

**Minutes of the Meeting on “Ensure pollution free condition in river Ganga at Allahabad during Magh Mela” held on 05/01/2011 at CPCB**

Pursuance to the orders of Hon’ble High Court of Allahabad in reference to the PIL No.4003 of 2006 (regarding pollution problem in River Ganga) dated 21.12.2010, a Committee has been constituted by the Chairman, CPCB to monitor the quality of water of the tributaries which merge with river Ganga. The composition of the Committee is attached at **Annexure-I**,

The first meeting of the Committee was held on 5.1.2011 at CPCB, Delhi. The list of the participants is attached at **Annexure-II**. The note of discussion and agreed actions are given as below:

- Member Secretary, Central Pollution Control Board, Shri J.S. Kamyotra presided over the meeting. Member Secretary, CPCB welcomed all the participants and briefed about the issues relating to the pollution problem of river Ganga due to discharge of effluents through River Ramganga and Kali and its other tributaries. Member Secretary also reviewed the progress/actions taken by Uttarakhand and UP SPCBs in pursuance to the direction of the Hon’ble High Court, Allahabad vide PIL No.4003 of 2006 dated 21.12.2010.
- The Committee discussed the compliance status of industries discharging their effluent in the catchment area of the rivers Dhela, Bahela, Kosi and Ramganga. It was agreed that to maintain the water quality of River Ganga following action need to be taken:
  - A) Agro-based paper mills which have constructed storage lagoon/pond for storage of colored effluent shall not be allowed to discharge stored effluent. SPCB shall make assessment of the stored effluent in each industry. Further storage of effluent shall not be allowed.
  - B) All the Pulp & Paper Mills without adequate chemical recovery plant (CRP) for black liquor management shall be directed to stop chemical pulping immediately.
  - C) All the agro based industrial units located in Thakurdwara-Kashipur, Moradabad and Muzaffarnagar (Bhopal Road) area shall submit at the earliest possible a time bound action plan for setting up of common effluent treatment facility, to provide requisite effluent treatment of industrial clusters.
  - D) Uttarakhand & UP SPCB will assess the adequacy of the Effluent Treatment plant of all paper mills, restrict the production capacity at the level where the effluent generated can be treated to the prescribed norms. The Uttarakhand and Uttar Pradesh SPCB shall provide this information to CPCB within a week.
  - E) Distilleries operating on zero discharge (Spent wash) will ensure the compliance of stipulated norms of zero discharge with utmost care. Officials of Uttarakhand & UP SPCB shall also monitor the compliance of zero discharge.
  - F) Uttarakhand and UP SPCB were also advised to explore the possibility of thermal destruction of concentrated spent wash of the distilleries to ensure the zero effluent discharge.
  - G) The issue of monitoring of rivers/drain in the state of Uttarakhand and Uttar Pradesh joining river Ramganaga /Kali which have bearing on the quality of river

Ganga was discussed in length. It was agreed that joint monitoring will be conducted by CPCB, UPSPCB and UEPPCB on weekly basis during January, 2011 and once in a month from February, 2011 onwards for which following monitoring schedule was agreed:

**Table: Monitoring Schedule of River Ganga and its tributaries**

S.N.	Name of the River	Monitoring Location	Frequency of sampling and agency	Parameter
1	Dhela	From Bridge (Thakurdwara-Moradabad Road)	Daily (UPPCB, Utrakhand)  Weekly (CPCB, HO, UPPCB, UEPPCB)	pH, Colour, DO, Conductivity/ TDS, COD  pH, Colour, DO, Conductivity/ TDS, COD, BOD, Cl,
2	A) Kosi ( b/c Ramganaga)  B) Kosi	From Bridge (Rampur-Moradabad)  At Dadhial bridge Road)	Daily (UPPCB)  Daily (UEPPCB)  Weekly (CPCB, HO, UEPPCB)	pH, Colour, DO, Conductivity/ TDS, COD  pH, Colour, DO, Conductivity/ TDS, COD, BOD, Cl,  pH, Colour, DO, Conductivity/ TDS, COD  pH, Colour, DO, Conductivity/ TDS, COD, BOD, Cl,
4	Behala	b/c River Kosi/ Lohia Bridge	Daily (UEPPCB)  Weekly (CPCB, HO, UEPPCB)	pH, Colour, DO, Conductivity/ TDS, COD  pH, Colour, DO, Conductivity/ TDS, COD, BOD, Cl
5	Gagan	b/c Ramganga	Daily (UPPCB)  Weekly (CPCB, HO, UPPCB)	pH, Colour, DO, Conductivity/ TDS, COD  pH, Colour, DO, Conductivity/ TDS, COD, BOD, Cl,
6	Ramganga	<ul style="list-style-type: none"> <li>• u/s Moradabad and d/s Bijnore</li> <li>• d/s Moradabad</li> <li>• d/s Rampur near Shahabad</li> <li>• b/c Kannauj</li> </ul>	Weekly( UPPCB)  Daily (UPPCB)  Weekly (CPCB, HO, UPPCB)  Weekly (UPPCB)  Weekly (CPCB	pH, Colour, DO, Conductivity/ TDS, COD, BOD, Cl,  pH, Colour, DO, Conductivity/ TDS, COD  pH, Colour, DO, Conductivity/ TDS, COD, BOD, Cl,  pH, Colour, DO, Conductivity/ TDS, COD, BOD, Cl,  pH, Colour, DO,

