in ETP, the treated effluents are collected in holding tank and are being utilized for on land for gardening after passing through pressure sand filter and activated carbon filter.
- IV.** The industry has provided webcam and flow meters for the Zero liquid discharge systems for effluents and provided connectivity to CPCB websites.
- V.** In addition to the above the TGV SRAAC, installed and operating 4 MLD of Effluent recycling plant to cater the effluents to be generated in future expansions and diversification. Effluent recycling plant (ERP) consisting of equalization tank, clarifier, ultra filtration and reverse osmosis system. The treated effluent will be used as process water in place of river water and rejects will be used for Brine makeup.

- b) M/s.Sree Raylaseema Hi-Strength Hypo- Limited (Units-I, II, III & IV), Gondiparla (V), Kurnool (M & District): They are engaged in manufacturing of Calcium hypo chlorite, sulphuric acid etc., Hydrogen bottling unit, stable bleaching powder unit, sodium hydrate, sodium Meth-oxide and power plant and these units are having treatment facilities in place and have not been permitted by APPCB for discharging any type of effluent outside the premises or into the river Tungabhadra. The Effluent treatment plant consists of collection tank (02 Nos. of capacity 100 KL each), settling tank (02 Nos. of capacity 200 KL each), pumping tank (01 No of capacity 50 KL each), De-chlorination plant of capacity - 10M³/hr, Stripper of capacity 10M³/hr, Multiple Effect Evaporator – of capacity 10M³/hr and Agitated thin film drier (ATFD) of capacity 250 Kg's/hr. After treatment in Dechlorination plant, the waste water is further treated in stripper followed by MEE & ATFD. The condensate from MEE & ATFD is being used for cooling tower makeup. The cooling bleed off after treatment is being used for onland for gardening within the premises.
- c) M/s. TGV SRAAC Limited (Formerly known as M/s Sree Rayalaseema Alkalies and Allied Chemicals Limited) at Gondiparla (V), Kurnool (M), Kurnool District has obtained Auto renewal of the Board vide order dated.**04.03.2016** extending the validity of CFO order dated.26.02.2014 for further period of 5 years i.e., upto **28.02.2021**. Applied for renewal of CFO, cleared in the CFO committee meeting.
- d) M/s.Sree Rayalaseema Hi-Strength Hypo Limited, Unit–I, Sy.No.16, 17, 23, 67 & 68, Gondiparla (V), Kurnool (M), Kurnool District has obtained CFO order dated.17.06.2020 for the period of 5 years i.e., upto **31.03.2025**.
- e) M/s.Sree Rayalaseema Hi-Strength Hypo Limited, Unit–II, (Hydrogen bottling plant),Sy.No.68, 16, 62-B1A, Gondiparla (V), Kurnool rural (M), Kurnool District has obtained Auto renewal of the Board vide order dated.**13.02.2017** extending the validity of CFO order dated.04.08.2014 for further period of 5 years i.e., upto **31.03.2022**.
- f) M/s.Sree Rayalaseema Hi-Strength Hypo Limited, Unit–III, Gondiparla (V), Kurnool rural (M), Kurnool District has obtained Auto renewal of the Board vide order dated.**03.02.2018** extending the validity of CFO order dated.04.04.2015 for further period of 5 years i.e., upto **31.03.2023**.
- g) M/s.Sree Rayalaseema Hi-Strength Hypo Limited, Unit–IV, Gondiparla (V), Kurnool rural (M), Kurnool District has obtained Auto renewal of the Board vide order dated.**03.02.2018** extending the validity of CFO order dated.30.04.2015 for further period of 5 years i.e., upto **31.03.2023**.

4.3 The APPCB has not permitted any industry for discharging any type of effluent outside the premises or into the river Tungabhadra. At present, there are no industrial discharges into the Thunghabhadra River, only sewage generated

from Kurnool Municipal Corporation is being discharged into the river course. However the APPCB has been regularly collecting the water samples at Gondiperla and Padidempadu after M/s. TGV SRAAC Ltd., (Formerly M/s. Sree Rayalaseema Alkalies and Allied Chemicals Limited) Gondiparla Village, Kurnool District, M/s. Sree Rayalaseema Hi-Strength Hypo Ltd., on monthly basis to assess the water quality of river Tungabhadra.

4.4 As per the APPCB results, the concentrations in surface water are observed to be within the norms, except Total coliform.

5.0 Major source of Water Pollution:

The Kurnool town is generating about 60 MLD of sewage which is the major source of Tungabhadra River. For the total Sewage of 60 MLD generated, the Kurnool Municipal Corporation has provided only three STP's of capacity 0.8 MLD each i.e., 2.4 MLD near Pump House, Sankal Bhag and Jammi chettu and the remaining 57.6 MLD untreated domestic effluents are being discharged into the river Tungabhadra through several drains.

6.0 Action taken by APPCB:

6.1 The APPCB, Regional Office, Kurnool, had issued notices to the Kurnool Municipal Corporation on regular intervals i.e., on 20.01.2021, 17.01.2015, 07.09.2015 and 19.10.2015, 18.10.2019, 23.05.2020, 23.09.2020, 12.10.2020 & 31.10.2020 for discharging untreated sewage effluents into River Tungabhadra and Hundri river and for not meeting the STP outlet standards thereby causing water pollution of Canals and other water bodies.

6.2 On continuous persuasion by the A.P Pollution Control Board and Directions of Hon'ble Supreme Court issued judgment in connection to W.P(C) No.375 of 2012 dated.22.02.2017, the Kurnool Municipal Corporation has provided three STP's of capacity 0.8 MLD each near Pump House (commissioned in the month of December, 2018), Sankal Bhag (commissioned in the month of March, 2019) and Jammi chettu (commissioned in the month of March, 2020) i.e., 2.4 MLD.

6.3 For setting up of STPs for 100% treatment of sewage On 23.12.2020 the APPCB, Vijayawada, issued a show cause notice to Kurnool Municipal Corporation referring the Hon'ble NGT orders, and directed to show cause as to why the Board shall not levy environmental compensation for Rs.520 lakhs (Rupees Five hundred and Twenty lakhs) on the Commissioner, Kurnool Municipal Corporation, Kurnool for not constructing proper treatment facilities to treat the domestic sewage generated and discharged into the river Tungabhadra which ultimately joins river Krishna is enclosed as Annexure-VII. Also directed the Kurnool Municipal Corporation to file proper action plan through their department in Hon'ble NGT (SZ) duly keeping in mind the action plan submitted in Hon'ble NGT, New Delhi in OA No.673/2018 in the matter of Polluted River Stretches.

7.0 Plastic Waste Management:

Kurnool Municipal Corporation is not carrying out Continuous segregation and collection of plastic waste, the Corporation has to take utmost responsibility to prevent menace of plastic waste pollution and more number of awareness programmes shall be organized across the municipality to ban Single Use Plastic usage and not to throw the plastic carrybags/bottles and another items into the Rivers/water bodies/ canals, etc., to reduce the adverse impacts on the environment.

8.0 The proposed action plan to prevent such things recurring in future and stage of its implementation etc:

8.1 The Hon'ble NGT in O.A No. 673 of 2018 dt:29.10.2018, directed all the states and UT to prepare action plan for bringing all the polluted river stretches to be fit atleast for Bathing purpose (BOD<3mg/l & Fecal Coliform<500MPN/100ml from the date of finalization of Action plans. To meet the bathing quality criteria, River Rejuvenation Committees were constituted in compliance to the Hon'ble NGT order dt: 20.09.2019, to prepare and implement the action plan for Restoration of Water Quality. The APPCB is regularly obtaining the information from the Kurnool Municipal Corporation with regard to the implementation of action plans and submitting to Ministry of Jal shakti, for onward submission to Hon'ble NGT, principal bench, New Delhi.

8.2 The action plan and compliance report with regard to STP's, industrial effluent management, Biomedical & Solid Waste Management for the Restoration of polluted river stretch of Tungabhadra i.e., Mantralayam to Bhavapuram is enclosed as **Annexure-VIII**.

9.0 Similar Applications are under review before Hon'ble NGT:

9.1 It is to submit that, the Judgment of Hon'ble NGT in Application No.673 of 2018, issued a direction vide its orders dt.06.12.2019, that Setting up of STP for 100% treatment of sewage shall be completed by 31.03.2021.

9.2 The NGT Order dated 26.08.2020 in O.A. No.27/2016 and requested to initiate necessary action against the local bodies in respect of fulfilling gaps in establishments of STPs inspite of facts that there were stringent directions issued by the Principal bench of NGT, New Delhi in O.A.No. 606 of 2018 (vide order dated 28.02.2020 & 02.07.2020).

9.3 The Hon'ble NGT has amalgamated OA No's 593 of 2017 with 676 of 2018 & 148 of 2016 and 829 of 2019 and issued order on 21.09.2020 in which it was directed all SPCBs to cover the following action points in the action plan to be prepared for the use of treated sewage.

9.4 It is to inform that the Hon'ble NGT has periodically been reviewing the compliance status of implementation of various Waste Management Rules and other Environmental issues in the Country in O.A Nos. 606/2018, 673/2018, 519/2019, 593/2017 and issuing directions time to time for effective implementation.

9.5 In Hon'ble NGT Orders dt:10.01.2020, 28.02.2020 & 02.07.2020 a compensation regime is laid down for continued failure of Solid Waste Management Rules, 2016 and Liquid Waste Management and Legacy Waste Management.

Item-2: Kosigi Mandal: At least 10 people from Agasanuru village in Kosigi fell ill after drinking contaminated water on Friday. The condition of three of them is described as serious. All of them were rushed to Adoni government hospital.

It is to submit that, there are no industries in and around the Kosigi Mandal. To know the fact with regard to water contamination the Tahsildar along with Revenue Inspector and Health Department visited the village and observed that, total 4 persons were effected due to Diarrhea as the villagers consumed raw water for drinking purpose and all the 4 persons were cured and discharged on the same day. The report submitted by the Tahsildar is enclosed as **Annexure-IX**.

Conclusion:

- No industrial effluents are joining River Tungabhadra, the water contamination at pushkar ghats is only due to joining of untreated sewage into river not by the industrial effluents. As per the APPCB analysis reports of the samples collected during and after **Pushkaram**, the parameters "**Bio-Chemical Oxygen Demand (BOD)**" and "**Total coilform**" were exceeding the CPCB standards in and around Kurnool city.
- With regard to water quality of River Tungabhadra from Mantralayam to Padidempadu, APPCB has been regularly collecting the water samples on monthly basis, as per the analysis reports, the values of **pH, DO & BOD** are almost meeting the quality criteria for Class-B (Outdoor bathing- organized) and the parameters **Lead and Cadmium** are within the inland surface water standards except the concentrations of **Total Coliform count, the reduction in BOD levels at four locations is due to dilution of sewage by mixing of KC Canal leakage water and by self purification.**
- To prevent Tungabhadra River water pollution near Kurnool town, the Kurnool Municipal Corporation is required to construct and operate sewage treatment plants for the balance 57.6 MLD.
- For Kurnool town the main source of water supply is K.C. Canal from Sunkesula Barrage and the treated water is being supplied to various parts of Kurnool town, not Tungabhadra River. No dumping of Bio-medical/Soild waste in and around the banks of River Tungabhadra.
- With regard to water contamination at Agasanur village, Kosigi Mandal, Kurnool District, the Tahsildhar reported that, 4 persons were effected due to Diarrhea as the villagers consumed raw water for drinking purpose and all the 4 persons were cured and discharged on the same day and there after no cases were registered in Kosigi mandal as well as in Kurnool District.
- As submitted above, O.A No.673 of 2018 regarding polluted river stretches is being heard by Hon'ble NGT, Principal bench, New Delhi and O.A No.27 of

2016 regarding River Krishna and its tributaries is being heard by Hon'ble NGT, Southern Zone Chennai.

The status report is submitted to the Hon'ble NGT, as per the directions. The APPCB will abide by all such directions as this Hon'ble tribunal may be fit and appropriate.

Dated at Kurnool, AP on this the 26th day of February, 2021.

V. Rao
26/2/21
For A.P. Pollution Control Board.
Joint Chief Environmental Engineer
A.P. Pollution Control Board,
Zonal Office, KURNOOL.

ANNEXURE - T

Kurnool Municipal Corporation,
Dt.10.12.2020

REJOINDER

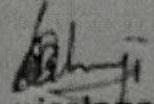
Sub:- Kurnool Municipal Corporation – Engineering Section – Kurnool shocked by Quality of KMC water – Rejoinder – Submitted – Regarding.

Ref:- Adverse news published in Deccan Chronicle on 10.12.2020.

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In response to the news published with caption of "Kurnool shocked by quality of water" in Deccan Chronicle daily news is not correct and genuine as per the Residual report chlorine reports daily taking by the Kurnool Municipal Corporation staff. The Kurnool Municipal Corporation is not directly drawing raw water from Tungabhadra River for drinking purpose as published in the news item and you are well aware that, Main source of raw water for drinking needs of Kurnool Municipal Corporation is K.C Canal from sunkesula barrage. The raw water from K.C canal is being drawn near Munagala padu off-take point and pumping in to SS Tank daily. Required quantity of raw water is drawn from SS Tank to Head water works at Ashok Nagar and treated as per standards and clear water with residual chlorine of 2 ppm is maintained and supplied to entire city. During treatment process required quantity of alum as per turbidity level (minimum dosage of 7 ppm) is added for sedimentation of solids. Pre-chlorination of water is also done to remove any alge, odour and colour. Finally clear water is being supplied to various parts of town after post chlorination. Every hour residual chlorine is tested and recorded in the register at head water works. During distribution of treated water it is also ensured that, residual chlorine of 0.20 ppm is maintaining and checked and registered in the entire city with the Corporation staff. The presence of residual chlorine in water is indication of free from E-Coli bacteria.

Hence, this may kindly be published as rejoinder to the news item published on 10.12.2020 in the interest of public.


Commissioner,

Kurnool Municipal Corporation,
Kurnool.

10/12/20
EE-11

Copy to District Public Relation Officer, Kurnool with instructions to publish the rejoinder in daily news paper.

ANNEXURE-II


**ANDHRA PRADESH POLLUTION CONTROL BOARD
ZONAL LABORATORY : KURNOOL**

Shankar Shopping Complex, 1st Floor, Krishna Nagar Main Road, Kurnool

Accredited by NABL as per ISO/IEC: 17025:2005



TC-7305

 Y. ATCHUTA RAMAYYA
Senior Environmental Scientist (FAC)

ULR-TC73052100000068F

FORMAT No. APPCB/ZL/KNL/FM/66

ANALYSIS REPORT

Report No.: KNL2102044 to 047

 Sample source : Pushkaraghats samples collected in river Tungabhadra river,
in Kurnool town after 3 months.

Sample code & Location :

KNL2102044: Water sample collected in Pushkaraghat in Tungabhadra River right side at Pump house near Masamasid Village, Kurnool town.

KNL2102045: Water sample collected in Pushkaraghat in Tungabhadra River right side at Sankalbagh, Kurnool town.

KNL2102046: Water sample collected in Pushkaraghat near Naga sai temple, Kothapeta, Kurnool town

KNL2102047: Water sample collected in Pushkaraghat in Tungabhadra River right side near Rambotla temple, one town in Kurnool town.

Sample collected by : E.E, R.O, Kurnool.

Sample collected on : 09.02.2021

Sample received on : 09.02.2021

Report issued on : 17.02.2021

It is to certify that the above samples were analysed from 10/02/2021 to 15/02/2021 and declared the analysis results are as follows:

Sl. No	Parameter	SAMPLE CODES				Test Method -
		Analysis Results				
		044	045	046	047	
1.	pH @ 27 ^o C	7.8	7.7	7.5	8.0	APHA (23rd Edition) 4500-H+B: 2017, Page. 4-95 to 4-99
2.	Total Suspended Solids (TSS)	<5	<5	<5	5	APHA (23 rd Edition) 2540-D: 2017, Page. 2-70 to 2-71
3.	Total Dissolved Solids (TDS)	1240	1160	1240	1230	APHA (23 rd Edition) 2540-C: 2017 Page. 2-69 to 2-70
4.	Chemical Oxygen Demand (COD)	12	14	8	10	APHA (23 rd Edition) 5220-B: 2017, Page. 5-18 to 5-19
5.	Biochemical Oxygen Demand (BOD) 3 days @ 27 ^o C	3.5	3.5	2.7	3.2	IS 3025 (Part 44): 1993 (Reaffirmed 2014)
6.	Chlorides (as Cl ⁻)	246	236	238	258	APHA (23 rd Edition) 4500-Cl B: 2017, Page. 4-75 to 4-76
7.	Sulphates (as So ₄ ²⁻)	292	259	275	244	APHA (23 rd Edition) 4500-SO ₄ E: 2017Page. 4-199 to 4-200
8.	Ortho Phosphate-(as PO ₄)	0.02	0.03	0.04	0.03	APHA (23rd Edition) 4500-P D: 2017, Page. 4-163 to 4-164

Remarks:

- All values are expressed in mg/l except pH.
- Results are related to sample(s) as received.
- This report shall not be reproduced except in full without approval of the lab.

Signed this: 17th day of February, 2021

**STATE BOARD ANALYST
(Y. ATCHUTA RAMAYYA)**

Sr. Environmental Scientist (FAC)



**ANDHRA PRADESH POLLUTION CONTROL BOARD
ZONAL LABORATORY : KURNOOL**

Shankar Shopping Complex, 1st Floor, Krishna Nagar Main Road, Kurnool

Accredited by NABL as per ISO/IEC: 17025:2005

Y. ATCHUTA RAMAYYA
Senior Environmental Scientist (FAC)

ANALYSIS REPORT

Report No.: KNL2102044 to 047

Sample source : Pushkaraghats samples collected in river Tungabhadra river, in Kurnool town after 3 months.

Sample code & Location :

KNL2102044: Water sample collected in Pushkaraghat in Tungabhadra River right side at Pump house near Masamasid Village, Kurnool town.

KNL2102045: Water sample collected in Pushkaraghat in Tungabhadra River right side at Sankalbagh, Kurnool town.

KNL2102046: Water sample collected in Pushkaraghat near Naga sai temple, Kothapeta, Kurnool town

KNL2102047: Water sample collected in Pushkaraghat in Tungabhadra River right side near Rambotla temple, one town in Kurnool town.

Sample collected by : E.E, R.O, Kurnool.

Sample collected on : 09.02.2021

Sample received on : 09.02.2021

Report issued on : 17.02.2021

It is to certify that the above samples were analysed from 10/02/2021 to 15/02/2021 and declared the analysis results are as follows:

Sl. No	Parameter	SAMPLE CODES				Test Method
		Analysis Results				
		044	045	046	047	
1.	Dissolved oxygen (DO)	5.7	5.9	5.6	5.9	APHA (23 rd Edition) 4500-O C : 2017, Page. 4 - 146 to 4 -148
2.	Faecal coliform	210	170	350	220	MPN Method by using colitag sample kit
3.	Total coliform	920	540	>1600	920	MPN Method by using colitag sample kit

Remarks:

1. All values are expressed in mg/l and Fecal Coliform & Total coliform are expressed in MPN/100 ml
2. Results are related to sample(s) as received.
3. This report shall not be reproduced except in full without approval of the lab.

Signed this: 17th day of February, 2021


**STATE BOARD ANALYST
(Y.ATCHUTA RAMAYYA)**
 Sr. Environmental Scientist (FAC)

++ END OF THE REPORT ++

14



**ANDHRA PRADESH POLLUTION CONTROL BOARD
ZONAL LABORATORY : KURNOOL**

Shankar Shopping Complex, 1st Floor, Krishna Nagar Main Road, Kurnool

Accredited by NABL as per ISO/IEC: 17025:2005



TC-7305

Y. ATCHUTA RAMAYYA
Senior Environmental Scientist (FAC)

ULR-TC73052100000069F

FORMAT No.APPCB/ZL/KNL/FM/66

ANALYSIS REPORT

Report No.: KNL2102048 to 051

Sample source : Pushkaraghats samples collected in river Tungabhadra river, in Kurnool town after 3 months.

Sample code & Location :

KNL2102048: Water sample collected in Pushkaraghat in Tungabhadra River right side near Raghavendra Mutt in Kurnool town.

KNL2102049: Water sample collected in Pushkaraghat in Tungabhadra River right side near Sri Saibaba temple in Kurnool town.

KNL2102050: Water sample collected in Pushkaraghat at Nagareswara swamy temple, in Kurnool town

KNL2102051: Water sample collected in Pushkaraghat in Tungabhadra River right side near road bridge downstream at NH-44 near Munagalapadu (V), in Kurnool town.

Sample collected by : E.E, R.O, Kurnool.

Sample collected on : 09.02.2021

Sample received on : 09.02.2021

Report issued on : 17.02.2021

It is to certify that the above samples were analysed from 10/02/2021 to 15/02/2021 and declared the analysis results are as follows:

Sl. No	Parameter	SAMPLE CODES				Test Method
		Analysis Results				
		048	049	050	051	
1.	pH @ 27°C	8.2	7.6	7.5	7.9	APHA (23rd Edition) 4500-H+B: 2017, Page. 4-95 to 4-99
2.	Total Suspended Solids (TSS)	6	<5	5	<5	APHA (23 rd Edition) 2540-D: 2017, Page. 2-70 to 2-71
3.	Total Dissolved Solids (TDS)	1220	1204	1224	1245	APHA (23 rd Edition) 2540-C: 2017 Page. 2-69 to 2-70
4.	Chemical Oxygen Demand (COD)	12	10	8	12	APHA (23 rd Edition) 5220-B: 2017, Page. 5-18 to 5-19
5.	Biochemical Oxygen Demand (BOD) 3 days @ 27°C	2.8	3.3	3.2	3.0	IS 3025 (Part 44): 1993 (Reaffirmed 2014)
6.	Chlorides (as Cl ⁻)	256	242	244	252	APHA (23 rd Edition) 4500-Cl B: 2017, Page. 4-75 to 4-76
7.	Sulphates (as So ₄ ²⁻)	254	249	237	285	APHA (23 rd Edition) 4500-SO ₄ E: 2017Page. 4-199 to 4-200
8.	Ortho Phosphate-(as PO ₄)	0.04	0.06	0.04	0.03	APHA (23rd Edition) 4500-P D: 2017, Page. 4-163 to 4-164

Remarks:

- All values are expressed in mg/l except pH.
- Results are related to sample(s) as received.
- This report shall not be reproduced except in full without approval of the lab.

Signed this: 17th day of February, 2021


**STATE BOARD ANALYST
(Y.ATCHUTA RAMAYYA)**
 Sr. Environmental Scientist (FAC)

15



**ANDHRA PRADESH POLLUTION CONTROL BOARD
ZONAL LABORATORY : KURNOOL**

Shankar Shopping Complex, 1st Floor, Krishna Nagar Main Road, Kurnool

Accredited by NABL as per ISO/IEC: 17025:2005

Y. ATCHUTA RAMAYYA
Senior Environmental Scientist (FAC)

ANALYSIS REPORT

Report No.: KNL2102048 to 051

Sample source : Pushkaraghats samples collected in river Tungabhadra river, in Kurnool town after 3 months.

Sample code & Location :

KNL2102048: Water sample collected in Pushkaraghat in Tungabhadra River right side near Raghavendra Mutt in Kurnool town.

KNL2102049: Water sample collected in Pushkaraghat in Tungabhadra River right side near Sri Saibaba temple in Kurnool town.

KNL2102050: Water sample collected in Pushkaraghat at Nagareswara swamy temple, in Kurnool town

KNL2102051: Water sample collected in Pushkaraghat in Tungabhadra River right side near road bridge down stream at NH-44 near Munagalapadu (V), in Kurnool town.

Sample collected by : E.E, R.O, Kurnool.

Sample collected on : 09.02.2021

Sample received on : 09.02.2021

Report issued on : 17.02.2021

It is to certify that the above samples were analysed from 10/02/2021 to 15/02/2021 and declared the analysis results are as follows:

Sl. No	Parameter	SAMPLE CODES				Test Method
		Analysis Results				
		048	049	050	051	
1.	Dissolved oxygen (DO)	6.1	5.7	5.8	6.2	APHA (23 rd Edition) 4500-O C : 2017, Page. 4 - 146 to 4 -148
2.	Faecal coliform	350	180	430	130	MPN Method by using colitag sample kit
3.	Total coliform	>1600	920	>1600	540	MPN Method by using colitag sample kit

Remarks:

1. All values are expressed in mg/l and Fecal Coliform & Total coliform are expressed in MPN/100 ml
2. Results are related to sample(s) as received.
3. This report shall not be reproduced except in full without approval of the lab.

Signed this: 17th day of February, 2021


**STATE BOARD ANALYST
(Y.ATCHUTA RAMAYYA)**
 Sr. Environmental Scientist (FAC)

++ END OF THE REPORT ++

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ANNEXURE - III
ANDHRA PRADESH POLLUTION CONTROL BOARD
 REGIONAL OFFICE, KURNOOL

1st Floor, Shankar Shopping Complex, Krishna Nagar Main Road, Kurnool – 518 002

B.Y. Muni Prasad.,
Environmental Engineer

Tele : 08518 235800

Email : roknl-ee1@appcb.gov.in

NOTICE NO:KMC/PCB/RO/KRNL/Notice-2020 - 491

Dated:28 .11.2020

NOTICE

Sub:- APPCB-RO-KNL- M/s. Kurnool Municipal Corporation, Kurnool- Communication of analysis reports for the water samples collected from 20.11.2020 to 27.11.2020 during the River Tungabhadra, Pushkaralu, 2020 – Not maintaining the CPCB water quality criteria for designated outdoor bathing - Not taken adequate steps for control of total coliform and BOD - Adverse news item published in EENADU daily news paper on 23.11.2020 and Adverse video clipping telecasted in TV5 on 25.11.2020 - Notice issued - Reg.

- Ref:-
1. Instructions received from Board office, Vijayawada on 18.11.2020.
 2. Mail received from APPCB, Zonal office, Kurnool on 18.11.2020.
 3. Board officials along with field staff are collecting the water samples from various Ghats in Kurnool city during the River Tungabhadra Pushkaralu, 2020.
 4. Adverse news item published in EENADU daily news paper on 23.11.2020.
 5. Adverse video clipping telecasted in TV5 on 25.11.2020.
 6. On 28.11.2020 D.Pande forwarded a mail to Collector and district Magistrate with a copy to JC and this Office duly attached adverse video clipping telecasted in TV5 on 25.11.2020.
 7. Instructions received from Chairman, APPCB, Vijayawada, and JCEE, Zonal Office, Kurnool on 28.11.2020.

WHEREAS, vide reference 1st cited above, Board office, Vijayawada directed the Zonal Office, Kurnool, Regional Office, Kurnool and Zonal Laboratory, Kurnool to collect and analyse water samples from 21Nos. of Ghats during Tungabhadra Pushkaralu, 2020. As per the instructions, the APPCB, Zonal office, Kurnool has assigned duties to collect and analyse water samples from 21Nos. of Ghats for Tungabhadra Pushkaralu, 2020 vide reference 2nd cited above, so as to assess the water quality at Pushkar Ghats and same will be communicated to Municipal Authorities for further course of action.

WHEREAS, the Board officials along with field staff collected the water samples from various Ghats in Kurnool city during the River Tungabhadra Pushkaralu, 2020 from 20.11.2020 to 27.11.2020 to assess the water quality at Pushkar Ghats.

