

**Status and Action Plan to
improve
water quality of river Ganga
in
Phase-II
(District Unnao D/S to District Balia)**



Government of U.P.

U.P. Pollution Control Board

Introduction

River Ganga enters in U.P. in District Bijpur and after passing through major districts Meerut, Hapur, Bulandshahar, Aligarh, Kanpur Allahabad, Varanasi, Balia, it goes to Bihar onwards. Hon'ble National Green Tribunal, New Delhi is also monitoring the progress of improvement of river Ganga in Phased manner. Hon'ble NGT after hearing different steps being taken by different authorities responsible for improving the river Ganga water quality has passed order on dated 13-07-2017 for Segment-B from Haridwar D/s to Unnao. The main action which is required in this segment is to take action in the identified 86 drains meeting into Ganga & its tributaries and for treating the drains as per their quality, recycling the treated water and discharging rest treated water into river as per the prescribed standards and maintaining E-flow in every stretch of the Ganga & its tributaries. Similar steps will be required from different Stakeholders mentioned in the Hon'ble NGT order to improve river Ganga water quality in Phase-II, from Unnao D/s to Balia having total length of approx. 600 Km.

Main cities on the bank of river Ganga & its tributaries from D/s Unnao to U.P. Border (Phase-II)

a) **Ganga**

Fatehpur, Raebareli, Allahabad, Mirzapur, Varanasi, Jaunpur, Ghazipur, Balia.

b) **Yamuna & its Tributaries (Hindon, Kali West)**

Yamuna- Mathura, Agra, Etawah, Kalpi (Jalaun), Allahabad.

Hindon- Saharanpur, Muzaffarnagar, Baghpat, Meerut, Ghaziabad, Noida, Greater Noida

Kali West- Muzaffarnagar

c) **Gomti**

Pilibhit, Sitapur, Lakhimpur, Lucknow, Sultanpur, Jaunpur.

d) **Ghaghra**

Ambedkar Nagar, Azamgarh, Barabanki, Basti, Balia, Bahraich, Deoria, Faizabad, Gonda, Gorakhpur, Sant Kabir Nagar, Jaunpur, Lakhimpur Khiri, Sitapur

Status of Grossly Polluting Industries (GPI) in Phase-II

- Total GPI 764
- Operational Units 553
- Self Closed 141
- Closed by Board 70

All operational units have either installed their own ETP or member of CETP.

River wise breakup of Grossly Polluting Industries

| River | No. Of Units | ETP Status | | | Operational Units | Breakup of not operational units | | Discharge (MLD) |
|-------------------|--------------|------------|---------------|--------------|-------------------|----------------------------------|---------------------------|-----------------|
| | | Installed | Not Installed | Not Required | | Self closed | Closed by Board/ CPCB/NGT | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Ganga | 105 | 84 | 17 | 4 | 32 | 30 | 43 | 73.29 |
| Yamuna | 535 | 493 | 23 | 19 | 414 | 100 | 21 | 161.40 |
| Gomti | 41 | 41 | 0 | 0 | 37 | 3 | 1 | 36.94 |
| Ghaghra | 55 | 55 | 0 | 0 | 46 | 4 | 5 | 71.89 |
| Other Tributaries | 28 | 24 | 4 | 0 | 24 | 4 | 0 | 190.68 |
| Total | 764 | 697 | 44 | 23 | 553 | 141 | 70 | 534.20 |

Other Tributaries -Narayani, Tamsa, Son etc.

Sector wise breakup of Grossly Polluting Industries

| Sector | No. Of Units | ETP Status | | | Operational Units | Breakup of not operational units | | Discharge (MLD) |
|--------------|--------------|------------|---------------|--------------|-------------------|----------------------------------|---------------------------|-----------------|
| | | Installed | Not Installed | Not Required | | Self closed | Closed by Board/ CPCB/NGT | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Distillery | 34 | 34 | 0 | 0 | 23 | 6 | 5 | 0.00 |
| Sugar | 69 | 69 | 0 | 0 | 56 | 11 | 2 | 43.56 |
| Paper | 69 | 66 | 1 | 2 | 51 | 10 | 8 | 89.85 |
| Tannery | 15 | 15 | 0 | 0 | 7 | 6 | 2 | 0.96 |
| Textile | 421 | 368 | 33 | 20 | 296 | 81 | 44 | 32.17 |
| Other | 156 | 145 | 10 | 1 | 120 | 27 | 9 | 367.66 |
| Total | 764 | 697 | 44 | 23 | 553 | 141 | 70 | 534.20 |

Other includes dairy, thermal power plants, slaughter house, pharmaceuticals, fertilizer, etc

Water Quality of River Ganga in Phase-II

Year 2012-2016

The **Ganga River** is a trans-boundary river of Asia which flows through the nations of India and Bangladesh. The 2,525 km river rises in the western Himalayas in the Indian state Uttaranchal, and flows south and east through the Gangetic Plain of North India into Bangladesh, where it empties into the Bay of Bengal. It is the third largest river by discharge.

