

Item No. 01

(Court No. 1)

BEFORE THE NATIONAL GREEN TRIBUNAL

(By Video Conferencing)

Original Application No. 200/2014

(arising out of W.P. No. 3727/1985 on the file of Hon'ble Supreme Court)

(With report dated 26.07.2021, 30.07.2021, 12.11.2021)

M.C. Mehta

Applicant

Versus

Union of India & Ors.

Respondent(s)

Date of completion of hearing and reserving of order: 16.11.2021

Date of uploading of order on the website: 23.11.2021

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

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ORDER

Background of judicial intervention in remedying pollution of Ganga first by Hon'ble Supreme Court and then by this Tribunal:

1. This matter is being dealt with by this Tribunal in pursuance of directions of the Hon'ble Supreme Court vide order dated 29.10.2014, reported in (2015) 12 SCC 764 and a subsequent order in 2017, requiring this Tribunal to look into the issues of control of pollution of River Ganga and pass appropriate orders for remedial action. The Tribunal was also directed to give progress report about the orders passed every six months so that if necessary, further orders could be passed by the Hon'ble Supreme Court. While passing the said directions, the Hon'ble Supreme Court referred to atleast six earlier orders in thirty years and continuance of unsatisfactory state of affairs due to apathy of the statutory authorities.

Proceedings in Supreme Court:

2. The matter was first taken up on 9.9.1985 in view of reports of pollution being discharged by BHEL at Haridwar. On 22.9.1987, orders against discharge of pollution by 20 tanneries on the bank of Ganga was passed. On 12.1.1988, orders to stop of discharge of sewage was passed and direction was also issued for all educational institutions to impart education relating to all aspects of environment¹. On 17.9.1993, 68 grossly polluting industries were identified and action was directed to be taken by the States of UP, Bihar and WB (which then included present States of Uttarakhand and Jharkhand as part of UP and Bihar). On 1.11.1995, it was observed that the responsibility of monitoring ought to be given to National River Conservation Directorate (NCRD), in view of continued failure to control pollution inspite of huge expenditure, as per NEERI report dated 11.8.1984. Vide order dated 10.10.2006, report of

¹ (1988) 1 SCC 471 MC Mehta vs. UOI pr 24, Similar direction also issued in (2005) 5 SCC 733. The Tribunal vide order 16.1.2019 in OA 606/2018 requested legal services authorities to create awareness on the subject, subject to directions of NALSA and NALSA vide circular dated 7.5.2019 directed all State legal Services authority to do the needful

Comptroller and General of India for the year 2000 was noted showing that water quality of Ganga had deteriorated in all parameters instead of improving. NCRD had no mechanism to see that the installed plants functioned properly. Vide order dated 5.2.2014, 17 more grossly polluting industries were identified. The Hon'ble Supreme Court noted that audit shows many instances of financial mismanagement out of 587.63 crore spent on pollution control. Monitoring at Central as well as State level was inadequate and water quality was not improving inspite of incurring huge expenditure. It was concluded that the matter may be monitored by the NGT. Concluding part of the order is reproduced below:

“15. We regret to say that the intervention and sustained efforts made by us over the past 30 years notwithstanding no fruitful result has been achieved so far except the shutting down of some of the polluting units. This is largely because while orders have been passed by us their implementation remains in the hands of statutory authorities including the CPCB and the State PCBs which have done practically nothing to effectuate those orders or to take independent steps that would prevent pollution in the river. A total lack of monitoring by the statutory bodies has also contributed to the current state of affairs. The report of the Comptroller and Auditor General to the effect is a clear indictment of the statutory authorities and those at the helm of their affairs.

16. There is no gainsaying that River Ganga has for the people of this country great significance not only in the spiritual or mythological sense but also in material terms for it sustains millions who are settled on its bank or eke out their living by tilling lands that are fertilised by its water. Despite the experience of the past we have not lost hope, for the Central Government appears to be resolute in its efforts to ensure that the mission of cleaning the holy river is carried forward and accomplished. How far will the Government's renewed zeal make any difference on the ground is for anyone to guess.

17. What is, however, clear is that if the mission has to succeed, all those concerned will have to rededicate themselves to the accomplishment of the cause that will not only cleanse the holy river but comfort millions of souls that are distressed by the fetid in what is believed to be so holy and pure that a dip in its water cleanses all

sins. Statutory authorities that are charged with the duty to prevent pollution need to monitor and take action where they find any breach of the law. Failure of the authority to do so may also have to be noted for such action as may be required under law. This may call for a closer monitoring of the performance of all concerned. Time constraints unfortunately do not allow us to do that on a continuing basis no matter we have over the past thirty years devoted enough time and energy in that direction.

18. We are comforted by the thought that the National Green Tribunal has been established under the National Green Tribunal Act, 2010. The Tribunal, it is evident from the provisions of the Act, has the power to take stock of the situation and pass necessary orders on the subject. It has the legislative mandate to undertake effective and speedy adjudication and disposal of issues touching preservation of environment by prevention of pollution. It is in the above backdrop that we consider it more appropriate to refer the issue relating to enforcement of the provisions of the statutes touching environment and its preservation arising out of discharge of industrial effluents into River Ganga to the National Green Tribunal.

19. We are confident that the Tribunal which has several experts as its members and the advantage of assistance from agencies from outside will spare no efforts to effectively address all the questions arising out of industrial effluents being discharged into the river. This will include discharge not only from the grossly polluting industries referred to in the earlier part of this order but also discharge from “highly polluting units” also. As regards the remainder of the matter concerning discharge of domestic sewage and other sources of pollution we will for the present retain the same with us.

