Before The National Green Tribunal, Principal Bench, New Delhi

Original Application No. 728 of 2023

In the matter of:

Suo moto Arsenic found in Ground Water in 25 States

Index

Central Ground Water Authority

Dated- 18.11.2024

Through

Gigi C Grorge, Advocate
Standing Counsel (UOI)
Ch. No. 457, Lawyers Block-I
Delhi High Court
Gigicgeorge.adv42@yahoo.in

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO.728/2023

IN THE MATTER OF:

Suomoto Arsenic found in groundwater in 25 States, fluoride in 27 States

ADDITIONAL REPORT ON BEHALF OF CENTRAL GROUND WATER AUTHORITY (RESPONDENT NO. 29)

The matter was listed before the Hon'ble Tribunal on 07.08.2024, wherein CGWA stated that the reports from seven States/UTs, namely Maharashtra, Nagaland, Jharkhand, Tripura, Gujarat, Odisha, and the Union Territory of Daman and Diu had not been received. However, the reports from the states of Tripura and Odisha have been filed before the Hon'ble Tribunal. Furthermore, the Hon'ble Tribunal directed the counsel of the CGWA to download the reports of the states from the NGT portal.

In compliance to the directions of Hon'ble Tribunal, it is most respectfully submitted that:

Apart from Odisha and Tripura, State of Maharashtra has also filed their report before Hon'ble NGT (PB) on dated 06.08.2024, 14.02.2024, 23.08.2024 respectively. However, report/reply from the State of Nagaland, Jharkhand, Gujarat and Union Territory of Daman and Diu has not been filed before Hon'ble Tribunal till 11.11.2024. Reminder e-mail has been sent to these States.

Accordingly, report received from the State of Maharashtra, Odisha and Tripura is summarized below:

<table>
<tr><th>Sl.</th><th>State/UT</th><th>Action taken by States/UTs</th></tr>
<tr><td>1.</td><td>Maharashtra</td><td>The reports filed by State of Maharashtra is summarized below:-
Arsenic- No Arsenic reported in the State of Maharashtra.

Fluoride-Found in 150 locations (140 locations in rural areas and 10 locations in urban areas).

Out of 140 locations in rural areas, no contamination was found in 5 locations during retesting, and remaining 135 sources prohibited for drinking purpose.

Further, stated that 127 locations, new sources in Jal Jeevan Mission are being taken.

The State of Maharashtra also stated that Defluoridation and RO plants have been installed in affected village/wadis. Details tabulated below :
<table>
<tr><td>Sl.</td><td>Project</td><td>Year of installation</td><td>No. of Plants</td></tr>
<tr><td>1</td><td>Defluoridation</td><td>2017-18</td><td>118</td></tr>
<tr><td>2</td><td>RO Phase –I</td><td>2017-18</td><td>114</td></tr>
<tr><td>3</td><td>RO Phase - III</td><td>2018-19</td><td>294</td></tr>
<tr><td colspan="3">Total</td><td>526</td></tr>
</table>
</td></tr>
<tr><td>2.</td><td>Odisha</td><td>The State of Odisha in their report filed before Hon’ble NGT stated that:

Arsenic-“the deeper aquifers in the State are free from arsenic contamination.” Furthermore, as per Integrated Management Information System ("IMIS") report of the Jal Jeevan Mission, Deptt. of DWS, under MoJS, the number of Arsenic</td></tr>
</table>

		contaminated habitation is "Nil". **Fluoride-** State of Odisha stated that the number of Fluoride contaminated habitation are 18 as on 18.06.2024. The state has taken necessary measures and abandoned the contaminated water sources and sealed them and habitations have already been covered with Community Water Purification Plants as a part of short terms measure. Further, these fluoride affected habitations are also covered with Piped Water Supply Schemes (PWS) either by Single Village Schemes or Multi Village Schemes. **Remedial Measures-** a. Comprehensive Water Quality Monitoring. b. Sealing the contaminated water resources. c. Alternative water sources. d. Community engagement and awareness. e. Technological interventions. f. Collaboration with stakeholders g. Policy advocacy.
3.	**Tripura**	The State of Tripura in their report filed before Hon'ble NGT stated that the State Government has taken matters seriously. The Public Works Department (Drinking Water and Sanitation), Govt. Of Tripura is regularly testing samples collected from all the districts of State prior to supply for drinking purpose. During last year five years (2019-2023), 915 samples collected from 08 districts of the State of the Tripura and concentration of arsenic and fluoride in all 915 samples found below detectable limits.

In view of the above, Hon'ble Tribunal is requested that the present additional report may kindly be taken on record. The directions passed by the Hon'ble Tribunal shall be complied by CGWA.

Central Ground Water Authority

18/11/2024

VINOD KUMAR DHAUNDIYAL
Administrator
Central Ground Water Authority
Government of India
Ministry of Jal Shakti
Department of Water Resources, RD & GR
New Delhi

Dated- 18-11-2024

Through

Gigi C George, Advocate
Standing Counsel (UOI)
Ch. No. 457, Lawyers Block-I
Delhi High Court
Gigicgeorge.adv42@yahoo.in

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 728/2023

In re: News item titled "Arsenic found in groundwater in 25 States, Fluoride in 27 States: Govt." appearing in Hindustan dated 30.11.2023

IN THE MATTER OF:-

News item titled "Arsenic found in groundwater in 25 States, Fluoride in 27 States: Govt." appearing in Hindustan dated 30.11.2023 — **APPLICANT**

VERSUS

STATE OF MAHARASHTRA & OTHERS — **RESPONDENT**

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3	A copy of CGWB's letter dated 02.05.2024 along with list of 150 locations attached as Annexure I.	05 - 14
4	A copy of Additional Mission Director's (SWSM) Report (ATR) dated 06.08.2024 attached as Annexure II.	15 - 17

Place: Pune

Date: 13 Aug 2024

(Dr. Vijay Krushnadas Pakhamode)
(I) Commissioner,
Ground Water Survey and Development Agency
Maharashtra State, Pune- 411 005

(I) Commissioner
Ground Water Survey And Development Agency
Maharashtra State Pune - 05.

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

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STATE OF MAHARASHTRA & OTHERS — **RESPONDENT**

REPLY ON BEHALF OF THE RESPONDENT- PRICIPAL SECRETRY WATER SUPPLY AND SANITATION DEPARTMENT, GOVERNMENT OF MAHARASHTRA

1. Hon'ble NGT vide order 26.04.2024 has sought the reply of Principal Secretary, Water Supply and Sanitation Department, Government of Maharashtra in the instant matter. Thereby, the reply is made in succeeding paragraphs.

2. The Groundwater Survey and Development Agency, Maharashtra State came into existence on July 16, 1971, as a result of the Agricultural Pathway Project Agreement signed by the Government of Maharashtra with the International Development Organization (World Bank Project). The work related to Ground Water Survey and Development used to be carried out through the Department of Agriculture, Directorate of Geology and Mines and Irrigation Department was entrusted to the said system. Initially the system was a component of the Directorate of Geology and Mines, But from November 15, 1972, the system was given the independent status of the Directorate to implement the following schemes on a systematic and scientific basis.

a) Conducting Ground Water Survey.

b) Groundwater Assessment, Groundwater Conservation, Groundwater Management

The Ground Water Survey and Development Agency, Maharashtra State is headed by the Commissioner and having its headquarter at Pune is working under the control of Principle Secretary, Water Supply and Sanitation Department, Government of Maharashtra, Mantralaya, Mumbai. Ground Water Survey and Development Agency is having its divisional offices at Konkan (Navi Mumbai) / Nashik / Pune / Ch. Sambhajinagar / Amravati / Nagpur headed by Deputy Directors and the Districts of that Division are under his/her Control.

According to the Government Resolution dated 18 December 2014, the Sub-divisional laboraties under the Health Department of the State were handed over to Groundwater Survey and Development Agency, to analyze samples of all public drinking water sources. At present there are 6 regional, 28 district and 144 sub-divisional laboratories are functional. From these laboratories samples received from Zilha Parishads are analysed for drinking water parametes and the results of the same are conveyed to concerned Zilha Parishad for taking the remedial measures in the contaminated/affected sources.

PARA WISE REPLY: -

3. Central Ground Water Board (CGWB) collectes the water samples from the water quality monitoring stations which are observations wells fixed by CGWB. Apart from routine regional scale ground water quality monitoring, CGWB monitores the water quality under their studies like National Aquifer Mapping Programme (NAQUIM). As per CGWB's letter dated 02.05.2024, arsenic (As) contamination is not reported in Maharashtra; however, fluoride (F) contamination is reported at 150 locations of 24 districts. List is attached as Annexure I.

4. The remedial measures are taken by Executive Engineer, Rural Water Supply Department, Zilla Parishad.The information from all 24 Zilha Parishads is collected and compiled by office of State Water and Sanitation Mission (SWSM). As per the Action Taken Report (ATR) of Additional Mission Director dated 06.08.2024, out 150 locations 10 locations are from urban areas, whereas 140 locations are from rural areas. In 5 locations out of 140 no contamination was observed during retesting. Remaining 135 sources are prohibited for drinking water purposes. Also, at 127 locations new sources in Jal Jeevan Mission are being taken. List is attached as Annexure II.

5. As per the letter of Under Secretary, Water Supply and Sanitation Department (Papu-12) dated 12.08.2024, the State Government has taken remedial measures for water quality affected villages as mentioned below: -

In the year 2017-18, Defluoridatio units have been installed at 118 places among the fluoride affected villages /wadis as mentioned in the table below:-

Sr. No.	Project	Year of Installation	No. of Units
1	Defluoridattion	2017-18	118

Apart from this, RO units have been installed for quality affected villages as mentioned in the below: -

Sr. No.	Project	Year of Installation	No. of Units
1	RO Phase -I	2017-18	114
2	RO Phase -III	2018-19	294
3	Total	---	408

(Dr. Vijay Krushnadas Pakhamode)
(I) Commissioner,
Ground Water Survey and Development Agency
Maharashtra State, Pune- 411 005

(I) Commissioner
Ground Water Survey And Development Agency
Maharashtra State Pune - 05.

BEFORE ME
Shruti Subhash Sankpal
ADVOCATE & NOTARY
GOVERMENT OF INDIA

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 728/2023

In re: News item titled "Arsenic found in groundwater in 25 States, Fluoride in 27 States: Govt." appearing in Hindustan dated 30.11.2023

IN THE MATTER OF:-

News item titled "Arsenic found in groundwater in 25 States, Fluoride in 27 States: Govt." appearing in Hindustan dated 30.11.2023 — **APPLICANT**

VERSUS

STATE OF MAHARASHTRA & OTHERS — **RESPONDENT**

AFFIDAVIT

I, **Dr. Vijay Krushnadas Pakhamode**, Working as Joint Director and as Incharge Commissioner, Ground Water Survey and Development Agency, Maharashtra State, Pune-411 005 do hereby solemnly affirm and declare as under:

Noted & Registered at Serial No. 1635/2024 Date 13 AUG 2024

1. That the dependent is authorized representative to represent the Respondent Maharashtra Government in the present case, and as such, I am well conversent with the facts and circumstances of the present case based on the information derived from the official records, and hence, I am competent and authorized to verify, sign and swear this Affidavit on behalf of the Respondent Maharashtra Government.

2. That the accompanying reply may be read part and parcel of the present affidavit as I am competent to swear this affidavit.

3. That the contents thereof are true and correct based on the record maintained during ordinary cource of business of Ground Water Survey and Development Agency, Maharashtra State, and available records and documents and the contents of the same are read over and explained to me and are not repeated herein for the sake of brevity.

NOTARY Shruti Subhash Sankpal Kalyaninagar Dist. Pune Maharashtra 15680 GOVT OF INDIA
NOTARIAL FIVE RUPEES

(Dr. Vijay Krushnadas Pakhamode)
(I) Commissioner,
Ground Water Survey and Development Agency
Maharashtra State, Pune- 411 005

(I) Commissioner
Ground Water Survey And Development Agency
Maharashtra State Pune - 05.