WHEREAS, vide reference 4th cited above, an adverse news item published in EENADU daily news paper on 23.11.2020, stating that though the Government announced that, they will take care of sanitation measures during the River Tungabhadra Pushkaralu, 2020 but the situation at the field level is quite different and the sewage is joining the river near the Pump House area of Kurnool city and causing water pollution, as a result the devotees are facing problems with the sewage water, and the same was brought to the notice of Kurnool Municipal Corporation to take necessary measures to avoid contamination of Tungabhadra river.

WHEREAS, vide reference 5th cited above, Adverse video clipping telecasted in TV5 on 25.11.2020, stating that though the Municipal authorities announced that, they will divert the all the sewage drains to the downstream of designated Pushkar Ghat to avoid contamination of the River but the situation at the field level is quite different and the sewage is joining the river near the Pump House area of Kurnool city and causing water pollution, as a result the devotees are

facing health problems after taking bath with the water mixed with sewage, and the same was brought to the notice of Kurnool Municipal Corporation to take necessary measures to avoid contamination of Tungabhadra river.

WHEREAS, vide reference 7th cited above, instructions were received from Chairman, APPCB, Vijayawada, and JCEE, Zonal Office, Kurnool to submit a report on the adverse news and video clippings appeared in EENADU and TV5 with regard to sanitation measures taken by the Municipal authorities to avoid water contamination during the River Tungabhadra Pushkaralu, 2020 as the print and electronic media claimed that, the sewage is joining the river near the Pump House area of Kurnool city and causing water pollution.

WHEREAS, as per the analysis reports of the samples collected at Pushkar Ghats, in Kurnool city i.e., Pumphouse, Sankal bhag, Naga Sai temple, Rambotla temple, Raghavendra mutt, Sri Sai baba temple, Munagalapadu and Nagareswara swami temple from 20.11.2020 to 27.11.2020 it is observed that, the parameters "Bio-Chemical Oxygen Demand (BOD)" and "Total coliform" were exceeding the Board's stipulated standards. The location and date wise exceedance is tabulated below:

1. Sampling location: Pushkaraghat in Tungabhadra River right side at Pump house near Masamasid Village Kurnool Town.

S.No	Date	Total coliform (MPN/100 ml) (CPCB class -B, Standard.500 MPN/100ml or less)		BOD(mg/l) (CPCB class -B, Standard. 3.0 mg/l or less)	
		Morning	Evening	Morning	Evening
1.	20.11.2020	540	540	4.2	4.5
2.	21.11.2020	220	350	4.2	4.3
3.	22.11.2020	430	540	3.7	3.8
4.	23.11.2020	920	920	4.7	4.3
5.	24.11.2020	94	120	3.2	3.3
6.	25.11.2020	250	280	-	-
7.	26.11.2020	81	95	-	-
8.	27.11.2020	120	180	-	-

2. Sampling location: Pushkaraghat in Tungabhadra River right side Sankalbagh, Kurnool Town.

S.No	Date	Total coliform (MPN/100 ml) (CPCB class -B, Standard.500 MPN/100ml or less)		BOD(mg/l) (CPCB class -B, Standard. 3.0 mg/l or less)	
		Morning	Evening	Morning	Evening
1.	20.11.2020	350	430	3	3.3
2.	21.11.2020	180	280	2.5	2.7
3.	22.11.2020	350	430	3.3	2.5
4.	23.11.2020	76	95	3.5	3.8
5.	24.11.2020	350	280	3.5	3.7
6.	25.11.2020	180	210	-	-
7.	26.11.2020	150	220	-	-
8.	27.11.2020	110	140	-	-

3. Sampling location: Pushkaraghat in Tungabhadra River right side Nagasai temple, Kothapeta, Kurnool Town.

S.No	Date	Total coliform (MPN/100 ml) (CPCB class -B, Standard.500 MPN/100ml or less)		BOD(mg/l) (CPCB class -B, Standard. 3.0 mg/l or less)	
		Morning	Evening	Morning	Evening
1.	20.11.2020	540	540	4.3	4.5
2.	21.11.2020	210	250	3.7	3.8
3.	22.11.2020	430	540	2.3	2.5
4.	23.11.2020	150	180	2.5	2.5
5.	24.11.2020	110	130	2.8	3.0
6.	25.11.2020	170	180	-	-
7.	26.11.2020	250	240	-	-
8.	27.11.2020	150	180	-	-

4. Sampling location: Pushkaraghat in Tungabhadra River right side near Rambotla temple, One Town in Kurnool Town.

S.No	Date	Total coliform (MPN/100 ml) (CPCB class –B, Standard.500 MPN/100ml or less)		BOD(mg/l) (CPCB class –B, Standard. 3.0 mg/l or less)	
		Morning	Evening	Morning	Evening
1.	20.11.2020	920	920	5.3	5.8
2.	21.11.2020	540	540	4.7	4.5
3.	22.11.2020	170	180	4.2	4.3
4.	23.11.2020	110	140	3.2	3.3
5.	24.11.2020	140	180	3	3.2
6.	25.11.2020	540	920	-	-
7.	26.11.2020	170	220	-	-
8.	27.11.2020	210	280	-	-

5. Sampling location: Pushkaraghat in Tungabhadra River right side near Raghavendra Mutt in Kurnool Town

S.No	Date	Total coliform (MPN/100 ml) (CPCB class –B, Standard.500 MPN/100ml or less)		BOD(mg/l) (CPCB class –B, Standard. 3.0 mg/l or less)	
		Morning	Evening	Morning	Evening
1.	20.11.2020	920	920	3.2	3.3
2.	21.11.2020	350	430	1	1.3
3.	22.11.2020	94	110	2.5	2.7
4.	23.11.2020	33	46	4.2	4.3
5.	24.11.2020	79	119	3.5	3.7
6.	25.11.2020	430	430	-	-
7.	26.11.2020	280	240	-	-
8.	27.11.2020	170	220	-	-

6. Sampling location: Pushkaraghat near in Tungabhadra River right side at Sri Sai Baba Temple, Kurnool Town.

S.No	Date	Total coliform (MPN/100 ml) (CPCB class –B, Standard.500 MPN/100ml or less)		BOD(mg/l) (CPCB class –B, Standard. 3.0 mg/l or less)	
		Morning	Evening	Morning	Evening
1.	20.11.2020	430	540	2.7	2.8
2.	21.11.2020	110	180	2.5	2.7
3.	22.11.2020	350	430	3	3.2
4.	23.11.2020	130	170	3.5	3.3
5.	24.11.2020	250	280	3.5	3.5
6.	25.11.2020	350	540	-	-
7.	26.11.2020	350	430	-	-
8.	27.11.2020	280	250	-	-

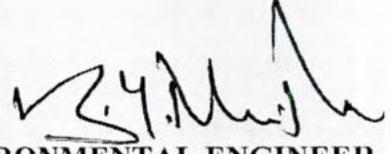
7. Sampling location: Pushkaraghat at Nagareshwara Swamy Temple in, Kurnool District.

S.No	Date	Total coliform (MPN/100 ml) (CPCB class –B, Standard.500 MPN/100ml or less)		BOD(mg/l) (CPCB class –B, Standard. 3.0 mg/l or less)	
		Morning	Evening	Morning	Evening
1.	20.11.2020	430	540	2.3	2.5
2.	21.11.2020	110	140	2.2	2.3
3.	22.11.2020	220	250	3.3	3.3
4.	23.11.2020	430	540	3.7	3.8
5.	24.11.2020	920	>1600	3.3	3.5
6.	25.11.2020	180	430	-	-
7.	26.11.2020	920	>1600	-	-
8.	27.11.2020	430	540	-	-

8. Sampling location: Pushkaraghat in Tungabhadra River Right side (Road Bridge Downstream) at N.H -44 near Munagalapadu (V) Kurnool town.

S.No	Date	Total coliform (MPN/100 ml) (CPCB class -B, Standard.500 MPN/100ml or less)		BOD(mg/l) (CPCB class -B, Standard. 3.0 mg/l or less)	
		Morning	Evening	Morning	Evening
1.	20.11.2020	280	430	2.8	3.0
2.	21.11.2020	430	540	2.7	2.8
3.	22.11.2020	350	540	3.2	3.3
4.	23.11.2020	94	120	3.2	3.3
5.	24.11.2020	350	540	3.3	3.3
6.	25.11.2020	210	280	-	-
7.	26.11.2020	170	280	-	-
8.	27.11.2020	130	220	-	-

In view of the above, it is hereby requested that, **appropriate measures may be taken, so that the water quality at Pushkar Ghats/showers shall comply with the standards stipulated by the CPCB water quality criteria for designated outdoor bathing**, failing which action will be initiated for non-compliance of the standards and for causing surface water pollution in River Tungabhadra as a result the devotees are facing problems with the sewage water, though the issue was brought to the notice of Kurnool Municipal Corporation to take necessary measures to avoid contamination of Tungabhadra river under **section 33(A) of the Water (Prevention & Control of Pollution) Amendment Act, 1988 in the interest of protecting surrounding environment & the public health**. Your reply shall reach to this office immediately, specifically mentioning the action taken for complying with the standards.


ENVIRONMENTAL ENGINEER

To
The Commissioner,
Kurnool Municipal Corporation,
Kurnool, Kurnool District.

Copy submitted to the Chairman, A.P. Pollution Control Board, Head Office, Vijayawada for favour of kind information and taking necessary action.

Copy submitted to the Joint Chief Environmental Engineer, A.P. Pollution Control Board, Zonal Office, Kurnool for favour of kind information and taking necessary action.



ANNEXURE-IV

KURNOOL MUNICIPAL CORPORATION

From,
Sri.D.K.Balaji, I.A.S.,
Commissioner,
Kurnool Municipal Corporation,
Kurnool.

To,
The Environmental Engineer,
Andhra Pradesh Pollution Control Board,
Regional Office,
Kurnool.

Lr.Roc.No.3547/2008/E3, dt. 11.2020.

Sir,

Sub:-Kurnool Municipal Corporation – Tungabhadra Pushkaram – 2020 – Appropriate measures taken to improve water quality at pushkar Ghats- Detailed report - Submitted – Regarding.

Ref: - 1) Notice No.KMC/PCB/RO/KRNL/Notice-2020, dt.28.11.2020 of Environmental Engineer, APPCB, Kurnool.

2) Adverse news item published in EENADU daily news paper on 23.11.2020

3) Adverse video clipping telecasted in TV5 on 25.11.2020.

<<<>>>

I am to state that, the Government of Andhra Pradesh vide G.O.RT.No.456 MA&UD(Budget) Department, dt.14.10.2020 have accorded administrative sanction for Rs.30.00 Crores for providing amenities at proposed Ghats and temporary diversion of sullage water to avoid mixing with river water for conducting Tungabhadra Pushkarams – 2020 from 20.11.2020 to 01.12.2020.

Accordingly, the Kurnool Municipal Corporation has called three tenders for temporary diversion of sullage water on 14.10.2020 and 2 tenders were finalized on 23.10.2020 and one tender was finalized after 2nd call on 29.10.2020. The following components were proposed for temporary diversion of sullage water beyond the proposed last ghat i.e., Rambotla temple ghat.

S. No.	Location of the Sump well	Sump well dia	Capacity of pump sets	Laying of HDPE Pipe lines (Mtrs)
1	Ameen Hyder Colony	3.00	7.5 – 2 Nos	400.00
2	Roza Dargha Back side	4.00	15 – 2 Nos	300.00
3	Chaitanya EM School	8.00	15 – 4 Nos	6200.00
4	Sankal bagh	7.00	15 – 4 Nos	5400.00
5	Nagasai Temple	3.00	7.5 – 2 Nos	450.00
6	Saibaba Temple - 1	5.00	20 – 2 Nos	2200.00
7	Nagareswari swamy temple	5.00	20 – 2 Nos	1800.00
8	Raghavendra Mattam	7.00	10 – 4 Nos	1800.00
9	Saibaba Temple - 2	3.00	7.50 – 2 Nos	100.00
	Total		24 Nos	18650.00

The Kurnool Municipal Corporation with great difficulty completed all the above components i.e., construction of sump wells of various diameters - 9 Nos, erection of sewage pump sets and its accessories- 24 Nos and laying of different dia of HDPE pipe lines of 18.65 KM within 18 days in all aspects including laying of 12.6KM through stagnated water in TB river with the help of swimmers and started diversion of sullage water from above said sumps to downstream side of last ghat from 18-11-2020 onwards to till to date and completely avoiding mixing of sullage water from Ameer Hyder colony to Rambotal temple Ghat duly deploying staff in three shifts to monitor sewage pump sets including arranging generators to run the sewage pump sets in case of power interruption period.

Further, with regard to the reference 2nd and 3rd cited, I am to state that, Rendu vagulu is the only one drain joins TB River near old Tungabhadra pump house. It mixes up with KC canal leakage water (around 100 cusecs from escape gates near Karl marx nagar) before joining TB River. To divert such huge quantity of 100 cusecs, there is no space available to construct of larger dia meter sump to collect water, procurement of larger dia of pipes of 6.50KM, **crossing of railway track** for which permission needs to be taken from Railyws, which is unlikely in the short span of available time and laying of pipes through water in TB River not possible with in short period.

Further I am to state that to improve water quality parameters of Rendu vagulu which is mixes with KC canal water, Kurnool Municipal Corporation has made arrangements to disinfect Rendu Vagulu water by erecting two sets of chlorination plants and adding **20 kg per hour Vaporized Liquid Chlorine gas(2 ppm)** to water to kill organisms. And also **Sodium Hypochlorite with 12% concentration** of Chlorine added @ 600 litres per day (i.e 2 ppm). Bio remediation process was also taken up which involves dozing of **Bio-Enzymes daily @ 4000 Ltrs per day** which helps in reducing BOD and COD by producing amylase and protease. Besides that **alum solution** is also added to settle the solids.

Further, it is also to state holy dip was prohibited and hence, shower arrangements were made for bathing. Kurnool Municipal Corporation also made arrangements such as dozing pumps at each ghat to main residual chlorine dosage of 1 ppm to 2 ppm by adding required quantity of sodium hypo chloride in water which is used for bathing through showers erected by the Irrigation department and it is measured every hour, recorded and displayed at each ghat. (Photos enclosed).

Even though necessary measures were taken, but due to meager flows in TB River and due to stagnated water in gorge portion of Tungabhadra River from Sankalbagh ghat to Raghavendra swamy Mutt Ghat, water quality parameters are slightly above the CPCB water quality criteria for designated outdoor bathing norms.

Further it is assured that, appropriate measures will be taken to maintain the water quality at Pushkara Ghats/showers as per the CPCB standards.

Encl : Photos

Yours Faithfully,



Commissioner,
Kurnool Municipal Corporation,
Kurnool.

Mh
30/11/2016
DGR

Annexure-V

The APPCB has been regularly collecting the water samples at Bavapuram, Pedidampadu, Gondiperla under National Water Monitoring Program on monthly basis to assess the water quality of river Tungabhadra, as per the CPCB directions and Hon'ble NGT Orders.

1. Mantralayam: River Tungabhadra after entering into the Andhra Pradesh state
2. Bhavapuram: River Tungabhadra upstream of Kurnool town before joining of the city sewage.
3. Gondiperla: River tungabhadra, after M/s. Rayalaseema Alaklies industries, near sivalayam temple, Gondiparla (V), Kurnool (M& Dist).
4. Padidampadu: River Tunghabhadra, downstream of Kurnool town after joining city domestic sewage padedampadu (V), Kurnool (M&Dist).

The average values from January, 2020 to December, 2020 is tabulated below:					
NWMP Sampling Station Location:		River Tungabhadra, 2020			
		Bavapuram	Pedidampadu	Gondiperla	Mantralayam
Dissolved Oxygen	mg/l	5.9	5.5	5.6	5.8
pH		7.7	7.5	7.1	7.5
Conductivity	µs/cm	1154.8	1208.8	1611.3	1063.7
Biochemical Oxygen Demand	mg/l	2.2	2.3	2.2	2.3
Nitrate as NO ₃ -N	mg/l	1.1	1.2	1.6	1.2
Nitrite as NO ₂ -N	mg/l	0.1	0.1	0.1	0.1
Fecal Coliform	MPN/100 ml	167.1	179.2	138.3	183.7
Total Coliform	MPN/100 ml	631.7	878.3	706.7	730.8
Saprobity index	NTU	6.1	6.2	6.1	6.2
Diversity index	mg/l	0.6	0.65	0.6	0.8
Turbidity (NTU)	mg/l	6.4	18.7	9.1	15.4
Total Alk.	mg/l	196.0	241.2	187.6	192.5
Chloride	mg/l	158.6	194.1	339.3	141.8
Chemical Oxygen Demand	mg/l	15.8	16.8	15.7	16.1
Total Kjeldal Nitrogen	mg/l	2.1	3.8	3.6	2.2
Ammonia-N	mg/l	1.4	2.4	2.5	1.7
Hardness	mg/l	205.0	254.6	326.3	198.0
Calcium Hardness	mg/l	105.3	133.8	158.7	97.5
Magnesium Hardness	mg/l	99.7	120.6	167.6	100.5
Sulphate	mg/l	170.4	124.8	173.3	144.7
Sodium	mg/l	181.7	179.8	238.5	160.1
Total Dissolved Solids	mg/l	752.5	783.7	1048.6	681.6
Total Fixed Solids	mg/l	601.3	627.3	838.9	545.1
Total Suspended Solids	mg/l	20.3	30.9	22.8	26.1
Ortho Phosphate	mg/l	0.2	0.4	0.3	0.2
Boron	mg/l	1.5	1.8	1.9	1.4
Potassium	mg/l	4.7	6.1	10.4	4.8
Fluoride	mg/l	0.8	0.7	0.7	0.5
%Sodium	mg/l	63.5	58.4	59.6	61.1
SAR	mg/l	5.4	4.8	5.6	4.8
Cadmium	mg/l	0.002	BDL	BDL	BDL
Lead	mg/l	0.022	0.0085	0.011	0.008

It may be noted from the above results, the values of pH, DO & BOD observed at above three locations are almost meeting the quality criteria for Class-B (Outdoor bathing- organized). The concentrations of Total Coliform count at above locations are not meeting the quality criteria for Class-B (Outdoor bathing- organized).

ANNEXURE-VI

Central Pollution Control Board (CPCB) developed Water Quality Criteria by classifying as class-A, B, C, D, E & below E based on Designated-Best-Use as detailed below:

Water Quality Criteria		
Designated-Best-Use	Class of water	Criteria
Drinking Water Source without conventional treatment but after disinfection	A	Total Coliforms Organism MPN/100ml shall be 50 or less pH between 6.5 and 8.5 Dissolved Oxygen 6mg/l or more Biochemical Oxygen Demand 5 days 20°C 2mg/l or less
Outdoor bathing (Organised)	B	Total Coliforms Organism MPN/100ml shall be 500 or less pH between 6.5 and 8.5 Dissolved Oxygen 5mg/l or more Biochemical Oxygen Demand 5 days 20°C 3mg/l or less
Drinking water source after conventional treatment and disinfection	C	Total Coliforms Organism MPN/100ml shall be 5000 or less pH between 6 to 9 Dissolved Oxygen 4mg/l or more Biochemical Oxygen Demand 5 days 20°C 3mg/l or less
Propagation of Wild life and Fisheries	D	pH between 6.5 to 8.5 Dissolved Oxygen 4mg/l or more Free Ammonia (as N) 1.2 mg/l or less
Irrigation, Industrial Cooling, Controlled Waste disposal	E	pH between 6.0 to 8.5 Electrical Conductivity at 25°C micro mhos/cm Max.2250 Sodium absorption Ratio Max. 26 Boron Max. 2mg/l
	Below-E	Not Meeting A, B, C, D & E Criteria



ANNEXURE-VII
ANDHRA PRADESH POLLUTION CONTROL BOARD

D. No. 33 - 26 - 14 D / 2, Chalamalavari Street,
 Kasturbaipet, Vijayawada - 520 010.

Phone No: 0866 - 2463200

Notice No.34/APPCCB/HO/UH-II/NGT/2016

Dt. 23.12.2020

SHOW CAUSE NOTICE

- Sub :** APPCCB - UH-II - Hon'ble NGT order dt.26.08.2020 in OA No.27 of 2016 – External Advisory Committee (Task Force) meeting (Legal Hearing) conducted on 19.11.2020 for ULBs/ Panchayats – Discharge of treated/ untreated sewage into Krishna river and Tungabhadra river – Levy of Environmental Compensation – Show cause notice issued – Reg.
- Ref :**
1. EAC meeting conducted to Kurnool Municipal Corporation on 06.03.2016.
 2. Board directions issued vide order dt.04.04.2016
 3. Hon'ble Supreme Court issued orders in W.P. (C) No. 375/2012 on 22.02.2017 and OA No.593/2017
 4. Board's letter dt.21.01.2019 addressed to the Director of Municipal Administration, Gorantla, Guntur district.
 5. Hon'ble NGT, Principal Bench, New Delhi issued orders in OA No.593/2017 (W.P.(C) No.375/2012) dt. 19.02.2019.
 6. Board's Letter dt.28.03.2019 to Special Chief Secretary, MA&UD department, Velagapudi, Guntur district regarding levy of Environmental Compensation on defaulters causing pollution.
 7. APPCCB's status report dt.23.06.2020 filed before Hon'ble NGT in respect of OA No.27/2016 (Pollution of river Krishna).
 8. Hon'ble NGT orders in OA 606/2018 dt.28.02.2020 and 02.07.2020 in compliance of Municipal Solid Waste Management Rules, 2016 and collect compensation for failure in treatment of sewage from local bodies and/or Dept. of Irrigation and Public Health or In-charge department.
 9. Board's letter No.EFSOL – ENVOPEST (COVC)/3/2019 Sec1 dt.25.08.2020.
 10. Hon'ble NGT order in OA No.27/2016 dt.26.08.2020.
 11. Board's letter No. APPCCB/UH-II/TF/NGT-PB/OA No.593 of 2017/2020, dt.16.10.2020.
 12. EAC (TF) Legal Hearing conducted on 19.11.2020 at APPCCB Head Office, Vijayawada.
 13. CPCB directions under 18(1) b of Water Act, 1974 Installation of OCEMS in STPs,
 14. EE, RO mail dt. 07.12.2020 addressed to KMC, Kurnool.

WHEREAS the Kurnool Municipal Corporation has not applied for CFE/CFO order of the Board as required u/s 25/26 of Water Act and operating the 3 STPs. The KMC has not constructed 13 STPs till today as committed earlier.

WHEREAS, the Kurnool Municipal Corporation (KMC) is generating the domestic sewage to the tune of 60 MLD. The Corporation is operating 3 STPs at Sankal bhag (0.8 MLD), Jammi Chettu (0.8 MLD) and Pump house (0.8 MLD) to treat the sewage generated. The untreated sewage is joining at 8 points in Tungabhadra and Hundri rivers which finally joins into Krishna river. The Kurnool Municipal Corporation informed that 2 STPs with 10 MLD at Zoharapuram and 2 MLD at Kollur bridge to treat the sewage and let out into Hundri river. 10 STPs with 38 MLD capacity and along Tungabhadra river and 1 STP with 40 MLD are at DPR stage. The 13 STPs are not yet completed.

WHEREAS the APPCCB vide ref. 1st cited conducted Legal Hearing on 06.03.2016 to review the status of the Kurnool Municipal Corporation and issued certain directions 1. not to discharge domestic sewage into Tungabhadra river and its tributary Hundri river, 2. to furnish EMP on diversion of sewage and construction of STPs, 3. to construct weir across the Hundri river at Zoharapuram on top priority to divert sewage to proposed STP in view of pending NGT case.

WHEREAS it is to inform that the Hon'ble Supreme Court issued orders in W.P. (C) No. 375/2012 on 22.02.2017 for providing ETPs, CETPs & STPs within the States for protecting the water bodies from mixing of untreated industrial effluents and untreated sewage into the surface water / ground water bodies. The Hon'ble Court stipulated 3 years time from the date of judgment for providing infrastructure of STPs and makes them operate within the stipulated time.

WHEREAS the Hon'ble NGT has taken the Hon'ble Supreme Court orders issued in W.P. (C) No. 375/2012 in OA No.593/2017 and issued orders for establishment of ETPs/CETPs/STPs and directed Central Pollution Control Board to prepare the action plan and instructed to take penal action for failure against those accountable for setting up and maintaining STPs.

WHEREAS the Hon'ble NGT, Principal Bench, New Delhi issued orders in OA No.593/2017 (W.P.(C) No.375/2012) on 19.02.2019, in which it is devised methodology in consultation with MoEF&CC and CPCB, for assessing Environmental Compensation for levying against the defaulting industries, based on pollution index. A formula was derived for assessing the Environmental Compensation for industries and STP. The Hon'ble NGT informed that a separate report is being prepared for Municipal Solid Waste and Sewage. Instructions issued to the CPCB to include the subject of loss to ecological service due to illegal mining, due to deforestation or any other damage to the environment, even though the same may not be directly on account of discharge of effluents or sewage.

WHEREAS the Board vide its order dt.21.01.2019 requested Municipal Administration department/ULBs for providing STPs for treating sewage generated in local bodies and utilization of treated sewage for different purposes. Further requested to prepare action plan on utilization of treated sewage.

WHEREAS vide letter dt.28.03.2019, the Board requested MA&UD department to provide STPs within the stipulated time and utilize the treated sewage as per the action plan. The MA&UD department was also requested to take all necessary measures not to allow untreated sewage and treated sewage into water bodies for avoiding the levy of Environmental Compensation on Solid Waste Management and Sewage.

WHEREAS the Hon'ble NGT issued orders in OA No.606/2018 dt.28.02.2020 to collect compensation for failure in treatment of sewage from local bodies and/or Dept. of Irrigation and Public Health /in charge dept. The time lines and compensation regime is as follows:

- i. Interim measures for phytoremediation/bioremediation etc. in respect of 100% sewage to reduce the pollution load on recipient water bodies - 31.03.2020. Compensation is payable for failure to do so at the rate of Rs. 5 lakhs per month per drain by concerned local bodies/states (interms of orders dt.28.08.2019 in OA No.593/2017 and 06.12.2019 in OA No.673/2018) w.e.f. 01.04.2020.
- ii. Commencement of setting up of STPs – 31.03.2020. Compensation is payable for failure to do so at the rate of Rs. 5 lakh per month for STP by concerned local body/states (interms of orders dt.28.08.2019 in OA No.593/2017 and 06.12.2019 in OA No.673/2018) w.e.f. 01.04.2020.
- iii. Commissioning of STPs – 31.03.2021. compensation is payable for failure to do so at the rate of Rs. 10 lakh per month per STP by concerned local bodies/states (interms of orders dt.28.08.2019 in OA No.593/2017 and 06.12.2019 in OA No.673/2018) w.e.f. 01.04.2021 in 2017

WHEREAS the Board vide ref. 9th cited communicated the letter to the Secretary, MA&UD Dept., A.P., All District Collectors and All ULBs, regarding Hon'ble NGT orders on collection of compensation for continued non-compliance in implementation of Waste Management Rules and other thematic areas with effect from 01.04.2020.

WHEREAS, the Hon'ble NGT issued orders in OA No.27 of 2016 on 26.08.2020 to take necessary action against the local bodies who have not complied with the directions given by the Principal Bench of Hon'ble NGT, New Delhi in OA No.606/2018 for non-compliance of directions in respect of sewage treatment. The Hon'ble NGT also directed State government to file a action taken report along with proper action plan for the purpose of protecting river Krishna.