20. We accordingly request the Tribunal to look into all relevant aspects and to pass appropriate directions against all those found to be violating the law. We will highly appreciate if the Tribunal submits an interim report to us every six months only to give us an idea as to the progress made and the difficulties, if any, besetting the exercise to enable us to remove such of the difficulties as can be removed within judicially manageable dimensions. The Registry shall forward a copy of the order to the National Green Tribunal along with a copy of the writ petition and the affidavits filed in reply from time to time.”

3. Vide subsequent order dated 24.1.2017, all the remaining issues which were earlier kept pending with the Hon'ble Supreme Court were also transferred to this Tribunal.

Proceedings before the Tribunal – orders dated 10.12.2015, 13.7.2017, 19.7.2018, 29.7.2018, 6.8.2018 and 29.11.2018:

4. Accordingly, the Tribunal dealt with the matter exhaustively and issued directions inter alia vide orders dated 10.12.2015, 13.07.2017, 19.7.2018, 29.7.2018, 6.8.2018 and 29.11.2018, on all aspects of preventing and remedying the pollution of river Ganga. The Tribunal dealt with the issue of main causes of pollution of river Ganga being discharge of untreated sewage and effluents either directly into the River Ganga or its tributaries and connected drains, besides dumping of solid waste, bio-medical waste, hazardous waste, plastic waste, muck and other waste, illegal sand mining, illegal encroachment of the floodplains, extraction of ground water, restoration of water bodies and maintenance of e-flow. The matter was dealt with by dividing the river basin area into phases and segments. Order dated 10.12.2015 dealt with **Phase-I – Segment-A:** Gaumukh to Haridwar. Order dated 13.07.2017 dealt with **Phase-I – Segment B:** Haridwar to Kanpur. Further order dated 06.08.2018 deals with **Phase-II:** Kanpur to Uttar Pradesh Border, **Phase-III:** UP Border to Jharkhand Border (via Bihar), and **Phase-IV:** Jharkhand Border to Bay of Bengal (West Bengal).

5. Progress of compliance of orders of this Tribunal dated 10.12.2015 and 13.7.2017 was reviewed vide orders dated 19.07.2018 and 27.07.2018 and thereafter with regard to **Phase-I – Segment-A** and **-B** respectively. The review was in relation to progress in preventing pollution by installing equipments like STPs, ETPs and CETPs, tapping of drains with reference

to the laid down timelines compliance of MSW Rules, setting up of bio-digesters, sewerage network, consequent improvement in water quality, control of ground water extraction, maintaining e-flow, public involvement, decentralized waste processing facilities close to the sources of generation of waste, protection of floodplains and control of illegal mining. The Tribunal observed that there was need to prepare a model DPR and standard terms and conditions for tenders, to save time and cost. Further directions for public awareness programmes in the light of observations of the Hon'ble Supreme Court were also issued. Finding the progress to be inadequate, Monitoring Committees were constituted, headed by former Judge of the Uttarakhand and the Allahabad High Court for the two different Segments, vide orders dated 29.11.2018 and 06.08.2018 respectively. The Committees were to take stock of the actions taken with clear measurable indicators of progress and success and to oversee the action plans to remedy the situation. With regard to **Phase-II to IV**, directions were issued that the NMCG, in co-ordination with State Governments of Uttarakhand, Bihar, Jharkhand, West Bengal and Uttar Pradesh, may file Action Plans with firm timelines on the subjects of interception and diversion of drains, utilization of treated sewage, compliances by industries in the catchment area, ground water regulation, flood plain regulation, rain water harvesting and good irrigation practices for water conservation in the light of order of this Tribunal dated 13.07.2017. **Further, the NMCG was to give information about status of projects planned and executed between Kanpur to Ganga Sagar. Status of water quality in Uttarakhand, Bihar, Jharkhand, West Bengal and Uttar Pradesh was directed to be displayed on the respective websites. CPCB was also to indicate such status on its website. Flood plains were to be demarcated, encroachments**

removed, afforestation works undertaken, guidelines for bio-diversity parks prepared by the CPCB and the MoEF&CC, bio-diversity parks were to be set up, flood plains were to be handed over to the State Forest Departments.

Further review by orders dated 29.5.2019, 22.8.2019, 18.12.2019, 13.8.2020 and 8.2.2021:

6. Thereafter, the Tribunal has reviewed the matter on 29.5.2019, 22.8.2019, 18.12.2019, 13.8.2020 and 8.2.2021. Brief reference to the said orders is necessary before considering the matter today for further directions.