		<ul style="list-style-type: none"> <li>• Dhampur Afzalgarh Road Bridge, Vill Mubarakpur, Dist. Bijnor</li> </ul>	ZO-Lucknow, UPPCB)  Daily (UPPCB)  Daily (UPPCB)	Conductivity/ TDS, COD, BOD, Cl,  pH, Colour, DO, Conductivity/ TDS, COD  pH, Colour, DO, Conductivity/ TDS, COD, BOD, Cl,
7	Kali	b/c Ganga	Weekly (CPCB ZO-Lucknow, UPPCB)  Daily (UPPCB)	pH, Colour, DO, Conductivity/ TDS, COD, BOD, Cl,  pH, Colour, DO, Conductivity/ TDS, COD
8	Ganga	<ul style="list-style-type: none"> <li>• At Farukhabad</li> <li>• At Bithoor</li> <li>• d/s Kanpur</li> </ul>	Daily (UPPCB)  Weekly (CPCB ZO-Lucknow, UPPCB)  Daily (UPPCB)  Weekly (CPCB ZO-Lucknow, HO, UPPCB)  Daily (UPPCB)	pH, Colour, DO, Conductivity/ TDS, COD  pH, Colour, DO, Conductivity/ TDS, COD, BOD, Cl,  pH, Colour, DO, Conductivity/ TDS, COD  pH, Colour, DO, Conductivity/ TDS, COD

It is also recommended that an official of CPCB H.O laboratory will visit the laboratories of Haldwani and Moradabad to assess the analytical procedure followed, infrastructure & expertise available and submit a report to the committee.

The meeting ended with thanks to the chair.

*Meeting on “Ensure pollution free condition in river Ganga at Allahabad during Magh Mela” held on 05/01/2011 at CPCB, Delhi*

**List of participants**

1. Dr. A. B. Akolkar, Director, CPCB
2. Dr. D. D. Basu, Scientist ‘E’, CPCB
3. Dr. M. Q. Ansari, Addl. Director, ZO, CPCB, Lucknow
4. Sh. P. K. Agrawal, R.O., Moradabad, UPSPCB.
5. Sh. V. K. Rajput, SA, Moradabad, UPSPCB
6. Sh. S. S. Rana, R. O., Haldwani, Utrakhand
7. Sh. Radhay Shyam, R.O., Kanpur, UPSPCB
8. Sh. Suneel Dave, SEE, CPCB
9. Dr. Sanjeev Agrawal, Scientist ‘C’, CPCB
10. Sh. A. K. Vidyarthi, Scientist ‘D’, CPCB
11. Sh. V. P. Yadav, Scientist ‘D’, CPCB
12. Sh. A. K. Sinha, Scientist ‘C’, CPCB
13. Ms. Razia Sultan, DEO, CPCB
14. Sh. J. K. Vimal, JRF, CPCB
15. Sh. R. D. Swami, DEO, CPCB

## Status of Water Quality of River Dhela, Kosi and Ramganga at Interstates points between Uttrakhand and Uttar Pradesh

Pursuant to the directions of Hon'ble High Court, Allahabad regarding Pollution in river Ganga vide PIL No. 4003 of 2006 dated 21/12/2010, Regional Office (R.O) Uttar Pradesh State Pollution Control Board (UPSPCB), Moradabad has initiated monitoring of rivers Dhella, Bahella and Ramganga from 31/12/2010 on daily basis. The results are summarized in Table 1.