WHEREAS the Hon'ble NGT vide order dt.21.09.2020 the cases pertaining to Polluted River Stretches (O.A No 673 of 2018); Establishment and Functioning of requisite ETPs / ETPs/STPs, (O.A. No 593 of 2017); issue of Coastal Pollution (O.A No 829 of 2019), and Management of Treated Sewage (O.A No 148 of 2016) are clubbed and a common order was issued on 21.09.2020. The APPCB requested the CDMA to ensure the necessary follow-up action.

WHEREAS the Regional Officer, APPCB, Kumool issued notices on 23.09.2020, 12.10.2020, 31.10.2020 regarding exceedance of the Board standards and imposing Environmental Compensation.

WHEREAS the APPCB conducted EAC (TF) meeting (Legal Hearing) with concerned ULBs/ Panchayats/ Depts. on 19.11.2020 at Head Office, Vijayawada through video conference. The Chairman, APPCB has briefed the back ground of Hon'ble NGT OA No.27 of 2016 and highlighted the issues pertaining to Gap in the sewage generation and sewage treatment, delay in construction of treatment system and Environmental Compensation Regime for failure in treatment of sewage from local bodies/ or Department of Irrigation and Public Health/ incharge Dept. as mentioned in OA No.606/2018 order dt.28.02.2020 & 02.07.2020.

KMC informed that 3 STPs with 0.8 MLD capacity each are in operation. 2 STPs are under construction and remaining 11 STPs are under DPR stage.

The Committee recommended to issue Show cause notices to all the defaulting municipalities/panchayats for non-compliance in sewage treatment, Solid waste management and as to why compensation shall not be levied for non-compliance duly directing them to submit reply within 10 days as per CPCB and Hon'ble NGT directions.

The Committee also recommended to address the concerned Govt. departments for filing proper action plan by the Government in Hon'ble NGT (SZ) duly keeping in mind the action plan submitted in Hon'ble NGT, New Delhi in OA No.673/2018 in the matter of Polluted River Stretches.

WHEREAS the CPCB has issued directions to SPCBs and PCCs under Section 18.1 (b) of Water Act, 1974 to direct all STP authorities in million cities and other towns to install Online Continuous Effluent Monitoring System (OCEMS) in a phased manner has stipulated in the CPCB letter dt.07.08.2020. The Board informed to the Kurnool Municipal Corporation vide mail dt.07.12.2020.

In view of the above, as per the Hon'ble NGT compensation regime as mentioned in order dt.28.02.2020, the Environmental Compensation (EC) is calculated as follows:

No. of STPs still not constructed by KMC - 13 STPs.

Environmental Compensation mentioned in the order – Rs. 5 lakhs per month per STP

For which date, EC is proposed – 01.04.2020 to 30.11.2020

Amount of compensation (in lakhs) = 13 x 5 lakhs per STP x 8 months (from 01.04.2020 to 30.11.2020) = Rs.520 lakhs.

In view of above referred Hon'ble NGT orders, you are hereby directed to show cause as to why the Board shall not levy environmental compensation for Rs.520 lakhs (Rupees Five hundred and Twenty lakhs) on the Commissioner, Kurnool Municipal Corporation, Kurnool for not constructing proper treatment facilities to treat the domestic sewage generated and discharged into the river Tungabhadra which ultimately joins river Krishna. You are also directed to file proper action plan through your department in Hon'ble NGT (SZ) duly keeping in mind the action plan submitted in Hon'ble NGT, New Delhi in OA No.673/2018 in the matter of Polluted River Stretches.

Your reply shall reach this office within 15 days from the date of the receipt of this notice failing which necessary orders will be passed levying the environmental compensation, without any further notice.

**Sd/-
CHAIRMAN**

✓
**To,
The Commissioner,
Kurnool Municipal Corporation,
Kurnool, Kurnool District.**

// T.C.F.E.O. //

**JOINT CHIEF ENVIRONMENTAL ENGINEER
UH-II**

Annexure-VIII

1. Action Plan for Management of Sewage:

- Department of Water Resources will monitor the measurement of flows of the drains to prepare detailed project report (DPR) for each drain and corresponding town.
- The flow in each drain should exclude monsoon flow. Further, any drain if receiving fresh water from any escape channel etc, should be examined for its diversion rather than mixing with sewage.
- Sewage Treatment Plants (STP) for each town and related drains should be properly designed with the interception and diversion plan.
- Sewage Treatment Plant (STP) and its design should be based on its full utilization capacity and ensuring simultaneous house connections to sewers as applicable to each drain and town.
- Sewage Treatment Plan should also consider treatment and disposal of sewage from Villages including discharges from toilets constructed under Swachh Bharat Abhiyan.
- Hotels/Restaurants particularly located on road-side should not dispose untreated sewage and solid waste into nearby public drain or rivers. A direction will be issued to install a captive ETP / STP and such establishments which do not comply will be regulated and levied with fines in case of any violation.

ACTION PLAN FOR RESTORATION OF IDENTIFIED POLLUTED RIVER

STRECHES IN STATE:

The compliance report submitted by the Kurnool Municipal Corporation is as follows:

S.No	Action Plans For Restoration Of Identified Polluted River Stretches In State	Acheivable Target	Time Targets for Compliance	present status and or pendency in terms of %	Remarks
1	Commissioning of STPS with State of Art technologies including flow measuring devices at all salient points	2.40 MLD 10.00 MLD 2.00 MLD 41.76 MLD	Existing Dec - 2020 Dec - 2020 2023	Functioning Under Execution Under Execution	DPR prepared , Agency attending Technical remarks raised by the SE, Public Health, Ananthapur.
2	Laying of new Sewerage pipelines & House connections	-	-	-	This Corporation is not having U.G.D. net work. It is under proposal
3	STP Sludge management	-	-	-	-
4	Septage management	-	-	-	It is Included in the STP's construction itself.
5	Utilization of treated sewage	-	-	-	At present 0.44 MLD is utilising for Greenery and road sprinkling. After completion of STPs treated water will be utilised for industrial requirement.
6	Ensuring proper operation and maintenance of STPS	-	-	-	Existing 3 STPs are functioning successfully and treated water is being tested periodically. Fixed agencies for maintenance of STPs. After completion of remaining STPs maintenance agencies will be allotted.
7	Maintenance of drains and sewage network including periodic cleaning	-	-	-	Desiltation is regularly being done for internal drains. Desiltation for periperal drains are being done through mini JCBs

					once in a week. Disposal drains and storm water drains were desilted through tender system every year before monsoon season.
8	Awareness and training for the concerned authorities	-	-	-	Awareness programmes are conducted regularly to minimize the discharge of sullage water in to water bodies by using water to house gardening

Source: Action plan submitted by MA&UD Dept. Gov.t of A.P

2. Action Plan for Management of Industrial Effluents

- The Tungabhadra river stretches No of major and other industries is 05 No's, Quantity of effluent generation and treatment and disposal details is 2295 KLD. APPCB has been monitoring.
- M/s. Rayalaseema Alkalis, Kurnool under Ease of Doing Business and carrying out regular inspections to verify the compliance to achieve ZLD for the trade effluents, the industry has provided ETP domestic effluents after treatment utilised for green belt development within the premises.
- M/s.SreeRaylaseema Hi-Strength Hypo- Limited, is having 04 units in Gondiparla (V), Kurnool (M&Dist) and unit-I is engaged in manufacturing of Calcium hypo chlorite, sulphuric acid etc., unit-II is Hydrogen bottling unit, unit-III is stable bleaching powder unit, Unit-IV is sodium hydrate, sodium Meth-oxide and power plant of 9 MW. The treatment of effluents generated from the industry, they provided ETP, MEE, ATFD and stripper etc.
- At present, there are no industrial discharges into the Tungabhadrariver, only sewage generated from Kurnool Municipality is being discharged into the river course

ACTION PLAN:

Sl. No	Proposed Action Plans for Restoration of Identified Polluted River Stretches in States/UTs	Proposed Achievable Target	Proposed Time Targets for Compliance	Present Status and or pendency in terms of %	Remarks
Industrial Effluent Management					
1	Identification of non-complying as well as illegal units.	---	Not applicable	Nil	There are no non-complying units, illegal units operating in the catchment of polluted river stretch i.e., Tungabhadra River.
2	Closure Direction for non-complying and illegal units.	---	Nil	Nil	There are no non-complying units, illegal units operating in the catchment of polluted river stretch i.e., Tungabhadra, No Closure directions were issued.
3	Upgradation of existing captive ETPs or construction of new ETPs by individual industries.	---	---	---	---
4	Commissioning of new CETPs with State of Art technologies.	---	Not applicable	Not applicable	---
5	Interception & diversion of industrial effluent from drains carrying industrial effluents.	---	Not applicable	Not applicable	No industry is discharging the industrial effluents into river stretch i.e., Tungabhadra river. However, the Kurnool Municipal Corporation, and Grampanchayat of Mantralayam are discharging the sewage effluents in to the

					River.
6	Installation of OCEMS by industries and connectivity of all OCEMS with SPCB/PCC and CPCB server.	---	Provided	Provided	---
7	Upgradation of existing CETPs with State of Art technologies.	---	Not applicable	Not applicable	No CETP is existing in the Jurisdiction of Kurnool.
8	Utilization of treated effluent and reduction of water consumption by the industries.	---	Utilizing the Treated effluents partially for industrial purposes and partially for onland application	Utilizing the Treated effluents partially for industrial purposes and partially for onland application	---
9	Adoption of Zero Liquid Discharge by the industries as per Directions of CPCB.	---	Adopted	Adopted	---
10	Notification of ETP standards.	---	---	---	---
11	Awareness and training for the concerned authorities of O & M of ETPs/CETPs.	--	---	---	---

3. Action Plan for Management of Solid Waste:

- Implementation of Door-to-Door collection.
- Source segregation as biodegradable and non-biodegradable wastes.
- Identification of suitable site for setting up common waste processing and secure landfill facility.
- Transportation, disposal and treatment facilities of municipal solid wastes generated from town in accordance of provisions of the Solid Waste Management Rules, 2016.
- Restriction on illegal disposal of solid waste along the river bank and flood plain zones.
- Prohibition on burning of solid wastes.
- Development of integrated solid waste management facility (provision of segregation, treatment,
- compost, pellets making as well as sanitary landfill with leachate treatment provision in accordance with solid waste management rules, 2016
- Bio-mining of existing municipal dumpsite in accordance with the Solid Waste Management Rules, 2016.

ACTION PLAN:

Sl. No	Proposed Action Plans for Restoration of Identified Polluted River Stretches in States/UTs	Proposed Achievable Target	Proposed Time Targets for Compliance	Present Status and or pendency in terms of %	Remarks
1	Commissioning of Integrated Waste Management Facilities or Sanitary Land Fills or Bio manure or Pellets making or Waste to Energy Plants.	-	-	-	A) Total wet waste generation is 130 TPD. for processing waste RFP invited and submitted CR to District Collector for finalising the agency. B) Total Dry waste generation is 40 TPD. For processing dry waste invited Expression of Interest and LOA

					is issued to M/S CUBE BIO. MRF facility will be provided with in 3 months span.
2	Bio-Mining and capping of existing dump sites.	-	-	-	At present nearly 1.50 lakh metric tonnes of legacy waste was dumped at abandoned compostyard at Joharapuram. For reclimation of land LOA issued to M/S Sagar Motors, Latur, Maharastra. Bio-mining process will be commenced with in 3 months after establishing the plant.
3	Leachate management in including Ground Water remediation in the vicinity of existing dumpsites.	-	-	-	The lechate coming from the waste processing is used to the gardening and plants at dividers
4	Remediation of any contaminated site in the catchment of Polluted River Stretch.	-	-	-	1)100 % door to door collection of waste is already implemented and awareness is being created to public through announcement vehicle regularly in all colonies not to through garbage into river stretches . 2) Part of river streches Corporation is implementing greenary and avenue plantation. 3) For all disposal drains, grills, meshes were provided at disposal points to avoid garbage mixing into river streches.

Source: Action plan submitted by MA&UD Dept. Gov.t of A.P

4. Action Plan For Management of Drains & Flood Plain Zone (FPZ):

Department of Water Resources should identify /demarcate Flood Plain Zone and regulate the activities. Such regulations would also cover the following

- Plantation in Flood Plain Zone (FPZ).
- Checking and removal of encroachments periodically.
- Prohibition of disposal of municipal and bio-medical waste particularly in drains;
- Notification of the Flood Plain Zones
- The river Tungabhadra, carry natural waters during the monsoon and even during the lean season as the river is perennial river. Provisions of roof top rain water harvesting in Govt. building, commercial buildings, hotels and Houses will be emphasized. Restoration of old lakes for enhancement in storage capacity and as well as creation of artificial lakes or ponds.

ACTION PLAN:

Sl. No	Proposed Action Plans for Restoration of Identified Polluted River Stretches in States/UTs	Proposed Achievable Target	Proposed Time Targets for Compliance	Present Status and or pendency in terms of %	Remarks
1	Bioremediation of Drains				The major town in the reach is Matralayam. The construction of STP for cleaning the water is to be taken up
2	Restoration of natural storm water drains for ensuring natural flow.				The right side bank of the Tungabhadra river in the stretch from Mantralayam to Bavapuram lies in Andhra Pradesh territory and the natural storm water drains are maintained under regular O&M activity

3	Adoption of Good Irrigation Practices	The Tugabhadra river receives flood in the monsoon period from July to November. The number of flood days are not staggered evenly to utilize the waters for the KC canals ayacut. The available major storage is at Srisalam which is constructed on Krishna river in Gundrevula village with a storage capacity of 20 TMC is under construction.
4	Flood Plain Zone Protection and its management	No erosion of flood banks is observed in the reach from Mantralayam to Bavapuram
5	Rain water harvesting/ground water recharge aspects	Infiltration wells will be digged in the river bed wherever necessary by obtainig permission from CWC/KRMB
6	Maintaining E-flows and watershed management	The flows in the river during non monsoon period i.e from November to June are almost nil. For maintain the ecological flows throughout the year, it is not possible.
7	Removal of encroachments to maintain natural flow in drains	No encroachments are observed on the drains.

Action plan on Biomedical Waste Management:

Bio-Medical waste generation is 456 Kg/day. No of Hospitals i.e., Govt., Private, Bedded, non-bedded, Primary Health Centers, Committee Health Centers and Quantity of Bio-Medical generation in KMC limits is 257 Kg/day.

HCFs tied up with Common Bio-Medical Waste Treatment & Disposal facility (CBMWTF) operating in the name of M/s. Medical Waste Solutions, Sy.No.200/2 & 202/2, Chetlamallapuram (V), Kallur (M), Kurnool District.

Sl. No	Proposed Action Plans for Restoration of Identified Polluted River Stretches in States/UTs	Proposed Achievable Target	Proposed Time Targets for Compliance	Present Status and or pendency in terms of %	Remarks
1	Commissioning of new Common Biomedical Waste Treatment and Disposal Facilities (CBMWTF)	--	No	No	No New Common Biomedical Waste Treatment and Disposal Facilities (CBMWTF) is proposed in Kurnool District as the existing facility caters the requirement of the HCFs Located in the Kurnool District.
2	Ensuring disposal of generated Biomedical waste through captive measures by the Healthcare Facilities where there is CBMWTF.	--	Already Complied	100 %	---
3	Implementation of Barcode system by Healthcare facilities and CBMWTF.	--	Partially complied.	70 %	The Regional office Kurnool is pursuing the CBMWTF to achieve 100 %
4	Up-gradation of existing CBMWTF.	---	Already Complied.	100 %	---

ANNEXURE - IX

From

Sri J. Rudhra Goud,
Tahsildar (FAC),
Kosigi Mandal.

To

The Revenue Divisional Officer,
Adoni.

Rc.B.No.2/2021, Dated: 02.01.2021.

**Sub: Sporadic Diseases - Kurnool District – Kosigi Mandal – Agasanur
Village – Prevailing of Diarrhea - Report Submitted – Regarding.**

**Ref: Instructions received from the Revenue Divisional Officer, Adoni,
dt:02.01.2021.**

&&&&

I invite kind attention to the reference cited and I submit that the Village Revenue Officer of Agasanur and Mandal Revenue Inspector of Kosigi Mandal has informed that the Diarrhea is Prevailing in Agasanur Villages of Kosigi Mandal, I along with Village Revenue Officer of Agasanur, Mandal Revenue Inspector of Kosigi Mandal, Health department officials and EORD, Kosigi Mandal are visited Agasanur villages on Dt:02.01.2021 and enquired about the Prevailing deceases in that villages.

Agasanur Village:

a. During the enquiry it is revealed that, totally 4 persons affected due to Diarrhea from 01.01.2021 to 02.01.2021 as detailed below,

Sl. No	Village Name	Date of Reported on affecting	No. of Persons Affected	Present condition of the affected persons as on 01.01.2021		
				Cured & Discharged	Under Treatment at Area Hospital, Adoni	Under Treatment at PHC, Kosigi
1	Agasanur	01.01.2021	4	4	0	0
			4	4	0	0

Continued to 2nd page

//2//

I had visited all houses and also enquired the affected persons along with the said officers above. The affected persons does not belong to one group, one street or community but they are scattered. They did not proceed to any common place / not taken any food at common place. The main symptom of the effected Cavour loose motions and very less vomiting. Medical camps are being conducted from 01.01.2021. Continuous sanitization program is going on.

Conducted awareness camps in Agasanur village by the all said officers concerned and explained them to follow the following instructions.

1. To take only boiled & cooled water for consumption.
2. To take only boiled hot and fresh food.
3. Wash hands frequently with soap and mandatory before and after taking food.
4. Health department officials are explained them to go for construction of Soak pits which will be sanctioned under NREGS Scheme.
5. People are advised to consult doctor in local arranged Medical camps if any discomfort.

Further, The Medical Officer, Kalludevakunta village of Mantalayam Mandal has come to Agasanur village and says that the people of Agasanur villagers are drinking raw water from river, hence they got **Diarrhea** problem and he also instructed to the Agasanur villagers to proper sanitation, chlorination of water, boiling of drinking water and intimate the all households to keep clean and off to the open taps existing in pits in front of their houses in Agasanur Village and also continue above medical camp till normal conditions are restored. The report of the The Medical Officer, Kalludevakunta village of Mantalayam Mandal has enclosed here with for ready reference.

Yours Faithfully
Sd/-J. Rudhra Goud,
TAHSILDAR (FAC)
KOSIGI MANDAL

Copy submitted to the District Collector & District Magistrate, Kurnool for favour of information.

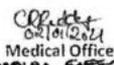
ANNEXURE
DAILY REPORT (Disease Incidence and response)

District: Kurnool

1 Name of the Case/Address	2 Age/ Sex	3 Date of on set	4 Suspected out break/Provisional Diagnosis	5 Source of Infection /case of outbreak	6 Date & Institution Admitted	7 Out come (recovered)/recovering/death	8 Case investigation findings	9 sanitary and other Environment conditions	10 Preventive and control measures taken	11 Responsibility fixed programme Officer/Mos/ Paramedical Staff Etc	12 DM & HO/ RD/ DH/Comm. APVVP Ref.NO:	13 Cases				14 Deaths			
												M	F	M	F	M	F	M	F
M.K.Farvathi	65/F	01/01/2021	Sporadic Acute Diarrheal Disease	Water Born	GGH Adoni	Recovering	H/O,Vommitings,Loose Motions,Dehydration	Good	Proper Sanitation,Chlorination of water,Boiling of drinking water.	Medical Officer PHC Kalludevakuntla	DM&HO	1	3	0					
Bariki Lakshmi	65/F	01/01/2021	Sporadic Acute Diarrheal Disease	Water Born	GGH Adoni	Recovering	H/O,Vommitings,Loose Motions,Dehydration	Good	Proper Sanitation,Chlorination of water,Boiling of drinking water.	Medical Officer PHC Kalludevakuntla	DM&HO								
B.Sharanamma	50/F	01/01/2021	Sporadic Acute Diarrheal Disease	Water Born	PHC Kosigi	Recovering	H/O,Vommitings,Loose Motions,Dehydration	Good	Proper Sanitation,Chlorination of water,Boiling of drinking water.	Medical Officer PHC Kalludevakuntla	DM&HO								
K.Ayyappa	19/M	01/01/2021	Sporadic Acute Diarrheal Disease	Water Born	CHC Yemmiganur	Recovering	H/O,Vommitings,Loose Motions,Dehydration	Good	Proper Sanitation,Chlorination of water,Boiling of drinking water.	Medical Officer PHC Kalludevakuntla	DM&HO								

Copy Submitted to the District Medical & Health Office, Kurnool (dmho2kurnool@gmail.com)

Copy Submitted to the Integrated Disease Surveillance Office (IDSP),Kurnool (idspkurnool@gmail.com)


 02/01/2021
 Medical Officer
MEDICAL OFFICER
F H . Kalludevakuntla
Mantralayam (M) Kurnool (D)

First information report form — form c
Officer In Charge CHC I PHC — Trigger — I Response

General Information

State : **Andhra Pradesh**
District : **Kurnool**
Town / PHC : kalludevakuntla
Ward / Village : agasanuru, kosigi mandal
Population : 2309

Background Information

Person reporting the outbreak : Medical Officer
Date of report : 02-01-2021
Date investigations started : 01-01-2021
Persons investigating the outbreak:

Total Cases reported : 4

Details of Investigation: total 4 cases admitted with acute diarrheal disease on investigation source of infection found to be water

Description of Control Measures taken:- distribution of chlorine tablets ,chlorination of tank water, IEC,ORS distribution

Brief Description of Problems encountered:-no sufficient drinking water supply because of that usage raw water from river directly

Factor which, in your opinion, contributed to the Outbreak:- drinking of raw contaminated water from river directly

Conclusions and Recommendations:- provision of sufficient drinking water supply according to population ,boiling of water regularly .

Date of diagnosis: 01-01-2021

Date:

C. R. Reddy
02/01/2021
(Name and Designation)
MEDICAL OFFICER
F H. Kalludevakuntla
Mantralayam (M), Kurnool (Dt)

Format for instantaneous reporting of Early Warning Signal / Outbreaks as soon as it is detected

District: Kurnool

Date of Reporting: 02/01/2021

Early Warning signals

Is there any unusual increase in cases - Yes

If yes, provide the following information

- Disease / Syndrome / Event : Sporadic acute diarrheal disease
- Area Affected : Agasanur (V),Kosigi (M)
- Since when the increase in cases -01/01/2021

Out break

Disease / syndrome (Provisional / Confirmed)	Sporadic acute diarrheal disease
Geographical area affected (Block, PHC, Sub-center, Village)	MANTRALAYAM, KALLUDEVAKUNTILA, SATHANUR, AGASANUR
Total population of affected area	2309
Date of start of the outbreak	01/01/2021
No. Of Cases / Deaths	4
Salient epidemiological observation	Water Born infection
Lab Results (type of sample, number of samples collected and tested, what test, where, results)	_____
Control measures undertaken (Investigated by DEIT or not)	Proper Sanitation,Chlorination of water,Boiling of drinking water. iec, Medical camp conducted
Present Status	Situation under control, no deaths
Any other information	_____

CPH
02/01/2021
Signature

MEDICAL OFFICER
FH - Kalludevakuntla
Mantralayam (M) Kurnool (T)

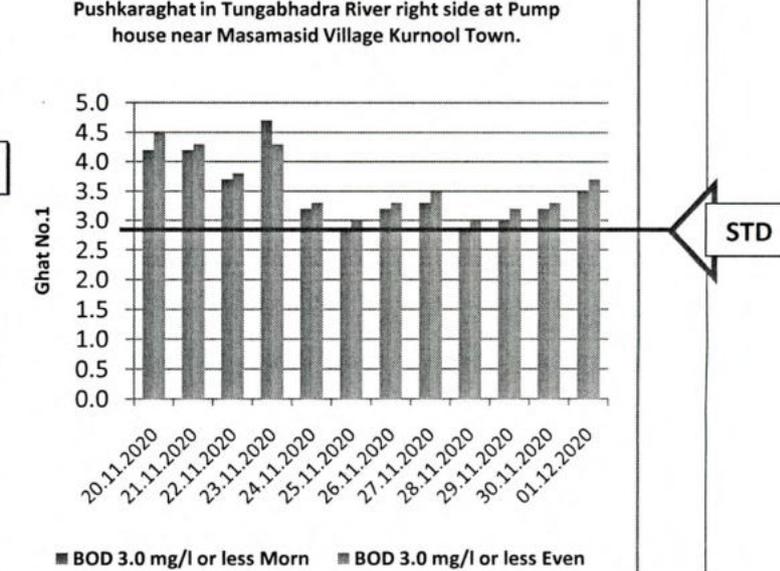
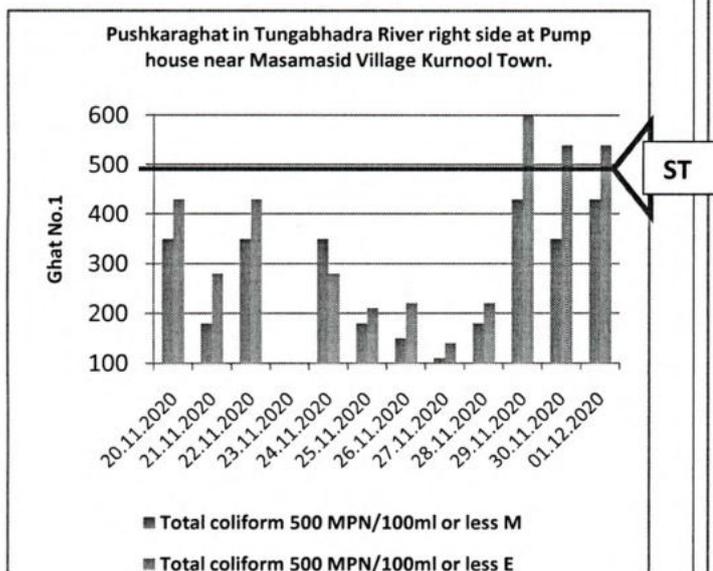
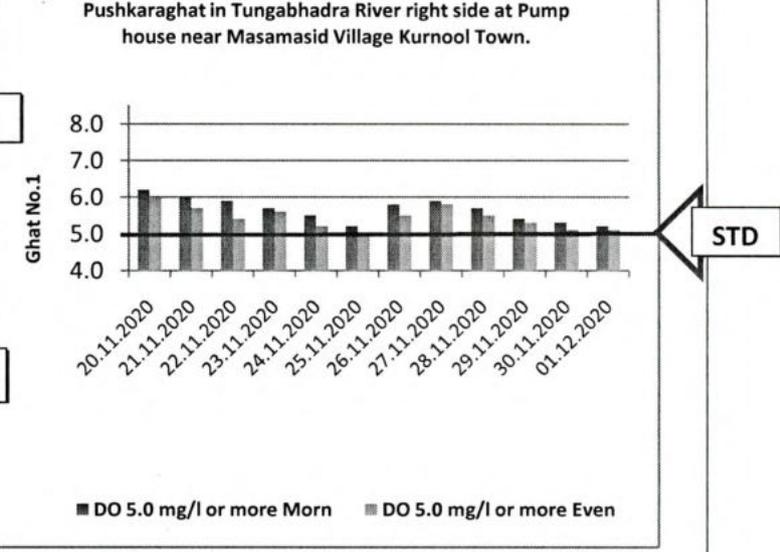
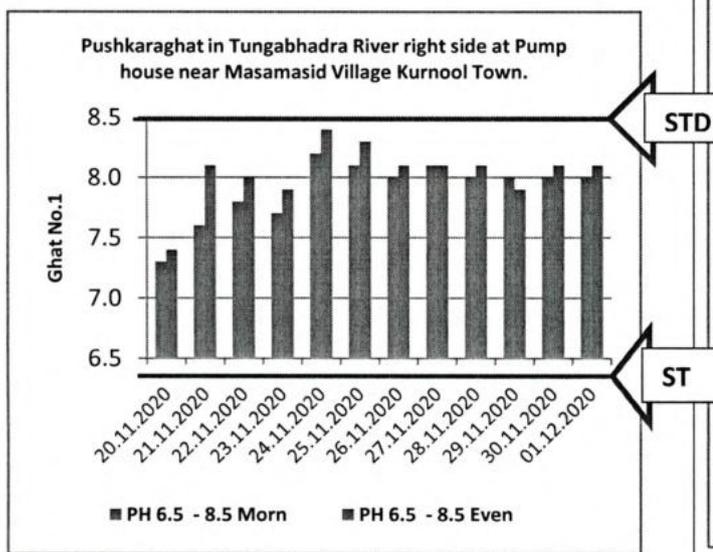


