केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE GOVT. OF INDIA

Speed Post / E-mail

F. No. PJ-14099/36/2021-WQM-II-HO-CPCB-HO (Magh Mela-2022) **Dated:** 22.02.2022

To,

1. **Managing Director,**
   Uttar Pradesh Jal Nigam (Urban),
   6, Rana Pratap Marg,
   Lucknow – 226001, Uttar Pradesh

2. **Managing Director,**
   Uttar Pradesh Jal Nigam (Rural),
   6, Rana Pratap Marg,
   Lucknow – 226001, Uttar Pradesh

DIRECTION UNDER SECTION 5 OF THE ENVIRONMENT (PROTECTION) ACT, 1986 REGARDING YELLOW COLOR IN RIVER GANGA

WHEREAS, the Ministry of Environment & Forests, Govt. of India, vide notification S.O.157 (E) of 27.02.1996 has delegated powers vested under Section 5 of the Environment (Protection) Act, 1986 (29 of 1986) to the Chairman, Central Pollution Control Board (CPCB), to issue direction to any industry, Municipal Corporation, Municipal Council, Cantonment Board or to any local or other Authority for the violation of emission and effluent standards notified under the Environment (Protection) Rules, 1986; and

WHEREAS, the Central Government has notified the standards for discharge of environmental pollutants from various categories of industries, Common Effluent Treatment Plants (CETPs) and Sewage Treatment Plants (STPs) under the Environment (Protection) Act,1986 and the rules framed there under; and

WHEREAS, amongst others, under Section 17 of the Water (Prevention and Control of Pollution) Act, 1974, one of the functions of the State Pollution Control Boards (SPCBs)/Pollution Control Committees, constituted under the Water (Prevention and Control of Pollution) Act, 1974, is to plan a comprehensive programme for the prevention, control and abatement of pollution of stream and wells in the State/UT and to secure the execution thereof; and

WHEREAS, CPCB in consultation with state agencies namely Uttar Pradesh Pollution Control Board (UPPCB) and State Mission for Clean Ganga (SMCG) has inventoried 153 drains discharging into river Ganga in Kanpur to Varanasi stretch (Annexure-I). Out of 153 drains discharging into river Ganga in Kanpur-Varanasi stretch, 100 drains are untapped; and

WHEREAS, CPCB has inventoried 16 tributaries/rivulets discharging into river Ganga in upstream Kanpur to Varanasi stretch (Annexure-I); and

'परिवेश भवन' पूर्वी अर्जुन नगर, दिल्ली–110032
Parivesh Bhawan, East Arjun Nagar, Delhi-110032
दूरभाष/Tel : 43102030, 22305792, वेबसाईट/Website : www.cpcb.nic.in

WHEREAS, Central Pollution Control Board (CPCB) along with UPPCB carry out weekly monitoring of rivers at nine locations (Ganga-08 and Pandu-01) and 25 drains (Kanpur-23 and Unnao-02) in Kanpur-Fatehpur stretch from Oct 05, 2021. During weekly monitoring carried out on Jan 04th, 2022 and Jan 11th, 2022 (analysis data enclosed as Annexure-II) following observations were made:

1. Out of 25 drains monitored, 19 drains have gradient towards river Ganga (17 in Kanpur and 02 in Unnao) and 06 drains have gradient towards river Pandu (06 in Kanpur).
2. In Kanpur, 17 drains discharging wastewater into river Ganga out of which 13 drains were tapped and 04 were untapped. Out of 13 tapped drains, 08 drains were found dry and overflow was observed in 04 tapped drains namely Air Force drain, Dabka drain, Budhiya Ghat drain and Permiya drain. Wastewater discharged from Kanpur into river Ganga through drains was 47.1 MLD on Jan 04th, 2022 & 115.7 MLD on Jan 11th, 2022.
3. High levels of BOD, COD, Total Chromium and Color were observed in effluent in Sheetla Bazar drain (BOD-626 mg/l, COD-1394 mg/l, Colour-150 Hazen and Total Cr-13.93 mg/l), Budhiya Ghat drain (BOD-497 mg/l, COD-866 mg/l, Colour-300 Hazen, Total Cr-4.1 mg/l) and Rooma drain (BOD-562 mg/l, COD-2144 mg/l and Total Cr-3.42 mg/l) which indicate discharge of untreated wastewater from tannery and textile units located in Jajmau and Rooma industrial clusters of Kanpur.
4. Out of 06 drains having gradient towards river Pandu, 03 drains were tapped. Out of three tapped drains, overflow was observed in 02 drains namely Halwakhanda and COD. Wastewater discharged from Kanpur into river Pandu through drains was 143.2 MLD on Jan 04th, 2022 & 245.1 MLD on Jan 11th, 2022. In drains discharging effluent into river Pandu, BOD varied as 31.5-267 mg/l, COD as 71.5-412 mg/l, Color as 30-125 Hazen and Total Chromium as < 0.2 – 0.3 mg/l.
5. Discharge from tapped drains indicates that sewage pumping stations are not operating properly and also wastewater is discharged in these drains from some other sources including illegal industrial units which is beyond the capacity of pumping stations.
6. Water quality of river Ganga and Pandu was observed as under:
    a. Water quality of river Ganga was meeting the primary water quality criteria for bathing w.r.t. Dissolved Oxygen at all eight monitoring locations in the stretch from Bithoor to Fatehpur. However, in terms of pH, BOD & Faecal Coliform, the water quality of River Ganga was not meeting bathing water quality criteria at all monitoring locations.
    b. During river monitoring carried out on 04.01.2022, high BOD-31.5 mg/l and Color-30 Hazen were observed in river Ganga at Shuklaganj, downstream of Kanpur.