भारत सरकार
Government of India
जलशक्तिमंत्रालय
Ministry of Jal Shakti
जलसंसाधन नदीविकासएवंगंगासंरक्षणविभाग
Department of Water Resources, River Development & Ganga Rejuvenation

केन्द्रीय भूमिजल बोर्ड
मध्य क्षेत्र
सिविल लाइन्स- 440 001
दूरभाष:(0712)-25653
ई-मेल: rdcr-cgwb@nic.in

Central Ground Water Board
Central Region
Civil Lines, Nagpur – 440 001
Phone: (0712)-2565314
e-mail: rdcr-cgwb@nic.in

दिनांक / Date: 02.05.2024
संख्या / No.
7/18/CGWB/CR/AUTHORITY/2024/319

To,
The Principal Secretary,
Water Supply & Sanitation Department,
7th Floor, New Mantralaya,
G. T. Hospital Complex,
L.T. Marg, Mumbai -400001

Subject: Effective Remedial measures to be taken to mitigate Arsenic & Fluoride contamination in the State of Maharashtra, reg.

Ref: National Green Tribunal (NGT) Matter 728 of 2023, Arsenic & Fluoride information to be filled in for respective States/UTs.

Respected Sir,

With reference to NGT order dated 15.02.2024 in the matter 728 of 2023 regarding Arsenic contamination in groundwater from 25 states (in parts of 230 districts) & Fluoride contamination in groundwater over 27 states (in parts of 469 districts) of India and as per the directions received from Hon'ble Tribunal on 26.02.2024, effective remedial measures are to be taken up to mitigate Arsenic & Fluoride contamination in groundwater from State of Maharashtra (**Copy of the order is enclosed**).

In this connection, it is to inform you that, while carrying out regular monitoring during pre-monsoon season of 2023 from Ground Water Monitoring Wells (GWMS), NAQUIM-2.0 studies and regular exploratory drilling program, the department collected samples and analyzed and found excess fluoride (more than 1.5 ppm, i.e., beyond maximum permissible limits of BIS) in few samples. The summarized details are tabulated below and details are given in **Annexure-I & II**. The details are shared to line department in the form of reports at regular intervals.

संचालनालय
भू.स.वि.यं., पुणे-४११ ००५.
7 MAY 2024

S. No.	Type of Aquifer	Period of Sample collections	No of samples beyond maximum permissible limits of BIS (>1.5 ppm)	In parts of Talukas (Nos)	In parts of Districts (Nos)	Type of Studies
1	Shallow Aquifers (DW)	May-2023	49	23	12	Ground Water Monitoring & NAQUIM-2.0
2	Deeper Aquifers (HP/TW)	2011-2023	115	58	22	Exploratory Drilling & NAQUIM-1 & 2.0
3	Deeper Aquifers (HP/TW)	2022-23	33	2	1	Special studies

Apart from above locations identified by CGWB, the State Government Departments also might have identified high fluoride contaminated locations in the state and taken preventive remedial measures towards it. Since the matter is from NGT and of prime importance, therefore it is requested the authority to direct the concerned Dept. to take remedial measures towards mitigation of fluoride contamination from these locations in the state of Maharashtra.

Further, it is requested the authority to send action taken report (ATR) on the same for submission to NGT at the earliest as the matter is posted on **07.08.2024**. The remedial measures may include rain water harvesting systems for recharging and dilution of contaminated water and also for avoiding excessive abstraction of groundwater; dismantling of handpumps in fluoride affected habitation; installation of de-fluoridation techniques etc.

Being an important issue NGT matter, your kind cooperation and early action in this matter is highly solicited.

Yours faithfully

Encl: 1. Copy of NGT Order.
2. Copy of agenda.
3. Annexure-I & II

(Dr. Pandith Madhnure)
Head of Office

Copy for:

1. The Commissioner, Ground Water Survey and Development Agency, Agriculture College Campus, Wakdewadi Road, Shivajinagar, Pune – 411 005(MS) for information and kind persuasions with Govt for early submission of Action Taken Report to NGT.
2. The Officer-in-Charge, CGWB, SUO, B Wing, 1st Floor Kendriya Sadan, GPOA, Akurdi, Pimpri Chinchwada, Maharashtra 411044 for pursuing with State Authorities for early submissions of ATR (this is with approval of Member, CGWA).
3. Member (CGWA), Jamnagar House, New Delhi – 110011 for kind information please.

(Dr. Pandith Madhnure)
Head of Office

Sudhir Agarwal, JM

Dr. A. Senthil Vel, EM

February 15, 2024
Original Application No. 728/2023
HB.

Annexure-I

Village wise List of High Fluoride (Geogenic) Contaminated locations, Maharashtra (Shallow Aquifer)

S.No.	DISTRICT	TAHSIL	SITE_NAME	LAT	LONG	F (> 1.5 mg/l)	Remarks
1	Akola	Akola	Borgaon Manju	20.73333	77.12778	1.65	Ground Water Monitoring & NAQUIM 2.0 study.
2	Bhandara	Bhandara	Shrinagar	21.04028	79.67639	1.51	
3	Bhandara	Tumsar	Landejhari	21.48000	79.57333	1.52	
4	Bhandara	Tumsar	Paunarkhairi	21.53500	79.70472	2.30	
5	Bhandara	Tumsar	Khair Langi	21.40917	79.78444	1.53	
6	Buldhana	MOTALA	Rajur	20.60417	76.17806	3.01	
7	Chandrapur	Chimur	Kawadsi	20.58333	79.49167	1.51	
8	Chandrapur	Chandrapur	Chichpalli	20.00278	79.48611	1.61	
9	Chandrapur	Saoli	Sawali	20.08333	79.78333	2.09	
10	Chandrapur	Chimur	Wahangaon	20.48361	79.23361	1.51	
11	Chandrapur	Sindewahi	Alesur	20.37278	79.56444	2.12	
12	Chandrapur	Saoli	Sakhri	19.99861	79.88917	2.05	
13	Chandrapur	Rajura	Rajura	19.78583	79.37139	1.51	
14	Chandrapur	Warora	Wandhali	20.29722	78.88639	1.58	
15	Chandrapur	SINDEWAHI	Ladbori	20.31250	79.63083	4.40	
16	Gadchiroli	Chamorshi	Chaudampalli	19.60000	79.85000	1.88	
17	Gadchiroli	Aheri	Allapalli	19.43333	80.06667	2.61	
18	Gadchiroli	Chamorshi	Chamorshi	19.93333	79.88333	2.58	
19	Hingoli	Hingoli	Sawad	19.73722	77.06083	2.15	
20	Hingoli	Hingoli	Hingoli	19.70861	77.15417	1.60	
21	Nandurbar	Shahada	Shahada	21.52722	74.47611	1.75	
22	Osmanabad	Tuljapur	Tuljapur	18.01611	76.08833	1.64	
23	Osmanabad	PARANDA	Kukadgaon	18.49222	75.46667	2.15	
24	Parbhani	Parbhani	Karegaon	19.26611	76.82250	2.42	
25	Parbhani	Parbhani	Dharmapur	19.29639	76.75083	2.68	
26	Parbhani	Jintur	Pangri	19.56250	76.69417	2.02	

S.No.	DISTRICT	TAHSIL	SITE_NAME	LAT	LONG	F (> 1.5 mg/l)	Remarks
27	Parbhani	Pathri	Loni	19.15472	76.40667	1.75	Ground Water Monitoring & NAQUIM 2.0 study.
28	Parbhani	Parbhani	Jhari	19.42639	76.76583	1.83	
29	Parbhani	PARBHANI	Wadgaon Sukre	19.13833	76.65250	1.58	
30	Yavatmal	Wani	Bhandewada	20.12611	78.89361	2.04	
31	Sangli	Jath	Sindur	16.86298	75.21522	2.80	
32	Sangli	Jath	Nigani kh	17.10693	75.27947	2.12	
33	Sangli	Jath	Salekari patchapur	17.0444	75.3034	1.59	
34	Sangli	Jath	Nigani kh	17.1314	75.2661	1.55	
35	Sangli	Jath	Umarani	16.9298	75.2458	1.57	
36	Nagpur	Katol	Bilavargondi	21.18297	78.58940	2.84	
37	Nagpur	Saoner	Malegaon	21.43021	78.72476	3.57	
38	Nagpur	Saoner	Asthi Bk	21.4539	78.9016	1.62	
39	Nagpur	Saoner	Kelwad	21.4591	78.8864	1.92	
40	Nagpur	Saoner	Chargaon	21.5018	78.9597	1.65	
41	Nagpur	Saoner	Bichawa	21.5636	78.9539	1.55	
42	Chandrapur	Warora	Hirapur	20.43546	79.03088	2.32	
43	Chandrapur	Warora	Kawadsi	20.3909	79.155	1.88	
44	Chandrapur	Warora	Bembal Tukum	20.4125	79.2173	1.97	
45	Chandrapur	Warora	Dadapur	20.33190	79.16591	2.06	
46	Chandrapur	Warora	Dhanoli	20.3444	79.1986	1.69	
47	Chandrapur	Warora	Borgaon	20.3783	79.1087	1.58	
48	Chandrapur	Warora	Mowada	20.3484	79.0375	1.96	
49	Chandrapur	Warora	Dongargaon	20.34660	79.01757	2.24	

Annexure-II

Village wise List of High Fluoride (Geogenic) Contaminated locations, Maharashtra (Deeper Aquifer)

S. No.	District	Block	Location	Latitude	Longitude	F >1.5 mg/L	Remarks
1	Akola	Patur	Jamb	20.3761	76.8661	3.68	Exploratory Drilling, NAQUIM-1, NAQUIM 2.0 study & Special studies.
2	Akola	Patur	Pandhurna	20.3158	76.8294	2.85	
3	Amravati	Amravati	Sawarkhed	21.0750	77.8911	1.74	
4	Amravati	Chandur Railway	Sonegaon	20.7875	77.9803	7.37	
5	Amravati	Nandgaon-Khandeshwar	Bellora	20.8172	77.7022	3.36	
6	Amravati	Teosa	Bhiwapur	20.9286	77.9967	4.7	
7	Amravati	Teosa	Shedhurdana Mohre	21.0042	78.0572	2.15	
8	Aurangabad	Aurangabad	Jalgaon Feran	19.8982	75.6339	2	
9	Aurangabad	Aurangabad	Jalgaon Feran	19.8982	75.6339	2	
10	Aurangabad	Sillod	Palshi	20.2866	75.5547	1.72	
11	Aurangabad	Vaijapur	Ladgaon	19.8309	74.7126	1.7	
12	Bhandara	Pauni	Chichal	20.9089	79.6717	1.51	
13	Buldhana	Buldana	Chandol	20.3329	76.0117	1.8	
14	Buldhana	Buldana	Shekapur	20.4597	75.9974	5.35	
15	Buldhana	Chikhli	Ambhasi	20.2697	76.3489	1.53	
16	Buldhana	Chikhli	ESOLI	20.3520	76.4913	3.94	
17	Buldhana	Chikhli	Kelwad	20.4415	76.2289	1.95	
18	Buldhana	Chikhli	Rohada	20.2579	76.2769	5.01	
19	Buldhana	Deolgaon Raja	CHINCHKHED	20.1298	76.1355	12.7	
20	Buldhana	Deolgaon Raja	DEULGAON MAHI	20.0867	76.1800	8.94	
21	Buldhana	Mehkar	Pangarkhed	20.2533	76.7762	2.67	
22	Buldhana	Sangrampur	Warwat Bakal	21.0300	76.6792	3.8	
23	Buldhana	Sindkhed Raja	Hiwarkhed	20.0220	76.2611	1.52	
24	Buldhana	Sindkhed Raja	Zotinga	20.0685	76.3598	4.1	