Order dated 29.5.2019

7. Vide order dated 29.05.2019, **it was directed that Ganga pollution be monitored directly by the Chief Secretaries** in view of such monitoring having already been directed in respect of 351 polluted river stretches in different States by the Chief Secretaries, vide order dated 16.01.2019 in O.A. No. 606/2018² dealing with solid waste management and orders in O.A. No. 673/2018 dealing with polluted river stretches, which include Ganga in the States of Uttarakhand, U.P., Jharkhand, Bihar and W.B. **No construction zone distance on flood plains was to be measured from the Highest Flood Line (HFL) in the last 25 years** and flood plains were to be identified on longitude and latitude. **Responsibility for plantations and administrative control of areas beyond HFL were to be handed over to the Forest Departments.** UPSPCB was directed to prohibit industrial polluting activities and to revise compensation regime so as to recover the actual cost of restoration. State of UP was to provide funds for remediation of Chromium dumps. E-flow was to be maintained

²Compliance of Municipal Solid Waste Management Rules, 2016

as earlier directed in order dated 29.11.2018. Encroachments were to be removed. Tapping of remaining drains and prevention of pollution was to be expeditiously ensured. After noting the status of progress on sewage infrastructure projects in the Ganga Basin, **the Chief Secretaries of Bihar, Jharkhand and West Bengal were directed to effectively monitor the progress.** Timelines were directed to be reviewed and prepared. **NMCG was to undertake progress on reduction of pollution load and improvement of water quality.** Further road map, including identification of accountable persons and taking actions for the lapses was to be prepared.

Order dated 22.8.2019

8. Status of compliance was further reviewed vide order dated 22.08.2019. The Tribunal laid down compensation regime for continued delay, beyond already laid down timelines, in executing the projects. Operative part of the order is:-

“State of Uttarakhand (Phase-I, Segment-A)

15. xxx.....xxx.....xxxx

16. *During the interaction, we have considered the remedial measures for expediting execution of the orders of this Tribunal having regard to long delay caused and importance of preventing and remedying the pollution of River Ganga. Since it has been stated that many industries were found operating without consent to operate under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, action in accordance with the provision of law may be undertaken within three months after identifying such units. **As already observed by this Tribunal including in the order dated 14.05.2019 that River Ganga being National River with distinct significance for the country, even a drop of pollution therein is a matter of concern.** All the authorities have to be stringent and depict zero tolerance to the pollution of River Ganga. Wherever STPs are not operating, immediate bioremediation and/or phyto-remediation may be undertaken if feasible. **To avoid procedural delay of tender processes, etc. specifications and norms for undertaking such activities may be specified in consultation with the CPCB as was earlier directed in our order dated 29.11.2018.** Performance guarantees may be required to be*

furnished for ensuring timely performance. It needs to be ensured that setting up of STPs and sewerage network to be completed and carried out so as to avoid any idle capacities being created. Performance guarantees may be taken for preventing such defaults.

17. Wherever the work has not commenced, it is necessary that no untreated sewage is discharged into the River Ganga. **Bioremediation and/or phytoremediation or any other remediation measures may start as an interim measure positively from 01.11.2019, failing which the State may be liable to pay compensation of Rs. 5 Lakhs per month per drain to be deposited with the CPCB.** This however, is not to be taken as an excuse to delay the installation of STPs. For delay of the work, the Chief Secretary must identify the officers responsible and assign specific responsibilities. Wherever there are violations, adverse entries in the ACRs must be made in respect of such identified officers. **For delay in setting up of STPs and sewerage network beyond prescribed timelines, State may be liable to pay Rs. 10 Lakhs per month per STP and its network.** It will be open to the State to recover the said amount from the erring officers/contractors.

18. With regard to works under construction, **after 01.07.2020, direction for payment of environmental compensation of Rs. 10 lakhs per month to CPCB for discharging untreated sewage in any drain connected to river Ganga or its tributaries and Rs. 10 lakhs per month to CPCB per incomplete STP and its sewerage network will apply.** Further with regard to the sectors where STP and sewerage network works have not yet started, the State has to pay an Environmental Compensation of Rs. 10 lakhs per month after 31.12.2020. **The NMCG will also be equally liable for its failure to the extent of 50% of the amount to be paid.** Till such compliance, bioremediation or any other appropriate interim measure may start from 01.11.2019.

19. to 26 xxx.....xxx.....xxxx

State of Uttar Pradesh (Phase -II), State of Bihar, Jharkhand and West Bengal

27. With regard to **Phase-II to IV**, it is pointed out that no specific timelines have been laid down in the order dated 13.07.2017. **Needless to say that if no specific timelines have been laid down, the compliance has to be ensured within reasonable time.** A period of two years has gone by which can be treated as a reasonable time. Even if further allowance is to be made with regard to works under construction, **after 01.07.2020, direction for payment of environmental compensation of Rs. 10 lakhs per month to CPCB for discharging untreated sewage in any drain connected to river Ganga or its tributaries and Rs. 10 lakhs per month to CPCB per incomplete STP and its sewerage network will apply with regard to States of Uttar Pradesh, Jharkhand, Bihar and West Bengal falling in Phase II to IV.** Further with regard to the sectors where STP and sewerage network works have not yet started, the States of UP, Jharkhand, Bihar and West Bengal have to pay an

Environmental Compensation of Rs. 10 lakhs per month after 31.12.2020. The NMCG will also be equally liable for its failure to the extent of 50% of the amount to be paid. Till such compliance, bioremediation or any other appropriate interim measure may start from 01.11.2019. Directions for compensation for default in this regard will be on the same pattern as in the case of Uttarakhand and Uttar Pradesh as above.

28. As observed above, we do not consider it necessary to consider point-wise progress in the present order in view of pre-existing directions on each of the points. The States of Uttar Pradesh, Bihar, Jharkhand and West Bengal may take action under each head for Phases-II, III and IV accordingly.