Presently Uttar Pradesh Pollution Control Board has been continuously conducting water monitoring of River Ganga at 10 sampling points in Phase-II located at Raibareli, Pratapgadh, Kaushambi, Allahabad, Mirzapur Varanasi and Ghazipur.

| S.No | District | Sample Collection Point | 2012 | 2013 | 2014 | 2015 | 2016 |
|------|-------------|---------------------------|------|------|------|------|------|
| 1 | Raibareli | Dalmau, Raibareli | 3.5 | 3.58 | 3.68 | 4.18 | 4.37 |
| 2 | Pratapghadh | Kala Kankar, Pratapgarh | 3.43 | 3.45 | 3.56 | 4.01 | 4.23 |
| 3 | Koshambi | Kada Ghat | 4.83 | 3.51 | 3.87 | 4.05 | 4.2 |
| 4 | Allahabad | Allahabad U/s | 5.25 | 3.58 | 3.63 | 3.87 | 3.94 |
| 5 | Allahabad | Allahabad D/s | 5.13 | 3.63 | 3.69 | 4.12 | 4.15 |
| 6 | Mirzapur | U/s Vindhyachal, Mirzapur | 2.76 | 2.68 | 2.4 | 2.05 | 2.23 |
| 7 | Mirzapur | D/s Mirzapur | 3.31 | 3.2 | 2.6 | 2.23 | 2.48 |
| 8 | Varanasi | Varanasi U/s | 3.2 | 2.99 | 2.87 | 3.12 | 3.12 |
| 9 | Varanasi | Varanasi D/s | 4.95 | 4.57 | 4.45 | 5.09 | 5.79 |
| 10 | Gazipur | Tarighat D/s Ghazipur | 3.67 | 3.7 | 3.93 | 4.28 | 4.79 |

Improvement in B.O.D. in 2016 with respect to 2012 was found at Kadaghat, Allahabad U/s, Allahabad D/s, Vindhyachal U/s, Mirzapur D/s, Varanasi U/s.

Average data of Biochemical Oxygen Demand (B.O.D.) obtained from water quality monitoring during 2012 to 2016 indicates that :-

- Water quality Of River Ganga at D/s Mirzapur falls under category-C (Drinking Water Source with conventional treatment and after disinfection).
- Water quality Of River Ganga at Dalmau- Raibareli, Kala Kankar- Pratapgarh, Kada Ghat- Kaushambi U/s & D/s Allahabad, U/s & D/s Varanasi and Tarighat D/s Ghazipur falls under category-D (Fish Culture and wild life propagation).

Water Quality of River Yamuna in Phase-II Year 2012-2016

River **Yamuna** is the longest and the second largest tributary river of the Ganga in northern India. Originating from the Yamunotri Glacier at a height of 6,387 metres on the south western slopes of Banderpooch peaks in the uppermost region of the Lower Himalayas in Uttarakhand, it travels a total length of 1,376 kilometers (855 mi) and has a drainage system of 366,223 square kilometres (141,399 sq mi), 40.2% of the entire Ganges Basin, before merging with the Ganges at Triveni Sangam, Allahabad, the site for the Kumbha Mela every twelve years.

Uttar Pradesh Pollution Control Board has been continuously conducting water monitoring of River Yamuna at 12 sampling points in UP. These sampling stations are located at Saharanpur, Bagpat, Vrindavan, Mathura, Agra and Allahabad.