S. No.	District	Block	Location	Latitude	Longitude	F >1.5 mg/L	Remarks
25	Chandrapur	Chimur	Malewada	20.5301	79.4372	1.83	Exploratory Drilling, NAQUIM-1, NAQUIM 2.0 study & Special studies.
26	Chandrapur	Korpana	Korpana	19.7431	78.9862	2.43	
27	Chandrapur	Sindewahi	Ladbori	20.3128	79.6317	2	
28	Chandrapur	Sindewahi	Ladbori	20.3128	79.6317	2	
29	Chandrapur	Warora	Asala	20.3419	79.0577	1.55	
30	Chandrapur	Warora	Bandara	20.3056	79.0490	2.12	
31	Chandrapur	Warora	Bandara	20.3057	79.0454	1.56	
32	Chandrapur	Warora	Bhendala	20.3507	79.1537	2.02	
33	Chandrapur	Warora	Bhendala	20.3516	79.1544	1.54	
34	Chandrapur	Warora	Borgaon Shiwanfal	20.3947	79.0363	1.54	
35	Chandrapur	Warora	Bori	20.2666	78.8466	2.1	
36	Chandrapur	Warora	Chargaon Kh.	20.3602	79.1827	1.66	
37	Chandrapur	Warora	Dadapur	20.3323	79.1672	1.64	
38	Chandrapur	Warora	Dhanoli	20.3443	79.1977	1.61	
39	Chandrapur	Warora	Dindoda	20.2747	79.0768	1.6	
40	Chandrapur	Warora	Dongargaon	20.3277	78.9574	2.24	
41	Chandrapur	Warora	Dongargaon	20.3286	78.9568	2.6	
42	Chandrapur	Warora	Dongargaon Mine	20.3271	78.9618	3.7	
43	Chandrapur	Warora	Gaul (BK)	20.4244	78.9006	4.34	
44	Chandrapur	Warora	Hirapur	20.4345	79.0301	1.52	
45	Chandrapur	Warora	Hirapur	20.4350	79.0297	2.04	
46	Chandrapur	Warora	Hirapur	20.4350	79.0297	2.05	
47	Chandrapur	Warora	Khambada	20.4405	78.9919	1.65	
48	Chandrapur	Warora	Kondala	20.3130	78.9879	2.21	
49	Chandrapur	Warora	Majara RAI	20.3082	79.0359	2.37	
50	Chandrapur	Warora	Mokhala	20.4477	79.1068	3.42	
51	Chandrapur	Warora	Nimdhola	20.4199	79.2116	2.58	

S. No.	District	Block	Location	Latitude	Longitude	F >1.5 mg/L	Remarks
52	Chandrapur	Warora	Nimdhola	20.4203	79.2119	2.13	Exploratory Drilling, NAQUIM-1, NAQUIM 2.0 study & Special studies.
53	Chandrapur	Warora	Pardi	20.4255	79.1573	1.6	
54	Chandrapur	Warora	Parsoda	20.2648	79.0446	1.7	
55	Chandrapur	Warora	Pohe	20.3544	79.1228	1.54	
56	Chandrapur	Warora	Sakhara	20.4182	79.1348	1.51	
57	Chandrapur	Warora	Satara	20.4127	79.0827	2.04	
58	Chandrapur	Warora	Tembhurda	20.3468	79.0190	2.1	
59	Chandrapur	Warora	Umari	20.3990	79.1491	1.67	
60	Chandrapur	Warora	Waigaon Khadakar	20.3824	79.2014	2.14	
61	Chandrapur	Warora	Waigaon Khadakar	20.3826	79.2010	2.36	
62	Gondia	Amgaon	Anjora	21.2991	80.4047	3.09	
63	Jalgaon	Jamner	Hibarkhed	20.8339	75.7292	2.01	
64	Jalgaon	Muktainagar (Edlabad)	Manegaon	21.0706	76.0303	1.53	
65	Kolhapur	Bhudargad	Akurde	16.3075	74.1039	2.6	
66	Kolhapur	Chandgad	Turkewadi	15.8850	74.3416	1.82	
67	Kolhapur	Kagal	Hamidwada	16.4144	74.2786	2.8	
68	Kolhapur	Kagal	Tamnakwada	16.3084	74.2931	1.6	
69	Kolhapur	Mangalvedhe	Malhewadi	17.5589	75.4154	7.75	
70	Latur	Latur	Akharwai	18.4344	76.4625	1.72	
71	NAGPUR	Kalmeshwar	TISHTI Kh.	21.3756	78.7952	2.44	
72	Nagpur	Katol	Bilavargondi	21.1863	78.5950	3.25	
73	Nagpur	Katol	Hardoli	21.1357	78.6973	1.81	
74	Nagpur	Katol	Junewani	21.2792	78.5257	2.21	
75	Nagpur	Katol	Khandala	21.2569	78.5509	1.81	
76	Nagpur	Katol	Khursapar	21.1522	78.5827	2.36	
77	Nagpur	Katol	Khutamba	21.2283	78.5918	3.63	
78	Nagpur	Katol	Kolhu	21.2320	78.4754	2.56	

S. No.	District	Block	Location	Latitude	Longitude	F >1.5 mg/L	Remarks
79	Nagpur	Katol	Ladgaon	21.2271	78.5647	1.87	Exploratory Drilling, NAQUIM-1, NAQUIM 2.0 study & Special studies.
80	Nagpur	Katol	Lakholi	21.2778	78.6911	1.96	
81	Nagpur	Katol	Mohgaon Jangle	21.2641	78.4671	3.49	
82	Nagpur	Katol	Murti	21.1910	78.5114	1.66	
83	Nagpur	Katol	Murti BW	21.1955	78.5164	5.59	
84	Nagpur	Katol	Panchadara	21.1980	78.6360	4.2	
85	Nagpur	Katol	Sawanga	21.1084	78.7541	2.08	
86	Nagpur	Katol	Ubagi	21.2527	78.7213	3.77	
87	Nagpur	Lakhandur	Haladgaon	20.8461	79.8743	3.34	
88	Nagpur	Nagpur (Rural)	Mangli pyt	20.8286	78.9256	2.4	
89	Nagpur	Saoner	Jaitpur	21.4443	78.7638	2	
90	Nagpur	Saoner	Malegaon	21.2466	78.7159	2.22	
91	Nagpur	Savner	Nanda Gomukh	21.4225	78.7711	2.5	
92	Nagpur	Umred	Davha	20.9100	79.1689	4.49	
93	Nashik	Malegaon	Dapur	20.5772	74.7609	3.6	
94	Parbhani	Parbhani	Ukhlad	19.2483	76.8994	2.11	
95	Parbhani	Purna	Gaur	19.1627	77.0808	2.02	
96	PUNE	Indapur	WADAPURI	18.0180	74.9977	2.19	
97	Ratnagiri	Sangameshwar	Kosumb	17.1060	73.5794	6.02	
98	Sangli	Jat	Darikonur	17.0224	75.3729	6.1	
99	Sangli	Jat	Halli	17.2053	75.5982	4	
100	Sangli	Jat	Kontev Boblad	16.9975	75.6341	1.7	
101	Sangli	Jat	Yelavi	17.1883	75.3070	3.9	
102	Sangli	Jath	Amruthwadi	17.0447	75.2744	1.73	
103	Sangli	Jath	Avandhi	17.2184	75.2033	2.26	
104	Sangli	Jath	Avandhi	17.2204	75.2015	1.63	
105	Sangli	Jath	Balgaon	17.1917	75.6024	2.56	

S. No.	District	Block	Location	Latitude	Longitude	F >1.5 mg/L	Remarks
106	Sangli	Jath	Belondgi	17.1748	75.5854	2.11	Exploratory Drilling, NAQUIM-1, NAQUIM 2.0 study & Special studies.
107	Sangli	Jath	Gugwad	16.8947	75.1460	1.53	
108	Sangli	Jath	karajgaon	17.1303	75.5715	1.8	
109	Sangli	Jath	Kudnur	16.9722	75.0325	2.04	
110	Sangli	Jath	Kulalwadi	17.1365	75.4657	3.9	
111	Sangli	Jath	Manik nal	17.1089	75.6168	1.8	
112	Sangli	Jath	Nigadi budruk	17.2393	75.5318	1.71	
113	Sangli	Jath	Pandharwadi	17.0048	75.4789	2.17	
114	Sangli	Jath	RajbachiWadi	17.0989	75.4303	2.72	
115	Sangli	Jath	Salekari, patchapur	17.0290	75.2960	1.55	
116	Sangli	Jath	Sankh	17.0878	75.4981	1.6	
117	Sangli	Jath	Sonalgi	17.2532	75.6428	1.85	
118	Sangli	Jath	Sonyal	17.1787	75.4495	2.16	
119	Sangli	Jath	Suslad	17.2265	75.6257	2.2	
120	Sangli	Jath	Tikondi	17.0401	75.5829	2.45	
121	Sangli	Jath	Ugadi	17.1865	75.5136	2.1	
122	Sangli	Jath	Umadi	17.2483	75.5637	1.55	
123	Sangli	Jath	Umadi	17.2483	75.5637	1.82	
124	Sangli	Jath	Umrani	16.8941	75.2538	1.73	
125	Sangli	Kavathemahankal	Khirwade	17.0419	74.9958	1.61	
126	Sangli	Khanapur	Vajegaon	17.3726	74.5878	4.17	
127	Satara	Palus	Andhali	17.1351	74.4803	1.7	
128	Satara	Wai	Eksar	17.9650	73.8384	2.02	
129	Sindhudurg	Malwan	KANDALGAON	16.1167	73.4848	1.58	
130	Sindhudurg	Sawantwadi	Madhkhol	15.9310	73.8764	2.05	
131	Sindhudurg	Vaibhavvadi	Nadhawade	16.4969	73.6987	2.09	
132	Solapur	Mohol	Masle Chaudhary	17.9098	75.7253	5.9	

राज्य पाणी व स्वच्छता मिशन
(SWSM)
1 ला मजला, सिडको भवन (दक्षिण कक्ष),
सी.बी.डी. बेलापूर, नवी मुंबई-400614

दूरध्वनी क्र. 022-६९७६२५०३,६९७६२५०८ ई-मेल : technicaljjm@gmail.com

पत्र क्र.रा. पा. व स्व.मि. /पापुशा-01/प्र.क्र. 14/ई-**539704** /2024/2792 **दिनांक**: 06 /08/2024

प्रति,
अवर सचिव (पापु-१२),
पाणी पुरवठा व स्वच्छता विभाग ,
मंत्रालय, मुंबई.

विषय:- राज्यातील फ्लोराईड आणि अर्सेनिक बाधित गांसाठी प्रभावी उपाययोजना करणे बाबत.
संदर्भ: 1) मुख्य अभियंता तथा विशेष कार्य अधिकारी यांचे पत्र क्र. CE&OSD/014/2024 दिनांक १४.05.२०२४.
2) अवर सचिव पापु-१२ यांचे पत्र क्र. WQMS-2024/प्र.क्र.१९/पापु-१२ दिनांक 20.06.2024.
3) अवर सचिव पापु-१२ यांचे पत्र क्र. WQMS-2024/प्र.क्र.१९/पापु-१२ दिनांक 03.07.2024.
4) अवर सचिव पापु-१२ यांचे पत्र क्र. WQMS-2024/प्र.क्र.१९/पापु-१२ दिनांक 11/०७/२०२४.
5) या कार्यालयाचे पत्र क्र. SWSM/WS-01/CR-28/EO-539704/2024/2661 Date-23/07/2024
6) अवर सचिव पापु-१२ यांचे पत्र क्र. WQMS-2024/प्र.क्र.१९/पापु-१२ दिनांक 31 /०७/२०२४.