29. xxxxxx.....xxx

30. The two Monitoring Committees for **Segment-A Phase-I** and **Segment-B Phase-I** may submit their final reports by 31.10.2019. Thereafter the Chief Secretaries of States of Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal Director General, Namami Gange and Secretary, Water Resources, Jal Shakti, Government of India may personally monitor the progress and report compliance to the Tribunal in terms of progress at every quarter in a tabular form as follows:

Sr. No.	Targets to be achieved as per orders dated 10.12.2015, 13.07.2017 and 22.08.2019 the timeliness	Targets achieved and the reasons for delay in compliance	Targets not achieved and the revised timeliness proposed*	Action taken or suggested for violation of timeliness or non-achieving of targets

**subject to payment of compensation as mentioned above”*

Order dated 18.12.2019

9. The matter was then considered on 18.12.2019 in light of earlier proceedings and report of the Monitoring Committee for the State of UP dated 23.10.2019 filed on 31.10.2019 for Segment ‘B’ and consolidated report filed by the NMCG on 11.12.2019. The progress was found to be inadequate with reference to the timely completion of the projects. While noting inadequacy on various parameters, it was directed that steps be taken and progress indicated under relevant heads. The salient observations are:-

“17. We may now refer to the consolidated report filed by the NMCG on 11.12.2019. On the most significant of sewerage infrastructure projects, the chart filed is as on 30.07.2019 which has already been quoted in order dated 22.08.2019. During the hearing, the representative of NMCG stated that there is marginal progress but the timeline will be adhered to. **On the subject of preventing pollution, installing Continuous Emission Monitoring System (CEMS), use of treated water, sludge, bio digesters and septage management, preventing dumping of waste and management thereof, flood plain identification, maintenance of e-flow and displaying water quality data, development of biodiversity parks, prohibiting river bed mining, recovery of compensation, involvement of civil society, status has not been clearly spelt out though a voluminous chart has been filed.**

18. The Executive Director, NMCG, when asked about the latest status with regard to Sewage Infrastructure Projects in Ganga Basin (Downstream of Unano to Gangasagar), stated that **out of the total 75 projects, 16 have been completed, 36 are ongoing and 2 are in the category “tender to be floated”.** This amply demonstrates that there is hardly any progress, in terms of achievement of setting up of STPs, after 30.04.2019 which was stated in a tabulated form in our order dated 22.08.2019. **The NMCG needs to take action against the erring officers and file a report before the next date.”**

“21. It is seen that **except the State of Uttarakhand, no other report has been given in a tabular form as directed in terms of para 30 in the order dated 22.08.2019.** With regard to State of Uttarakhand, progress has been indicated on the following subjects:

- i. Setting up of STPs, Interception and Division (I&D) of drains and preventing untreated sewage and effluents in the River Ganga
- ii. Use of treated water
- iii. Use of sludge manure
- iv. Status of septage management
- v. Compliance in relation to industries
- vi. Installation of STPs/treatment facilities in Hotels/Ashrams and Dharmshalas.

- vii. Water quality monitoring of river Ganga and its tributaries.
- viii. Maintenance of environmental flow in river Ganga.
- ix. Disposal of Bio-medical waste.
- x. Compliance of Solid Waste Management (SWM) Rules, 2016.
- xi. Preparation of maps and zoning of flood plains.
- xii. Mining activity under supervision of the concerned authorities.
- xiii. Action against identified polluters, law violators and officers responsible for failure for vigorous monitoring.

22. xxx.....xxx.....xxx

23. **The States of Uttarakhand, UP, Bihar, Jharkhand and West Bengal need to take further action in terms of orders of**

this Tribunal for preventing pollution and rejuvenation of Ganga and its tributaries as per timelines already given. The report filed by UPPCB shows that as of now lot of untreated sewage is entering into the River Ganga and its tributaries. Similar is the position in the States of Jharkhand, Bihar and West Bengal. Despite directions of this Tribunal, in-situ Sewage Treatment is not shown to have commenced for any of the drains except in the State of Uttarakhand. There is no information on water quality of river Ganga in the stretch falling in UP, Jharkhand, Bihar and West Bengal and information of regulation of Flood Plain Zone. The reports from the States other than Uttarakhand do not describe the number of drains and a plan for their interception and diversion to the Sewage Treatment Plants.

As regards solid waste management, including legacy waste sites, this Tribunal has already issued directions in O.A. No. 606/2018 as noted in para 10 of the order dated 22.08.2019 and in O.A. No. 519/2019 as already observed in para 19 in the order dated 22.08.2019 to the effect that tender process can be avoided if other successful models and rates involved therein such as Indore model are to be followed. Directions have also been issued for installing CCTV cameras and undertaking surveillance in para 25 of the said order. Further directions are for ensuring that not even a drop of raw sewage should be discharged in river Ganga and where STPs are not operative, immediate bio-remediation and/or phytoremediation need to be undertaken and to avoid procedural delay of tender process etc., specifications and norms should be adopted in consultation with the CPCB. We may also note that vide order dated 18.10.2019 this Tribunal in O.A. No. 606/2018 directed that rates for all such services and particulars of service providers should be standardized and specified on GeM portal. NMCG is a part of the Committee constituted by this Tribunal. Further, for setting up of STPs standard cost involved is said to be around Rs. 2 crore per MLD as per works allotted by NMCG. Cost of establishing sewerage networks, including setting up of pumping stations is said to be around Rs. 5 crores per MLD. Further direction on the subject may be issued by the NMCG/CPCB pending report of the Committee constituted by this Tribunal. **All that this Tribunal can observe is that clearance of legacy waste and sewage treatment being high priority areas, the authority should find ways and means to shorten the delays by avoiding DPRs/tender process which can be done if specifications and rates are standardized which may be explored by the concerned authorities.**

24. The Tribunal has also directed that **atleast interim measures of treatment of sewage by way of bio-remediation and/or phytoremediation or any other measures may start positively from 01.11.2019**, failing which the defaulting States may be liable to pay compensation of Rs. 5 lakhs per month per drain and for such violations, adverse entries must be made in the ACRs of the identified officers.