**Table 1:** Status of Water Quality of rivers at Interstate boundaries between Uttrakhand and Uttar Pradesh

Locations	Dhela at Moradabad - Thakurdwara Road bridge, Bhojpur, Distt.- Moradabad (U.P.)				Kosi at Moradabad-Rampur Road Bridge, Distt-Rampur (U.P.)				Ramganga at Dhampur Afzalgarh Road Bridge, Vill-Mubarkpur, Distt-Bijnor. (U.P.)			
	Date	pH	Color	TDS	DO	pH	Color	TDS	DO	pH	Color	TDS
31/12/2010	6.5	300	590	0.5	7	50	350	6.5	6.8	30	160	8.3
1/1/2011	6.5	100	540	0.8	6.1	60	370	5.9	7	30	140	8.2
2/1/2011	6.5	100	520	0.9	6.5	60	350	5.7	7	30	180	8
3/1/2011	6.8	70	600	1.3	7	50	360	5.3	7.2	30	140	8.4
4/1/2011	6.5	70	580	1.5	7	50	360	5.4	7.2	30	152	8.2
5/1/2011	6.8	70	540	1.8	6.8	50	350	5.6	7.2	30	150	7.8
6/1/2011	6.5	70	590	1.8	6.3	60	320	5.2	7.2	30	170	9
7/1/2011	6.5	75	430	1.6	6.8	40	330	5.4	7.2	30	140	8.2
8/1/2011	6.5	150	480	1.5	7	40	340	5.6	7	30	170	8.4
9/1/2011	6.5	80	450	1.7	6.8	50	330	5.7	7	30	160	8.5
10/1/2011	6.5	80	480	0	6.7	50	370	6.5	7.2	20	140	8.2
11/1/2011	6.8	80	550	0.8	7	50	400	5.8	7	20	270	9
12/1/2011	7.2	150	670	2.7	7.5	50	400	8	7.2	30	240	9.2
13/1/2011	6.8	150	630	2.8	7	50	410	5.6	7.3	30	190	8.4
14/1/2011	6.8	120	610	2.6	6.7	40	390	5.4	7.2	30	160	8.5
15/1/2011	6.8	120	470	1.8	7	50	390	5.6	7	30	210	8.2
<b>Average</b>	<b>6.7</b>	<b>111.6</b>	<b>545.6</b>	<b>1.5</b>	<b>6.8</b>	<b>50.0</b>	<b>363.8</b>	<b>5.8</b>	<b>7.1</b>	<b>28.8</b>	<b>173.3</b>	<b>8.4</b>
<b>Maximum</b>	<b>7.2</b>	<b>300</b>	<b>670</b>	<b>2.8</b>	<b>7.5</b>	<b>60</b>	<b>410</b>	<b>8</b>	<b>7.3</b>	<b>30</b>	<b>270</b>	<b>9.2</b>
<b>Minimum</b>	<b>6.5</b>	<b>70</b>	<b>430</b>	<b>0</b>	<b>6.1</b>	<b>40</b>	<b>320</b>	<b>5.2</b>	<b>6.8</b>	<b>20</b>	<b>140</b>	<b>7.8</b>

### Results and Discussion:

The close examination of Table -1 reveals that pH is within the desired range of standard of Primary Water Quality Criteria for Bathing Water (i.e pH between 6.5-8.5) as per the notification at Serial no. 93 under Environment (Protection) Rules, 1986 at the three sampling points.

With respect to levels of Dissolved Oxygen (DO), it is observed that the values for Kosi and Ramganga are meeting the standard of Primary Water Quality Criteria for Bathing as per the notification at Serial no. 93 under Environment (Protection) Rules, 1986 (i.e Dissolved Oxygen 5mg/l or more) but in case of Dhela the standard is not achieved.

With respect to Total Dissolved Solids (TDS), no standard for said outdoor bathing has been prescribed but with respect to drinking water standards as specified in IS: 10500-1991 of Bureau of Indian Standards (BIS), the TDS value in river Kosi and Ramganga are within the desired (i.e 500mg/l) as well as permissible limit (i.e 2000mg/l). With respect to Dhela, the TDS value is within the permissible limit but on some occasions exceeds the desirable limit.