संदर्भ क्र. १ अन्वये CGWB केंद्रीय भूजल बोर्ड यांच्या निदर्शनास आलेल्या राज्यातील फ्लोराईड बाधित दिलेल्या 150 स्रोतांची यादी सादर केलेली होती. सदर स्रोत जल जीवन मिशन अंतर्गत घेण्यात आले आहे किंवा नाही, यावर काय उपाय योजना केलेली आहे याबाबत विचारणा केली होती. या मध्ये राज्यातील २४ जिल्ह्यातील 150 स्रोत/गावांचा समावेश आहे.

त्याअनुषंगाने जिल्हयाकडून प्राप्त माहितीनुसार वरील संदर्भ पत्र क्र. 5 अन्वये मुख्य अभियंता तथा विशेष कार्यअधिकारी यांना माहिती सादर करण्यात आली होती. तसेच सदर पत्राची प्रत अवर सचिव पापु-१२ यांना देण्यात आली होती.

वरील संदर्भिय पत्र क्र. 6 च्या अनुषंगाने जिल्हयाकडून प्राप्त माहितीनुसार अहवाल सोबत जोडण्यात येत आहे.

मा.अभियान संचालक यांच्या मान्यतेने

सोबत: वरील प्रमाणे

(सुषमा सातपुते)
अति. मिशन संचालक
राज्य पाणी व स्वच्छता मिशन

ATR On action taken for remedial measures taken for fluoride affected sources-Maharashtra

Sr.No.	No of District where fluoride Contamination As per CGWB	No. of Block where fluoride Contamination As per CGWB	No of sources where Fluoride contamination Location As per CGWB	Villages / location are in Urban region	No of villages in Rural region	No of sources fluoride contaminated source mentioned in in CGWB list not being used for drinking purpose from colm. 8	No of sources fluoride contaminated source mentioned in in CGWB list being used for drinking purpose from colm. 8	No of Source tested for fluoride contamination in FY 2023-24, 2024-25 from colm. 10	No of Source Not found contaminated in WQ test	From colm. 4 No of Village where the JJM Scheme is taken	No of contaminated location(As per CGWB) as source taken for JJM Scheme from colm. 8	No. of source found fluoride contaminated from colm. 14 upon WQ test
1	2	3	4	6	8	9	10	11	12	13	14	15
1	Akola	1	1	0	1	1	0			1	0	
2	Bhandara	3	5	1	4	4	0			4	0	
3	Buldhana	1	1		1	1	0			1	0	
4	Chandrapur	7	46	3	43	43	0			41	0	
5	Dharashiv	2	2	1	1	1	0			1	0	
6	Gadchiroli	2	3	1	2	2	0			2	0	
7	Gondia	1	1		1	0	1	1	1	1	0	
8	Hingoli	1	2	1	1	1	0			1	0	
9	Jalgaon	2	2		2	2	0			2	0	
10	Kolhapur	3	4		4	0	4	4	4	2	2	0
11	Latur	1	1		1	1	0			1	0	
12	Nagpur	5	21		21	21	0			16	0	
13	Nandurbar	1	1	1	0	0	0			0	0	
14	Nashik	1	1		1	1	0			1	0	
15	Parbhani	3	5		5	5	0			5	0	
16	Pune	1	1		1	1	0			1	0	
17	Ratnagiri	1	1		1	1	0			1	0	
18	Sangli	5	30		30	30	0			29	0	
19	Satara	1	1		1	1	0			1	0	
20	Sindhudurg	3	3		3	3	0			3	0	
21	Solapur	4	6	2	4	4	0			3	0	
22	Wardha	2	2		2	2	0			2	0	
23	Washim	1	2		2	2	0			2	0	
24	Yavatmal	6	8		8	8	0			6	0	
	Total	58	150	10	140	135	5	5	5	127	2	0

ATR On action taken for remedial measures taken for fluoride affected sources-Maharashtra

Sr.No.	No of District where fluoride Contamination As per CGWB	No. of Block where fluoride Contamination As per CGWB	No of sources where Fluoride contamination Location As per CGWB	Villages / location are in Urban region	No of villages in Rural region	No of sources fluoride contaminated source mentioned in in CGWB list not being used for drinking purpose from colm. 8	No of sources fluoride contaminated source mentioned in in CGWB list being used for drinking purpose from colm. 8	No of Source tested for fluoride contamination in FY 2023-24, 2024-25 from colm. 10	No of Source Not found contaminated in WQ test	From colm. 4 No of Village where the JJM Scheme is taken	No of contaminated location(As per CGWB) as source taken for JJM Scheme from colm. 8	No. of source found fluoride contaminated from colm. 14 upon WQ test
1	2	3	4	6	8	9	10	11	12	13	14	15
1	24	58	150	10	140	135	5	5	5	127	2	0

NATIONAL GREEN TRIBUNAL, NEW DELHI (NGT)

ORIGINAL APPLICATION 728/2023

IN THE MATTER OF:

NEWS ITEM TITLED "ARSENIC FOUND IN GROUNDWATER IN 25 STATES FLUORIDE IN 27 STATES: GOV"

INDEX

Through

MR. SHASHANK BAJPAI
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New Delhi

Dated:06.08.2024

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI
ORIGINAL APPLICATION NO 728 OF 2023

IN THE MATTER OF: -

IN RE: NEWS ITEM APPEARING IN HINDUSTAN DATED 30.11.2023 TITLED "ARSENIC FOUND IN GROUND WATER IN 25 STATES, FLOURIDE IN 27 STATES; GOVT."

COMPLIANCE AFFIDAVIT ON BEHALF OF THE RESPONDENT NO. 14, GOVERNMENT OF ODISHA TO THE ORIGINAL APPLICATION NO. 728 OF 2023

MOST RESPECTFULLY SHOWETH:

1. The Hon'ble Tribunal passed orders/ directions dated 20.12.2023 in O.A. No. 728 of 2023 in the matter of news item appearing in Hindustan times dated 30.11.2023 titled **"Arsenic found in ground water in 25 states, Fluoride in 27 states: Govt."**

   The Hon'ble Tribunal vide said Order observed that ground water of 230 different districts of the 25 States/ UTs of India is having Arsenic >0.01 mg/L and 469 districts of 27 States/ UTs across the country is having Fluoride >1.5 mg/L.

2. That as per the report, 05 districts in the State of Odisha namely Bhadrak, Gajapati, Ganjam, Jagatsinghpur and Kendrapada are affected with Arsenic (> 0.01 Mg/L). Similarly, 26 districts in the

N.K. Panda Govt. of Orissa Regd. No. 12/95 BHUBANESWAR

State namely Angul, Balasore, Bhadrak. Bargarh, Bolangir, Boudh, Cuttack, Deogarh, Dhenkanal, Jajpur, Kandhamal, Keonjhar, Khurda, Mayurbhanj, Nayagarh, Nuapada, Ganjam. Jagatsinghpur, Kalahandi, Koraput, Puri, Rayagada, Sambalpur, Sonepur, Sundargarh, Gajapati are having localised occurrence of Fluoride (>1.5 Mg/L) in ground water.

3. The News item appearing in Hindustan times dated 30.11.2023 is based on the CGWB report of 2019. That as regards to the Central Ground Water Board **("CGWB")** report, the ground water samples are mostly collected from water quality monitoring stations like dug wells, shallow tube wells & spring sources etc and tested for fluoride and arsenic contaminations. In less than 1% of the samples, the presence of Arsenic content is found. CGWB has reported Arsenic contaminations by testing water samples of dug wells which are shallow phreatic aquifers. That as mentioned in para 3 of order of this Hon'ble Tribunal dated 20.12.2023, the deeper aquifers in the State of Odisha are free from Arsenic contamination. Further, as per Integrated Management Information System **("IMIS")** report of Jal Jeevan Mission, Department of Drinking Water and Sanitation, Ministry of Jal Shakti (Format C17- A), the number of Arsenic contaminated habitation is "Nil" and the number of

SEAL OF THE NOTARY PUBLIC * BHUBANESWAR * N.K. Panda Govt. of Orissa Regd. No. 12/95

Fluoride content affected habitations and population as on 18.06.2024 is 18 nos.

The detailed findings of the report of IMIS is annexed herewith and marked as **Annexure-R1.**

4. That with regard to Fluoride content, the Respondent herein has taken necessary measures and abandoned the contaminated water sources and sealed them. The people are advised to use the nearby safe sources till they are provided with alternative sources of purified and safe water. The Fluoride contaminated habitations have already been covered with Community Water Purification Plants **("CWPP")** as part of short term measure and after testing of water samples at RWSS Laboratory, the Fluoride content is found within the permissible limit.

The detailed findings of samples at RWSS Laboratory is annexed herewith and marked as **Annexure-R2.**

Further, these Fluoride affected habitations are also covered with Piped Water Supply Schemes **("PWS")** either by Single Village Schemes **("SVS")** or Multi Village Schemes **("MVS")** to provide safe drinking water as per IS: 10500-0012 prescribed quality to the people through Functional Household Tap Connection **("FHTC")**.

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Govt. of Orissa
Regd. No. 12/95
BHUBANESWAR

The details of affected habitations covered under the schemes are annexed herewith and marked as **Annexure-R3.**

5. The ground water quality data from the regular monitoring network stations of the State Pollution Control Board, Rural Water Supply & Sanitation, Odisha, Environmental Information Centre **("EIC")**, Public Health Organisation, Odisha, WATCO and Directorate of Ground Water Development, Odisha shows the Fluoride and Arsenic content in other reported areas of Odisha are within the permissible limit.

   The test reports of EIC, PH and Odisha State Pollution Control Board in this regard are annexed herewith and marked as **Annexure-R4.**

To this end, the Respondent herein has undertaken several initiatives aimed at understanding the root causes of contamination, assessing its extent, and implementing measures to prevent deterioration of ground water quality. The efforts include the following:

a. **Comprehensive Water Quality Monitoring:** The Respondent herein has established a robust water quality

monitoring system to regularly assess the levels of Arsenic and Fluoride in ground water across the State of Odisha. This monitoring network allows the Respondent to track changes over time and identify areas of concern that require immediate attention.

b. **Sealing the contaminated water sources**: Sealing the hand pumps/ wells having contaminated ground water to avoid supply to public for drinking purposes.

c. **Alternative Water Sources:** To identify and establish alternative sources of safe drinking water for affected communities, including exploring cost- effective remedial technologies to dilute contaminants or tapping into uncontaminated ground water reservoirs.

d. **Community Engagement and Awareness:** The Respondent herein understand the importance of engaging with local communities to raise awareness about the risks associated with Arsenic and Fluoride contamination and to promote safe water practices. Through community outreach programs, the Respondent is educating residents about the importance of testing water quality, adopting appropriate mitigation

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N.K. Panda
Govt. of Orissa
Regd. No. 12/95
BHUBANESWAR

measures, and accessing alternative sources of safe drinking water.

e. **Technological Interventions:** The Respondents herein are exploring innovative technological solutions to treat Arsenic and Fluoride-contaminated ground water effectively. This includes the implementation of advanced water treatment technologies and the development of cost-effective filtration systems tailored to the specific needs of communities affected by contamination

f. **Collaboration with Stakeholders:** The Respondent herein recognize that addressing Arsenic and Fluoride contamination requires a multi-stakeholder approach involving collaboration between Government agencies, non-Governmental organizations, academic institutions, and the private sectors. The Respondent is actively engaged in partnerships and collaborative efforts to leverage resources, expertise, and best practices to achieve meaningful and sustainable solutions.

g. **Policy Advocacy**: The Respondent herein is advocating for the implementation of robust policies and regulations aimed at preventing further contamination of ground water sources and ensuring access to safe and clean drinking water for all

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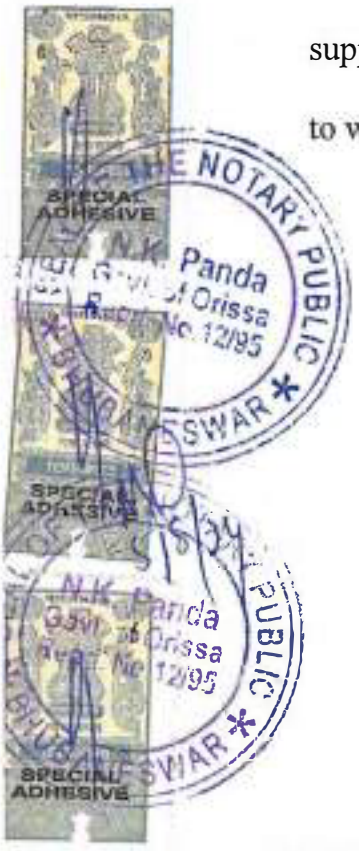
residents of the State of Odisha. The Respondent is actively participating in policy dialogues and working closely with policymakers to develop evidence-based strategies for effective water resource management and pollution control.