Average data of Dissolved Oxygen (D.O.), Biochemical Oxygen Demand (B.O.D.) and Total Coliform (T.C.) obtained from water quality monitoring during 2012-2016 indicates that :-

- Water Quality Of River Yamuna at Bairaj-Saharanpur and Bagpat Sonipat Road, Baghpat falls under category –B(Outdoor Bathing).
- Water Quality Of River Yamuna at U/s Water Intake-Allahabad, D/s Chhachhar nala-Allahabad and D/s Emergency Outfall-Allahabad falls under category-C(Drinking Water Source with conventional treatment and after disinfection).
- Water Quatity Of River Yamuna at U/s & D/s Vrindavan, U/s Kailashghat-Agra, U/s Waterworks-Agra, D/s Tajmahal-Agra and U/s Mathura falls under category-D (Fish Culture and wild life propagation).
- Water Quality Of River Yamuna at D/s Mathura falls under category-E. (Irrigation, Industrial Cooling, Controlled waste disposal)

Improvement in B.O.D. in 2016 with respect to 2012 was found at U/s Vrindavan, D/s Vrindavan, U/s Mathura, D/s Mathura, U/s Kailash Ghat Agra, U/s Water works Agra, D/s Tajmahal Agra.

Water Quality of River Hindon in Phase-II

Year 2012 – 2016

River Hindon originates from the Shivalik hills in Saharanpur district and flows through Meerut, Ghaziabad, Noida and finally meets to river Yamuna in Gautam Buddha Nagar. The disposal of Domestic as well as Industrial waste of Saharanpur, Meerut, Ghaziabad and Noida districts are the main sources of Pollution in this river.

Uttar Pradesh Control Board has been continuously conducting water monitoring of River Hindon at 03 sampling points under NWMP and at 04 sampling points by Boards own sources. These sampling points are located at Saharanpur, Meerut, Ghaziabad and Noida district.

As per Biochemical oxygen Demand (BOD) values available for year 2012 to 2016 the water quality of river Hindon is as follows-

- **Hindon D/s Maheshpur- Saharanpur** : - BOD values in River Hindon has been showing increasing trend from year 2012 to 2016.
- **Hindon at Sardhana- Burdhana road, village Baparsi and Meerut - Bhagpat Road, Meerut** : - River Hindon has shown no change in trend of pollution for last five years at above location.
- **River Hindon at Karheda village, Road bridge and Chijarsi bridge, Ghaziabad** :- River Hindon has shown decreasing trend of pollution in Ghaziabad district in comparison to year 2013.
- **River Hindon D/s Kulesra bridge Noida** :- River Hindon has been found extremely polluted in Noida during last five years but decreasing trend of pollution in comparison to year 2014 .

All the above districts have problem of pollution under category E. (only for irrigation purpose)

Improvement in B.O.D. in 2016 with respect to 2012 was found at Hindon, Meerut Baghpat Road, Meerut, Hindon, Karheda village, Ghaziabad, Hindon, river Road Bridge, Ghaziabad Hindon, river Chijarsi Bridge, Ghaziabad.

Action Plan for improvement of water quality of river Ganga & its tributaries in Phase-II

Short Term Action Plan

| Sl. No. | Activity | Timeline |
|---|---|--|
| Monitoring of Drains, Rivers and GPI units in the catchment area of rivers in Phase-II | | |
| 1 | Regular water quality monitoring of river Ganga at Raebareli, Pratapgarh, Koshambi, Allahabad, Mirzapur, Varanasi & Ghazipur. | Monthly |
| 2 | Regular water quality monitoring of other major tributaries of river Ganga in Phase-II i.e. Yamuna, Hindon, West Kali, Krishna, Gomti, Varuna, Ghaghra. | Monthly |
| 3 | Regular monitoring of GPI units situated in the catchment of the drains in Phase-II and Board will take action against defaulter units under the provisions of Water (Prevention & Control of Pollution) Act 1974 as amended. Note- Quarterly checking of the industries shall be conducted in a manner that every industry is monitored. | Quarterly |
| 4 | Data related to river water and ground water quality monitoring shall be displayed on Board's website | Continuous |
| 5 | Strict and regular supervision including surprise inspection of industries through special squads. | Random |
| Effective monitoring & capacity utilization of installed CETPs by UPSIDC/BIDA/industries association in Phase-II | | |
| 6 | <ul style="list-style-type: none"> For effective operation and maintenance of installed CETPs, SPVs should be formed involving industries and Govt. agencies if any. SPVs should be made responsible for effective operation and maintenance of CETP to achieve prescribed standards notified by MoEF&CC. All the member textile units should install electromagnetic flow meter at outlet of Unit to measure the quantity of effluent discharge to CETP. | <p>Immediate</p> <p>30 days.</p> <p>30 days.</p> |