c. In river Ganga at Dhondiya Khera before confluence of river Pandu, pH ranged as 8.6-8.79, DO as 9-9.8 mg/l, BOD as 4.0-7.7 mg/l and Colour as 10-20 Hazen.
d. In river Ganga at Lahangi Village after confluence with river Pandu, pH ranged as 8.48-8.71, DO as 8.8-10.5 mg/l, BOD as 3.48-8.24 mg/l and Colour as 15-20 Hazen.
e. In river Pandu at Buxar Bridge before confluence to river Ganga, pH ranged as 7.81-8.06, DO as 4-4.4 mg/l, BOD as 4.9-8.4 mg/l and Colour as 20 Hazen.

AND WHEREAS, Magh Mela, an important yearly ritual held on the bank of river Ganga at Prayagraj which involves the holy dips (bathings) in to river Ganga which is held from Jan 14, 2022 and will continue till Mar 01, 2022; and

WHEREAS, appearance of slightly yellowish colored water in River Ganga at Nagwa Ghat, Varanasi in Uttar Pradesh was reported in various local newspapers on Feb 12th & 13th 2022; and

WHEREAS, Uttar Pradesh Pollution Control Board (UPPCB) carried out water quality monitoring of river Ganga in the stretch of Mirzapur to Varanasi on Feb 12th & 13th, 2022 and following observations were made:

a. In the stretch of river Ganga from Vindhyachal to Chhota Mirzapur in Mirzapur (Uttar Pradesh), DO in river Ganga ranged as 12.9-13.7 mg/l, pH as 8.77-8.92 and Colour as 15 Hazen.
b. In the stretch of river Ganga from Assi Ghat to Raj Ghat in Varanasi (Uttar Pradesh), DO in river Ganga ranged as 11.6-13.7 mg/l, pH as 8.55-8.92 and Colour as 15 Hazen.
c. All 07 STPs in Varanasi were found operational.
d. Drains (cis and trans) discharging into river Ganga were physically verified and out of cis-drains, Nagwa drain, Nakkha drain and Raj Ghat outfall were found partially tapped and other 19 drains were found completely tapped. Five trans-drains meeting river Ganga from Ramnagar were found completely tapped.
e. No smell was observed in river Ganga and higher colour was observed in river water in comparison to earlier days, which prevailed from U/s Mirzapur (Vindhyachal).

AND WHEREAS, field survey and water quality monitoring was also carried out by teams of CPCB authorized technical institutes, namely Motilal Nehru National Institute of Technology (MNNIT), Allahabad and Harcourt Butler Technical University (HBTU), Kanpur from Kanpur till Prayagraj and following observations were made:

River Ganga

a. Yellowish color was observed at Rosoolabad Ghat in Prayagraj and its upstream for about 40-50 km till Dalmau Ghat in Raebareli.
b. Water quality in terms of color improved/ was observed normal in upstream stretches from Dalmau Ghat in Raebareli.
c. Colour and DO at Rasoolabad Ghat, Prayagraj were found as 30 Hazen and 8.77 mg/l, respectively.
d. Colour and DO at Sandeepan Ghat, Kaushambi were found as 25 Hazen and 7.73 mg/l, respectively.
e. Colour and DO at Kada Dham Ghat, Kaushambi were found as 40 Hazen and 8.3 mg/l, respectively.
f. Colour and DO at Dalmau Ghat, Raebareli were found as 20 Hazen and 8.2 mg/l, respectively.
g. On Feb 14, 2022, the colour of samples collected from river confluence, upstream of river Pandu and Nawabganj (upstream Prayagraj) was found light yellowish and hazy in appearance.