The Respondent herein is fully committed to addressing the issue of Arsenic and Fluoride contamination in ground water in the State of Odisha and are actively pursuing a multi- faceted approach to mitigate its adverse effects on public health and the environment. The Respondent herein is obliged and welcomes the guidance and support of this Hon'ble Tribunal in this endeavour and look forward to working together towards a sustainable and healthy future for all.



DEPONENT

Chief Secretary
Odisha

THROUGH

MR. SHASHANK BAJPAI
(SPECIAL COUNSEL FOR RESPONDENT)
11&11A GOLF APARTMENTS
GOLF LINKS, SUJAN SINGH PARK,
MAHARISHI RAMAN MARG, NEW DELHI-110004
E-MAIL ID: - advocateshashankbajpai@gmail.com,
MOBILE NO.:+91 9891060955

DATE: 10.07.2024

VERIFICATION:

Verified at ~~New Delhi~~ BBSR on this 5th day of ~~July~~ August, 2024 that the contents of the Reply are true and correct to my knowledge and belief, no part of it is false and nothing material has been concealed therefrom.

Manoj Ahuja

DEPONENT

Chief Secretary
Odisha

Solemnly affirm and declared before me

5/8/2024

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N.K. Panda
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Annexure - R/1

Jal Jeevan Mission

Department of Drinking Water & Sanitation

Ministry of Jal Shakti

Format C17 A- No Of Quality Affected Habitations & Population As On 18/06/2024

State : Odisha

S.No.	District	Contamination Wise Number Of Habitations & Population						
		Total Habs	Fluoride Habs	Arsenic Habs	Iron Habs	Salinity Habs	Nitrate Habs	Heavy Metal Habs
	Total	**979**	**18**	**0**	**947**	**9**	**5**	**0**
1	Angul	0	0	0	0	0	0	0
2	Balangir	8	8	0	0	0	0	0
3	Baleshwar	0	0	0	0	0	0	0
4	Bargarh	0	0	0	0	0	0	0
5	Bhadrak	0	0	0	0	0	0	0
6	Boudh	2	1	0	1	0	0	0
7	Cuttack	14	0	0	14	0	0	0
8	DEOGARH	0	0	0	0	0	0	0
9	Dhenkanal	0	0	0	0	0	0	0
10	Gajapati	50	0	0	50	0	0	0
11	Ganjam	9	0	0	7	2	0	0
12	Jagatsinghapur	49	0	0	49	0	0	0
13	Jajapur	0	0	0	0	0	0	0
14	Jharsuguda	1	0	0	1	0	0	0
15	Kalahandi	4	1	0	2	0	1	0
16	Kandhamal	132	0	0	132	0	0	0
17	Kendrapara	0	0	0	0	0	0	0
18	Kendujhar	0	0	0	0	0	0	0
19	KHORDHA	25	0	0	25	0	0	0
20	Koraput	334	0	0	334	0	0	0
21	Malkangiri	212	5	0	205	0	2	0
22	Mayurbhanj	2	2	0	0	0	0	0
23	Nabarangpur	15	0	0	15	0	0	0
24	Nayagarh	12	1	0	9	0	2	0
25	Nuapada	0	0	0	0	0	0	0
26	Puri	48	0	0	41	7	0	0
27	Rayagada	57	0	0	57	0	0	0
28	Sambalpur	0	0	0	0	0	0	0
29	Sonepur	1	0	0	1	0	0	0
30	Sundargarh	4	0	0	4	0	0	0
	Total	**979**	**18**	**0**	**947**	**9**	**5**	**0**

Source: https://ejalshakti.gov.in

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1.Habitations with any contamination including Arsenic are counted under 'Arsenic' Column.
2.Habitations with any contamination including Fluoride and without Arsenic are counted under 'Fluoride' Column.
3.Habitations with any contamination including Iron and without Arsenic and Fluoride are counted under 'Iron' Column.
4.Habitations with any contamination including Salinity and without Arsenic,Fluoride and Iron are counted under 'Salinity' Column.
5.Habitations with any contamination including Nitrate and without Arsenic, Fluoride, Iron and Salinity are counted under 'Nitrate' Column.
6.Habitations with any contamination including Heavy Metal and without Arsenic, Fluoride, Iron, Salinity and Nitrate are counted under 'Heavy Metal' Column.
7.CWPP Habs : Habitations have been covered by CWPPs.

Annexure - R2

Jal Jeevan Mission

Department of Drinking Water & Sanitation

Ministry of Jal Shakti

Format C17 A- No Of Quality Affected Habitations & Population As On 18/06/2024

State : Odisha

S.No.	District	Contamination Wise Number Of Habitations & Population													
		Total		Fluoride		Arsenic		Iron		Salinity		Nitrate		Heavy Metal	
		Habs	Covered with CWPP / IHP	Habs	Covered with CWPP / IHP	Habs	Covered with CWPP / IHP	Habs	Covered with CWPP / IHP	Habs	Covered with CWPP / IHP	Habs	Covered with CWPP / IHP	Habs	Covered with CWPP / IHP
	Total	**979**	**18**	**18**	**18**	**0**	**0**	**947**	**0**	**9**	**0**	**5**	**0**	**0**	**0**
1	Anugul	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Balangir	8	8	8	8	0	0	0	0	0	0	0	0	0	0
3	Baleshwar	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Bargarh	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Bhadrak	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Boudh	2	1	1	1	0	0	1	0	0	0	0	0	0	0
7	Cuttack	14	0	0	0	0	0	14	0	0	0	0	0	0	0
8	DEOGARH	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Dhenkanal	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Gajapati	50	0	0	0	0	0	50	0	0	0	0	0	0	0
11	Ganjam	9	0	0	0	0	0	7	0	2	0	0	0	0	0
12	Jagatsinghapur	49	0	0	0	0	0	49	0	0	0	0	0	0	0
13	Jajapur	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	Jharsuguda	1	0	0	0	0	0	1	0	0	0	0	0	0	0
15	Kalahandi	4	1	1	1	0	0	2	0	0	0	1	0	0	0
16	Kandhamal	132	0	0	0	0	0	132	0	0	0	0	0	0	0
17	Kendrapara	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	Kendujhar	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	KHORDHA	25	0	0	0	0	0	25	0	0	0	0	0	0	0
20	Koraput	334	0	0	0	0	0	334	0	0	0	0	0	0	0
21	Malkangiri	212	5	5	5	0	0	205	0	0	0	2	0	0	0
22	Mayurbhanj	2	2	2	2	0	0	0	0	0	0	0	0	0	0
23	Nabarangpur	15	0	0	0	0	0	15	0	0	0	0	0	0	0
24	Nayagarh	12	1	1	1	0	0	9	0	0	0	2	0	0	0
25	Nuapada	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	Puri	48	0	0	0	0	0	41	0	7	0	0	0	0	0
27	Rayagada	57	0	0	0	0	0	57	0	0	0	0	0	0	0
28	Sambalpur	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	Sonepur	1	0	0	0	0	0	1	0	0	0	0	0	0	0
30	Sundargarh	4	0	0	0	0	0	4	0	0	0	0	0	0	0
	Total	**979**	**18**	**18**	**18**	**0**	**0**	**947**	**0**	**9**	**0**	**5**	**0**	**0**	**0**

Source: https://jalshakti.gov.in

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1.Habitations with any contamination including Arsenic are counted under 'Arsenic' Column.
2.Habitations with any contamination including Fluoride and without Arsenic are counted under 'Fluoride' Column.
3.Habitations with any contamination including Iron and without Arsenic and Fluoride are counted under 'Iron' Column.
4.Habitations with any contamination including Salinity and without Arsenic,Fluoride and Iron are counted under 'Salinity' Column.
5.Habitations with any contamination including Nitrate and without Arsenic, Fluoride, Iron and Salinity are counted under 'Nitrate' Column.

Format C17 A- List of Fluoride affected Habitations (as on 19/06/2024)

S.No	District Name	BlockName	PanchayatName	VillageName	HabitationName	Covered by CWPP as short-term measure	Covered by Mega PWS/ single village scheme (SVS)
1	Balangir	Agalpur	Badtika	Badatika	Ghunghutipali	All Habitations are covered in CWPP	Mega
2			Bendra	Danipali	Dani Palli		Mega
3			Budula	Mahakhand	Mahakhand		SVS
4			Jharnipali	Pandakital	Pandkital		SVS
5		Balangir	Baidipali	Ghusuradungiri	Ghusura Dungiri		SVS
6				Kalijharan	Kalijharan		SVS
7			Barapudgia	Barpita	Barapita		SVS
8		Deogaon	Desand	Gambharimal	Nag Pada		SVS
9	Boudh	Harabhanga	Bamanda	Somanathpur	Somanathpur		Mega
10	Kalahandi	Kesinga	Gokuleswar	Bishodi	Nuapada		Mega
11	Malkangiri	Kalimela	Pusuguda	Goreshpalli	M.v.131		Mega
12				Uruballi	Uruballi		Mega
13		MALKANGIRI	SINDHRIMALA	BHIMRANGINI	BHIMRANGINI		Mega
14				Sorismal	Sargiguda		Mega
15					SORISMAL		Mega
16	Mayurbhanj	Bangriposi	Budhikhamari	Badamatalia	Naik Sahi		Mega
17			Kusum Bandh	Basantpur	Chaturi Sahi		Mega
18	Nayagarh	Ranpur	Baounsagarh	Gaudiapada	Goudiapada		Mega

Water Quality of Ground water Monitoring stations w.r.t Fluoride Concentration during the years 2021,2022 & 2023

Monitoring Station	Month of Monitoring	Fluoride, in mg/L (2021)	Fluoride, in mg/L (2022)	Fluoride, in mg/L (2023)	Conforming (C) / Non- Conforming (NC)
1. District : ANGUL					
Angul (2 stations)					
1. Angul Township (20.838611 N, 85.098333 E)	April	0.186	0.425	0.54	C
	Oct	0.33	0.42	0.33	C
2. NALCO township (20.8425 N, 85.148611 E)	April	0.496	0.982	0.90	C
	Oct	0.61	0.39	1.14	C
Talcher (7 stations)					
3. Mahanadi Coal Field Area (20.950278 N, 85.192222 E)	April	0.161	0.281	0.51	C
	Oct	NM	0.4	0.14	C
4. Kaniha (21.08 N, 85.078333 E)	April	0.132	0.36	0.39	C
	Oct	0.31	0.45	0.31	C
5. Talcher town (20.9325 N, 85.200556 E)	April	0.195	NM	0.36	C
	Oct	0.21	0.36	0.23	C
6. Meramundali Area (20.802778 N, 85.304444 E)	April	0.409	0.798	0.74	C
	Oct	0.68	0.42	0.81	C
7. Talcher Thermal Area (20.904444 N, 85.217222 E)	April	0.406	0.639	0.52	C
	Oct	0.875	0.3	0.90	C
8.Banarpal (20.8425 N, 85.214722 E)	April	0.277	0.598	0.29	C
	Oct	0.42	0.27	0.52	C
9. Kulad (20.838333 N, 85.166944 E)	April	1.01	1.12	1.22	C
	Oct	1.01	0.3	1.48	C
2. District : BALASORE (3 Stations)					
10. Naigopalpur (21.577778 N,86.832222 E)	April	0.163	0.387	0.33	C
	Oct	0.198	0.32	0.16	C
11.Kuanrpur (21.573481 N,86.8442 E)	April	6.09	5.14	5.45	NC
	Oct	4.88	0.26	4.84	NC
12. Chakulia (21.5675 N,86.844722 E)	April	0.823	0.345	0.30	C
	Oct	0.108	0.56	0.12	C
3. District : BHADRAK (2 Stations)					
13. District Head Quarter Hospital Premises, Bhadrak (21.065464 N,86.502608 E)	April	0.74	0.573	0.76	C
	Oct	0.49	0.3	0.62	C
14. Salandi Hospital Premises, Bhadrak (21.070497 N,86.496453E)	April	0.761	0.768	0.94	C
	Oct	0.66	0.33	0.79	C
4. District : BARGARH (2 stations)					
15. Near Bargarh Govt. Hospital, Bargarh (21.335114 N, 83.616478 E)	April	0.39	0.491*	0.47	C
	Oct	0.61	0.67**	0.42	C
16. Near Ganapati Hotel, Bargarh (21.349475 N,83.642628 E)	April	0.32	0.629*	0.38	C
	Oct	0.33	0.35**	0.25	C