We reiterate the said direction and since 01.11.2019 has already gone, wherever interim treatment of untreated sewage has not started in the manner earlier directed, the compensation be deposited with the CPCB which will be personal responsibility of the

Chief Secretaries of the concerned States. **The Chief Secretaries of concerned States are put to notice that in case of any default in compliance their salaries may be liable to be stopped and for enforcing the directions, further coercive measures including order of civil imprisonment may be liable to be passed personally against the Chief Secretaries.**

25. We may also refer to the order of this Tribunal dated 03.12.2019 in O.A. No. 425/2019, Vijay Kumar Vs. State of Himachal Pradesh, to the effect that Hydropower projects in hill States including Uttarakhand must ensure minimum specified e-flow.

We may also add that replenishment study of mining areas needs to be carried out, if not already done. This may be mentioned in the next report of the States.

26. As already mentioned, **with regard to States of Uttar Pradesh, Bihar and Jharkhand, the status report is not in a tabular form as required. It is not clear whether the STPs are functional and meet the norms. Bio-remediation, phytoremediation or any other measures for treatment of sewage have not started where STPs are not functional, except that in respect of 14 drains in Kanpur interception and diversion works are said to have been undertaken/completed. Directions in para 23 above will also apply to the Chief Secretaries of the all concerned States. CPCB may monitor and give its report to this Tribunal.**

27. As noted earlier in para 5 above, this Tribunal constituted Monitoring Committees headed by former High Court Judges in the States of Uttarakhand and UP. The Committees were meant to monitor the progress till further orders and vide order dated 22.08.2019, the said Committees were to furnish final reports which have since been furnished. **There is thus need for further directions for effective monitoring mechanism. While the Chief Secretaries of the States are expected to monitor rejuvenation of Ganga on the pattern of monitoring of rejuvenation of 351 polluted river stretches, which include Ganga and its tributaries, in terms of orders of this Tribunal in O.A. No. 673/2018 and O.A. No. 606/2018, on suggestion of State of UP, this Tribunal set up a Monitoring Committee for environmental issues in the State of UP vide order dated 21.10.2019 in O.A. No. 670/2018. The said Committee may henceforth monitor steps for prevention and control of pollution of Ganga also in the same manner as other issues are being monitored. In State of Uttarakhand Justice U.C. Dhyani is heading Monitoring Committee for solid waste management and certain other issues. Such Committee may also monitor prevention and control of pollution of Ganga in the State of Uttarkhand. It is not necessary to continue other members in terms of earlier orders in the present matter, unless the State so directs. It is open to the States of Jharkhand, Bihar and West Bengal to evolve or suggest any additional monitoring mechanism on the pattern of State of UP or otherwise. These directions will not affect in any manner working of any Committees or authorities under the provisions of NMCG or otherwise.**

28. We may now sum up our directions as follows:

- i. **As already directed vide order dated 22.08.2019, timely completion of all projects relating to sewage treatment be ensured i.e. by 31.06.2020 in respect of ongoing projects and by 31.12.2020 in respect of others failing which compensation has to be paid in terms of the said order, apart from action against the erring officers. Till then, to avoid untreated sewage being discharged directly into Ganga, interim remedial measures have to be adopted and for the default after 01.11.2019 compensation has to be deposited in terms of order dated 22.08.2019. CPCB may make necessary calculation within one month from today and raise demands with the Chief Secretaries of the concerned States which may be complied within one month from the date of such demand failing which accountability will be of the Chief Secretaries personally.**
- ii. NMCG and concerned States – Uttarakhand, UP, Jharkhand, Bihar and West Bengal may take further steps as per directions already issued for
 - a) Preventing discharge of industrial effluents in Ganga and its tributaries/drains by ensuring installation of proper functioning of ETPs/CETPs.
 - b) Utilization of treated sewage, use of sludge as a manure and septage management.
 - c) Demarcation of flood plain zones and preventing encroachments thereof.
 - d) Maintenance of e-flow.
 - e) Preventing dumping of solid and other waste in and around Ganga.
 - f) Clearing old legacy waste dump sites.
 - g) Preventing and regulating illegal sand mining.
 - h) Steps for conservation of groundwater particularly with reference to critical, semi-critical or over-exploited areas.
 - i) Restoration of water bodies.
 - j) Monitoring and displaying of water quality.
 - k) Taking action against polluters by way of recovering compensation for restoration of the damage to the environment.
 - l) Closing, till compliance, all establishments near river banks being run without necessary STPs and compliance of environmental norms.
 - m) Public awareness and involvement for prevention and control of pollution of Ganga.
 - n) Regulating activities on and around river Ganga including ghats and other establishments.
 - o) Afforestation and setting up of biodiversity parks.
 - p) CPCB and SPCBs may periodically undertake biological assessment of Ganga. NMCG and States concerned may depict biological diversity of Ganga in public domain.
 - q) Any other directions covered by earlier orders of this Tribunal.