ANNEXURE - X

KURNOOL ASSEMBLY CONSTITUENCY

Tungabhadra Pushakaralu, 2020 - Consolidated Analysis Report

Ghat No. 1		Pushkaraghat in Tungabhadra River right side at Pump house near Masamasid Village Kurnool Town.							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	7.3	7.4	6.2	6.0	540	540	4.2	4.5
2	21.11.2020	7.6	8.1	6.0	5.7	220	350	4.2	4.3
3	22.11.2020	7.8	8.0	5.9	5.4	430	540	3.7	3.8
4	23.11.2020	7.7	7.9	5.7	5.6	920	920	4.7	4.3
5	24.11.2020	8.2	8.4	5.5	5.2	94	120	3.2	3.3
6	25.11.2020	8.1	8.3	5.2	5.0	250	280	2.8	3.0
7	26.11.2020	8.0	8.1	5.8	5.5	81	95	3.2	3.3
8	27.11.2020	8.1	8.1	5.9	5.8	120	180	3.3	3.5
9	28.11.2020	8.0	8.1	5.7	5.5	250	430	2.8	3.0
10	29.11.2020	8.0	7.9	5.4	5.3	350	540	3.0	3.2
11	30.11.2020	8.0	8.1	5.3	5.1	540	540	3.2	3.3
12	01.12.2020	8.0	8.1	5.2	5.1	540	920	3.5	3.7





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ZONAL LABORATORY : KURNOOL**

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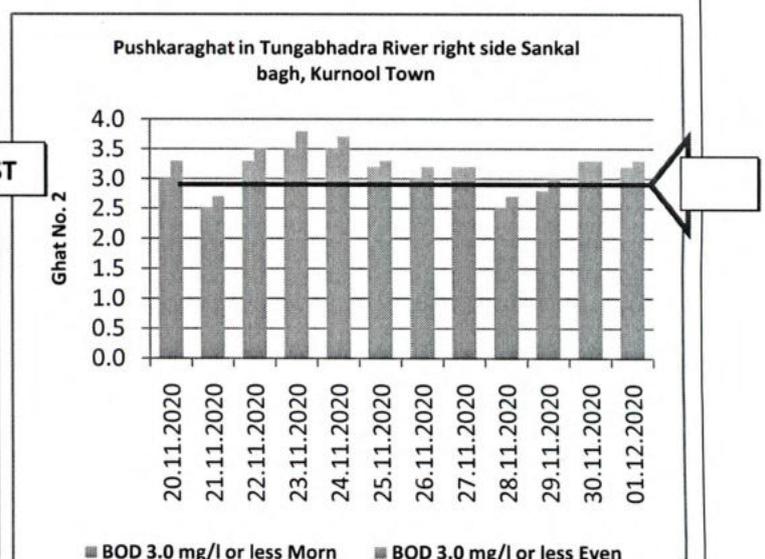
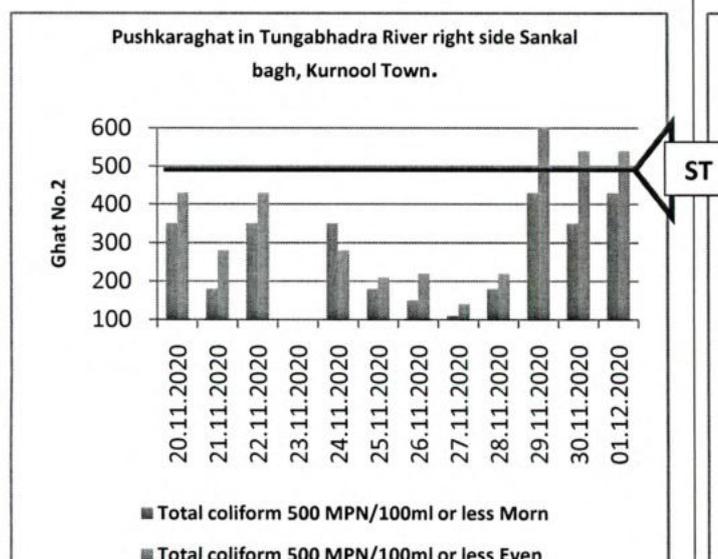
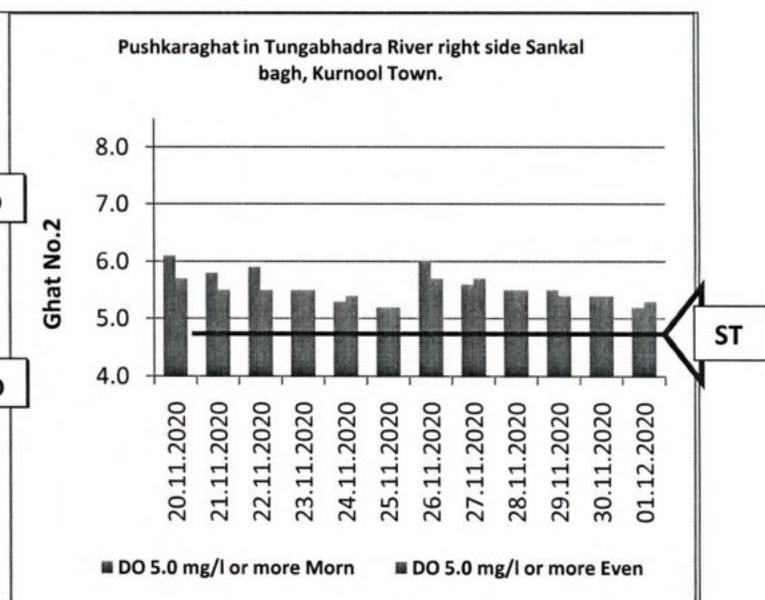
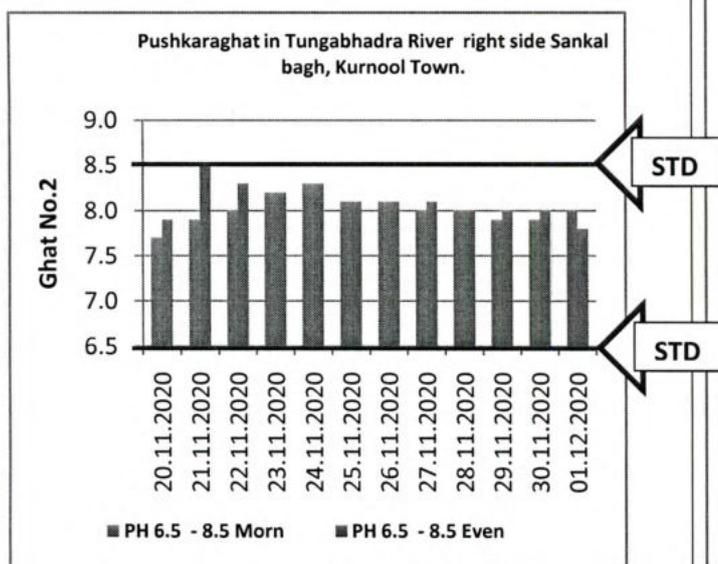
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**KURNOOL ASSEMBLY CONSTITUENCY
Tungabhadra Pushakaralu, 2020 - Consolidated Analysis Report**

Ghat No. 2		Pushkaraghat in Tungabhadra River right side Sankal bagh, Kurnool Town.							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	7.7	7.9	6.1	5.7	350	430	3.0	3.3
2	21.11.2020	7.9	8.5	5.8	5.5	180	280	2.5	2.7
3	22.11.2020	8.0	8.3	5.9	5.5	350	430	3.3	3.5
4	23.11.2020	8.2	8.2	5.5	5.5	76	95	3.5	3.8
5	24.11.2020	8.3	8.3	5.3	5.4	350	280	3.5	3.7
6	25.11.2020	8.1	8.1	5.2	5.2	180	210	3.2	3.3
7	26.11.2020	8.1	8.1	6.0	5.7	150	220	3.0	3.2
8	27.11.2020	8.0	8.1	5.6	5.7	110	140	3.2	3.2
9	28.11.2020	8.0	8.0	5.5	5.5	180	220	2.5	2.7
10	29.11.2020	7.9	8.0	5.5	5.4	430	920	2.8	3.0
11	30.11.2020	7.9	8.0	5.4	5.4	350	540	3.3	3.3
12	01.12.2020	8.0	7.8	5.2	5.3	430	540	3.2	3.3

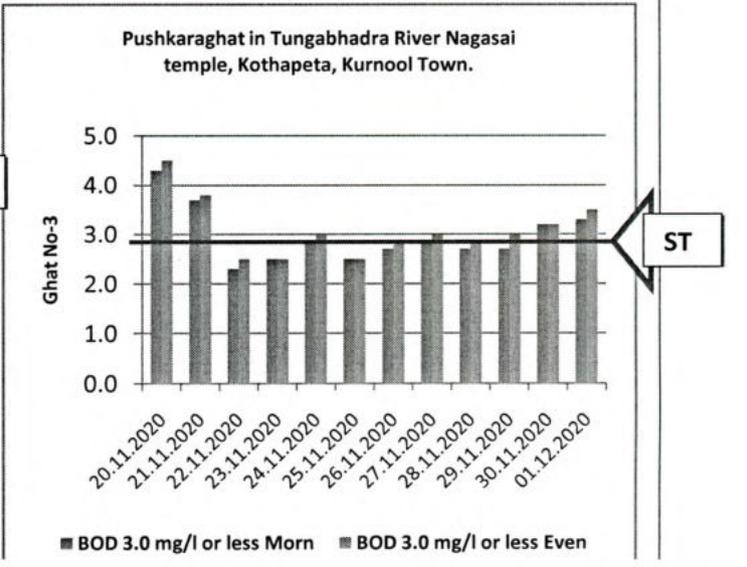
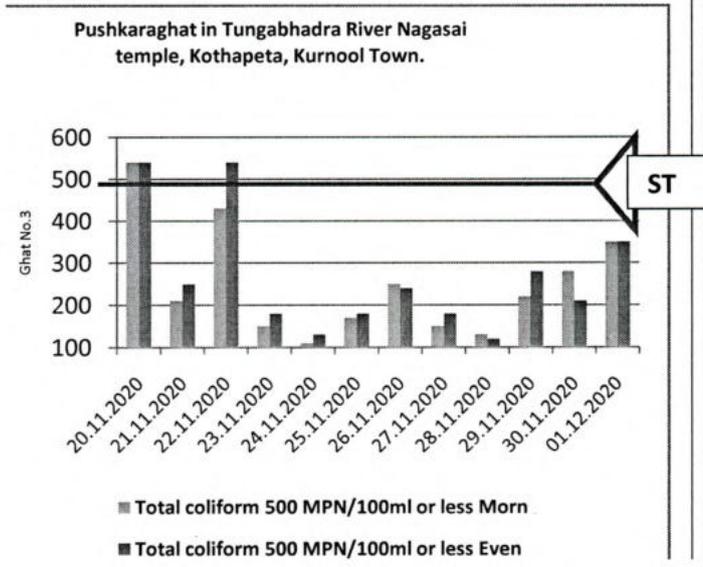
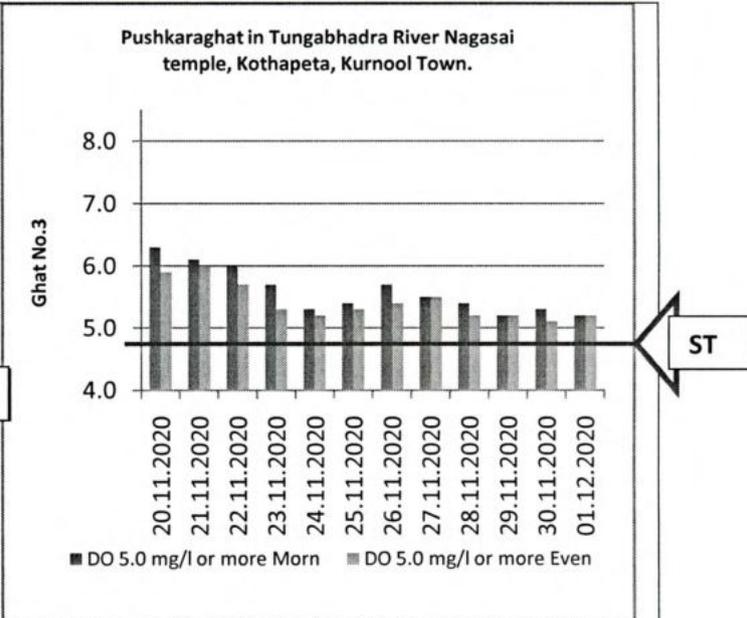
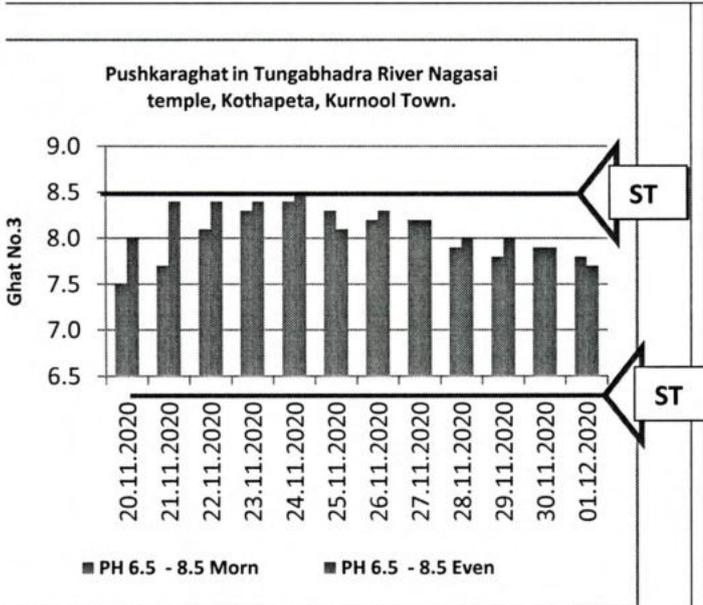




KURNOOL ASSEMBLY CONSTITUENCY

Tungabhadra Pushkaralu, 2020 - Consolidated Analysis Report

Ghat No. 3		Pushkaraghat in Tungabhadra River Nagasai temple, Kothapeta, Kurnool Town.							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	7.5	8.0	6.3	5.9	540	540	4.3	4.5
2	21.11.2020	7.7	8.4	6.1	6.0	210	250	3.7	3.8
3	22.11.2020	8.1	8.4	6.0	5.7	430	540	2.3	2.5
4	23.11.2020	8.3	8.4	5.7	5.3	150	180	2.5	2.5
5	24.11.2020	8.4	8.5	5.3	5.2	110	130	2.8	3.0
6	25.11.2020	8.3	8.1	5.4	5.3	170	180	2.5	2.5
7	26.11.2020	8.2	8.3	5.7	5.4	250	240	2.7	2.8
8	27.11.2020	8.2	8.2	5.5	5.5	150	180	2.8	3.0
9	28.11.2020	7.9	8.0	5.4	5.2	130	120	2.7	2.8
10	29.11.2020	7.8	8.0	5.2	5.2	220	280	2.7	3.0
11	30.11.2020	7.9	7.9	5.3	5.1	280	210	3.2	3.2
12	01.12.2020	7.8	7.7	5.2	5.2	350	350	3.3	3.5





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ZONAL LABORATORY : KURNOOL**

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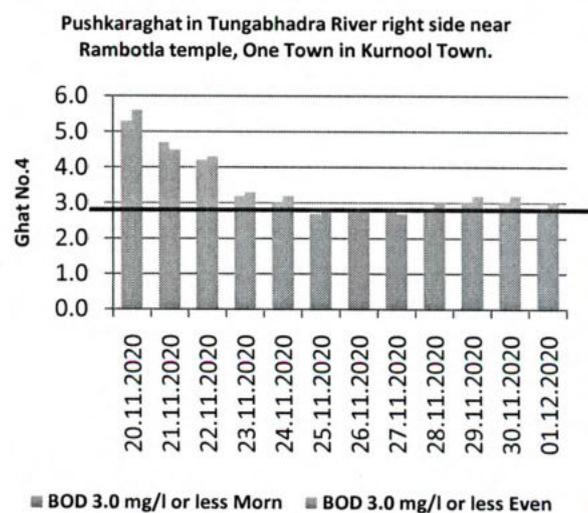
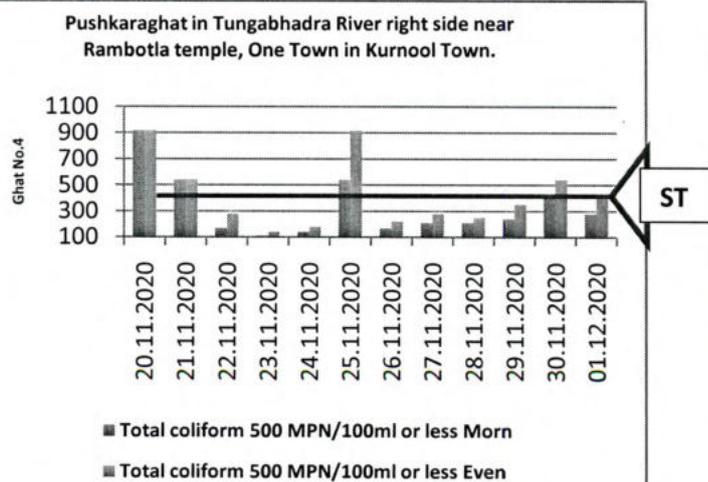
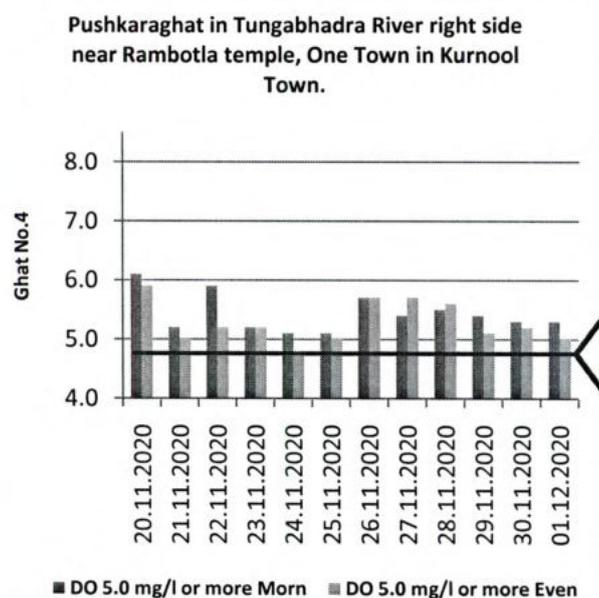
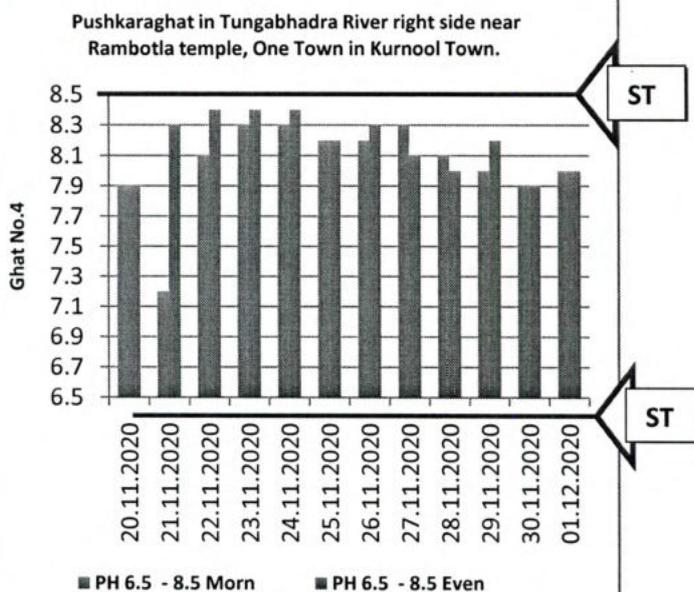


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KURNOOL ASSEMBLY CONSTITUENCY

Tungabhadra Pushakeralu, 2020 - Consolidated Analysis Report

Ghat No. 4		Pushkaraghat in Tungabhadra River right side near Rambotla temple, One Town in Kurnool Town.							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	7.9	7.9	6.1	5.9	920	920	5.3	5.6
2	21.11.2020	7.2	8.3	5.2	5.0	540	540	4.7	4.5
3	22.11.2020	8.1	8.4	5.9	5.2	170	280	4.2	4.3
4	23.11.2020	8.3	8.4	5.2	5.2	110	140	3.2	3.3
5	24.11.2020	8.3	8.4	5.1	4.8	140	180	3.0	3.2
6	25.11.2020	8.2	8.2	5.1	5.0	540	920	2.7	2.8
7	26.11.2020	8.2	8.3	5.7	5.7	170	220	2.8	2.8
8	27.11.2020	8.3	8.1	5.4	5.7	210	280	2.8	2.7
9	28.11.2020	8.1	8.0	5.5	5.6	210	250	2.8	3.0
10	29.11.2020	8.0	8.2	5.4	5.1	240	350	3.0	3.2
11	30.11.2020	7.9	7.9	5.3	5.2	430	540	3.0	3.2
12	01.12.2020	8.0	8.0	5.3	5.0	280	430	2.8	3.0

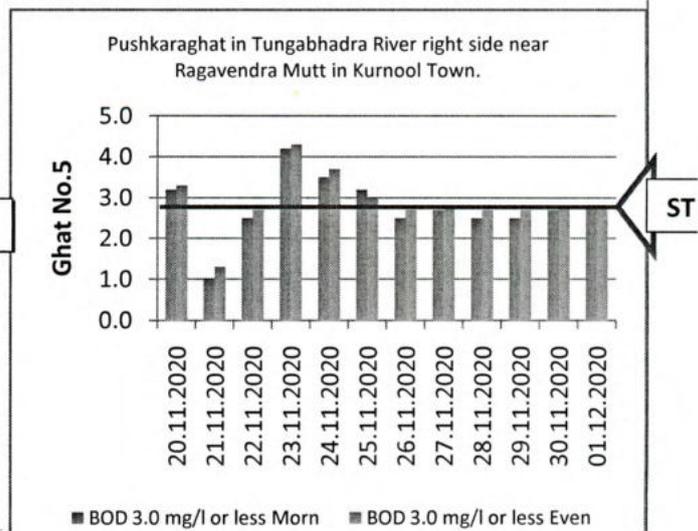
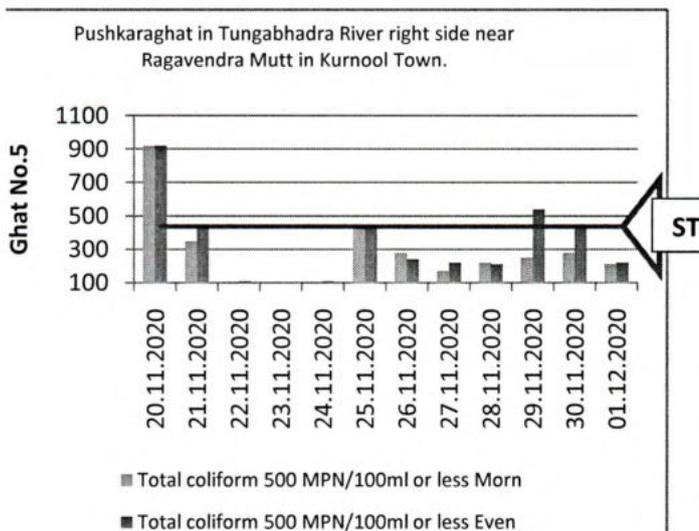
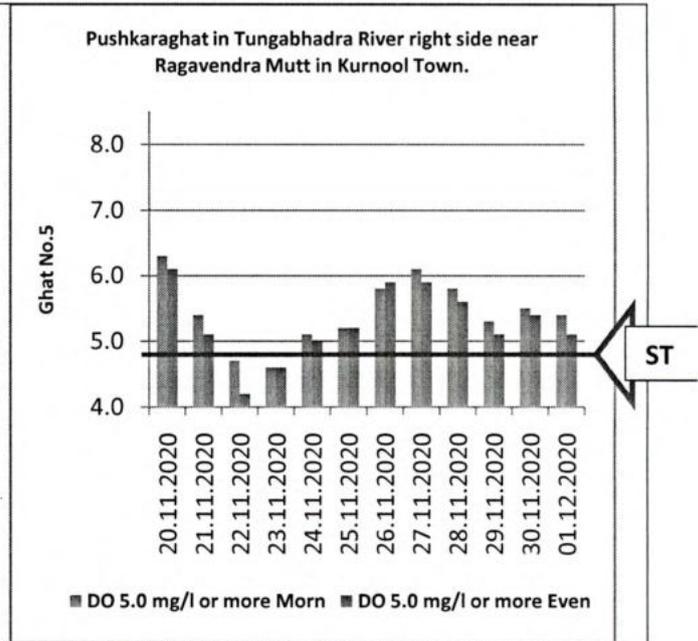
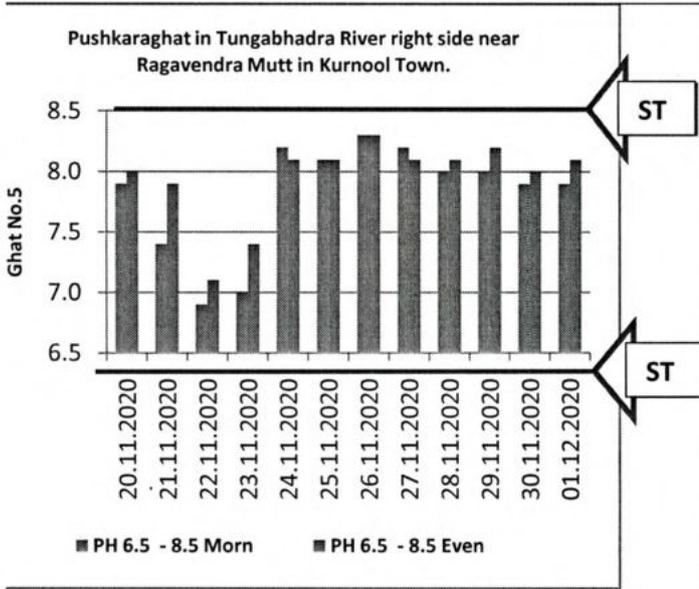