River Pandu

a. At the entry of the Kanpur city, the colour of river Pandu was observed sandy with slow and low flow.
b. At Delhi Harwrah railway bridge, considerable flow and very light brown colour was observed in river Pandu with a smell of sewerage.
c. After confluence of COD Nala, black colour and highly foul smell was observed in river Pandu and overall flow appeared higher than the upstream point.

AND WHEREAS, CPCB carried out water quality monitoring of river Ganga in the stretch of Kanpur-Varanasi on Feb 13th & 14th, 2022 and following observations were made:

a. In river Ganga before confluence of river Pandu at Dhondiya Khera, Fatehpur, pH was 8.72, Temperature-17^0 C, DO-8.9 mg/l and Colour-10 Hazen.
b. In river Ganga after confluence with river Pandu at Lahangi Village, Fatehpur pH was 8.5, Temperature-17^0 C, DO-7.9 mg/l and Colour-15 Hazen.
c. Yellowish colour in river Ganga was observed at Kuresar Ghat, Prayagraj; Chunar downstream, Mirzapur; Ramnagar upstream Varanasi; Dashawamedh Ghat and Malviya Bridge, Varanasi and at these locations DO ranged 8.5-10.2 mg/l and pH ranged 7.5-8.82.

AND WHEREAS, such an incidence of color river water was also reported in the month of May'2021 and beginning of June'2021 in River Ganga in the stretch of Prayagraj to Varanasi-Ghazipur in Uttar Pradesh, which was gradually washed-out; and

WHEREAS, one of the probable causes of the appearance of colour river water (yellow/green), with high DO level could be due to episodic event of phytoplanktonic algal bloom belonging to family Chlorophyceae /xanthophyceae or diatoms. Algal blooms are generally caused by nutrient enrichment (particularly of phosphorus and nitrogen) that may happen when drains/lower order tributaries discharge their contents as well as when untreated or partially treated wastewaters from septic systems and sewage treatment plants find its way into the river system, thereby, adding the organic pollution load. This may result in eutrophication leading to excessive growth of phytoplankton that have high density of pigmented cells, thereby, imparting colors such as green, bright-green, yellowish-green. The organic matter becomes food for phytoplankton that decompose it using up the dissolved oxygen in the water. Algal blooms may generate foul tastes and odors in source and drinking waters and make bathing areas unappealing; and

It is evident that discharge of untreated sewage and wastewater from drains and tributaries/rivulets has potential to cause incident of colour in river water, which may be due to algal blooms.

NOW, THEREFORE, in view of above referred observation & resolution and in exercise of the power conferred under section 5 of the Environment (Protection) Act, 1986, you are here by directed to take appropriate measures for compliance of following measures in a time bound manner with immediate effect:

1. Uttar Pradesh Jal Nigam shall update inventory of tributaries/rivulets and drains discharging into river Ganga in Kanpur-Varanasi stretch and also carry out the mapping of the origin, confluence, catchment area, flow and water quality of these tributaries/rivulets and drains.
2. Uttar Pradesh Jal Nigam shall identify the potential polluting sources (such as villages, towns and industries) contributing to drains discharging into river Ganga in Kanpur-Varanasi stretch.
3. Uttar Pradesh Jal Nigam shall also prepare an action plan for management of wastewater discharged from drains/rivulets to control & abate pollution load discharged by drains/rivulets into river Ganga. The Action plan may not only include interception and diversion for treatment of sewage through sewage treatment plants but should also include a short term solution viz. low-cost, de-centralized wastewater treatment systems such as oxidation ponds, constructed wetlands or combination of both to be developed for in-situ treatment of drains/lower-order tributaries. Biodiversity parks could also be constructed in the floodplains as an intervention measure which may be commissioned in a duration of 06-12 months. The action plan of Varuna and Assi rivers approved by Hon'ble NGT in matter of Mr. Saurabh Tiwari Vs. Union of India & Ors. in O. A. No. 128/2021 may also be referred. The action plan shall be submitted to CPCB within 30 days.

4. Uttar Pradesh Jal Nigam shall ensure proper functioning of sewage pumping stations so that no wastewater is discharged through tapped drains.
5. Uttar Pradesh Jal Nigam along with concerned state agencies and district administration shall constitute a team and identify industrial units disposing coloured and untreated/ partially treated effluent into river Ganga through adjoining drains/rivulets/tributaries which affect the water quality of river Ganga in Kanpur-Varanasi stretch.

Uttar Pradesh Jal Nigam shall acknowledge the receipt of direction and submit reply to this office within 15 days from the date of this notice failing which suitable action as deemed fit under provision of the Environment (Protection) Act, 1986 shall be taken without any further notice.