- iii. *The State of UP may take steps for remediating Chromium dump at Rania and Khanchanpur Village near Kanpur, as directed earlier vide orders dated 22.08.2019 and 15.11.2019.*
- iv. *CPCB may take further action to finalise and circulate Guidelines for Biodiversity parks expeditiously which may be complied with by the concerned States and status of compliance included in the reports to be filed before this Tribunal.*
- v. *Apart from the Chief Secretaries, the progress may be monitored by the Monitoring Committee constituted in the State of UP vide order dated 21.10.2019 in O.A. No. 670/2018, by Justice U.C. Dhyani in the State of Uttarakhand and in such manner as may be laid down by the Chief Secretaries in the States of Jharkhand, Bihar and West Bengal in the light of discussion in para 27 above.*

29. *Let further quarterly progress report be filed by 31.03.2020 by e-mail at judicial-ngt@gov.in.”*

Order dated 13.8.2020

10. The matter was then **considered on 13.08.2020** in the light of reports filed by the CPCB (dated 24.06.2020 and 13.08.2020), NMCG (dated 26.06.2020 and 11.08.2020), State of Uttarakhand (dated 16.06.2020), State of Uttar Pradesh (dated 11.06.2020), Oversight Committee headed by Justice S.V.S Rathore, (dated 21.07.2020), State of Jharkhand (dated 29.06.2020), State of Bihar (dated 26.06.2020) and State of West Bengal (dated 30.06.2020). While noting inadequate progress and giving consequential directions, it was specifically directed that the CPCB and study comparative reduction of pollution load in different sections. Direction for monitoring at the level of the Chief Secretaries was reiterated in view of the report that the earlier direction to that effect was not being complied. Further direction was for interaction by the Secretary Jalshakti, Central Government, NMCG and CPCB with the Chief Secretaries to facilitate further steps by better coordination and by adopting best practices for focused success in improving water quality was also mentioned. The key observations are:

“12. ... Before proceeding to consider the reports, we may note that **the reports filed do not cover all the aspects on which action was to be taken in terms of para 28 (ii) of the last order dated 18.12.2019.** We note that in pursuance of order of the Hon’ble Supreme Court in the case of *Paryavaran Suraksha (2017) 5 SCC 326*, **requiring prevention of discharge of any untreated effluent in any water body after 31.03.2018 and in default liability of the local bodies and the States to prosecution**, the Tribunal has passed several orders in O.A. 593/2017, *Paryavaran Suraksha Samiti & Anr. v. Union of India & Ors.* The last order was passed on 21.05.2020. Reference may only be made to the summary of directions in Para 26 as follows:

“26. Summary of directions:

- i. **All States/UTs through their concerned departments such as Urban/Rural Development, Irrigation & Public Health, Local Bodies, Environment, etc. may ensure formulation and execution of plans for sewage treatment and utilization of treated sewage effluent with respect to each city, town and village, adhering to the timeline as directed by Hon’ble Supreme Court. STPs must meet the prescribed standards, including faecal coliform.**

CPCB may further continue efforts on compilation of River Basin-wise data. Action plans be firmed up with Budgets/Financial tie up. Such plans be overseen by Chief Secretary and forwarded to CPCB before 30.6.2020. CPCB may consolidate all action plans and file a report accordingly.

Ministry of Jal Shakti and Ministry of Housing and Urban Affairs may facilitate States/UTs for ensuring that water quality of rivers, lakes, water bodies and ground water is maintained.

As observed in para 13 above, 100% treatment of sewage/effluent must be ensured and strict coercive action taken for any violation to enforce rule of law. Any party is free to move the Hon’ble Supreme Court for continued violation of its order after the deadline of 31.3.2018. This order is without prejudice to the said remedy as direction of the Hon’ble Supreme Court cannot be diluted or relaxed by this Tribunal in the course of execution. PCBs/PCCs are free to realise compensation for violations but from 1.7.2020, such compensation must be realised as per direction of this Tribunal failing which the erring State PCBs/PCCs will be accountable.

- ii. **The CPCB may study and analyse the extent of reduction of industrial and sewage pollution load on the environment, including industrial areas and**

rivers and other water bodies and submit its detailed report to the Tribunal.

- iii. During the lockdown period there are reports that the water quality of river has improved, the reasons for the same may be got studied and analysed by the CPCB and report submitted to this Tribunal. If the activities reopen, the compliance to standards must be maintained by ensuring full compliance of law by authorities statutorily responsible for the same.**
- iv. Accordingly, we direct that States which have not addressed all the action points with regard to the utilisation of sewage treated water may do so promptly latest before 30.06.2020, reducing the time lines in the action plans. The timelines must coincide with the timelines for setting up of STPs since both the issues are interconnected. The CPCB may compile further information on the subject accordingly.**
- v. Needless to say that since the issue of sources of funding has already been dealt with in the orders of the Hon'ble Supreme Court, the States may not put up any excuse on this pretext in violation of the judgment of the Hon'ble Supreme Court."**

13. The other matter which overlaps with the present matter is O.A. 673/2018, News item published in "The Hindu" authored by Shri Jacob Koshy titled "More river stretches are now critically polluted: CPCB" dealing with the remedial action for control of pollution in 351 polluted river stretches in the Country. In the said matter, direction was issued for constitution of River Rejuvenation Committees (RRCs) in all the States. Rivers are polluted mainly on account of failure to enforce provisions of the Water (Prevention and Control of Pollution) Act, 1974 and allowing untreated sewage/effluent to be discharged into the rivers. The Tribunal required preparation of action plans to control the discharge of untreated effluents and to take other measures including preventing dumping of waste, maintaining flood plain zones, maintaining e-flow and restoring water quality to bathing standards. The direction issued in the said order has been monitored periodically and the last order was passed on 29.06.2020. Reference may only be made to the directions in the said order in Para 45 as follows:-