| | | |
|---|---|--|
| | <ul style="list-style-type: none"> The CETP installed for textile units of Bhadohi is not operational till now. Bhadohi Industrial Development Authority (BIDA) should take immediate steps to make it operational and ensure connectivity of all textile units, till then each textile unit in that catchment area should be allowed to operate only if it makes suitable arrangements to treat the effluent as per the prescribed standards as well as make connectivity with CETP. The CETP at Tronica City, Ghaziabad installed and operated by UPSIDC should be effectively operated and maintained to achieve the prescribe standards. A case is under consideration in Hon'ble NGT in OA No. 317/2015 Rashid Ali Warsi Vs UPSIDC regarding malfunctioning of CETP at Tronica city, Loni Ghaziabad. Hon'ble NGT has ordered UPSIDC on 15-06-2017, to deposit Rs. 2.0 Lac per day as environmental compensation till the deficiencies in CETP are removed. The CETP at Industrial Area, Site-A, Mathura installed and operated by forming SPV of textile industries should be effectively operated and maintained to achieve the prescribe standards. Online Continuous Effluent Monitoring System with connectivity to CPCB & UPPCB server should be installed at final outlet of CETPs | <p>Immediate</p> <p>Immediate</p> <p>60 days</p> |
| 7 | <ul style="list-style-type: none"> Online Continuous Effluent Monitoring System / Web Camera in major category of industries i.e. Distillery, Sugar, Paper, and Textile as per directions of Central Pollution Control Board and adoption of Charter provisions. | Immediate |
| 8 | <ul style="list-style-type: none"> Board will issue consent to establish to new industries, having land use as per master plan and coming with proposal of cleaner technology, waste minimization, treated water recycling arrangements etc. | Immediate |

Long Term Action Plan

| Sl. No. | Activity | Timeline |
|---------|---|--------------------------|
| 1 | <ul style="list-style-type: none"> The hazardous waste generated from industrial units in clusters at Ghaziabad, Mathura, Bhadohi is being transported to common TSDF at Kanpur Dehat, which is quite far away, so in view of that Board will facilitate UPSIDC/District Administration/Private Enterprenure to make plan for developing common TSDF at environment friendly location in those region. UPPCB will facilitate UPSIDC/Devlopment Authorities to develop common TSDF in present and proposed industrial area, where plots are allotted for industries generating hazardous waste. | 02 Years 02 Years |
| 2 | <ul style="list-style-type: none"> In Phase-II, major category of water polluting industries is textile sector. In Bhadohi and similar other places i.e. Ghaziabad, Mathura, textile units are in cluster and their anciliary units are traditional and operational in unplanned manner. Board will facilitate them for Adoption of cleaner technology (change in process technology, reduction in consumption of water and discharge, recycling of the treated water in different use) through Workshops, Seminars in the guidance of Central Pollution Control Board. Board will take action against the units, which do not adopt the cleaner technology and take suitable steps for reduction of effluent and reuse of treated water as per provisions of charter of CPCB. | 01 Year |
| 3 | <ul style="list-style-type: none"> Existing CETP like Tronica City Ghaziabad, which are not performing to achieve the standard prescribed under E(P) Act, 1986 and Bhadohi which is still not operational needs to be upgraded or made functional. Board will enforce for upgradation of existing CETP or to make operational non-functional CETP. Otherwise Board will take action against defaulting units. | 01 Year |

Irrigation Department

The identified drains are as following -

Under jurisdiction of Chief Engineer (Ramganga)- 84 Drains having length 1312.24 Km. and cost of cleaning Rs. 591.52 Lacs

Under jurisdiction of Chief Engineer (Son)- 119 Drains having length 1715.22 Km. and cost of cleaning Rs. 2835.95 Lacs

Under jurisdiction of Chief Engineer (Sharda Sahayak)- 465 Drains having length 2507.03 Km. and cost of cleaning Rs. 3900.31 Lacs

Under jurisdiction of Chief Engineer (Gandak)- 02 Drains having length 283.20 Km. and cost of cleaning Rs. 186.0 Lacs

The short term action plan consists of cleaning of above drains and comprises of following activity and time frame -

Survey work- November 2017 to December 2017

Preparation of Estimate- January 2018 to February 2018

Invitation and finalization of Tender- March 2018 to April 2018

Execution- May & June, 2018