22/2/22

(TANMAY KUMAR)
CHAIRMAN

Copy to:

1. **Director General,**
National Mission for Clean Ganga (MoWR, RD & GR),
1st Floor, Major Dhyan Chand National Stadium,
India Gate, New Delhi - 110002
: For kind information, please.

2. **Joint Secretary (CP Division),**
Ministry of Environment Forests & Climate Change,
Indira Paryavaran Bhawan, Jor Bagh Road,
New Delhi - 110003
: For kind information, please.

3. **Member Secretary,**
Uttar Pradesh Pollution Control Board,
Building No. TC-12V, Vibhuti Khand,
Gomti Nagar, Lucknow - 226 010
: For kind information and necessary action, please.

4. **Regional Director (North),**
Central Pollution Control Board
PICUP Bhawan, Ground Floor, Vibhuti Khand,
Gomti Nagar, Lucknow – 226010
: For kind information, please.

5. **In-charge, IT Division, CPCB**
: For uploading on CPCB website, please.

(PRASHANT GARGAVA)
MEMBER SECRETARY

dhingra

Annexure-I: List of drains and tributaries discharging into river Ganga in Kanpur to Varanasi stretch

S. No	District	Drain discharging directly into river Ganga in Kanpur-Varanasi stretch	Status
1	Kanpur	Permiya Nala	Untapped
2	Kanpur	Ranighat drain	Untapped
3	Kanpur	Sisamau Nala	Tapped
4	Kanpur	TEFCO Nala	Tapped
5	Kanpur	Parmath drain	Tapped
6	Kanpur	Muir drain	Untapped
7	Kanpur	Police Line drain	Tapped
8	Kanpur	Jail drain	Tapped
9	Kanpur	Golaghat Nala	Untapped
10	Kanpur	Bhagwatdas Nala/Guptarghat Nala	Untapped
11	Kanpur	Satti Chaura	Untapped
12	Kanpur	Dabka Nalla-1	Tapped
13	Kanpur	Dabka Nalla-2	Tapped
14	Kanpur	Dabka Nalla-3	Tapped
15	Kanpur	Shetla Bazar	Untapped
16	Kanpur	Budhiyaghat Drain	Tapped
17	Kanpur	Wazidpur Nalla	Tapped
18	Kanpur	Airforce Nala	Untapped
19	Kanpur	Rooma drain	Untapped
20	Unnao	City Jail/Dakary Drain	Untapped
21	Unnao	Loni Drain	Untapped
22	Raebareli	Ahiyari/ NTPC drain	Untapped
23	Dalmau/Raebareli	Padva Nala/(Muraibagh) Shankar Nagar	Untapped
24	Dalmau/Raebareli	Bada Math - Chhota Math ke bich ka Nala/(Sherandajpur)	Untapped (dry)
25	Dalmau/Raebareli	Busda Ghat ka Nala/(Sherandajpur)	Untapped (dry)
26	Dalmau/Raebareli	Shukla Ghat ka Nala/(Sherandajpur)	Untapped (dry)
27	Dalmau/Raebareli	Pathvari Ghat ka Nala/(Tikaitganj)	Untapped
28	Dalmau/Raebareli	Soarakh Ghat Muroop Nala/(Tikaitganj)	Untapped
29	Dalmau/Raebareli	Muskatpal Nala	Untapped
30	Dalmau/Raebareli	Shivala Ghat Nala	Tapped
31	Dalmau/Raebareli	Raja Tiloi Ghat Nala/Mo. sherndajpur(Deen shah Gaora Ghat)	Untapped (dry)
32	Kunda/ Pratapgarh	Ganda Nala Raiyapur	Ganga/Canal
33	Kunda/ Pratapgarh	Taar Nala Babaganj	Untapped
34	Kunda/ Pratapgarh	Ganda Nala Baraipur	Ganga/Canal
35	Prayagraj	Rasulabad Drain-1	Untapped
36	Prayagraj	Rasulabad Drain-2	Tapped
37	Prayagraj	Rasulabad Drain-3	Tapped
38	Prayagraj	Rasulabad Drain-4	Untapped