"45. We reiterate our directions in order dated 6.12.2019 in the present matter, reproduced in Para 38 above, read with those in order dated 21.5.2020 in OA 873/2017 and direct CPCB and Secretary, Jal Shakti to further monitor steps for enforcement of law meaningfully in accordance with the directions of the Hon'ble Supreme Court and this Tribunal. **The monitoring is expected with reference to ensuring that no pollution is discharged in water bodies and any violation by local bodies or private persons are dealt with as per mandate of law as laid down in orders of the Hon'ble Supreme Court and this Tribunal without any deviation from timelines. The higher**

authorities must record failures in ACRs as already directed and recover compensation as per laid down scale. Every State/UT in the first instance must ensure that at least one polluted river stretch in each category is restored so as to meet all water quality standards upto bathing level. This may serve as a model for restoring the remaining stretches.

Further reports be filed by the CPCB and Secretary Jal Shakti by 15.9.2020 by e-mail at judicial-ngt@gov.in (preferably in the form of searchable/OCR PDF and not image PDF).

As already noted, the constant difficulty faced by this Tribunal in monitoring abatement of pollution in river Ganga (as well other polluted rivers) remains failure of States and PCBs/PCCs to enforce its orders, despite repeated directions and close monitoring, even in physical presence of Chief Secretaries who have appeared before this Tribunal.

A copy of this order be sent to the Chief Secretaries of all States/UTs, Secretaries of MoHUA and Ministry of Jal Shakti, Govt. of India, CPCB and all the State PCBs/PCCs by e-mail.”

14. While dealing with the issue of compliance of rules for Solid Waste Management and other environmental issues, in O.A. No. 606/2018, the Tribunal had interaction with the Chief Secretaries of all the States/UTs with reference to significant environmental issues, including the issue of preventing discharge of untreated effluents in water bodies and rejuvenation of polluted river stretches. All the States/UTs, NMCG and the CPCB are conversant with the above orders as copies thereof have been sent to them and Chief Secretaries of all States have appeared in person before this Tribunal and interacted with the Tribunal. It is not necessary to repeat the above directions except to say that such directions are required to be followed in the context of river Ganga in the States of Uttarakhand, Uttar Pradesh, Jharkhand, Bihar and West Bengal and status of compliance included in the progress report on the subject of preventing and remedying the pollution of river Ganga. **It is a pity that even after constant monitoring by the Hon'ble Supreme Court for 34 years (1985-2014) and by this Tribunal for the last six years and, 46 years after enactment of Water Act making discharge of pollutants in water bodies a criminal offence, pollutants continue to be discharged in the most holy river. The States are still held up in the process of giving tenders or preparing DPRs for setting up STPs. Pollution free environment is the constitutional right of every citizen and constitutional obligation of the States. To this extent the States are certainly failing in discharging their constitutional obligation.**

15. We may now take up the reports filed by the CPCB, NMCG, States of Uttarakhand, Uttar Pradesh, Jharkhand, Bihar and West Bengal serially.

Report of the CPCB dated 23.06.2020 (filed on 24.06.2020)

16. The report deals with the guidelines for setting up of biodiversity parks and calculation of Environmental Compensation in terms of earlier orders of this Tribunal. It is stated that the draft guidelines were prepared and uploaded on the website of CPCB on 15.05.2020. The same were sent to various Experts and after considering their comments and suggestions, final guidelines were approved on 08.06.2020. **The said guidelines lay down the details of planning, designing, development and schematic layout of a typical biodiversity park in riverscapes showing different structural components with schematic layout of a typical constructed wetland system for in-situ remediation of sewage/ industrial effluent of the drain passing through upland Elevated Floodplain of the riverscape. Other aspect dealt with in the report of the CPCB is the calculation of compensation per drain for failure of the States to prevent discharge of untreated pollutants by providing treatment plants or taking interim treatment measures. In this regard, further verification of status of failure may be necessary.** On account of lockdown, some more time may be required to be given. Thus, this aspect is deferred till the next date. Second report filed by CPCB dated 13.08.2020 does not give any additional information except that EC has been deposited by the State of West Bengal.

Report of NMCG dated 26.06.2020

17. The report annexes a tabular statement with regard to status of compliance in respect of different thematic areas. The information is not in summarized form. While we take on record the information furnished, we expected the same to be filed in a summarized form so that it can be comprehended at a glance. Anyway, from the information furnished, we find that while some progress has been made, **there is continued failure of the States in preventing discharge of untreated effluents by permanent or interim arrangement in violation of provisions of the Water (Prevention and Control of Pollution) Act, 1974, judgments of the Hon'ble Supreme Court and this Tribunal.** This unsatisfactory state of affairs calls for rigorous planning action at the highest level monitoring for meaningful enforcement of the Rule of Law for protection of environment and public health and also for the rejuvenation of river Ganga.