* Monitored during May ** Monitored During November

Monitoring Station	Month of Monitoring	Fluoride, in mg/L (2021)	Fluoride, in mg/L (2022)	Fluoride, in mg/L (2023)	Conforming (C) / Non- Conforming (NC)
5. District : BALANGIR (2 stations)					
17. Balangir Medical College, Balangir (20.704831 N,83.452628 E)	April	0.224	0.412*	0.31	C
	Oct	0.30	0.42**	0.24	C
18. Sudapada Post Office, Balangir (20.7077 N,83.497211 E)	April	0.424	0.422*	0.27	C
	Oct	0.28	0.48**	0.34	C
6. District : BOUDH (2 stations)					
19. Near Town Girls Primary School, Boudh (20.835728 N,84.326325 E)	April	0.3	0.311*	0.44	C
	Oct	0.24	0.34**	0.81	C
20. Butupali Chowk, Boudh (20.823619 N,84.314531 E)	April	0.298	0.345*	0.46	C
	Oct	0.27	0.64**	0.27	C
7. District : CUTTACK (5 stations)					
21. Jagatpur (20.488889 N 85.929722 E)	Apr	0.141	0.334	0.34	C
	Oct	0.27	0.47	0.21	C
22. Mangalabag (20.473889 N 85.888056 E)	Apr	0.135	0.358	0.30	C
	Oct	0.45	0.42	0.14	C
23. Madhupatna-Kalyan Nagar Area (20.448611 N, 85.902778 E)	Apr	0.197	0.285	0.29	C
	Oct	0.20	0.44	0.22	C
24. Badambadi Area (20.458611 N, 85.880556 E)	April	0.191	0.413	0.30	C
	Oct	0.41	0.34	0.12	C
25. Bidanasi-Tulsipur Area (20.485278 N 85.784444 E)	April	0.186	0.257	0.31	C
	Oct	0.191	0.39	0.15	C
8. District : DHENKANAL (2 Stations)					
26. Dhenkanal Daily Market (20.652689 N,85.5939 E)	April	0.19	0.337	0.36	C
	Oct	0.38	0.47	0.35	C
27. Gajaman UP School, Dhenkanal (20.594847 N,85.594847 E)	April	0.164	0.247	0.44	C
	Oct	0.38	0.44	NM	C
9. District : DEOGARH (2 stations)					
28. Govt. Medical Premises, Deogarh (21.534673 N, 84.730024 E)	April	0.531	0.303	0.423	C
	Oct	0.172	0.29	0.18	C
29. Collector Office Premises, Deogarh (21.540146 N, 84.738194 E)	April	0.8	0.293	0.429	C
	Oct	0.29	0.37	0.19	C
10. District : GAJAPATI (2 stations)					
30. Near Municipal Solid Waste Dumpsite, Kellysahi (18.779461 N, 84.087447 E)	April	0.934	0.461	0.80	C
	Oct	0.45**	0.32**	0.36	C
31. Inside the premises of DHH, Paralakhemundi (18.771472 N, 84.096867 E)	April	0.471	0.347	0.47	C
	Oct	0.77**	0.49**	0.85	C

* Monitored during May ** Monitored During November

Monitoring Station	Month of Monitoring	Fluoride, in mg/L (2021)	Fluoride, in mg/L (2022)	Fluoride, in mg/L (2023)	Conforming (C) / Non- Conforming (NC)
11. District : GANJAM (4 stations)					
32. Near Railway station (19.296394N84.796825 E)	April	0.227	0.363	0.43	C
	Oct	0.28	0.57**	0.28	C
33. MKCG Medical College (19.312522 N, 84.81025 E)	April	0.852	0.984	1.06	C
	Oct	0.94	0.48**	0.40	C
34. Bus stand (19.312628 N, 84.802431 E)	April	0.529	1.03	0.76	C
	Oct	0.64	0.76**	0.54	C
35.Badabazar (19.317317 N, 84.773611 E)	April	0.225	0.718	0.50	C
	Oct	0.21	0.35**	0.44	C
12. District : JAGATSINGHPUR (2 stations)					
36. Musadiha (20.320556 N, 86.663333 E)	Apr	1.23	0.622	0.54	C
	Oct	0.50	0.31	0.15	C
37. Badapadia (20.266389 N, 86.658889 E)	Apr	1.15	1.33	1.27	C
	Oct	1.28	0.29	1.18	C
13. District : JAJPUR (4 stations)					
38. TISCO (21.027778 N, 85.746667 E)	April	0.165	0.178	0.52	C
	Oct	0.25	0.49	0.30	C
39.Saruabil (21.057778 N, 85.811111 E)	April	0.188	0.194	0.61	C
	Oct	0.28	0.47	0.29	C
40.Kaliapani (21.041389N, 85.770833 E)	April	0.198	0.224	0.38	C
	Oct	0.28	0.48	0.29	C
41. Kamarda (21.063889 N, 85.845556 E)	April	0.194	0.207	0.53	C
	Oct	0.27	0.37	0.24	C
14. District : JHARSUGUDA (8 stations)					
42.Thelkoloi (21.752186 N, 84.038278 E)	April	NM	NM	0.63*	C
	Oct	NM	NM	0.19**	C
43.Bhurkhamunda (21.813611 N, 84.024444 E)	April	1.2	0.474	0.24	C
	Oct	0.31	0.26	0.25	C
44. Badamal Industrial Estate (21.817778 N, 83.996944 E)	April	0.724	0.329	0.27	C
	Oct	0.149	0.31	0.22	C
45. Budhipadar (21.860833 N, 83.9625 E)	April	1.29	0.321	0.26	C
	Oct	0.14	0.32	0.24	C
46. Brajarajnagar Mining Belt (21.855 N, 83.920833 E)	April	0.738	0.308	0.38	C
	Oct	0.25	0.51	0.28	C
47. Rampur (water tank) (21.79 N, 84.003333 E)	April	0.761	0.515	0.22	C
	Oct	0.34	0.3	0.31	C
48. Ib thermal power station (21.688333 N, 83.863056 E)	April	0.626	0.255	0.26	C
	Oct	0.143	0.33	0.28	C
49.Belpahar Area (21.825278 N, 83.848889 E)	April	1.1	0.246	0.22	C
	Oct	0.21	0.85	0.26	C
15. District : KALAHANDI (2 stations)					
50. Goshalpada Colony, Ward No. 7, Bhawanipatna (19.921667 N, 83.154722 E)	April	0.413*	0.403	0.54	C
	Oct	0.53	0.3	0.68	C
51.Sitabudipara Irrigation Colony Ward No. 17, Bhawanipatna (19.915833 N, 83.181667 E)	April	0.32*	0.459	0.78	C
	Oct	0.24	0.46	0.27	C

* Monitored during May ** Monitored During November

Monitoring Station	Month of Monitoring	Fluoride, in mg/L (2021)	Fluoride, in mg/L (2022)	Fluoride, in mg/L (2023)	Conforming (C) / Non- Conforming (NC)
16. District : KEONJHAR (5 stations)					
52. Joda East Iron Ore Mines (22.023889 N,85.431111 E)	April	0.857	0.193	0.28	C
	Oct	0.113	0.3	0.18	C
53. Joda West Mn Mines of M/s Tata Steel Ltd. (21.990556 N,85.398472 E)	April	0.465	0.202	0.24	C
	Oct	0.067	0.67	0.23	C
54. Balda Block Iron ore mines of M/s Sirajuddin (21.877219 N, 85.408561 E)	April	0.183	0.182	0.23	C
	Oct	0.105	0.47	0.31	C
55. Roida-II Iron ore mines of M/s K.N. Ram and Co (22.039497 N,85.369317 E)	April	0.171	0.194	0.28	C
	Oct	0.097	0.64	0.26	C
56. Thakurani Iron ore mines of M/s Kaypee Enterprises (22.110639 N, 85.429278 E)	April	0.159	0.175	0.31	C
	Oct	0.79	0.46	0.28	C
17. District : KENDRAPARA (2 stations)					
57.Court Chhack, Kendrapada (20.5025 N, 86.424722 E)	April	0.898	0.428	0.51	C
	Oct	0.35	0.32	0.32	C
58. Hazaribagicha (20.51 N, 86.430556 E)	April	0.791	0.258	0.38	C
	Oct	0.21	0.55	0.41	C
18. District : KHORDHA (6 stations)					
59. Khandagiri Area (20.258611 N 85.789444 E)	April	0.137	0.797	0.28	C
	Oct	0.15	0.33	0.25	C
60. Old town-Samantarapur Area (20.228333 N, 85.840833 E)	April	0.501	0.438	0.27	C
	Oct	0.41	0.82	0.29	C
61. Kalpana-Laxmisagar Area (20.268333, N 85.855 E)	April	0.124	0.322	0.31	C
	Oct	0.171	0.6	0.16	C
62. Chandrasekharpur (20.310278 N, 85.833889 E)	April	0.168	0.269	0.28	C
	Oct	0.091	0.47	0.35	C
63. Capital Hospital Area (20.261944 N, 85.821389 E)	April	0.263	0.213	0.34	C
	Oct	0.11	0.63	0.29	C
64. Secretariate Governor House-Old bus stand Area (20.266944 N,85.818889 E)	April	0.302	0.224	0.29	C
	Oct	0.129	0.63	0.31	C
19. District : KORAPUT (2 stations)					
65. Jagannath Temple, Koraput (18.810556 N, 82. 710278 E)	April	0.103*	0.258*	0.30	C
	Oct	0.115	0.6	0.28	C
66. Bada Chindri, Koraput (18.8125 N, 82.728333 E)	April	0.105*	0.23*	0.31	C
	Oct	0.184	0.57	0.15	C
20. District : MAYURBHANJ (2 stations)					
67. Dhangidimula Village, Kusumi Block Office (22.08655 N, 86.113753 E)	April	0.183	0.328	0.38	C
	Oct	0.21	0.46	0.19	C
68. Dhangidimula Village, Sukribating Basti (22.093492 N, 86.110036 E)	April	0.138	0.294	0.35	C
	Oct	0.141	0.44	0.11	C