39	Prayagraj	Sadananda Ashram Drain	Untapped
40	Prayagraj	Nehru Drain	Untapped
41	Prayagraj	Kodar Drain	Untapped
42	Prayagraj	Pongaghat Drain	Tapped
43	Prayagraj	Solari Drain	Untapped
44	Prayagraj	Mavaiya Drain	Untapped
45	Prayagraj	Chuhara Mandir Drain-1	Tapped
46	Prayagraj	Chuhara Mandir Drain-2	Untapped
47	Prayagraj	Mehndauri Drain	Untapped
48	Prayagraj	Jhusi Drain--	Untapped
49	Prayagraj	Chhatnag Drain -	Untapped
50	Prayagraj	Mannaiya/Muglaha Drain	Untapped
51	Prayagraj	Morigate Nala	Tapped
52	Prayagraj	Drains Of Daraganj Area	Tapped
53	Prayagraj	Jondhwal drain / chuhara mandir -1	Tapped
54	Prayagraj	Shankarghat Colony Drain (Near Phaphamau Bridge)	Untapped
55	Prayagraj	Unchwagarhi Drain No. 1	Untapped
56	Prayagraj	Beligaon Drain	Untapped
57	Prayagraj	Mumfordganj Drain	Tapped
58	Prayagraj	Shivkuti Drain No. 1	Untapped
59	Prayagraj	Shivkuti Drain No. 3	Untapped
60	Prayagraj	Shivkuti Drain No. 4	Untapped
61	Prayagraj	Shivkuti Drain No. 5	Untapped
62	Prayagraj	Chilla Drain	Untapped (dry)
63	Prayagraj	Allenganj Nala / Buxi Bund Nala	Tapped
64	Prayagraj	Nehru Park Nala	Untapped
65	Prayagraj	Rasulabad Puccaghat Drain	Tapped
66	Prayagraj	A.D.A. Colony Nala / Jwaladevi	Untapped
67	Prayagraj	Jondhwal Ghat Drain/Chhuhara Mandir	Untapped
68	Prayagraj	Rajapur Nala	Untapped
69	Prayagraj	Tv Tower Nala	Untapped
70	Prayagraj	Sadar Bazar Nala	Untapped
71	Prayagraj	Muirabad (Ganesh Nagar) Nala	Untapped
72	Prayagraj	Nayapurwa Drain	Untapped
73	Prayagraj	Co-Operative Nala	STP outlet
74	Prayagraj	Basna Nala and Shantipuram Nala	Untapped
75	Prayagraj	Indira Awas Nala / Jai Gurudev Ashram Nala	Untapped
76	Prayagraj	8 small drains at different locations in Jhushi area	Untapped
77	Prayagraj	Lotey Haren Nala /Chhatnag	Untapped
78	Prayagraj	Shastri Bridge Nala (03 small drains), Jhushi	Untapped
79	Manikpur	Pakka Nala	Untapped
80	Manikpur	Raja Hela Nala	Untapped
81	Manikpur	Prathmik Vidyalaya	Untapped (dry)
82	Manikpur	Mallahan Tola	Untapped

83	Manikpur	Post office Nala	Untapped (dry)
84	Mirzapur	Badali	Tapped
85	Chunar	Tekaur Basti South	Untapped
86	Chunar/ Mirzapur	Bharatpur Trimohani	Untapped
87	Mirzapur/Chunar	Patengra Drain	Untapped
88	Mirzapur/Chunar	Malhaiya Drain	Untapped
89	Mirzapur/Chunar	Parashuram ghat	Untapped
90	Mirzapur/Chunar	Gangeshwar Nishad Park	Untapped
91	Mirzapur/Chunar	Post Office South Drain	Untapped (dry)
92	Mirzapur/Chunar	Post Office North Drain	Untapped (dry)
93	Mirzapur/Chunar	Santoshi Mata Mandir	Untapped (dry)
94	Mirzapur/Chunar	Chunar Tekur North Drain	Untapped
95	Mirzapur/Chunar	Bhiaramganj West Drain	Untapped
96	Mirzapur/Chunar	Bhiaramganj East Drain	Untapped (dry)
97	Mirzapur/Chunar	Dargah Sharif Drain	Untapped
98	Mirzapur/Chunar	Tammalganj Drain	Untapped (dry)
99	Mirzapur/Chunar	Gundara Drain	Tapped
100	Mirzapur/Chunar	Balughat Pakka Drain	Tapped
101	Mirzapur/Chunar	Balughat Kaccha Drain	Untapped
102	Mirzapur/Chunar	Deewanghat Old Drain	Tapped
103	Mirzapur/Chunar	Baswariya Drain	Untapped
104	Mirzapur/Chunar	Narghat Drain	Tapped
105	Mirzapur/Chunar	Koniyaghat Drain	Tapped
106	Mirzapur/Chunar	Sundarghat Drain	Tapped
107	Mirzapur/Chunar	Oliyar Drain	Tapped
108	Mirzapur/Chunar	Kachahari Drain	Tapped
109	Mirzapur/Chunar	Morchaghar Draidewann	Untapped
110	Mirzapur/Chunar	Irrigation Colony Drain	Untapped
111	Mirzapur/Chunar	Barahimiliya Drain	Untapped
112	Mirzapur/Chunar	Public Club Drain	Untapped
113	Mirzapur/Chunar	Lift Canal Drain	Ganga/Canal
114	Mirzapur/Chunar	Hanuman Ghat Drain	Untapped
115	Mirzapur/Chunar	Balaji Temple Drain	Untapped
116	Mirzapur/Chunar	Bisunderpur Drain	Untapped
117	Mirzapur/Chunar	Kanshiram Awas Drain	Untapped
118	Mirzapur/Chunar	Chaura Mata Drain	Untapped (dry)
119	Mirzapur/Chunar	Balughat Drain, Chunar	Untapped
120	Mirzapur/Chunar	Belbeer Ghat Drain	Untapped
121	Mirzapur	Ghore Saheed Drain	Untapped
122	Mirzapur	Khandwa Drain	Untapped
123	Mirzapur	Chorwa Drain	Untapped
124	Chunar/Mirzapur	Chunar Tikaur Drain	Untapped