KURNOOL ASSEMBLY CONSTITUENCY

Tungabhadra Pushkaralu, 2020 - Consolidated Analysis Report

Ghat No. 5		Pushkaraghat in Tungabhadra River right side near Ragavendra Mutt in Kurnool Town.							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	7.9	8.0	6.3	6.1	920	920	3.2	3.3
2	21.11.2020	7.4	7.9	5.4	5.1	350	430	1.0	1.3
3	22.11.2020	6.9	7.1	4.7	4.2	94	110	2.5	2.7
4	23.11.2020	7.0	7.4	4.6	4.6	33	46	4.2	4.3
5	24.11.2020	8.2	8.1	5.1	5.0	79	110	3.5	3.7
6	25.11.2020	8.1	8.1	5.2	5.2	430	430	3.2	3.0
7	26.11.2020	8.3	8.3	5.8	5.9	280	240	2.5	2.7
8	27.11.2020	8.2	8.1	6.1	5.9	170	220	2.7	2.8
9	28.11.2020	8.0	8.1	5.8	5.6	220	210	2.5	2.7
10	29.11.2020	8.0	8.2	5.3	5.1	250	540	2.5	2.7
11	30.11.2020	7.9	8.0	5.5	5.4	280	430	2.7	2.8
12	01.12.2020	7.9	8.1	5.4	5.1	210	220	2.8	2.8





**ANDHRA PRADESH POLLUTION CONTROL BOARD
ZONAL LABORATORY : KURNOOL**

Shankar Shopping Complex, 1st Floor, Krishna Nagar Main Road, Kurnool

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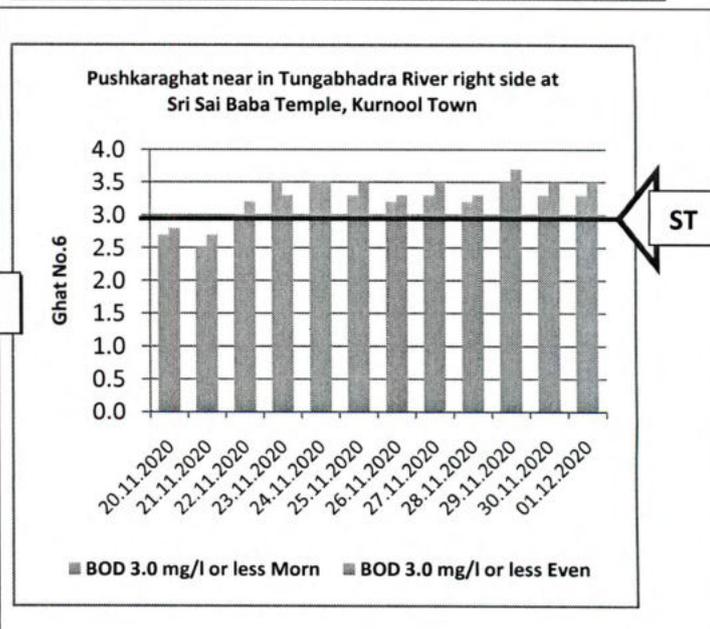
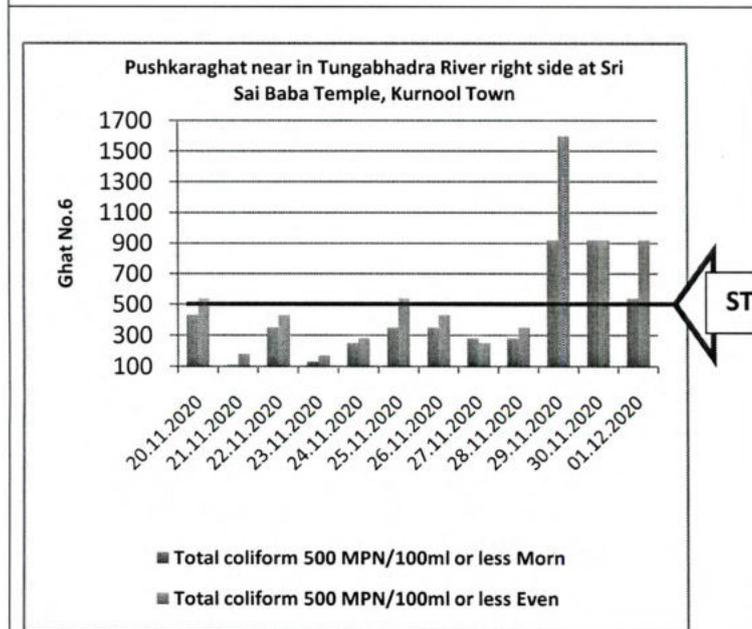
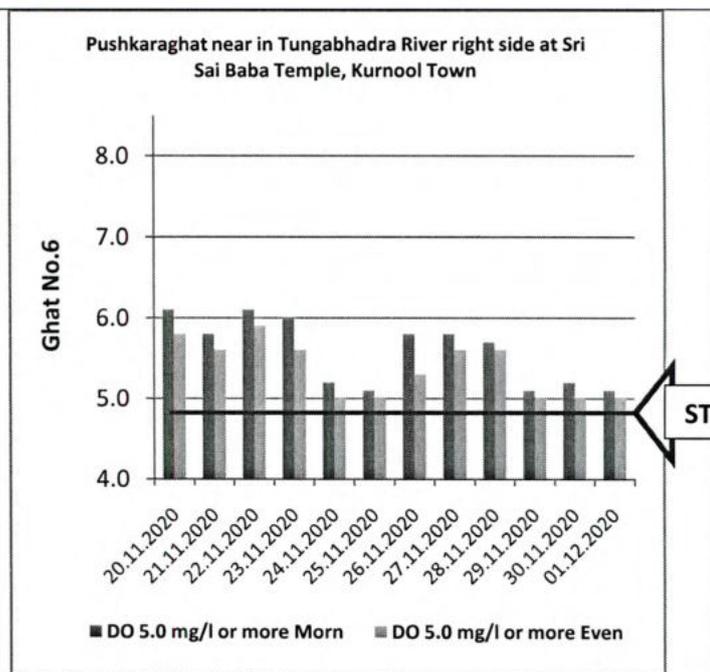
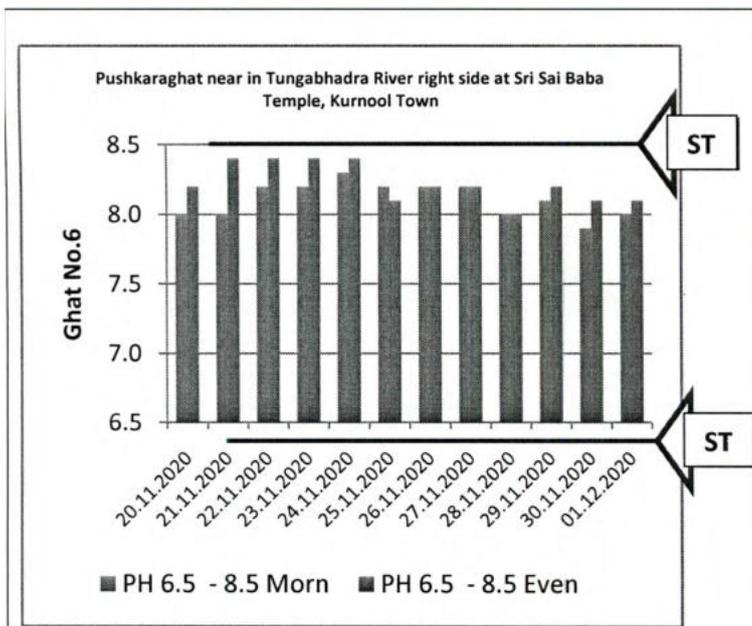


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KURNOOL ASSEMBLY CONSTITUENCY

Tungabhadra Pushkaralu, 2020 - Consolidated Analysis Report

Ghat No. 6		Pushkaraghat near in Tungabhadra River right side at Sri Sai Baba Temple, Kurnool Town							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	8.0	8.2	6.1	5.8	430	540	2.7	2.8
2	21.11.2020	8.0	8.4	5.8	5.6	110	180	2.5	2.7
3	22.11.2020	8.2	8.4	6.1	5.9	350	430	3.0	3.2
4	23.11.2020	8.2	8.4	6.0	5.6	130	170	3.5	3.3
5	24.11.2020	8.3	8.4	5.2	5.0	250	280	3.5	3.5
6	25.11.2020	8.2	8.1	5.1	5.0	350	540	3.3	3.5
7	26.11.2020	8.2	8.2	5.8	5.3	350	430	3.2	3.3
8	27.11.2020	8.2	8.2	5.8	5.6	280	250	3.3	3.5
9	28.11.2020	8.0	8.0	5.7	5.6	280	350	3.2	3.3
10	29.11.2020	8.1	8.2	5.1	5.0	920	1600	3.5	3.7
11	30.11.2020	7.9	8.1	5.2	5.0	920	920	3.3	3.5
12	01.12.2020	8.0	8.1	5.1	5.0	540	920	3.3	3.5

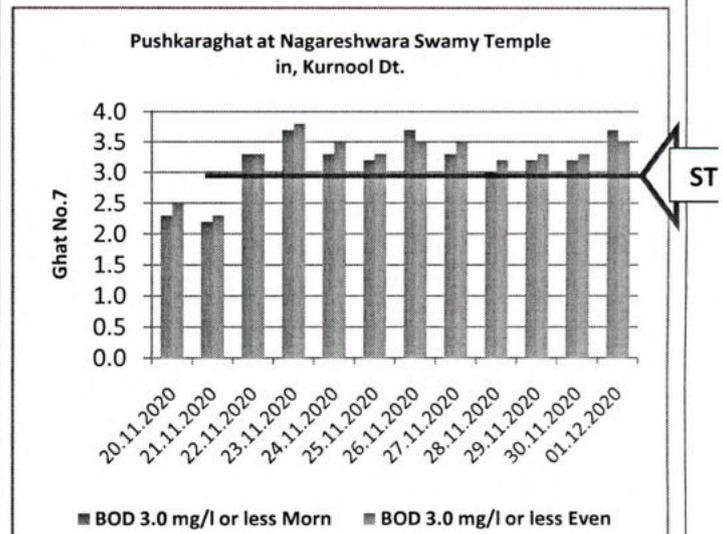
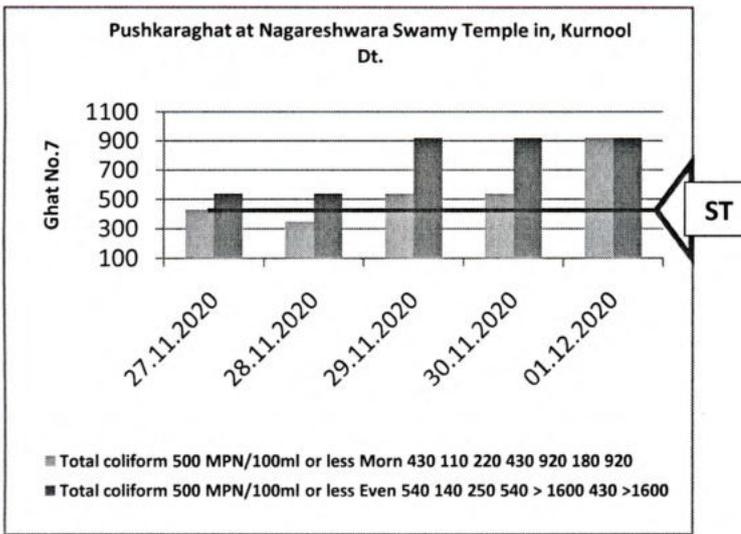
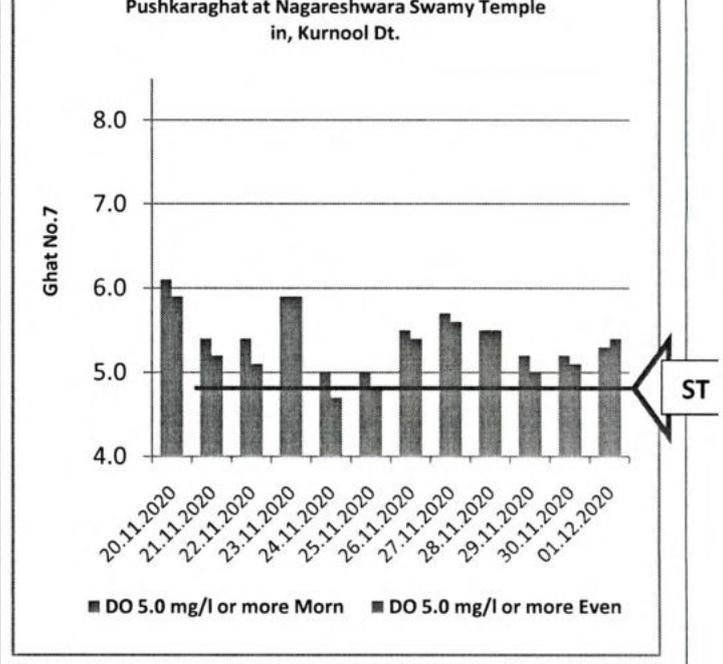
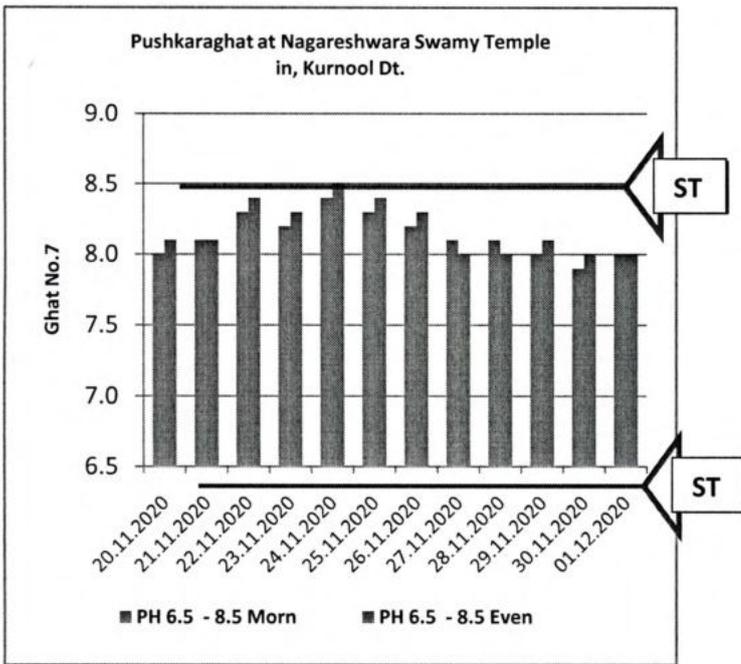




KURNOOL ASSEMBLY CONSTITUENCY

Tungabhadra Pushkaralu, 2020 - Consolidated Analysis Report

Ghat No. 7		Pushkaraghat at Nagareshwara Swamy Temple in, Kurnool Dt.							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	8.0	8.1	6.1	5.9	430	540	2.3	2.5
2	21.11.2020	8.1	8.1	5.4	5.2	110	140	2.2	2.3
3	22.11.2020	8.3	8.4	5.4	5.1	220	250	3.3	3.3
4	23.11.2020	8.2	8.3	5.9	5.9	430	540	3.7	3.8
5	24.11.2020	8.4	8.5	5.0	4.7	920	> 1600	3.3	3.5
6	25.11.2020	8.3	8.4	5.0	4.8	180	430	3.2	3.3
7	26.11.2020	8.2	8.3	5.5	5.4	920	>1600	3.7	3.5
8	27.11.2020	8.1	8.0	5.7	5.6	430	540	3.3	3.5
9	28.11.2020	8.1	8.0	5.5	5.5	350	540	3.0	3.2
10	29.11.2020	8.0	8.1	5.2	5.0	540	920	3.2	3.3
11	30.11.2020	7.9	8.0	5.2	5.1	540	920	3.2	3.3
12	01.12.2020	8.0	8.0	5.3	5.4	920	920	3.7	3.5





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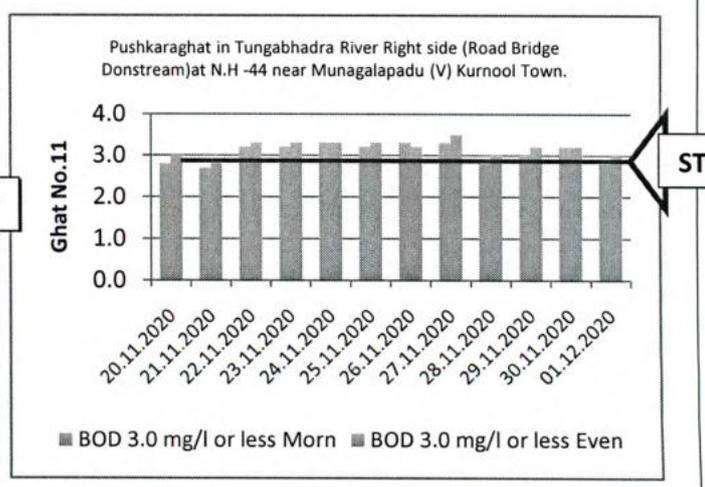
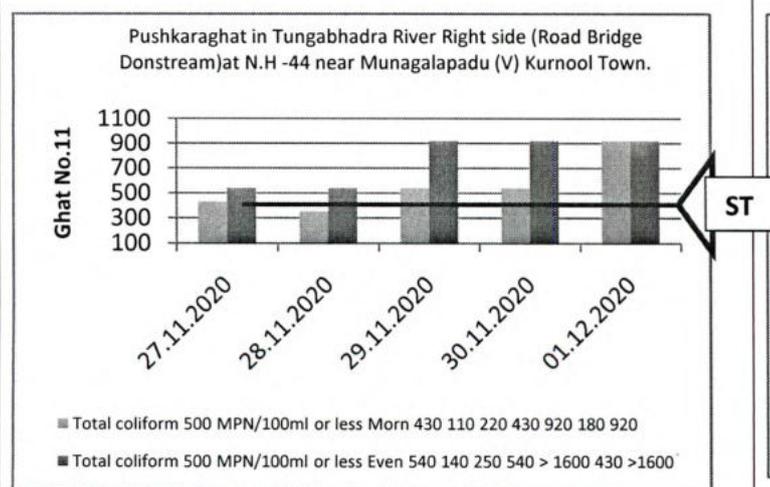
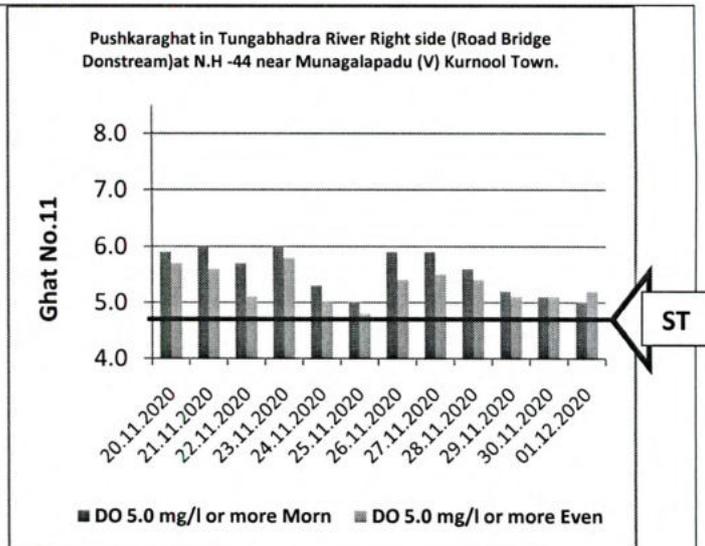
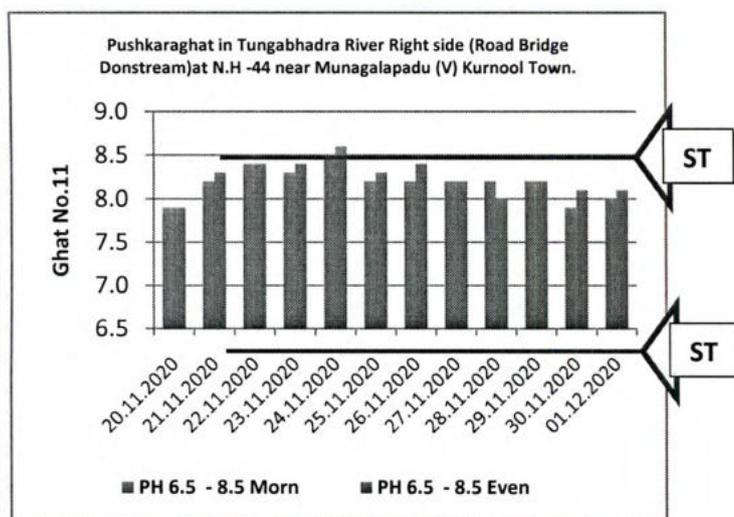


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KURNOOL ASSEMBLY CONSTITUENCY

Tungabhadra Pushkaralu, 2020 - Consolidated Analysis Report

Ghat No. 11		Pushkaraghat in Tungabhadra River Right side (Road Bridge Donstream)at N.H - 44 near Munagalapadu (V) Kurnool Town.							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	7.9	7.9	5.9	5.7	280	430	2.8	3.0
2	21.11.2020	8.2	8.3	6.0	5.6	430	540	2.7	2.8
3	22.11.2020	8.4	8.4	5.7	5.1	350	540	3.2	3.3
4	23.11.2020	8.3	8.4	6.0	5.8	94	120	3.2	3.3
5	24.11.2020	8.5	8.6	5.3	5.0	350	540	3.3	3.3
6	25.11.2020	8.2	8.3	5.0	4.8	210	280	3.2	3.3
7	26.11.2020	8.2	8.4	5.9	5.4	170	280	3.3	3.2
8	27.11.2020	8.2	8.2	5.9	5.5	130	220	3.3	3.5
9	28.11.2020	8.2	8.0	5.6	5.4	180	150	2.8	3.0
10	29.11.2020	8.2	8.2	5.2	5.1	920	920	3.0	3.2
11	30.11.2020	7.9	8.1	5.1	5.1	430	540	3.2	3.2
12	01.12.2020	8.0	8.1	5.0	5.2	540	920	2.8	3.0

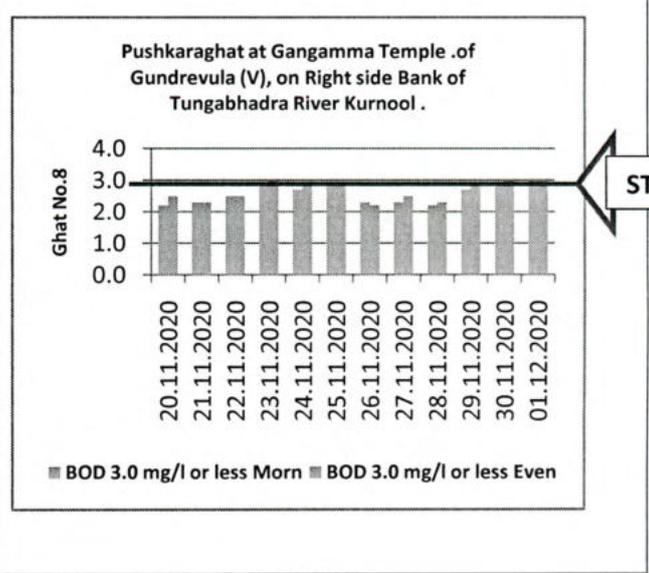
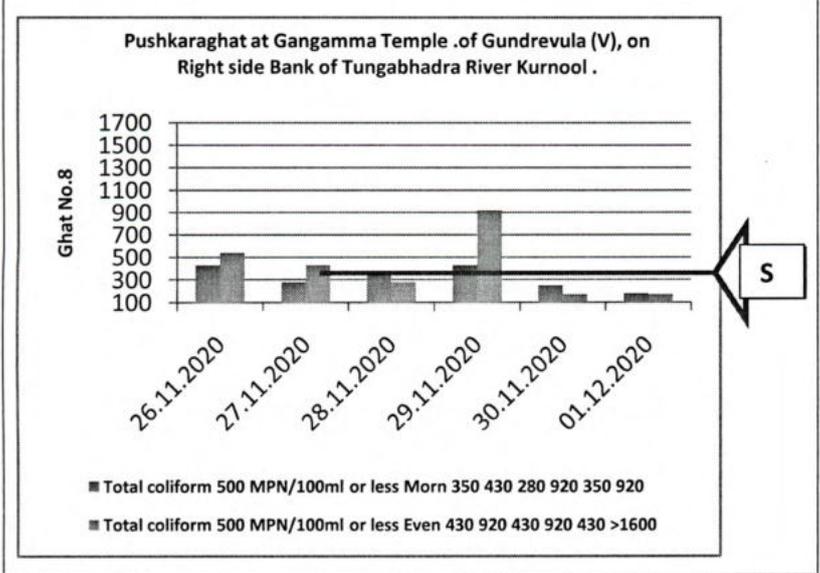
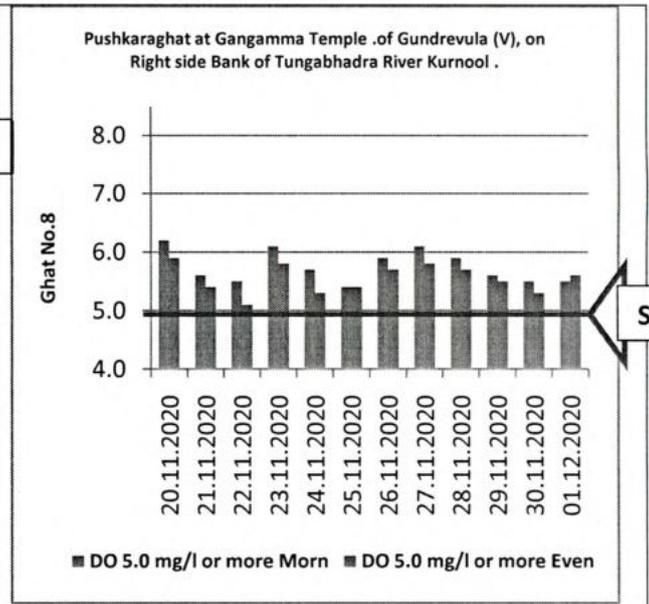
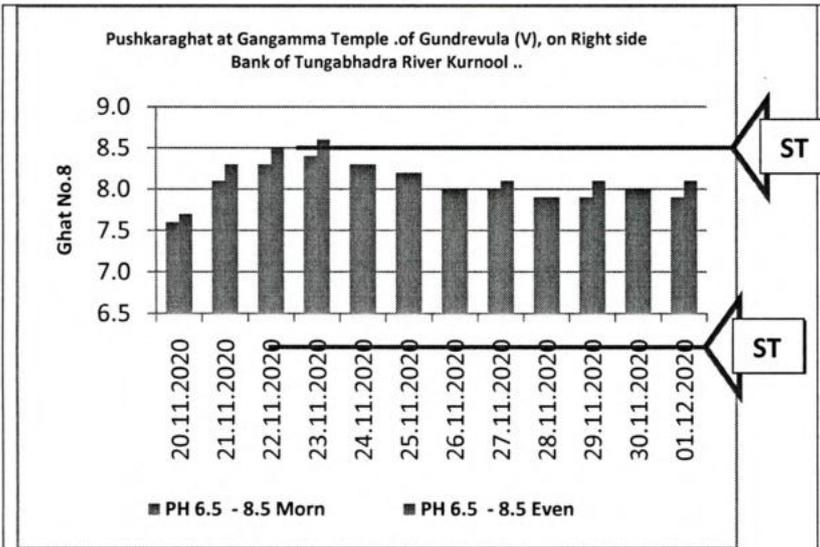