With respect to color, no standard for the river water has been prescribed. However, if compared with drinking water standard as per IS: 10500-1991 of BIS, permissible limits for color is 25 Hazen Units. The water quality of Ramganga is within the limit. River Kosi slightly exceeds the limit but Color at Dhela is higher. However, the trend indicates for color that with increased vigilance by Pollution Control Boards both at Central and State level, concentration has reduced.

## Status of Water Quality of Rive Dhela, Bahela and Kosi at Interstates points between Uttrakhand and Uttar Pradesh

Pursuant to the direction of Hon'ble High Court, Allahabad regarding Pollution in river Ganga vide PIL 4003 of 2006 dated 21/12/2010, Regional Office (R.O) Haldwani of Uttrakhand Environment Protection & Pollution Control Board (UEPPCB) has initiated monitoring of rivers Bahela, Dhella and Kosi since 20/12/2010 on daily basis. The results are summarized in Table 1.

**Table 1:** Status of Water Quality at rivers of Interstate boundaries between Uttrakhand and Uttar Pradesh

Locations	River Bahela B/c River Kosi Lohiya bridge, Kosipur				River Dhella at Thakurdwara MBD road Bhojpur (UP)				River Kosi at Driyal bridge Driyal (U.P)			
	Date	Color	pH	E.cond	DO	Color	pH	E.cond	DO	Color	pH	E.cond
20/12/10	350	6.87	660	0	300	7.03	980	0	Colorless	7.68	470	5.8
21/12/10	300	6.98	810	0	300	7.21	960	0	Colorless	7.61	440	6.4
23/12/10	250	6.87	730	0	300	7.11	930	0	Colorless	7.54	460	6.2
24/12/10	200	7.06	700	0	300	6.97	870	0	Colorless	7.63	450	6
25/12/10	100	7.22	630	0	300	6.88	840	0	Colorless	7.67	450	6.4
26/12/10	200	7.08	690	0	200	7.21	880	0	Colorless	7.59	440	6.2
27/12/10	200	6.79	660	0	300	7.07	940	0	Colorless	7.71	420	6.6
28/12/10	150	7.23	540	0	300	6.09	960	0	Colorless	7.58	410	7
29/12/10	100	7.14	490	0	300	6.8	940	0	Colorless	7.65	430	7.4
30/12/10	70	7.19	480	0	300	6.63	960	0	Colorless	7.6	420	7.2
31/12/2010	70	7.11	510	0	300	6.64	950	0	Colorless	7.67	410	7.4
1/1/2011	70	6.91	530	0	150	6.63	810	0.4	Colorless	7.71	410	7.6
2/1/2011	70	7.73	520	0	100	6.58	780	0.8	Colorless	7.63	390	7.2
3/1/2011	60	6.89	500	0	70	6.93	870	1.4	Colorless	7.54	400	7
4/1/2011	60	7.17	550	0	70	6.71	830	1.6	Colorless	7.6	420	7.4
5/1/2011	60	6.74	570	0	70	7.04	820	1.6	Colorless	7.51	410	6.8
6/1/2011	70	7.09	590	0	100	6.73	840	1	Colorless	7.57	430	7
7/1/2011	70	7.16	560	0	80	6.82	800	1.4	Colorless	7.49	410	7.4
8/1/2011	60	7.33	570	0	100	6.71	810	1.4	Colorless	7.62	400	7.2
9/1/2011	60	7.18	550	0.4	80	6.66	790	1.6	Colorless	7.68	410	7.4
10/1/2011	50	7.04	540	0	80	6.84	830	0.4	Colorless	7.63	430	6.8
11/1/2011	60	6.7	560	0.6	80	6.8	800	0.8	50	7	530	5.8
12/1/2011	100	6.88	640	0	150	7.09	950	2.6	Colorless	7.59	390	8
<b>Average</b>	<b>121</b>	<b>7</b>	<b>590</b>	<b>0</b>	<b>188</b>	<b>7</b>	<b>876</b>	<b>1</b>	<b>Colorless</b>	<b>8</b>	<b>427</b>	<b>7</b>
<b>Maximum</b>	<b>350</b>	<b>7.73</b>	<b>810</b>	<b>0.6</b>	<b>300</b>	<b>7.21</b>	<b>980</b>	<b>3</b>	<b>Colorless</b>	<b>7.71</b>	<b>530</b>	<b>8</b>
<b>Minimum</b>	<b>50</b>	<b>6.7</b>	<b>480</b>	<b>0</b>	<b>70</b>	<b>6.09</b>	<b>780</b>	<b>0</b>	<b>Colorless</b>	<b>7</b>	<b>390</b>	<b>5.8</b>

### Results and Discussion:

The close examination of Table -1 reveals that pH is within the desired range of standard of Primary Water Quality Criteria for Bathing Water (i.e pH between 6.5-8.5) as per the notification at Serial no. 93 under Environment (Protection) Rules, 1986 at the three sampling points.