125	Varanasi	Nagwa/ Asi Drain	Untapped
126	Varanasi	Ramnagar Drain	Untapped
127	Varanasi	Varuna Drain	Untapped
128	Varanasi	Shivala Drain	Tapped
129	Varanasi	Khirkiya/ Rajghat Nala	Untapped
130	Varanasi/Ramnagar	Lalita Ghat	Tapped
131	Varanasi/Ramnagar	Jalasen Ghat	Tapped
132	Varanasi/Ramnagar	Manikarnika Ghat	Tapped
133	Varanasi/Ramnagar	Sankatha Ghat	Tapped
134	Varanasi/Ramnagar	Mehta Ghat	Tapped
135	Varanasi/Ramnagar	Ram Ghat	Tapped
136	Varanasi/Ramnagar	Panchganga	Tapped
137	Varanasi/Ramnagar	Brahma Ghat	Tapped
138	Varanasi/Ramnagar	Lal Ghat	Tapped
139	Varanasi/Ramnagar	Trilochan Ghat	Tapped
140	Varanasi/Ramnagar	Bhaisasur Drain	Tapped
141	Varanasi/Ramnagar	Baluaghat	Tapped
142	Varanasi/Ramnagar	Shakti Ghat	Tapped
143	Varanasi/Ramnagar	Salotri Ghat	Tapped
144	Varanasi/Ramnagar	Hanuman Ghat	Tapped
145	Varanasi/Ramnagar	Samne Ghat Drain	Untapped
146	Varanasi/Ramnagar	Nakhi Drain	Untapped
147	Varanasi/Ramnagar	Harishchandra Ghat	Tapped
148	Varanasi/Ramnagar	Mansarovar Ghat	Tapped
149	Varanasi/Ramnagar	Pandey Ghat	Tapped
150	Varanasi/Ramnagar	Dr. Rajender Prasad Ghat	Tapped
151	Varanasi/Ramnagar	Meer Ghat	Tapped
152	Varanasi	Teliya Drain	Untapped
153	Ramnagar/Varanasi	Rambhag Ghat Drain	Tapped

Sl. No.	Location before confluence	Tributary/ Rivulet	District	Lat.	Long.
1.	River Isan at Bilhaur, Kanpur upstream	River Isaan	Kanpur (u/s of town)	26.831553	80.104306
2.	River Noon at d/s of Bithoor u/s of Kanpur	River Noon	Kanpur u/s of town)	26.584272	80.263724
3.	River pandu on Baksar - Muradipur road b/f c/f with Ganga	Pandu	Fatehpur	26.125874	80.646522
4.	Loni Drain confluence with Ganga	Loni River	Rai Bareily	26.074746	80.986377
5.	Rivulet/Drain at Unchahar on Lucknow-Prayagraj road	Rivulet/Nallah	Rai Bareily	25.904947	81.29445
6.	River Duar before confluence with river Ganga on Prayagraj by pass near Samaspur	Duar river	Pratapgarh/ Prayagraj	25.59984	81.56573
7.	Rivulet at Purey Nanku (Uldi) Prayagraj bye pass [Mubarakpur Puran Kachar	Rivulet near Pure Nanku-Mubarakpur	Prayagraj	25.570377	81.702699
8.	Rivulet/Nallah at Mubarakpur Puran kachar Prayagraj	Rivulet/Nallah Musrekpur	Prayagraj	25.524575	81.725652
9.	Rivulet/Nallah at Mendara on Pryagraj Byepass	Rivulet/Nallah Mendara	Prayagraj	25.576427	81.682378
10.	River Tons (Tamsa) before confluence with river Ganga	Tamsa River (Tons)	Prayagraj	25.269037	82.045599
11.	Karnavati River on Naini - Mirzapur road near Akorhi, Lalapur near Birohee Railway station, Vindhyachal	Karnavati river	Mirzapur	25.177152	82.45167
12.	Ojhla River bridge on Mirzapur-Vindhyachal Road	Ojhla River	Mirzapur	25.151917	82.528022
13.	Rivulet at Chauhan Patti d/s of Mirzapur	Rivulet	Mirzapur	25.170599	82.694098
14.	Chatar river on Mirzapur-Chunar road near Dewahi B/F C/F with River Ganga	Chatar River	Mirzapur	25.116028	82.738307
15.	Kalkaliya River (a/c of Jargo before confluence with river Ganga u/s of Varanasi	River Kalkaliya (a/c of Jargo river)	Mirzapur	25.192423	82.97279
16.	Rivulet/Nallah at Chunar-Ramnagar Road, Hakanipur Kalan	Rivulet	Chandauli/Mirzapur	25.217781	83.030733