KODUMUR ASSEMBLY CONSTITUENCY

Tungabhadra Pushkaralu, 2020 - Consolidated Analysis Report

Ghat No. 8		Pushkaraghat at Gangamma Temple .of Gundrevula (V), on Right side Bank of Tungabhadra River Kurnool .							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	7.6	7.7	6.2	5.9	350	430	2.2	2.5
2	21.11.2020	8.1	8.3	5.6	5.4	430	920	2.3	2.3
3	22.11.2020	8.3	8.5	5.5	5.1	280	430	2.5	2.5
4	23.11.2020	8.4	8.6	6.1	5.8	920	920	2.8	3.0
5	24.11.2020	8.3	8.3	5.7	5.3	350	430	2.7	2.8
6	25.11.2020	8.2	8.2	5.4	5.4	920	>1600	2.8	2.8
7	26.11.2020	8.0	8.0	5.9	5.7	430	540	2.3	2.2
8	27.11.2020	8.0	8.1	6.1	5.8	280	430	2.3	2.5
9	28.11.2020	7.9	7.9	5.9	5.7	350	280	2.2	2.3
10	29.11.2020	7.9	8.1	5.6	5.5	430	920	2.7	2.8
11	30.11.2020	8.0	8.0	5.5	5.3	250	170	2.8	3.0
12	01.12.2020	7.9	8.1	5.5	5.6	180	170	3.0	3.0





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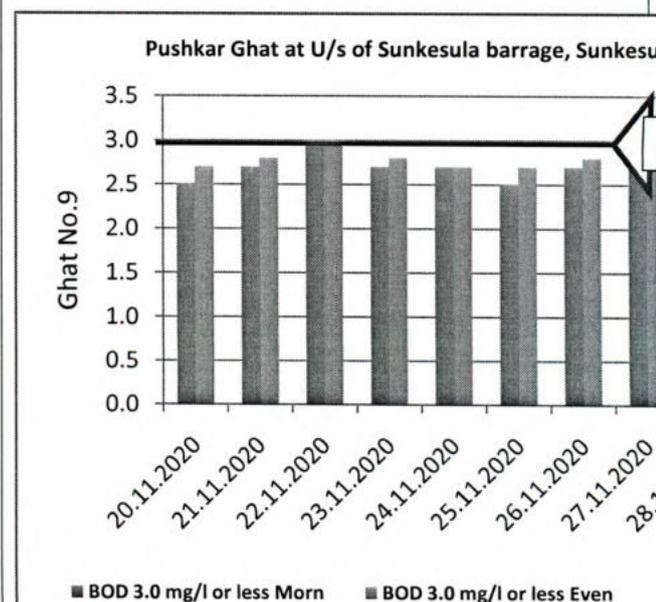
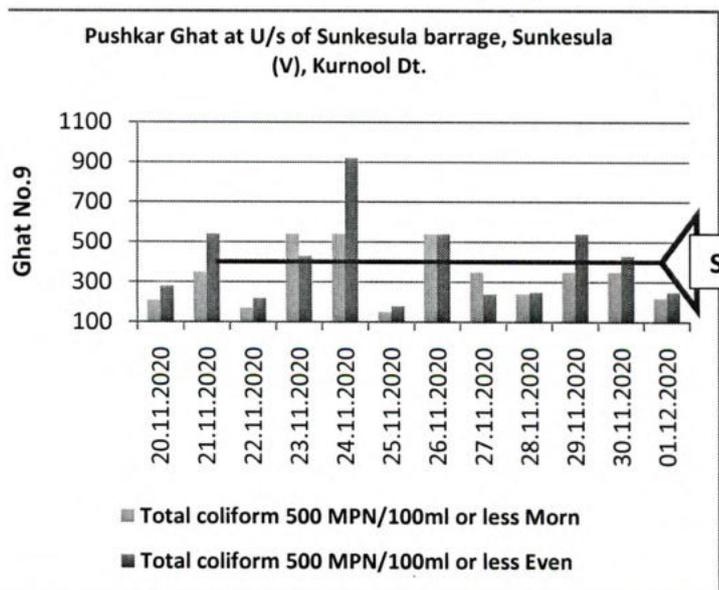
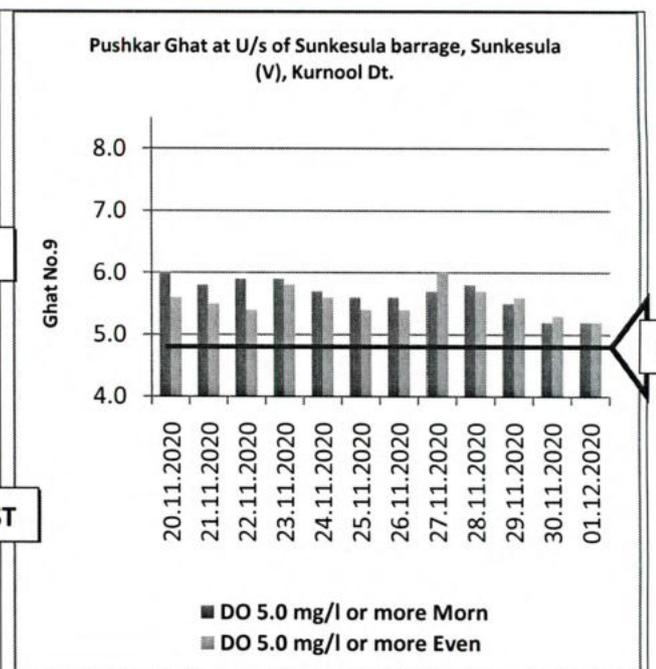
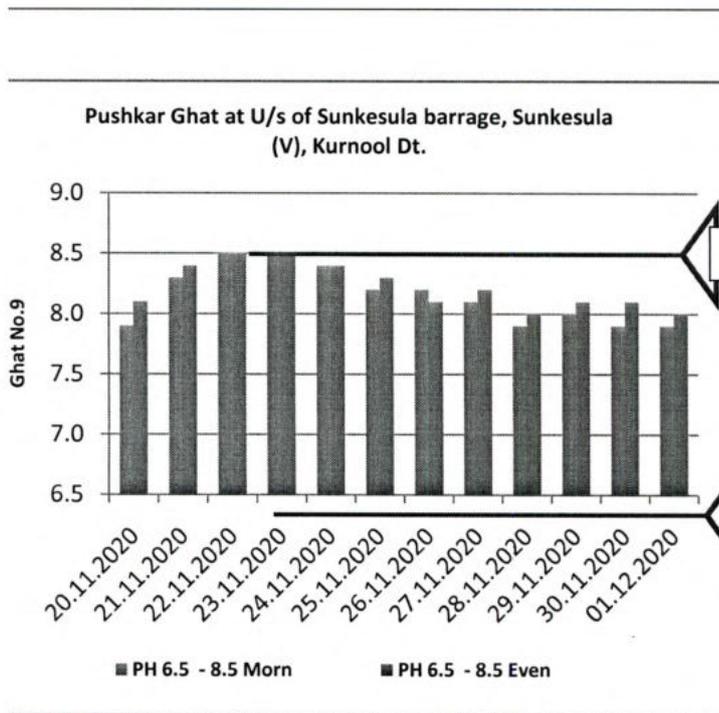


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KODUMUR ASSEMBLY CONSTITUENCY

Tungabhadra Pushkaralu, 2020 - Consolidated Analysis Report

Ghat No. 9		Pushkar Ghat at U/s of Sunkesula barrage, Sunkesula (V), Kurnool Dt.							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	7.9	8.1	6.0	5.6	210	280	2.5	2.7
2	21.11.2020	8.3	8.4	5.8	5.5	350	540	2.7	2.8
3	22.11.2020	8.5	8.5	5.9	5.4	170	220	3.0	3.0
4	23.11.2020	8.5	8.5	5.9	5.8	540	430	2.7	2.8
5	24.11.2020	8.4	8.4	5.7	5.6	540	920	2.7	2.7
6	25.11.2020	8.2	8.3	5.6	5.4	150	180	2.5	2.7
7	26.11.2020	8.2	8.1	5.6	5.4	540	540	2.7	2.8
8	27.11.2020	8.1	8.2	5.7	6.0	350	240	2.8	2.8
9	28.11.2020	7.9	8.0	5.8	5.7	240	250	2.7	2.8
10	29.11.2020	8.0	8.1	5.5	5.6	350	540	3.0	3.2
11	30.11.2020	7.9	8.1	5.2	5.3	350	430	3.2	3.2
12	01.12.2020	7.9	8.0	5.2	5.2	220	250	2.5	2.7

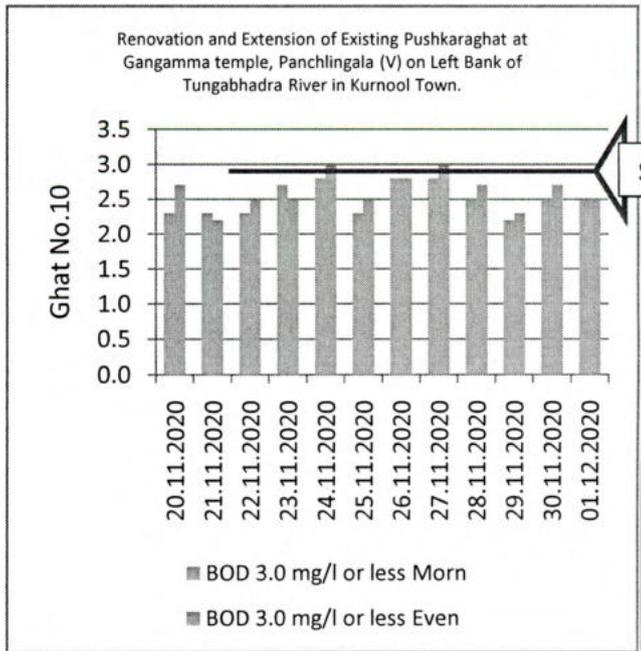
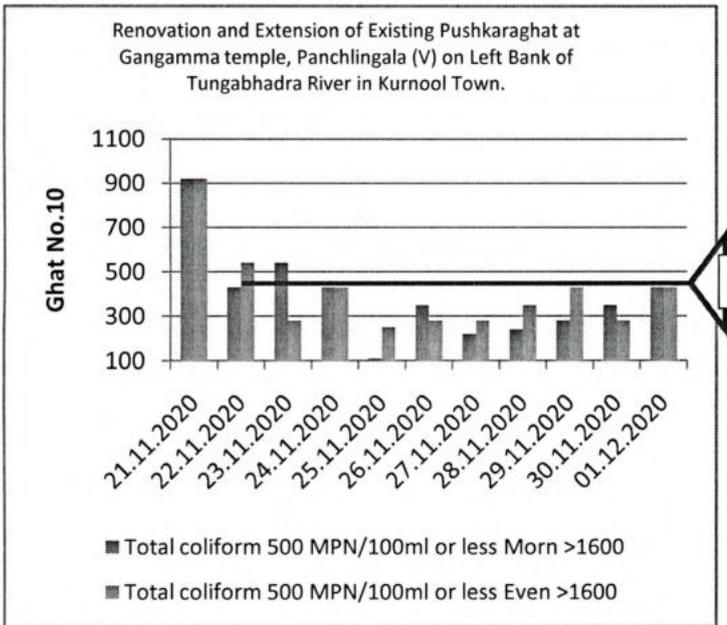
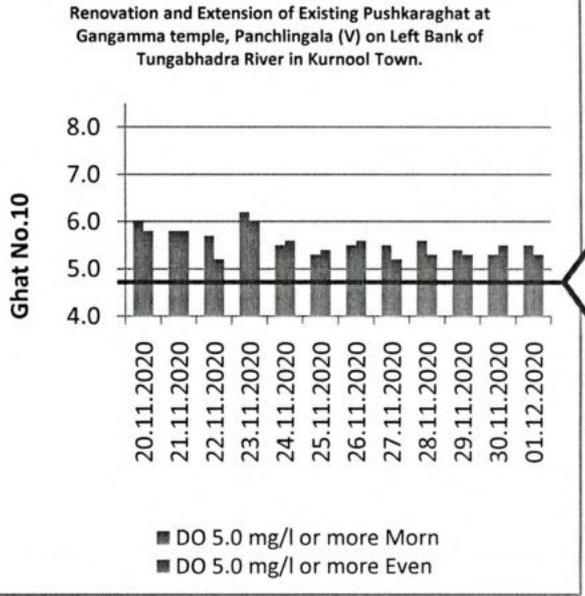
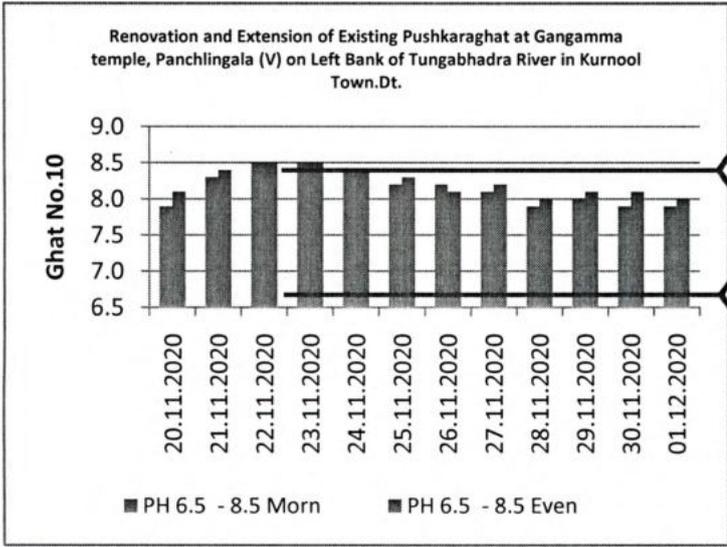




KODUMUR ASSEMBLY CONSTITUENCY

Tungabhadra Pushkaralu, 2020 - Consolidated Analysis Report

Ghat No. 10		Renovation and Extension of Existing Pushkaraghat at Gangamma temple, Panchlingala (V) on Left Bank of Tungabhadra River in Kurnool Town.							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	7.8	8.0	6.0	5.8	>1600	>1600	2.3	2.7
2	21.11.2020	8.1	8.3	5.8	5.8	920	920	2.3	2.2
3	22.11.2020	8.3	8.5	5.7	5.2	430	540	2.3	2.5
4	23.11.2020	8.3	8.3	6.2	6.0	540	280	2.7	2.5
5	24.11.2020	8.2	8.3	5.5	5.6	430	430	2.8	3.0
6	25.11.2020	8.0	8.0	5.3	5.4	110	250	2.3	2.5
7	26.11.2020	8.1	7.9	5.5	5.6	350	280	2.8	2.8
8	27.11.2020	8.0	8.0	5.5	5.2	220	280	2.8	3.0
9	28.11.2020	7.9	7.9	5.6	5.3	240	350	2.5	2.7
10	29.11.2020	8.0	8.0	5.4	5.3	280	430	2.2	2.3
11	30.11.2020	7.9	8.0	5.3	5.5	350	280	2.5	2.7
12	01.12.2020	7.9	8.0	5.5	5.3	430	430	2.5	2.5





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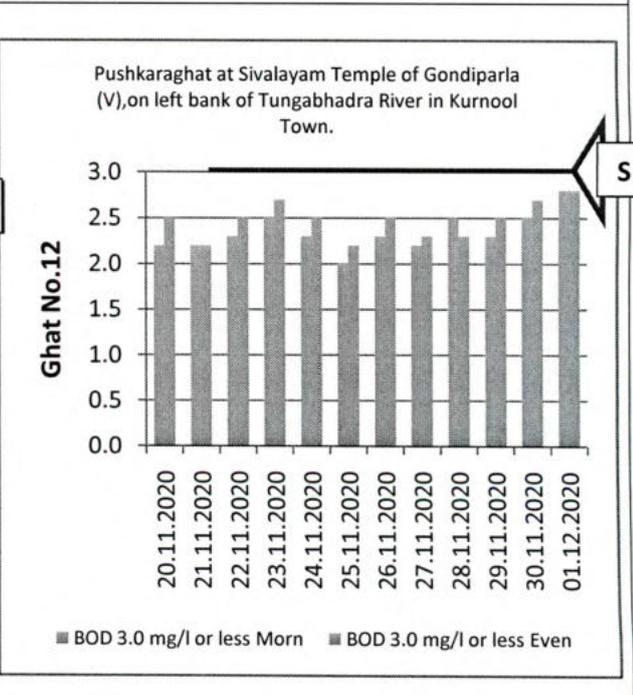
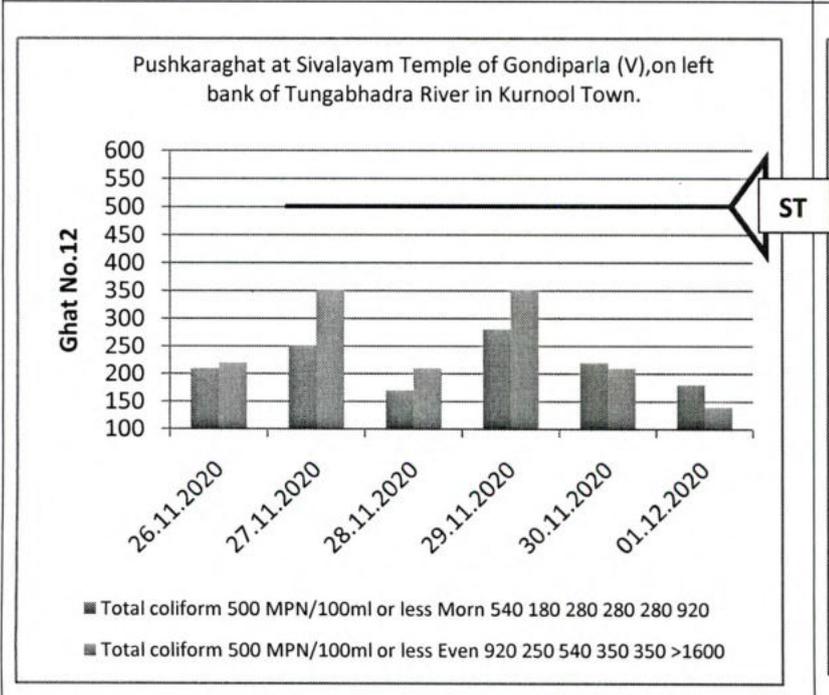
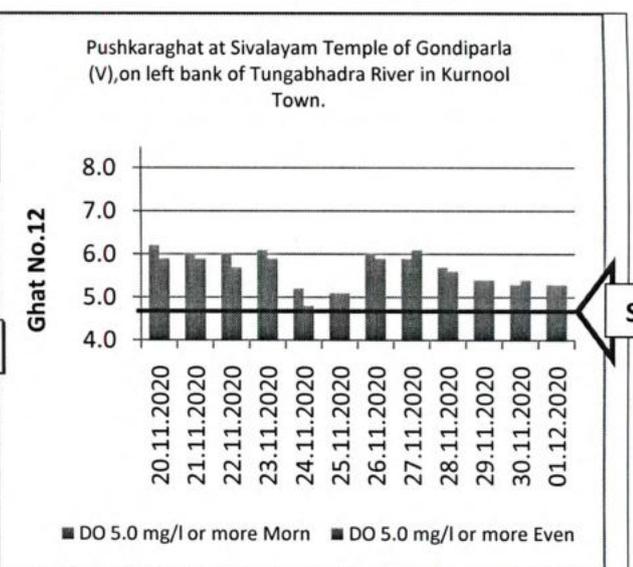
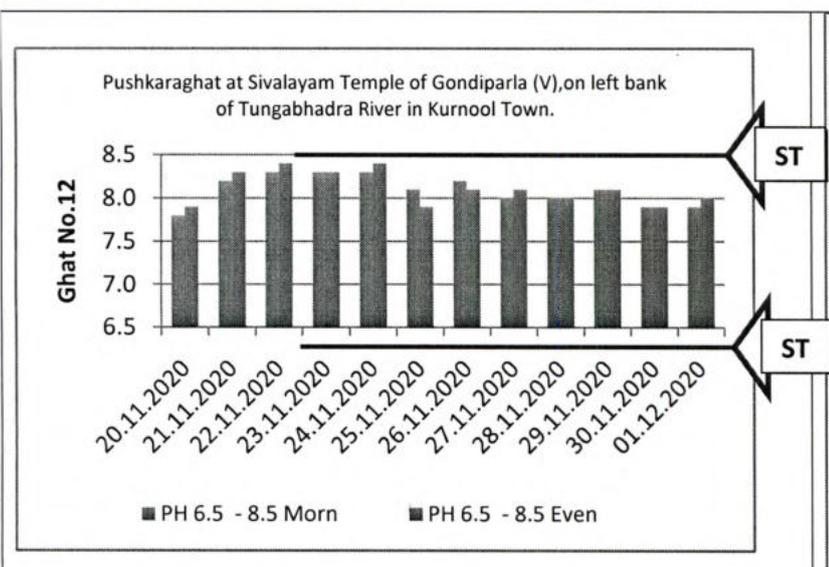


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KODUMUR ASSEMBLY CONSTITUENCY

Tungabhadra Pushkaralu, 2020 - Consolidated Analysis Report

Ghat No. 12		Pushkaraghat at Sivalayam Temple of Gondiparla (V),on left bank of Tungabhadra River in Kurnool Town.							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	7.8	7.9	6.2	5.9	540	920	2.2	2.5
2	21.11.2020	8.2	8.3	6.0	5.9	180	250	2.2	2.2
3	22.11.2020	8.3	8.4	6.0	5.7	280	540	2.3	2.5
4	23.11.2020	8.3	8.3	6.1	5.9	280	350	2.5	2.7
5	24.11.2020	8.3	8.4	5.2	4.8	280	350	2.3	2.5
6	25.11.2020	8.1	7.9	5.1	5.1	920	>1600	2.0	2.2
7	26.11.2020	8.2	8.1	6.0	5.9	210	220	2.3	2.5
8	27.11.2020	8.0	8.1	5.9	6.1	250	350	2.2	2.3
9	28.11.2020	8.0	8.0	5.7	5.6	170	210	2.5	2.3
10	29.11.2020	8.1	8.1	5.4	5.4	280	350	2.3	2.5
11	30.11.2020	7.9	7.9	5.3	5.4	220	210	2.5	2.7
12	01.12.2020	7.9	8.0	5.3	5.3	180	140	2.8	2.8





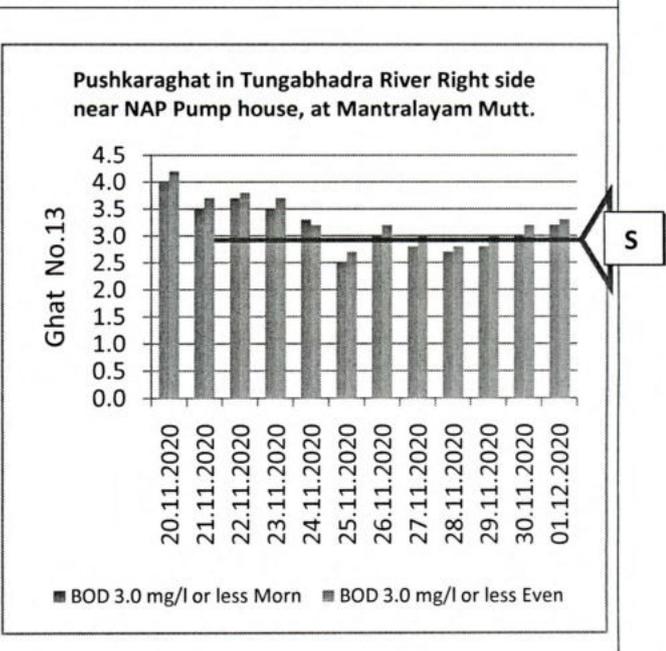
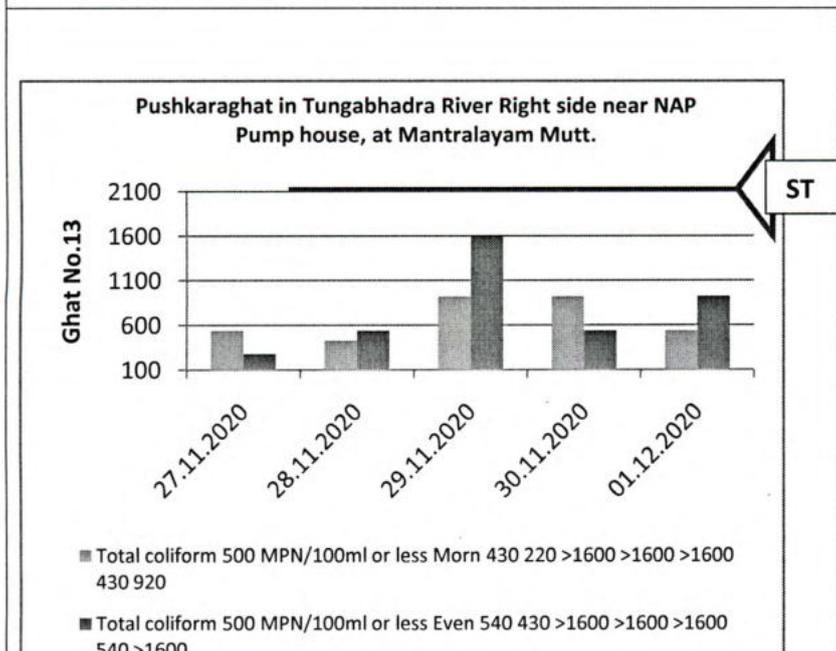
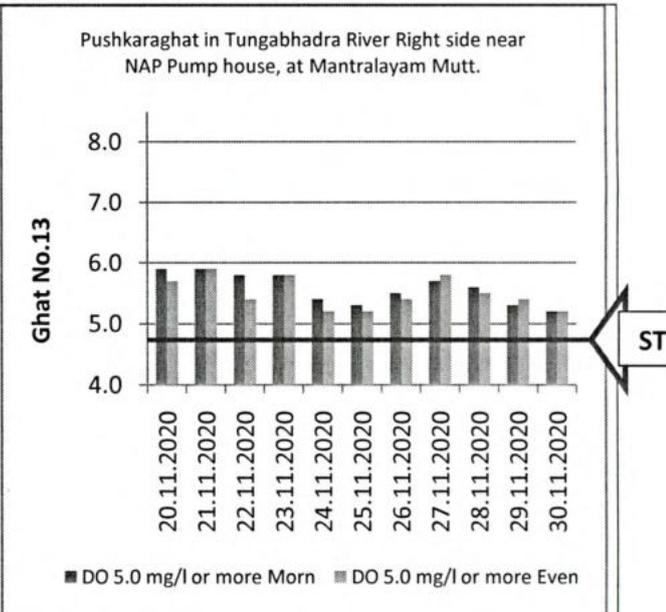
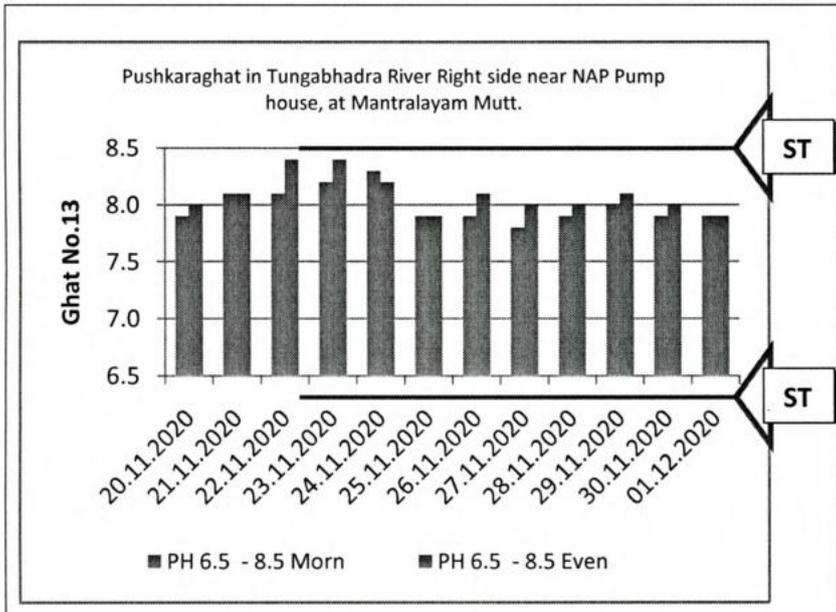
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MANTRALAYAM ASSEMBLY CONSTITUENCY