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Monitoring Station	Month of Monitoring	Fluoride, in mg/L (2021)	Fluoride, in mg/L (2022)	Fluoride, in mg/L (2023)	Conforming (C) / Non- Conforming (NC)
21. District : MALKANGIRI (2 stations)					
69. MV 43, Malkanigiri (18.323333 N, 81.876111 E)	April	0.206*	0.301	0.32	C
	Oct	0.26	0.39	0.13	C
70. Tekbadi of Netaji nagar, Malkanigiri (18.353611 N, 81.884722 E)	April	0.294*	0.232	0.30	C
	Oct	0.157	0.5	0.12	C
22. District : NAWARANGPUR (2 stations)					
71. Tota guda, Nawarangpur (19.248056 N, 82.543333 E)	April	0.166*	0.183	0.29	C
	Oct	0.114	0.41	0.17	C
72. Gabraliguda, Nawarangpur (19.241667 N, 82.538056 E)	April	0.104*	0.211	0.30	C
	Oct	0.127	0.43	0.16	C
23. District : NAYAGARH (2 stations)					
73. Near Solid Waste dumpsite, Nayagarh (20.123133 N, 85.103842 E)	April	0.198	0.306	1.12	C
	Oct	1.10	0.46**	0.29	C
74. Inside District Medical campus, Nayagarh (20.126944 N, 85.106389 E)	April	0.169	0.293	1.44	C
	Oct	1.20	0.47**	0.38	C
24. District : NUAPADA (2 stations)					
75. Nuapada Govt. Hospital, Nuapada (20.805833 N, 82.533611 E)	April	0.334	0.331	0.37	C
	Oct	0.29	0.31**	0.22	C
76. Nilasaila nagar, Nuapada (20.799722 N, 82.534722 E)	April	0.202	0.389	0.47	C
	Oct	0.23	0.47**	0.27	C
25. District : Kandhamal (2 stations)					
77. Solid Waste Management site, Phulbani (20.488169 N, 84.221928 E)	April	1.37	0.255	0.48	C
	Oct	0.116	0.66**	0.62	C
78. District Head Quarter Hospital, Phulbani (20.485736 N, 84.224717 E)	April	0.267	0.295	0.49	C
	Oct	0.28	0.53**	0.35	C
26. District : PURI (4 stations)					
79. Hospital-Bus stand Mausima temple area, Puri (19.816944 N, 85.838056 E)	April	0.162	0.266	0.98	C
	Oct	0.131	0.33	0.14	C
80. Near Jagannath Temple, Puri (19.804444 N, 85.819167 E)	April	0.158	0.329	0.52	C
	Oct	0.087	0.42	0.13	C
81. Near Sea Beach, Puri (19.793611 N, 85.793611 E)	April	0.187	0.263	0.44	C
	Oct	0.112	0.24	0.22	C
82. Baliapanda, Puri (19.791667 N, 85.808333 E)	April	0.168	0.956	0.29	C
	Oct	0.22	0.41	0.19	C
27. District : RAYAGADA (2 stations)					
83.Kasturinagar, Rayagada (19.1825 N, 83.416111 E)	April	0.377*	0.258	0.32	C
	Oct	0.181	0.49	0.20	C
84. Within the premises of Badelapulama Temple, Rayagada (19.160833 N, 83.409167 E)	April	0.136*	0.269	0.33	C
	Oct	0.168	0.56	0.24	C

* Monitored during May ** Monitored During November

Monitoring Station	Month of Monitoring	Fluoride, in mg/L (2021)	Fluoride, in mg/L (2022)	Fluoride, in mg/L (2023)	Conforming (C) / Non- Conforming (NC)
28. District : SAMBALPUR (3 stations)					
85. Near Panthanivas, Sambalpur (21.460386 N, 83.979989 E)	April	0.143	0.441*	0.43	C
	Oct	0.172	0.32**	0.14	C
86. Near Railway station, Sambalpur (21.482917 N, 83.960086 E)	April	0.317	0.48*	0.36	C
	Oct	0.35	0.72**	0.34	C
87. Near VSS Medical College, Burla (21.500314 N, 83.885922 E)	April	0.77	0.738*	0.35	C
	Oct	0.48	0.48**	0.76	C
29. District : SONEPUR (2 stations)					
88. District Head Quarter Hospital, Sonepur (20.84365 N, 83.906919 E)	April	0.502	0.601*	0.33	C
	Oct	0.46	0.53**	0.50	C
89. Near Gundicha temple of Tentelghat, Sonepur (20.845244 N, 83.914717 E)	April	0.36	0.534*	0.36	C
	Oct	0.37	0.39**	0.38	C
30. District : SUNDARGARH (2 stations)					
90. DDM Office Premises, Koira (21.911955 N, 85.255445 E)	April	0.733	0.314*	0.396*	C
	Oct	0.126	0.97**	0.28	C
91. Tensa Residential Area, Koira (21.871169 N, 85.161586 E)	April	0.6	0.284*	0.423*	C
	Oct	0.133	0.35**	0.26	C
IS 10500 (2012) Specification					
Acceptable Limit		1.0			
Permissible Limit		1.5			

* Monitored during May ** Monitored During November

FAX : 2562822/2560955
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E-mail : paribesh1@ospboard.org
Website : www.ospcboard.org

STATE POLLUTION CONTROL BOARD, ODISHA

[DEPARTMENT OF FOREST, ENVIRONMENT & CLIMATE CHANGE, GOVERNMENT OF ODISHA]
Paribesh Bhawan, A/118, Nilakanthanagar, Unit-VIII,
Bhubaneswar – 751 012

No. 1557 / VI-SC (LEM) Proj-22/22-23 Dt. 06-02-2023

To,

The Engineer-in-Chief
Dept. of Public Health
Govt. of Odisha

Sub : Ground water quality of major cities/ towns in Odisha during 2022 –Reg.

Sir,

With reference to above subject, this is to bring your kind notice that the Board has monitored the ground water quality at 90 locations in all thirty districts of the state during April/May and October/November in the year 2022. Ground water quality status during the year 2022 at these locations alongwith the Acceptable and Permissible limit for drinking water prescribed under IS : 10500-2012 and subsequent amendments are enclosed herewith as Annexure-1.

Comparison of the ground water quality with the drinking water specifications reveals that parameters like pH, total hardness, calcium, magnesium, chloride, nitrate, iron, ammonical Nitrogen, lead, fluoride at some of the ground water quality monitoring stations do not conform to the prescribed limits. Detail list of non-conforming ground water quality monitoring stations are given in Annexure-2.

This is for your kind information.

Yours faithfully,

06/02/23

MEMBER SECRETARY

Encl : As above

Ground Water Quality Status (Tube well) (2022)

Monitoring Station	Month of Monitoring	pH	Cond., µS/cm	BOD, mg/L	COD, mg/L	Turbidity, NTU	TDS, mg/L	TFS, mg/L	Total Alkalinity, as $CaCO_3$, mg/L	Total Hardness as $CaCO_3$, mg/L	Calcium as Ca, mg/L	Magnesium as Mg, mg/L	Chloride, mg/L	Sulphate, mg/L	Nitrate, mg/L	NH_4-N, mg/L
1. District : ANGUL (9 stations)																
Angul (2 stations)																
1. Angul Township	April	6.9	963	1.1	7.5	12	NA	NA	156	320	88.2	24.3	149.9	109.29	79.79	<0.4
	Oct	7.1	914	<1.0	7.7	3.6	NA	NA	180	360	40.82	63.23	184.9	84.39	21.86	<0.4
2. NALCO township	April	7.3	674	1.1	7.5	27	NA	NA	188	200	57.7	13.6	80.0	55.72	5.15	<0.4
	Oct	7.4	527	<1.0	7.7	20	NA	NA	192	164	45.71	12.65	60.0	20.21	4.44	<0.4
Talcher (7 stations)																
3. Mahanadi Coal Field Area	April	7.3	180	1.8	11.0	25	NA	NA	44	52	14.4	3.9	20.0	25.29	5.78	<0.4
	Oct	6.8	500	<1.0	7.7	28	NA	NA	152	188	40.82	21.40	58.0	35.15	22.04	<0.4
4. Kaniha	April	7.3	494	1.1	7.5	2.1	NA	NA	240	208	46.5	22.4	26.0	23.43	1.66	<0.4
	Oct	7.4	284	1.1	7.7	8.8	NA	NA	120	100	24.49	9.73	14.0	24.73	4.744	<0.4
5. Talcher town	April	Not Monitored														
	Oct	6.8	314	<1.0	7.7	70	NA	NA	100	108	26.12	10.70	26.0	33.76	4.29	<0.4
6. Meramundali Area	April	7.2	1187	1.1	7.5	2.6	NA	NA	356	464	128.2	35.0	109.9	136.43	5.77	<0.4
	Oct	7.4	815	<1.0	7.6	4.6	NA	NA	120	256	76.73	16.54	149.9	94.06	3.55	<0.4
7. Talcher Thermal Area	April	7.2	846	1.1	7.5	12	NA	NA	228	224	62.5	16.5	109.9	78.57	1.11	<0.4
	Oct	6.9	687	<1.0	7.6	19	NA	NA	200	188	40.82	21.40	109.9	29.67	3.45	<0.4
8. Banarpal	April	6.8	898	1.1	7.5	4.7	NA	NA	172	304	65.7	34.0	119.9	160.00	26.65	<0.4
	Oct	7.1	420	<1.0	7.6	120	NA	NA	200	160	40.82	14.59	40.0	12.04	2.50	<0.4
9. Kulad	April	8.0	943	1.1	7.5	34	NA	NA	280	304	110.6	6.8	199.9	103.57	1.86	<0.4
	Oct	7.2	2041	1.1	7.7	160	NA	NA	280	640	163.26	58.37	539.7	51.60	2.77	0.56
Drinking water specification (IS : 10500 (2012)																
Acceptable Limit		6.5-8.5	-	-	-	1	500	-	200	200	75	30	250	200	45	0.5
Permissible limit		No relax	-	-	-	5	2000	-	600	600	200	100	1000	400	No relax	No relax

NA –Not Analysed

Monitoring Station	Month of Monitoring	pH	Cond., µS/cm	BOD, mg/L	COD, mg/L	Turbidity, NTU	TDS, mg/L	TFS, mg/L	Total Alkalinity, as $CaCO_3$, mg/L	Total Hardness $CaCO_3$, mg/L	Calcium as Ca, mg/L	Magnesium as Mg, mg/L	Chloride, mg/L	Sulphate, mg/L	Nitrate, mg/L	NH_4-N, mg/L
2. District : BALASORE (3 stations)																
10. Naigopalpur	April	6.7	317	<1.0	7.1	4.6	NA	NA	72	56	14.4	4.9	48.0	33.43	1.61	<0.4
	Oct	7.3	157	<1.0	7.5	7.7	NA	NA	96	80	24.49	4.86	8.0	13.55	1.36	<0.4
11. Kuanrpur	April	7.8	329	<1.0	7.1	2.3	NA	NA	92	112	25.6	11.7	38.0	30.57	2.59	<0.4
	Oct	7.4	444	1.4	7.5	1.3	NA	NA	100	96	26.12	7.78	90.0	15.48	2.13	<0.4
12. Chakulia	April	7.3	286	<1.0	7.1	2.4	NA	NA	88	80	19.2	7.8	36.0	21.14	1.54	<0.4
	Oct	7.2	287	<1.0	7.5	2.5	NA	NA	96	92	24.49	7.78	50.0	5.05	3.10	<0.4
3. District : BHADRAK (2 Stations)																
13. District Head Quarter Hospital Premises, Bhadrak	April	7.2	305	<1.0	7.1	3.1	NA	NA	124	112	35.3	5.8	18.0	25.71	1.55	<0.4
	Oct	6.9	361	1.2	7.5	2.8	NA	NA	44	64	21.22	2.92	90.0	15.91	1.53	<0.4
14. Salandi Hospital Premises, Bhadrak	April	7.4	377	<1.0	7.1	2.7	NA	NA	208	172	40.1	17.5	18.0	5.86	6.52	<0.4
	Oct	7.3	156	<1.0	7.5	4.7	NA	NA	64	64	17.96	4.86	12.0	12.04	1.42	<0.4
4. District : BARGARH (2 stations)																
15. Near Bargarh Govt. Hospital, Bargarh	May	7.1	1238	<1.0	7.8	1.2	NA	NA	276	420	112.20	34.03	159.9	142.15	34.51	<0.4
	Nov	7.4	553	<1.0	7.3	1.6	NA	NA	160	188	48.98	16.54	109.9	5.70	9.85	<0.4
16. Near Ganapati Hotel, Bargarh	May	6.6	791	<1.0	7.8	15	NA	NA	204	280	73.73	23.33	70.0	96.57	37.58	<0.4
	Nov	7.1	1095	<1.0	7.3	1.2	NA	NA	200	320	81.63	29.18	289.9	6.13	6.26	<0.4
5. District : BALANGIR (2 stations)																
17. Balangir Medical College, Balangir	May	7.1	1105	<1.0	7.8	5.6	NA	NA	224	308	97.77	15.56	169.9	132.86	25.09	<0.4
	Nov	7.4	1059	<1.0	7.3	1.0	NA	NA	240	244	78.37	12.65	229.9	8.28	5.90	<0.4
18. Sudapada Post Office, Balangir	May	6.9	1533	<1.0	7.8	4.8	NA	NA	260	600	128.22	68.05	319.8	127.86	26.25	<0.4
	Nov	7.5	1226	<1.0	7.3	1.3	NA	NA	160	400	97.96	38.91	380.0	9.89	19.83	<0.4