Annexure-II Weekly River and Drain Monitoring Data of Kanpur-Unnao Region (04/01/2022 to 11/01/2022)

S. No.	Location	Sampling date	DO (mg/l)	Temp (°C)	pH	Colour (Hazen)	BOD (mg/l)	COD (mg/l)	TC (MPN/100 ml)	FC (MPN/100 ml)	Total Cr (mg/l)
1.	River Ganga, Bithoor, Kanpur	04.01.2022	10.8	16	8.75	15	3.96	17.9	4.5×10^3	2.0×10^3	< 0.05
		11.01.2022	8.5	17.6	8.59	15	2.72	9.45	3.3×10^5	1.7×10^5	< 0.05
2.	River Ganga, Barrage d/s, Kanpur	04.01.2022	10.5	16	8.8	20	4.74	21.7	3.3×10^4	4.5×10^3	< 0.05
		11.01.2022	8.1	17.5	8.52	15	3.08	8.45	1.3×10^5	3.4×10^4	< 0.05
3.	River Ganga, Shuklaganj u/s, Kanpur	04.01.2022	10.4	16	8.81	15	6.6	19.3	4.5×10^3	< 1.8	< 0.05
		11.01.2022	8.3	17.5	8.64	10	1.83	7.36	2.3×10^5	3.3×10^4	< 0.05
4.	River Ganga, Shuklaganj d/s, Kanpur	04.01.2022	10.1	16	7.84	30	31.5	61.4	1.4×10^5	1.7×10^4	< 0.05
		11.01.2022	8.2	17.7	8.66	15	4.28	16.8	2.4×10^6	1.3×10^6	< 0.05
5.	River Ganga, Janey Village, Kanpur	04.01.2022	9.1	16	8.88	20	7.91	27.4	6.8×10^4	2.0×10^4	< 0.05
		11.01.2022	8.1	17.5	8.54	15	3.84	17.3	2.2×10^5	1.7×10^5	< 0.05
6.	River Ganga, Rajapur Village, Kanpur	04.01.2022	9.5	16	8.77	25	8.45	30.1	2.0×10^4	7.8×10^3	< 0.05
		11.01.2022	8.6	17.6	8.53	15	4.7	14.2	2.1×10^4	1.7×10^4	< 0.05
7.	River Ganga b/c with River Pandu, Dhondhiya Khera	04.01.2022	9.8	18.5	8.79	20	7.72	31.6	4.5×10^3	2.0×10^3	< 0.05
		11.01.2022	9	17	8.6	10	4.02	14.6	7.8×10^3	4.5×10^3	< 0.05
8.	River Pandu, Bakshar Bridge	04.01.2022	4.02	18	7.81	20	8.36	24.1	3.3×10^4	1.1×10^4	< 0.05
		11.01.2022	4.4	18	8.06	20	4.92	16.4	2.2×10^4	1.7×10^4	< 0.05
9.	River Ganga a/c with River Pandu, Lahangi Village	04.01.2022	10.5	18.5	8.71	20	8.24	29	2.0×10^3	< 1.8	< 0.05
		11.01.2022	8.8	17	8.48	15	3.48	15.1	1.1×10^4	7.8×10^3	< 0.05