Tungabhadra Pushkaralu, 2020 - Consolidated Analysis Report

Ghat No. 13		Pushkaraghat in Tungabhadra River Right side near NAP Pump house, at Mantralayam Mutt.							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	7.9	8.0	5.9	5.7	430	540	4.0	4.2
2	21.11.2020	8.1	8.1	5.9	5.9	220	430	3.5	3.7
3	22.11.2020	8.1	8.4	5.8	5.4	>1600	>1600	3.7	3.8
4	23.11.2020	8.2	8.4	5.8	5.8	>1600	>1600	3.5	3.7
5	24.11.2020	8.3	8.2	5.4	5.2	>1600	>1600	3.3	3.2
6	25.11.2020	7.9	7.9	5.3	5.2	430	540	2.5	2.7
7	26.11.2020	7.9	8.1	5.5	5.4	920	>1600	3.0	3.2
8	27.11.2020	7.8	8.0	5.7	5.8	540	280	2.8	3.0
9	28.11.2020	7.9	8.0	5.6	5.5	430	540	2.7	2.8
10	29.11.2020	8.0	8.1	5.3	5.4	920	1600	2.8	3.0
11	30.11.2020	7.9	8.0	5.2	5.2	920	540	3.0	3.2
12	01.12.2020	7.9	7.9	5.1	5.2	540	920	3.2	3.3





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Shankar Shopping Complex, 1st Floor, Krishna Nagar Main Road, Kurnool

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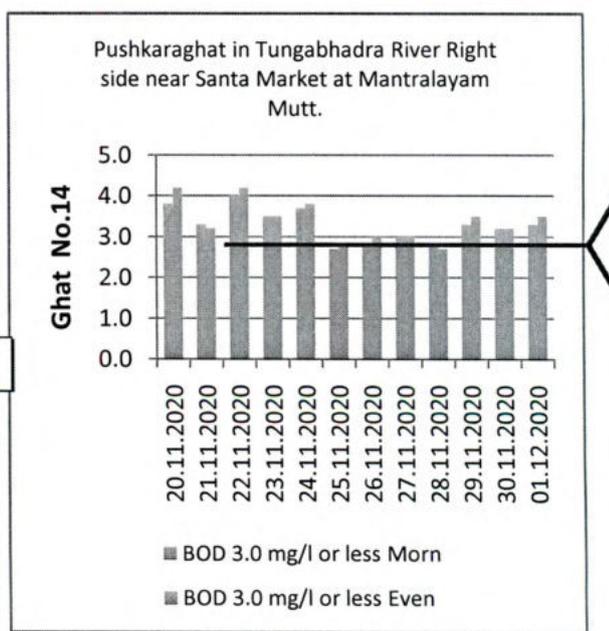
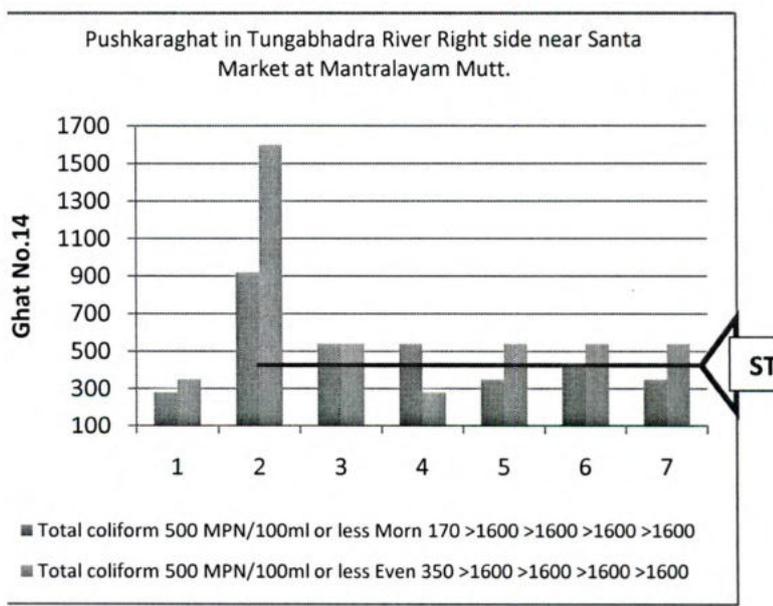
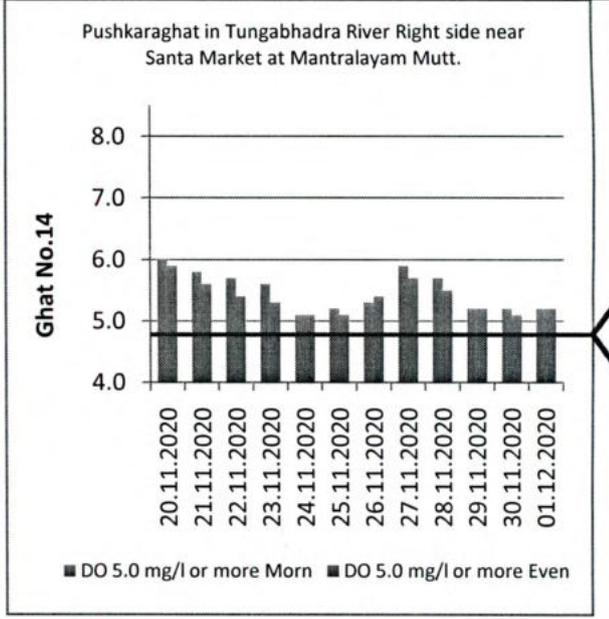
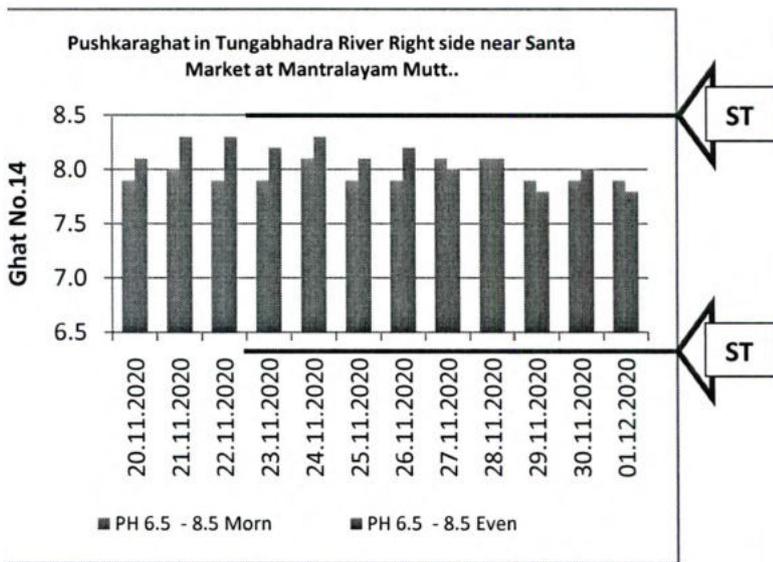


Certificate No.TC-7305

MANTRALAYAM ASSEMBLY CONSTITUENCY

Tungabhadra Pushkaralu, 2020 - Consolidated Analysis Report

Ghat No. 14		Pushkaraghat in Tungabhadra River Right side near Santa Market at Mantralayam Mutt.							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	7.9	8.1	6.0	5.9	170	350	3.8	4.2
2	21.11.2020	8.0	8.3	5.8	5.6	>1600	>1600	3.3	3.2
3	22.11.2020	7.9	8.3	5.7	5.4	>1600	>1600	4.0	4.2
4	23.11.2020	7.9	8.2	5.6	5.3	>1600	>1600	3.5	3.5
5	24.11.2020	8.1	8.3	5.1	5.1	>1600	>1600	3.7	3.8
6	25.11.2020	7.9	8.1	5.2	5.1	280	350	2.7	2.8
7	26.11.2020	7.9	8.2	5.3	5.4	920	1600	2.8	3.0
8	27.11.2020	8.1	8.0	5.9	5.7	540	540	3.0	3.0
9	28.11.2020	8.1	8.1	5.7	5.5	540	280	2.8	2.7
10	29.11.2020	7.9	7.8	5.2	5.2	350	540	3.3	3.5
11	30.11.2020	7.9	8.0	5.2	5.1	430	540	3.2	3.2
12	01.12.2020	7.9	7.8	5.2	5.2	350	540	3.3	3.5

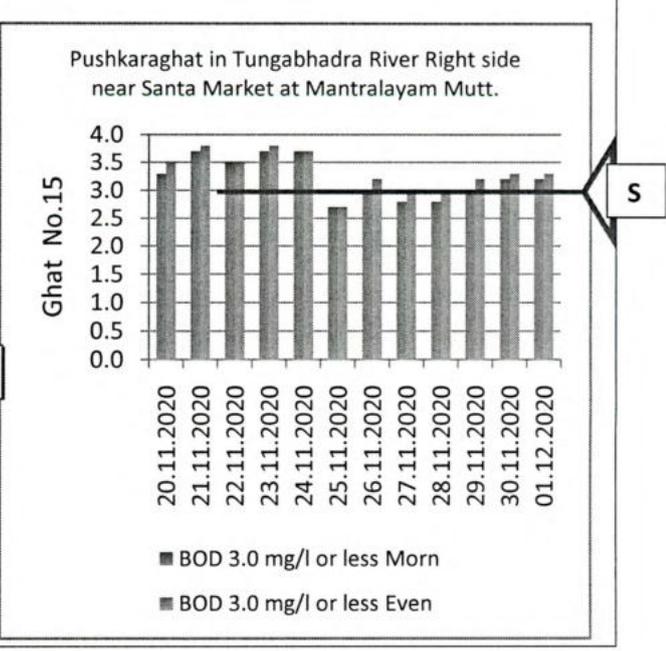
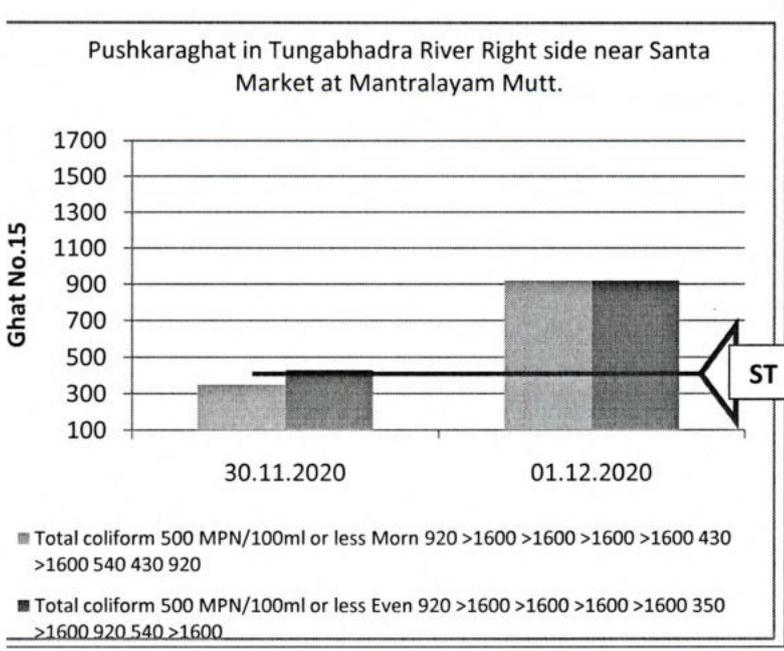
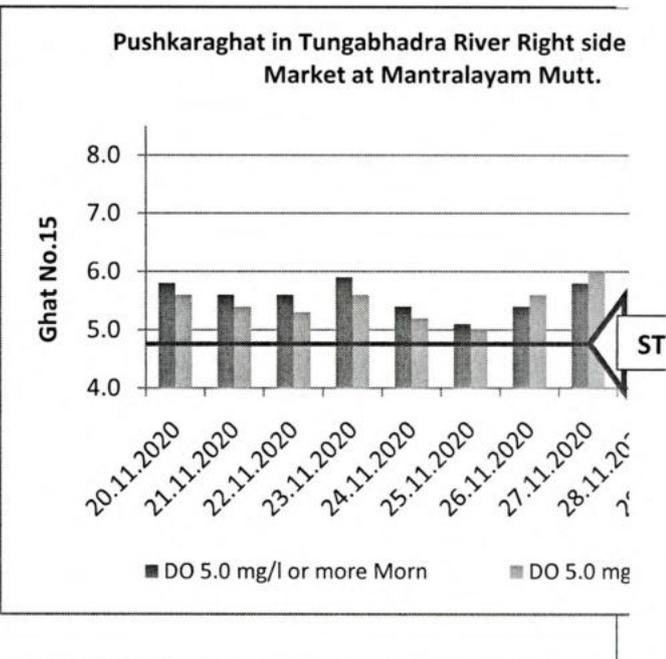
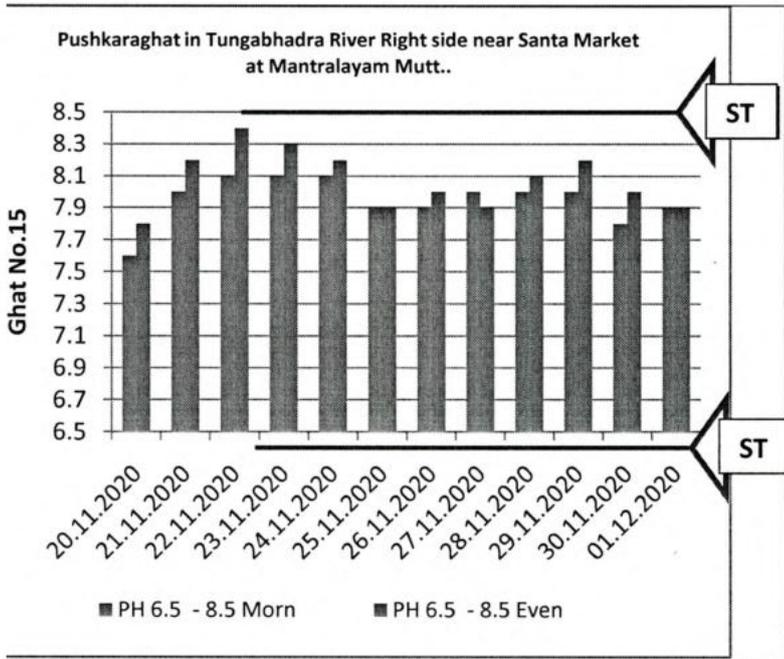




MANTRALAYAM ASSEMBLY CONSTITUENCY

Tungabhadra Pushkaralu, 2020 - Consolidated Analysis Report

Ghat No. 15		Pushkaraghat in Tungabhadra River Right side near Vinayaka ghat at Mantralayam Mutt.							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	7.6	7.8	5.8	5.6	920	920	3.3	3.5
2	21.11.2020	8.0	8.2	5.6	5.4	>1600	>1600	3.7	3.8
3	22.11.2020	8.1	8.4	5.6	5.3	>1600	>1600	3.5	3.5
4	23.11.2020	8.1	8.3	5.9	5.6	>1600	>1600	3.7	3.8
5	24.11.2020	8.1	8.2	5.4	5.2	>1600	>1600	3.7	3.7
6	25.11.2020	7.9	7.9	5.1	5.0	430	350	2.7	2.7
7	26.11.2020	7.9	8.0	5.4	5.6	>1600	>1600	3.0	3.2
8	27.11.2020	8.0	7.9	5.8	6.0	540	920	2.8	3.0
9	28.11.2020	8.0	8.1	5.6	5.4	430	540	2.8	3.0
10	29.11.2020	8.0	8.2	5.4	5.2	920	>1600	3.0	3.2
11	30.11.2020	7.8	8.0	5.1	5.0	350	430	3.2	3.3
12	01.12.2020	7.9	7.9	5.1	5.0	920	920	3.2	3.3



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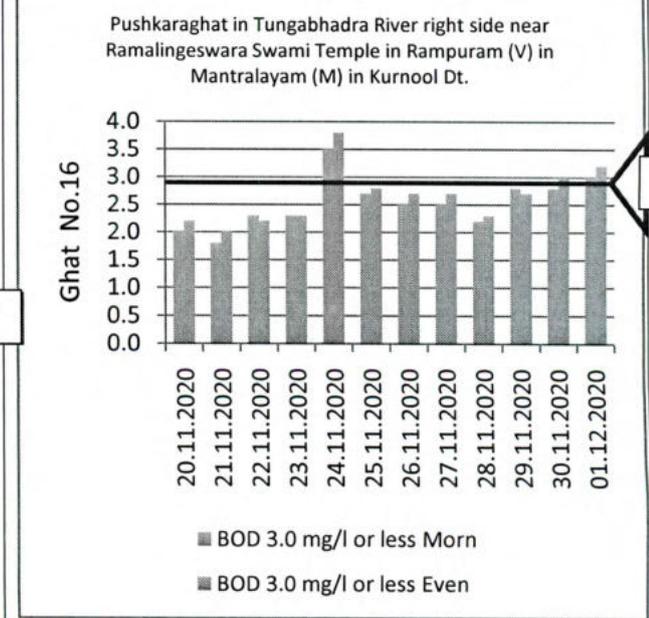
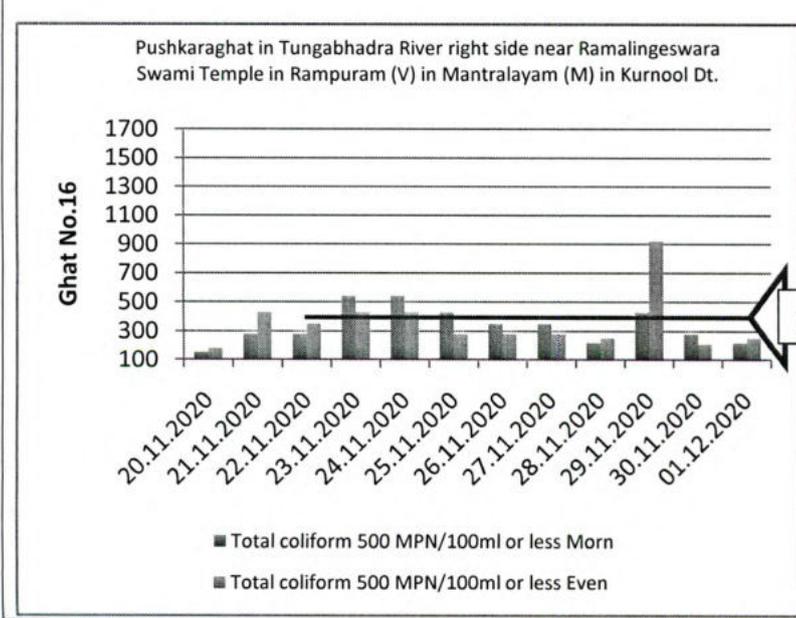
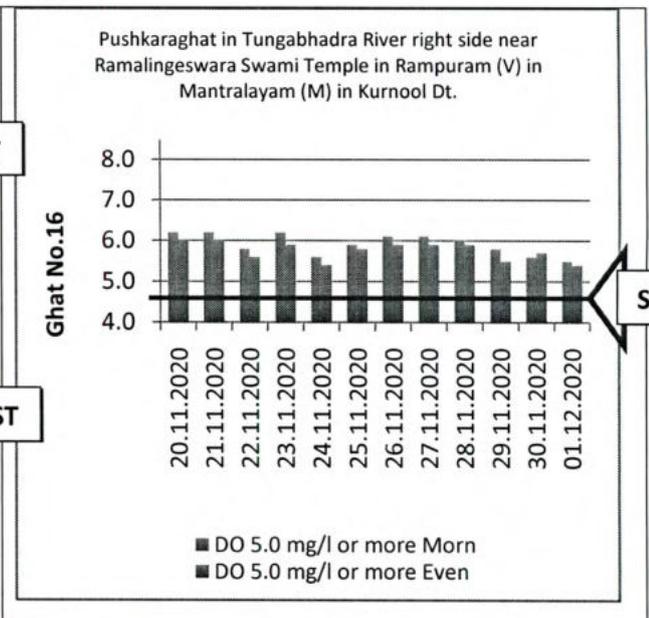
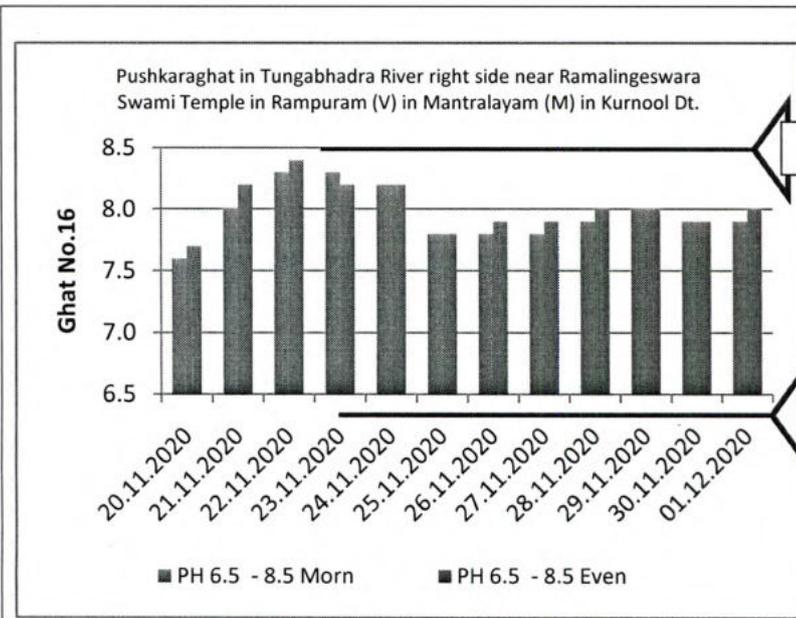


Certificate No.TC-7305

MANTRALAYAM ASSEMBLY CONSTITUENCY

Tungabhadra Pushkaralu, 2020 - Consolidated Analysis Report

Ghat No. 16		Pushkaraghat in Tungabhadra River right side near Ramalingeswara Swami Temple in Rampuram (V) in Mantralayam (M) in Kurnool Dt.							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	7.6	7.7	6.2	6.0	150	180	2.0	2.2
2	21.11.2020	8.0	8.2	6.2	6.0	280	430	1.8	2.0
3	22.11.2020	8.3	8.4	5.8	5.6	280	350	2.3	2.2
4	23.11.2020	8.3	8.2	6.2	5.9	540	430	2.3	2.3
5	24.11.2020	8.2	8.2	5.6	5.4	540	430	3.5	3.8
6	25.11.2020	7.8	7.8	5.9	5.8	430	280	2.7	2.8
7	26.11.2020	7.8	7.9	6.1	5.9	350	280	2.5	2.7
8	27.11.2020	7.8	7.9	6.1	5.9	350	280	2.5	2.7
9	28.11.2020	7.9	8.0	6.0	5.9	220	250	2.2	2.3
10	29.11.2020	8.0	8.0	5.8	5.5	430	920	2.8	2.7
11	30.11.2020	7.9	7.9	5.6	5.7	280	210	2.8	3.0
12	01.12.2020	7.9	8.0	5.5	5.4	220	250	3.0	3.2

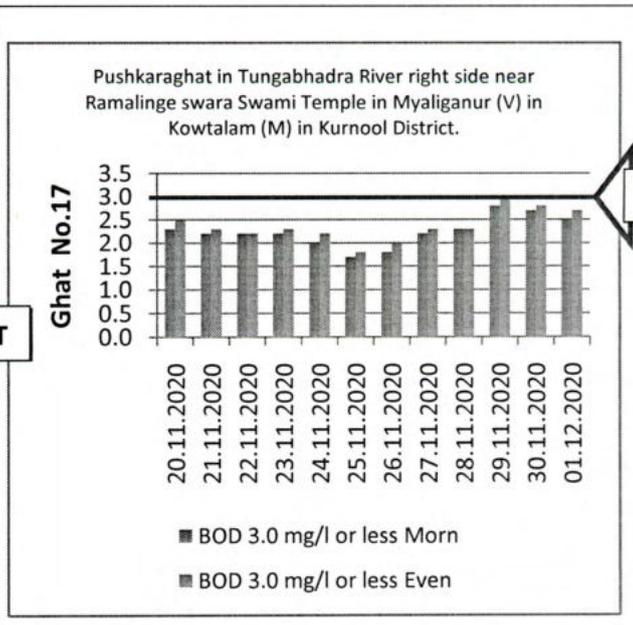
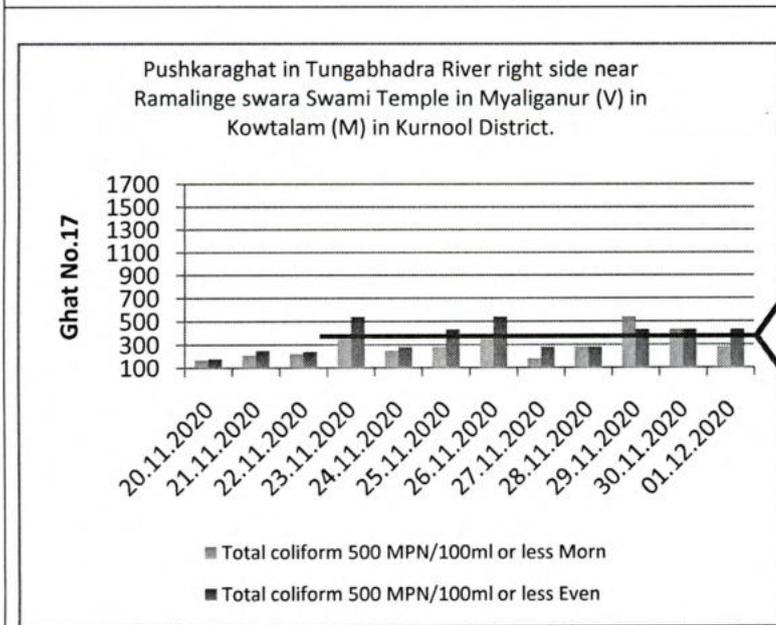
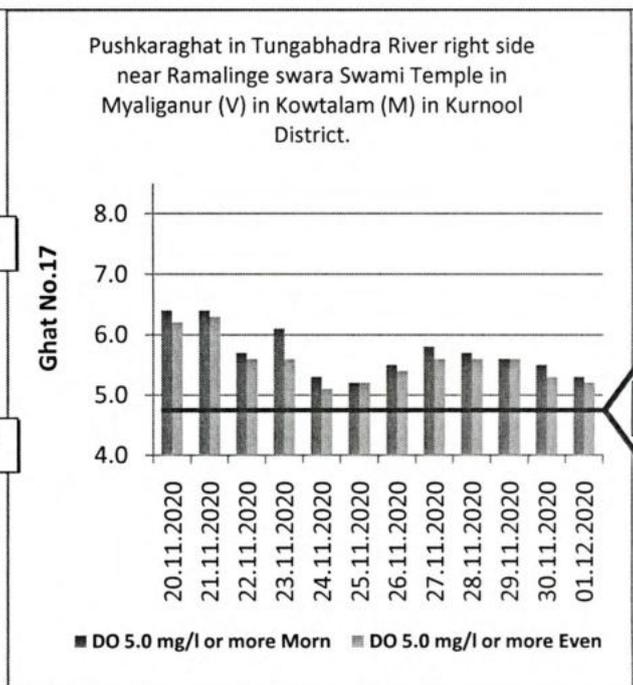
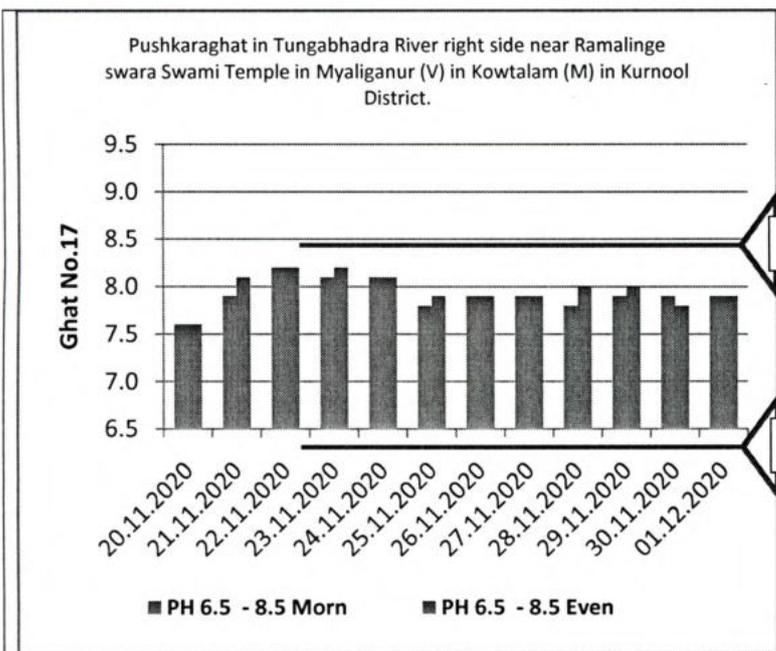