With respect to levels of Dissolved Oxygen (DO), it is observed that the values for River Bhela and Dhela are not meeting the standard of Primary Water Quality Criteria for Bathing Water as per the notification at Serial no. 93 under Environment (Protection) Rules, 1986 (i.e Dissolved Oxygen 5mg/l or more) but water quality of river Kosi meeting the prescribed standard.

With respect to color, no standard for the river water has been prescribed. However, if compared with drinking water standard as per IS: 10500-1991 of BIS, permissible limits for color is 25 Hazen Units. The water quality at Kosi is colorless but in case of Dhela and Bhela they are exceeding the standards. However, the trend indicates for color that with increased vigilance by Pollution Control Boards both at Central and State level, concentration has reduced both at Dhela and Bhela.

UEPPCB has started E.Conductivity instead of Total Dissolved Solids. It is observed that all the river water that is Bahela, Dhela and Kosi are within the permissible limit. River Kosi are also within the desirable limit, if conductivity values transform to TDS.

CPCB has initiated a water quality monitoring programme at Interstate borders of Interstate rivers. Under such programme, CPCB is taking samples of River Kosi, river Dhela, Bhela. The results are summarized in table 1,2,3.

**Table 1: Dhela at Moradabad -Thakurdwara Road bridge, Bhojpur,Distt.- Moradabad (U.P.)**

Date/Period :	17/03/2009	02-06-09	15/12/2009	15/02/2010
pH	7.89	7.22	7.62	7.63
Dissolved Oxygen (mg/l)	0	0	0.1	0
BOD (mg/l)	340	63	100	105

**Table 2: River Kosi at Moradabad-Rampur Road Bridge, Distt-Rampur (U.P.)**

Date/Period :	17/03/2009	02-06-2009	15/12/2009	15/02/2010
pH	7.68	7.54	7.38	7.82
Dissolved Oxygen (mg/l)	3.5	7.8	6.8	7.6
BOD (mg/l)	3	10	2	2

**Table 3: River Bahela at Badli Village, Tehseel - Tanda (U.P. )**

Date/Period	17/03/2009	02-06-2009	15/12/2009	15/2/2010
pH	7.76	7.43	7.62	7.64
Dissolved Oxygen (mg/l)	0	0	0	
BOD (mg/l)	77	145	44	76

Close examination to River Kosi, it is observed that pH are within the desired range of standard on Primary Water Quality Criteria for Bathing Water (i.e pH between 6.5-8.5) as per the notification at Serial no. 93 under Environment (Protection) Rules, 1986 limit, so of case with DO which is 5mg/l or more. However, incase of BOD, there are occasion when it exceeds the prescribed limit of 3mg/l.

However, in respect of Bhela, it is observed that pH is within the limit, DO is almost zero and BOD except in one occasion exceed the limit with significant magnitude.

The situation in Dhela is almost in similar trend of Bhela. Beside these three rivers, Central Board also collected sample of river Ramganga at Uttrakhand at Table 4 and at Ramganga at Uttar Pradesh (Table 5). It is observed that pH & DO meeting the standard and also the BOD.

In case of Ramganga at Kalagarh, U.P same trend is observed except in two occasions and DO was found nil.

This result indicates that at River Dhela and Bhela almost not meeting the standard. One of the reason of pollutant increases that both the rivers has no dilution at fair weather flow.

**Table 4: River Ramganga at D/S Kalagarh, Dam (Uttrankhand)**

Date/Period :	May, 2009	Nov, 2009
pH	7.3	7.23
Dissolved Oxygen (mg/l)	8	8.9
BOD (mg/l)	1	2.1

**Table 5: River Ramganga at D/S Sherkot, Kalagarh (U. P.)**

Date/Period :	May, 2009	November, 2009
pH	7.7	7.35
Dissolved Oxygen (mg/l)	8	4.37
BOD (mg/l)	2	1