Monitoring Station	Month of Monitoring	pH	Cond., µS/cm	BOD, mg/L	COD, mg/L	Turbidity, NTU	TDS, mg/L	TFS, mg/L	Total Alkalinity, as $CaCO_3$, mg/L	Total Hardness $CaCO_3$, mg/L	Calcium as Ca, mg/L	Magnesium as Mg, mg/L	Chloride, mg/L	Sulphate, mg/L	Nitrate, mg/L	NH_4-N, mg/L
6. District : BOUDH (2 stations)																
19. Near Town Girls Primary School, Boudh	May	7.2	891	<1.0	12.0	2.6	NA	NA	272	208	68.92	8.75	70.0	80.00	3.25	<0.4
	Nov	8.2	816	<1.0	7.3	13.0	NA	NA	132	124	40.82	5.84	189.9	6.13	3.81	<0.4
20. Butupali Chowk, Boudh	May	7.1	692	<1.0	7.8	1.2	NA	NA	220	300	100.98	11.67	70.0	62.00	29.43	0.56
	Nov	7.7	580	<1.0	7.3	36.0	NA	NA	244	224	68.57	13.62	60.0	9.14	21.39	<0.4
7. District : CUTTACK (5 stations)																
21. Jagatpur	Apr	6.8	515	<1.0	7.3	8.9	NA	NA	112	168	41.7	15.6	70.0	89.72	19.48	<0.4
	Oct	6.8	431	1.1	7.8	9.2	NA	NA	124	136	40.82	8.75	56.0	40.53	12.07	<0.4
22. Mangalabag	Apr	7.1	219	<1.0	7.3	8.4	NA	NA	92	88	20.8	8.7	12.0	18.14	7.24	1.12
	Oct	7.1	283	1.1	7.8	17	NA	NA	140	120	40.82	4.86	14.0	5.91	1.75	<0.4
23. Madhupatna-Kalyan Nagar Area	Apr	6.6	372	<1.0	7.3	8.7	NA	NA	120	112	35.3	5.8	38.0	26.57	3.03	<0.4
	Oct	6.7	318	1.2	16.0	9.8	NA	NA	112	116	32.65	8.75	48.0	11.18	4.56	<0.4
24. Badambadi Area	April	7.1	345	<1.0	7.3	4.3	NA	NA	128	148	44.9	8.7	44.0	10.57	10.48	<0.4
	Oct	6.7	290	< 1.0	7.8	25	NA	NA	120	100	24.49	9.73	30.0	8.49	7.53	<0.4
25. Bidanasi-Tulsipur Area	April	6.9	168	<1.0	7.3	5.2	NA	NA	68	60	16.0	4.9	8.0	17.00	2.62	<0.4
	Oct	6.9	158	< 1.0	7.8	3	NA	NA	68	68	24.49	1.95	12.0	9.57	1.43	<0.4
8. District : DHENKANAL (2 Stations)																
26. Dhenkanal Daily Market	April	6.5	339	1.1	7.5	8.7	NA	NA	160	164	43.3	13.6	18.0	44.00	1.74	<0.4
	Oct	7.1	184	1.2	7.6	7.4	NA	NA	80	72	22.86	3.89	12.0	8.39	5.25	<0.4
27. Gajaman UP School, Dhenkanal	April	6.2	144	1.1	7.5	54	NA	NA	12	48	14.4	2.9	32.0	27.86	0.70	<0.4
	Oct	7.2	68	<1.0	7.6	160	NA	NA	32	32	8.16	2.92	8.0	7.63	2.52	<0.4

STATUS REPORT OF THE STATE OF TRIPURA ON CONCENTRATION OF ARSENIC AND FLUORIDE IN GROUND WATER IN EACH DISTRICT

IN COMPLIANCE WITH THE DIRECTION OF HON'BLE NATIONAL GREEN TRIBUNAL IN ORDER DATED 20.12.2023 IN ORIGINAL APPLICATION NO.728/2023 IN THE MATTER OF NEWS ITEM APPEARING IN HINDUSTAN DATED 30.11.2023 TITLED "*ARSENIC FOUND IN GROUND WATER IN 25 STATES , FLOURIDE IN 27 STATES: GOVT*."

SUBMITTED BY:

सत्यमेव जयते

GOVERNMENT OF TRIPURA

Status report of the State of Tripura on concentration of Arsenic and Fluoride in ground water in each district in compliance with the direction of Hon'ble National Green Tribunal in Order dated 20.12.2023 in Original Application No.728/2023 in the matter of news item appearing in Hindustan dated 30.11.2023 titled "Arsenic found in ground water in 25 states , Fluoroide in 27 states: Govt."

Background:

Hon'ble National Green Tribunal, Principle Bench, New Delhi has passed some orders/directions dated 20/12/2023 in O.A No.728 of 2023 in the matter in the matter of news item appearing in Hindustan dated 30.11.2023 titled "Arsenic found in ground water in 25 states , Fluoride in 27 states: Govt."

In this order, the Hon'ble National Green Tribunal, PB, New Delhi had observed that ground water of 230 different districts of the 25 States/UTs of India is having Arsenic > 0.01 mg/L. Moreover, 469 districts of 27 States/UTs across the country in having Fluoride > 1.5 mg/L.

Accordingly, the Hon'ble Tribunal has directed that,

> *"7. The issue raised in the present matter with regard to presence of arsenic and fluoride in ground water in such large number of States and Districts is very serious and requires urgent preventive and protective steps by all concerned authorities.*
>
> *8. Let Notices be issued to all the above respondents. Response may be filed by above respondents within one month after receipt of notice, by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF. "*

Status Report of the Tripura is as follows:

Arsenic is a naturally occurring trace clement found in rocks, soils and the water in contact with them. Arsenic has been recognized as a toxic element and is considered a human health hazard. The maximum permissible limit of Arsenic .for drinking purpose is 0.01 mg/L (or 10 ppb) as per BIS (Bureau of Indian Standards) Drinking Water Standards (IS 10500:2012). The BIS permissible limit of Arsenic was revised from 0.05 mg/L (50 ppb) to 0.01 mg/I. (10 ppb) in the year 2015.

Fluorine is the most electronegative and reactive of all elements that occur naturally within many types of rock. It exists in the form of fluorides in a number of minerals of which fluorspar, cryolite, fluorite and fluor apatite are the most common. The fluoride found in groundwater is naturally occurring from the breakdown of rocks and soils or weathering and deposition of atmospheric particles. Most of the fluorides are sparingly soluble and arc present in ground water in small amounts.

BIS has recommended an upper desirable limit of 1.0 mg/I, of r as desirable concentration of fluoride in drinking water, which can be extended to 1.5 mg/I, of F in case no alternative source of water is available. Water with concentration of fluoride more than 1.5 mg/L, are not suitable for drinking purposes.

The State Government has taken these matters very seriously. The Public Works Department (Drinking Water and Sanitation), Government of Tripura is regularly testing the samples collected from all the Districts of the State prior to supply for drinking purpose through their NABL Accredited Laboratories. Abstract of water quality of ground water incorporating the concentration of Arsenic and Fluoride for last five years (2019 to 2023) is enclosed herewith and marked as **Annexure-A.** From this report, it is observed that the concentration of Arsenic and Fluoride in 915 samples tested in last five years are below detectable limit.

Annexure-A

Har Ghar Jal
Jal Jeevan Mission

GOVERNMENT OF TRIPURA
OFFICE OF THE DIRECTOR, WSSO,
PWD (DRINKING WATER AND SANITATION)
AGARTALA, TRIPURA

No. F. 6(10) /DIR/WSSO/ 305 – 07 Dated, Agartala the 8th February, 2024.

To,
Member Secretary
Tripura State Pollution Control Board
Dept. of Science, Technology & Environment

Subject- Compliance of Order dated 20.12.2023 passed by the Hon'ble National green Tribunal, Principal Bench, new Delhi in OA No. 728 of 2023-reg.

Your Ref. No. F. 18(28)/TSPCB/NGT/728/857-61 dated 05/02/2024

Sir,

With reference to the subject cited above, please find the attached Abstract of Water Quality of Ground Water incorporating the concentration of Arsenic and Fluoride from last five years (i.e. 2019 to 2023). The department has tested Samples collected from Deep Tube Wells time to time and found that the amount of Fluoride and Arsenic content was below detection limit.

TRIPURA STATE POLLUTION CONTROL BOARD
RECEIVED
Date 08/02/24
No. 389
AGARTALA

Yours faithfully,

(Er. R. Majumder)
Director, WSSO
PWD(DWS), Tripura.

Copy to,

1. The Secretary, PWD(DWS), Government of Tripura
2. The Chief Engineer, PWD(DWS), Government of Tripura.

Abstract of Water Quality of Ground Water incorporating the concentration of Arsenic and Fluoride from last five years (i.e. 2019 to 2023)									
Sl. No.	Name of District	No. Of Sample Tested						Fluoride Content (in mg/L)	Arsenic Content (in mg/L)
		2019	2020	2021	2022	2023	Total		
1	North Tripura	10	16	7	5	8	**46**	BDL - Below Detection Level for Fluoride - <0.2 mg/l	BDL - Below Detection Level for Arsenic - <0.009 mg/l
2	Unakoti	2	6	3	7	6	**24**	BDL - Below Detection Level for Fluoride - <0.2 mg/l	BDL - Below Detection Level for Arsenic - <0.009 mg/l
3	Dhalai	3	2	7	3	6	**21**	BDL - Below Detection Level for Fluoride - <0.2 mg/l	BDL - Below Detection Level for Arsenic - <0.009 mg/l
4	Khowai	5	6	9	11	8	**39**	BDL - Below Detection Level for Fluoride - <0.2 mg/l	BDL - Below Detection Level for Arsenic - <0.009 mg/l
5	West Tripura	58	65	44	49	41	**257**	BDL - Below Detection Level for Fluoride - <0.2 mg/l	BDL - Below Detection Level for Arsenic - <0.009 mg/l
6	Sepahijala	79	88	81	94	101	**443**	BDL - Below Detection Level for Fluoride - <0.2 mg/l	BDL - Below Detection Level for Arsenic - <0.009 mg/l
7	Gomati	8	6	11	9	4	**38**	BDL - Below Detection Level for Fluoride - <0.2 mg/l	BDL - Below Detection Level for Arsenic - <0.009 mg/l
8	South Tripura	13	7	10	9	8	**47**	BDL - Below Detection Level for Fluoride - <0.2 mg/l	BDL - Below Detection Level for Arsenic - <0.009 mg/l

8.2.2024