MANTRALAYAM ASSEMBLY CONSTITUENCY

Tungabhadra Pushkaralu, 2020 - Consolidated Analysis Report

Ghat No. 17		Pushkaraghat in Tungabhadra River right side near Ramalinge swara Swami Temple in Myaliganur (V) in Kowtalam (M) in Kurnool District.							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	7.6	7.6	6.4	6.2	170	180	2.3	2.5
2	21.11.2020	7.9	8.1	6.4	6.3	210	250	2.2	2.3
3	22.11.2020	8.2	8.2	5.7	5.6	220	240	2.2	2.2
4	23.11.2020	8.1	8.2	6.1	5.6	350	540	2.2	2.3
5	24.11.2020	8.1	8.1	5.3	5.1	250	280	2.0	2.2
6	25.11.2020	7.8	7.9	5.2	5.2	280	430	1.7	1.8
7	26.11.2020	7.9	7.9	5.5	5.4	350	540	1.8	2.0
8	27.11.2020	7.9	7.9	5.8	5.6	180	280	2.2	2.3
9	28.11.2020	7.8	8.0	5.7	5.6	280	280	2.3	2.3
10	29.11.2020	7.9	8.0	5.6	5.6	540	430	2.8	3.0
11	30.11.2020	7.9	7.8	5.5	5.3	430	430	2.7	2.8
12	01.12.2020	7.9	7.9	5.3	5.2	280	430	2.5	2.7



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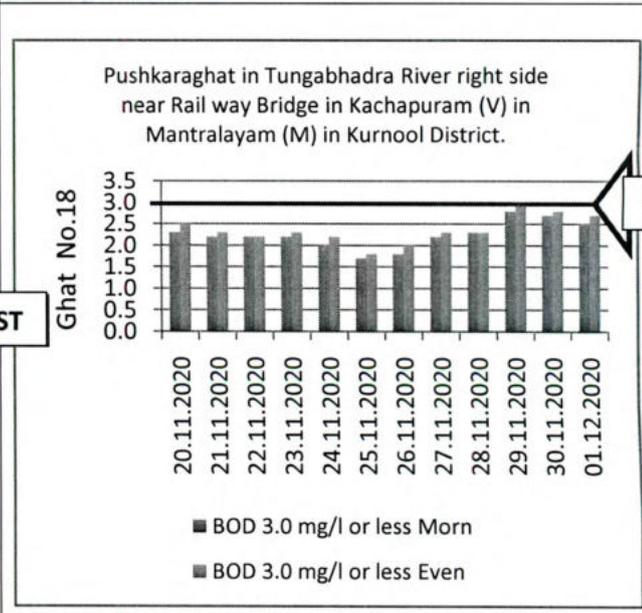
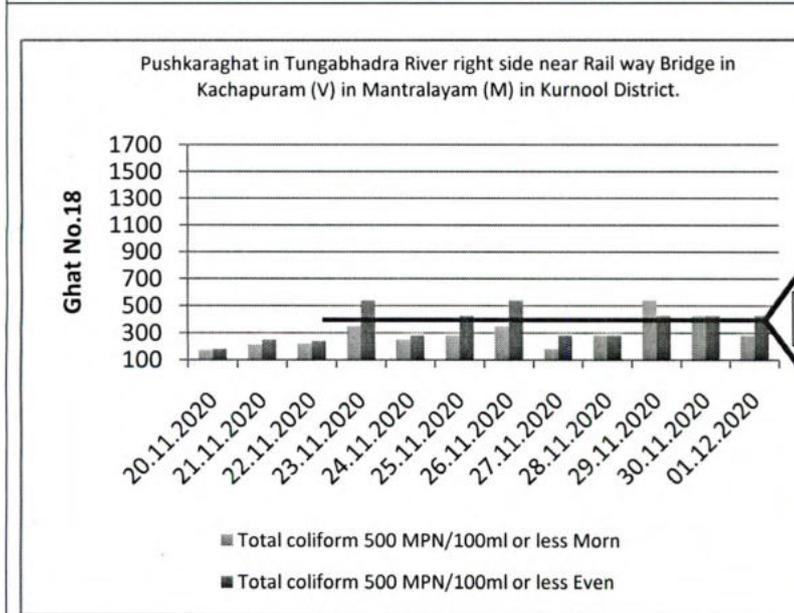
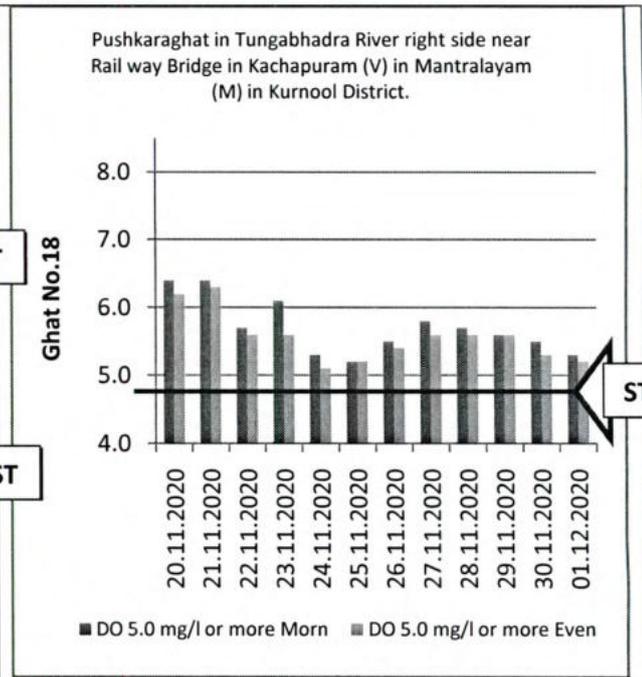
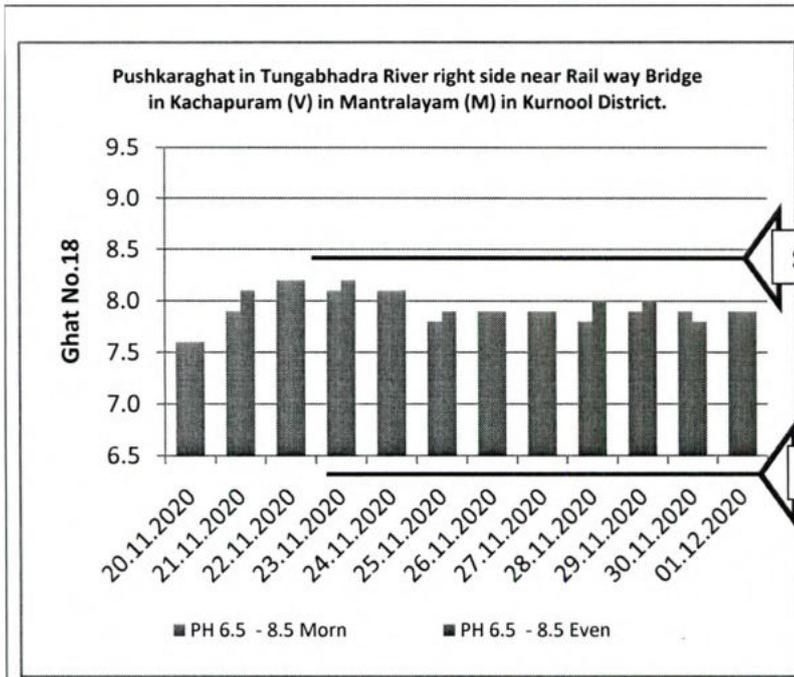


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MANTRALAYAM ASSEMBLY CONSTITUENCY

Tungabhadra Pushkaralu, 2020 - Consolidated Analysis Report

Ghat No. 18		Pushkaraghat in Tungabhadra River right side near Rail way Bridge in Kachapuram (V) in Mantralayam (M) in Kurnool District.							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	7.5	7.6	6.2	6.1	350	430	1.8	2.2
2	21.11.2020	7.9	8.0	6.0	5.8	350	430	1.7	1.8
3	22.11.2020	8.3	8.3	6.0	5.7	250	350	1.7	1.5
4	23.11.2020	8.2	8.2	5.8	5.4	210	280	2.0	2.2
5	24.11.2020	8.1	8.1	5.4	5.3	170	350	2.2	2.3
6	25.11.2020	7.9	7.8	5.4	5.2	240	250	2.2	2.3
7	26.11.2020	7.8	7.9	5.6	5.4	170	280	2.5	2.7
8	27.11.2020	7.8	7.6	6.0	5.9	150	210	2.2	2.3
9	28.11.2020	7.9	7.9	5.9	5.7	140	170	2.5	2.7
10	29.11.2020	8.0	7.9	5.5	5.4	540	540	2.2	2.3
11	30.11.2020	7.9	8.0	5.4	5.1	540	920	2.5	2.7
12	01.12.2020	8.0	7.9	5.3	5.1	430	540	2.5	2.5

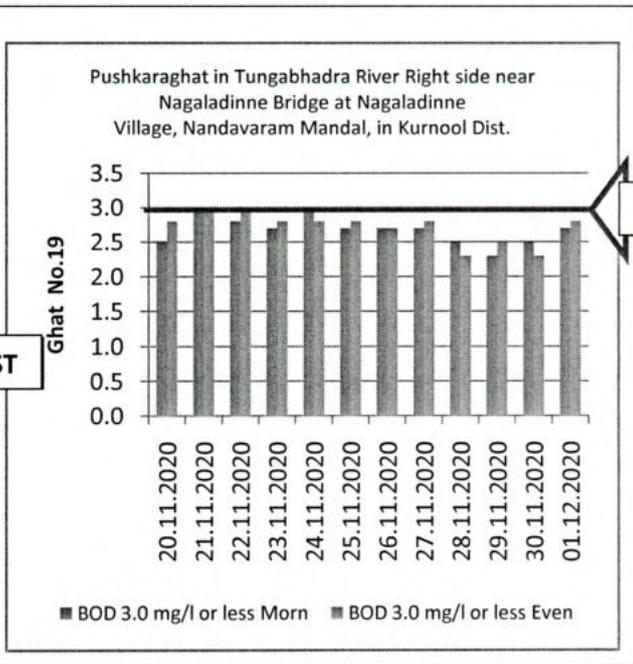
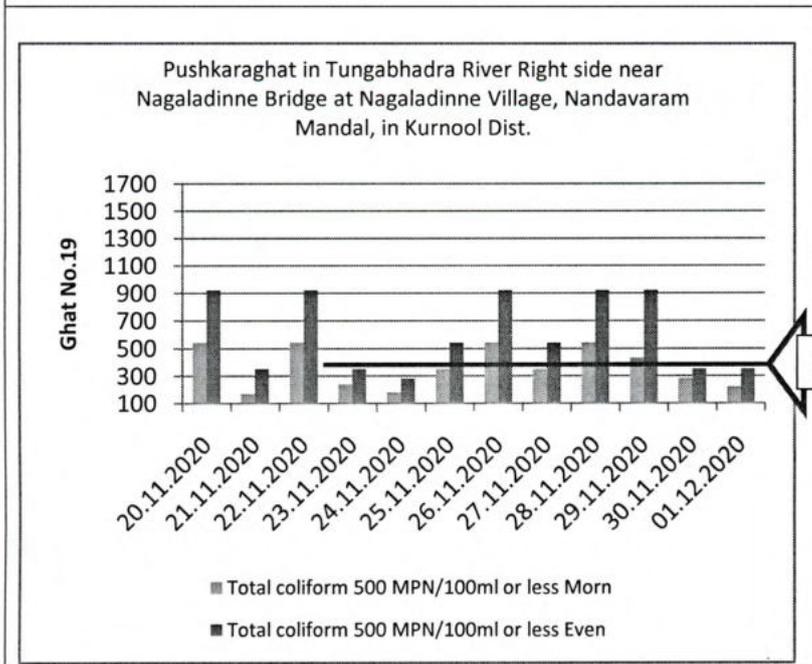
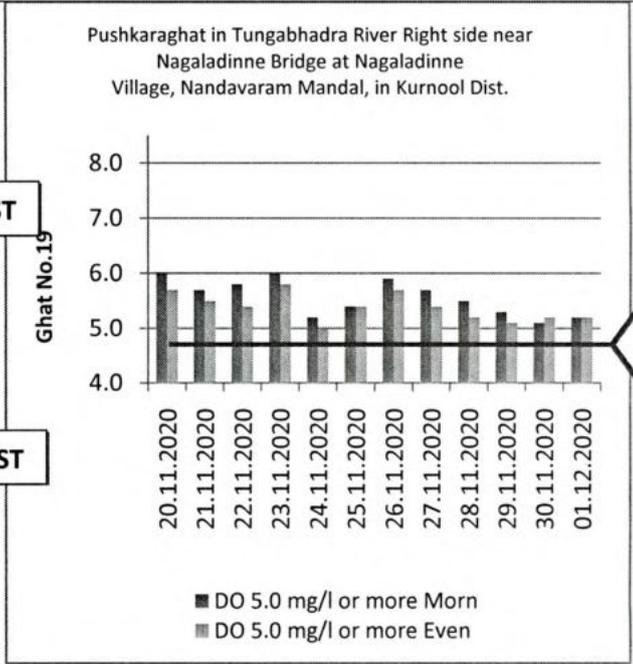
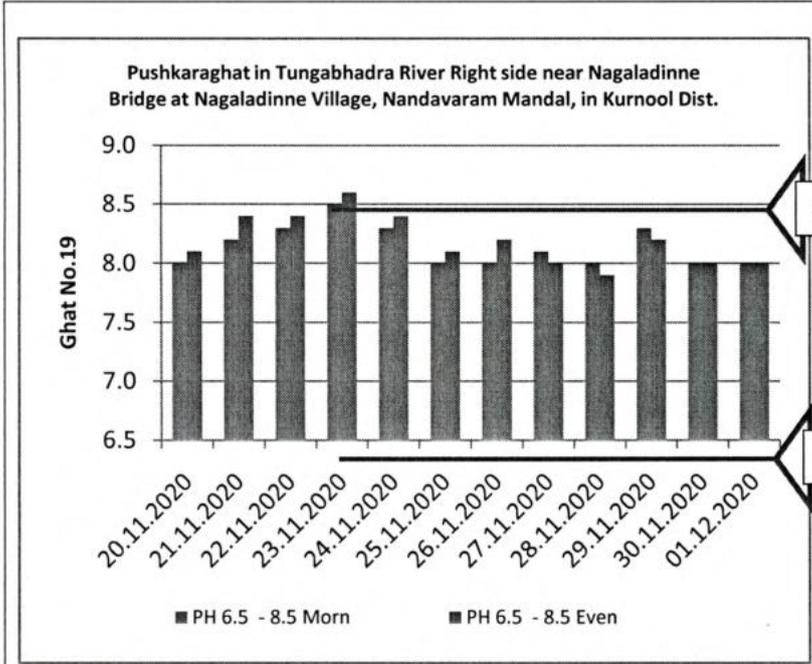




YEMMIGANUR ASSEMBLY CONSTITUENCY

Tungabhadra Pushkaralu, 2020 - Consolidated Analysis Report

Ghat No. 19		Pushkaraghat in Tungabhadra River Right side near Nagaladinne Bridge at Nagaladinne Village, Nandavaram Mandal, in Kurnool Dist.							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	8.0	8.1	6.0	5.7	540	920	2.5	2.8
2	21.11.2020	8.2	8.4	5.7	5.5	170	350	3.0	3.0
3	22.11.2020	8.3	8.4	5.8	5.4	540	920	2.8	3.0
4	23.11.2020	8.5	8.6	6.0	5.8	240	350	2.7	2.8
5	24.11.2020	8.3	8.4	5.2	5.0	180	280	3.0	2.8
6	25.11.2020	8.0	8.1	5.4	5.4	350	540	2.7	2.8
7	26.11.2020	8.0	8.2	5.9	5.7	540	920	2.7	2.7
8	27.11.2020	8.1	8.0	5.7	5.4	350	540	2.7	2.8
9	28.11.2020	8.0	7.9	5.5	5.2	540	920	2.5	2.3
10	29.11.2020	8.3	8.2	5.3	5.1	430	920	2.3	2.5
11	30.11.2020	8.0	8.0	5.1	5.2	280	350	2.5	2.3
12	01.12.2020	8.0	8.0	5.2	5.2	220	350	2.7	2.8



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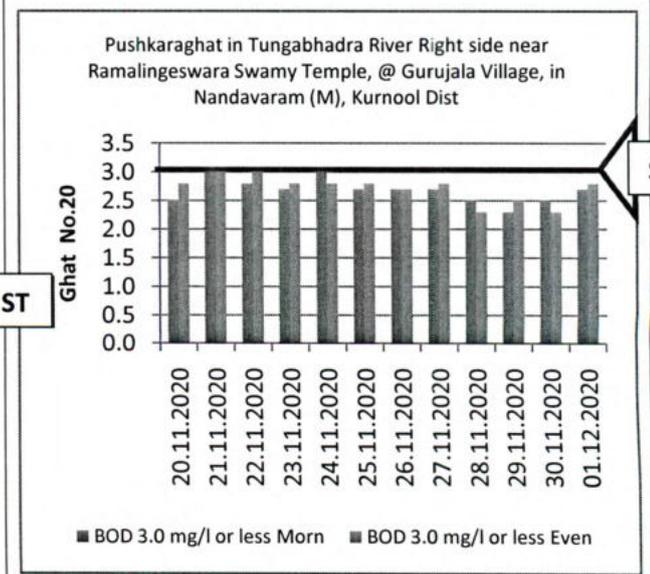
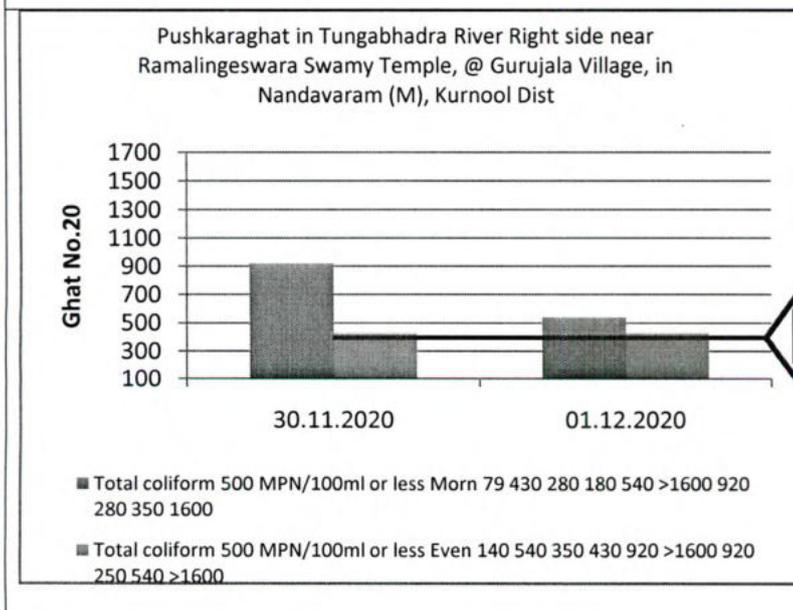
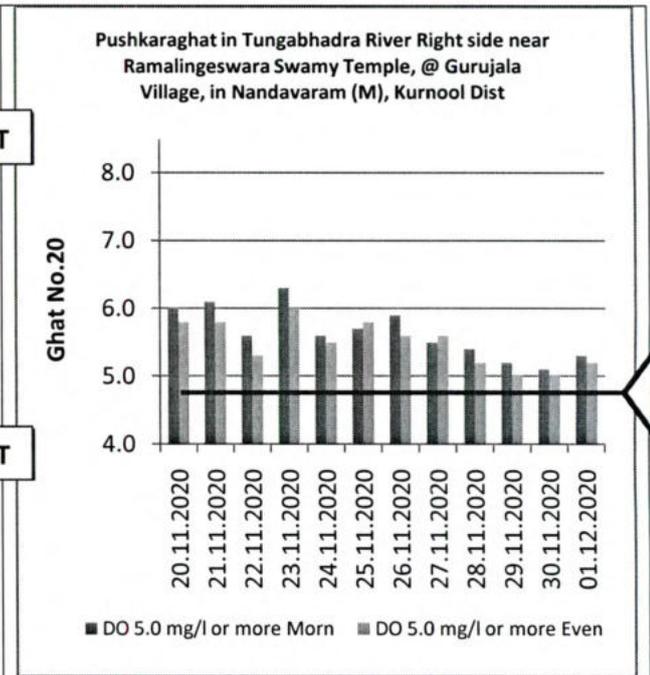
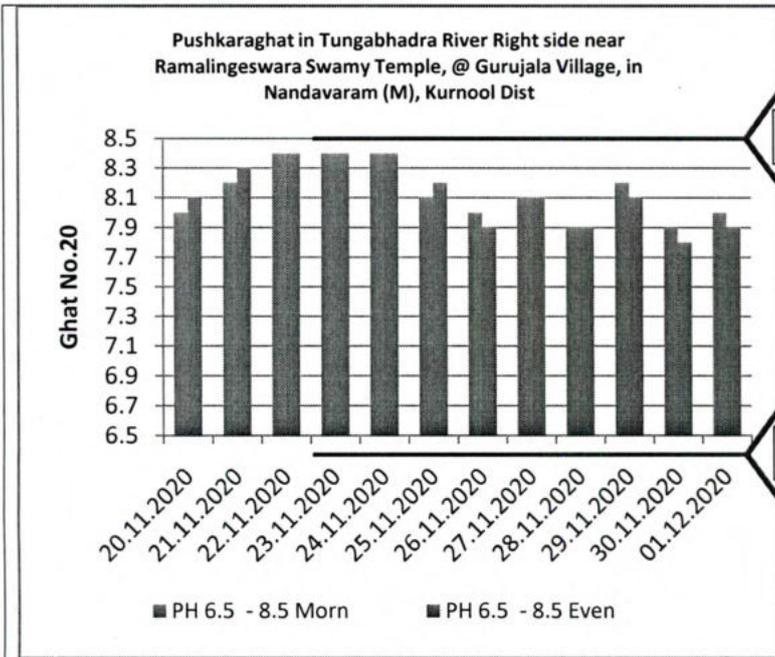


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YEMMIGANUR ASSEMBLY CONSTITUENCY

Tungabhadra Pushkaralu, 2020 - Consolidated Analysis Report

Ghat No. 20		Pushkaraghat in Tungabhadra River Right side near Ramalingeswara Swamy Temple, @ Gurujala Village, in Nandavaram (M), Kurnool Dist							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	8.0	8.1	6.0	5.8	79	140	3.0	3.2
2	21.11.2020	8.2	8.3	6.1	5.8	430	540	3.2	3.3
3	22.11.2020	8.4	8.4	5.6	5.3	280	350	3.5	3.5
4	23.11.2020	8.4	8.4	6.3	6.0	180	430	3.0	3.0
5	24.11.2020	8.4	8.4	5.6	5.5	540	920	3.2	3.3
6	25.11.2020	8.1	8.2	5.7	5.8	>1600	>1600	3.0	3.2
7	26.11.2020	8.0	7.9	5.9	5.6	920	920	3.3	3.2
8	27.11.2020	8.1	8.1	5.5	5.6	280	250	3.0	3.2
9	28.11.2020	7.9	7.9	5.4	5.2	350	540	2.7	2.8
10	29.11.2020	8.2	8.1	5.2	5.0	1600	>1600	2.7	2.8
11	30.11.2020	7.9	7.8	5.1	5.0	920	430	2.8	2.8
12	01.12.2020	8.0	7.9	5.3	5.2	540	430	3.0	3.2





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NANDIKOTKUR ASSEMBLY CONSTITUENCY

Tungabhadra Pushakeralu, 2020 - Consolidated Analysis Report

Ghat No. 21		Pushkar Ghat at Sangameswaram, Kothapalli Mandal, in Kurnool district							
Parameters →		PH		DO		Total coliform		BOD	
* B-class criteria →		6.5 - 8.5		5.0 mg/l or more		500 MPN/100ml or less		3.0 mg/l or less	
Sl. No	Date	Morn	Even	Morn	Even	Morn	Even	Morn	Even
1	20.11.2020	7.5	7.5	6.5	6.4	430	540	1.5	1.8
2	21.11.2020	7.9	8.2	6.4	6.2	350	540	1.7	1.8
3	22.11.2020	8.3	8.3	6.0	5.4	250	280	1.8	1.8
4	23.11.2020	8.3	8.4	6.1	6.0	280	350	1.8	2.0
5	24.11.2020	8.2	8.3	5.9	5.8	430	920	1.7	1.8
6	25.11.2020	7.9	7.9	5.8	5.7	350	430	1.5	1.5
7	26.11.2020	7.7	7.8	5.9	5.8	350	430	1.7	1.8
8	27.11.2020	7.8	7.9	6.2	6.1	240	350	1.8	2.0
9	28.11.2020	8.0	8.0	6.0	5.8	280	250	1.7	1.8
10	29.11.2020	8.0	8.0	5.7	5.6	430	920	1.8	2.0
11	30.11.2020	8.0	7.9	5.6	5.6	280	240	2.0	2.2
12	01.12.2020	7.9	7.9	5.7	5.8	350	350	1.8	2.0