S. No.	Name of drain	Date of inspection	Tapping status	Flow (MLD)	BOD (mg/l)	COD (mg/l)	Colour (Hazen)	Total Cr. (mg/l)
KANPUR DRAINS HAVING GRADIENT TOWARDS GANGA								
Tapped Drains: No/Meagre Flow								
1.	Sisamau Drain, Kanpur	04.01.2022	Tapped	-				
		11.01.2022	Tapped	-				
2.	Parmath Drain, Kanpur	04.01.2022	Tapped	-				
		11.01.2022	Tapped	-				
3.	Police Line Drain, Kanpur	04.01.2022	Tapped	-				
		11.01.2022	Tapped	-				
4.	Jail Drain, Kanpur	04.01.2022	Tapped	-				
		11.01.2022	Tapped	-				
5.	Wazidpur Drain, Kanpur	04.01.2022	Tapped	-				
		11.01.2022	Tapped	-				
6.	Muir Mill Drain, Kanpur	04.01.2022	Tapped	-				
		11.01.2022	Tapped	-				
7.	Bhagwat Das Drain, Kanpur	04.01.2022	Tapped	-				
		11.01.2022	Tapped	-				
8.	TAFCO Drain, Kanpur	04.01.2022	Tapped	-				
		11.01.2022	Tapped	-				
9.	Sati Chaura Drain, Kanpur	04.01.2022	Meagre flow	Sample not collected				
		11.01.2022	Tapped	Temporarily diverted to Air Force drain as sewerage network work was under progress				
Tapped Drains: Overflow								
10.	Air force Drain, Kanpur	04.01.2022	Untapped	0.36 MLD	88.2	188	75	< 0.2
		11.01.2022	Untapped	0.46 MLD	115	228	70	< 0.2
11.	Dabka-1, 2 & 3, Kanpur	04.01.2022	Tapped	-				
		11.01.2022	Tapped	11.52 MLD	111	233	100	0.35
12.	Budhiyaghat Drain, Kanpur	04.01.2022	Untapped	1.19 MLD	497	866	300	4.1
		11.01.2022	Tapped	-				
13.	Permiya Drain, Kanpur	04.01.2022	Tapped	Flow could not be measured due to inaccessible site conditions	13.3	25.8	75	< 0.2
		11.01.2022	Tapped	27.5 MLD	21.8	57.1	25	< 0.2
Untapped Drains								
14.	Golaghat Drain, Kanpur	04.01.2022	Untapped	1.45 MLD	270	419	100	< 0.2
		11.01.2022	Untapped	1.81 MLD	223	380	60	< 0.2
15.	Sheetla Bazar Drain, Kanpur	04.01.2022	Untapped	5.68 MLD	626	1394	150	13.93
		11.01.2022	Tapped	-				
16.	Rooma Drain, Kanpur	04.01.2022	Untapped	38.4 MLD	562	2144	125	3.42
		11.01.2022	Untapped	74.4 MLD	55.5	138	75	0.57
17.	Ranighat Drain, Kanpur	04.01.2022	Tapped	Flow could not be measured as wastewater was discharged into R. Ganga through a pipe	197	318	75	< 0.2
		11.01.2022	Tapped		210	313	75	< 0.2
KANPUR DRAINS HAVING GRADIENT TOWARDS RIVER PANDU								
Tapped Drains: Overflow								

18.	Ganda Drain, Kanpur	04.01.2022	Tapped	64.32 MLD	72.8	131	50	< 0.2
		11.01.2022	Tapped	121.38 MLD	189	458	100	< 0.2
19.	Halwakhanda drain, Kanpur	04.01.2022	Tapped	26.56 MLD	126	239	100	< 0.2
		11.01.2022	Tapped	81.72 MLD	267	412	125	< 0.2
20.	COD Drain, Kanpur	04.01.2022	Tapped	-				
		11.01.2022	Tapped	-				
Untapped Drains								
21.	Ratanpur Drain, Kanpur	04.01.2022	Untapped	8.65 MLD	68.5	123	75	< 0.2
		11.01.2022	Untapped	16.47 MLD	65	118	50	< 0.2
22.	Panki Drain, Kanpur	04.01.2022	Untapped	31.66 MLD	93.7	190	100	< 0.2
		11.01.2022	Untapped	16.66 MLD	107	190	100	< 0.2
23.	ICI Drain, Kanpur	04.01.2022	Untapped	12 MLD	49.5	133	50	0.23
		11.01.2022	Untapped	8.89 MLD	59	144	30	0.3
UNNAO DRAINS HAVING GRADIENT TOWARDS RIVER GANGA (Untapped and Flow)								
24.	City Jail Drain, Unnao	04.01.2022	Untapped	20.73 MLD	90.3	284	125	1.03
		11.01.2022	Untapped	46.3 MLD	171	379	125	4.75
25.	Loni Drain, Unnao	04.01.2022	Untapped	279.93 MLD	5.44	16.7	25	< 0.2
		11.01.2022	Untapped	Flow could not be measured due to heavy and scattered flow	< 5.0	8.21	30	< 0.2