18. Apart from the issues already highlighted, the State of Bihar has stated that there cannot be demarcation of flood plains of river Ganga in the Bihar as the State is over populated. **Learned Senior Counsel for the NMCG submits that Bihar is not exempt from the statutory mandate requiring maintenance of minimum flow for which identification and protection of flood plains cannot be wished away. We find it difficult to accept the stand of State of Bihar. Demarcation of flood plains is absolutely necessary to maintain e-flow to which Bihar can be no exception. Moreover, the State of Bihar is frequently faced with floods, affecting lives and safety of the citizens. One of the remedies for handling floods is identification of the flood plains and their protection. Protection of flood plains may require control of unregulated construction activities, encroachments and unregulated mining.**

Report of State of Uttarakhand filed on 16.06.2020

19. According to the report, out of 19 projects under Namami Gange Programme, 13 have been completed and the remaining six (06) are under execution. It is also mentioned that steps are being taken for use of treated water, use of sludge manure and septage management. Steps are also being taken to control industrial pollution and requiring treatment facilities in Hotels/Ashrams and Dharamshalas. Water quality is being monitored, steps have been taken for joining of the flood plains, for plantation and setting up biodiversity parks. Action has been taken against the violators of environmental norms and for illegal mining.

Report of the State of U.P. dated 11.06.2020

20. We have perused the report of State of UP dated 11.06.2020 and the report of the Oversight Committee dated 21.07.2020. It will be suffice to refer to the later. The report mentions the earlier proceedings before the Tribunal, meetings held by the Monitoring Committee, steps so far taken for preventing and remedying the pollution and connected issues. The recommendations of the Committee for further action include taking of steps by better coordination amongst various Departments. Recommendations highlight that **regular monthly meetings at the level of Chief Secretaries were essential** but were not happening.

Report of State of Jharkhand dated 29.06.2020

21. From the report dated 29.6.2020, we find it difficult to decipher the exact status of compliance under different heads in terms of the order of this Tribunal.

Reports of the State of Bihar dated 22.05.2020 & 26.06.2020

22. Report of the State of Bihar is that there are 30 sewerage infrastructure projects. One (01) has been completed. 19 are under implementation. Seven (07) are under tendering process. For three (03) more projects, tender is yet to be floated. We have already noted the stand of the State with regard to protection and management of flood plain zones. It is stated that buffer zones of 100 meters, 200 meters and 500 meters have been demarcated. The report gives the status of STPs at various locations and other pollution abatement work.

Observations and Directions

23. In view of the above, further steps in the light of earlier orders of the Tribunal, including the order dated 18.12.2019 need to be taken and monitored at the level of Chief Secretaries of the States. In terms of order of this Tribunal in OA 673/2018, River Rejuvenation Committees (RRCs) have been constituted in all States having polluted river stretches. Their working is to be monitored by the Chief Secretaries periodically. There is also monitoring by the Ministry of Jal Shakti. As reported by the Oversight Committee constituted by this

Tribunal for U.P., **such monitoring is essential but is not taking place.** The position is not clear for the States of Jharkhand, Bihar and W.B. **It is difficult to say that the monitoring at level of Chief Secretaries is taking place in the said States.** This needs to be ensured. There is no appearance before this Tribunal for the said States which obstructs this Tribunal from verifying important information. **We wish the States had taken the matter with more seriousness instead of neglecting it in this manner.** We also feel that there should be periodic joint meetings of the Chief Secretaries of the concerned States to consider vital issues like pooling of human resources and sharing best practices for rejuvenation of Ganga, particularly preventing discharge of sewage and other pollutants therein directly or in its tributaries or drains connected thereto. There is need to take a holistic approach of treating river Ganga as a single entity and eco-system which requires pooling of fiscal resources by different stakeholders. Project of making Ganga pollution free needs serious attention of all States at highest levels. Joint meetings of concerned Chief Secretaries can be convened by the NMCG and Secretary Jal Shakti. Already, this Tribunal has directed interaction by the Ministry of Jal Shakti (MoJS) and CPCB with all States on the subject of pollution of rivers and ensuring that no pollutants are discharged in river bodies. NMCG also can join such monitoring. There are operative action plans prepared by RRCs. The action plans supposedly aim at **achieving norms of water quality upto bathing standards by suitably reducing the levels of BOD and Faecal Coliform and taking other steps.** The RRCs may consider availing of CSR schemes by involving the willing corporate entities and entrusting particular stretches to particular entities to the extent viable. As already directed, the specified flood plain zones need to be handed over to the Forest Department for plantations for which CAMPA funds can also be utilised. The Forest Department may also explore community involvement in restoration and development projects, including raising of plantations, developing bio-diversity parks and artificial wetlands. Utilisation of MGNREGA funds also need to be considered, apart from other sources of funding. We direct the NMCG and Secretary Jal Shakti to convene a meeting of concerned Chief Secretaries after clearly identifying action points needing focus under relevant heads and notifying to the Chief Secretaries within two weeks. NMCG can be the nodal agency and CPCB may also join. The Chief Secretaries may compile their respective feedback and have an effective interaction and joint discussion. **First meeting may be held within one month preferably by 25.09.2020 on such date as MoJS, NMCG and CPCB may fix. Thereafter such meetings may be held atleast once in three months with specific targets.** This Tribunal has involved four former Chief Secretaries in monitoring of river cleaning projects in Delhi, Punjab, Haryana and U.P. DDA has adopted certain measures in Yamuna cleaning which may be found worth consideration in dealing with Ganga cleaning. It will be open to the NMCG/Secretary Jal Shakti/CPCB to invite the said four retired Chief Secretaries and the Vice Chairman DDA as special invitees for inputs which may be of relevance for Ganga cleaning. Meetings can be virtual so long as physical meetings are not viable or necessary. A Joint Committee of NMCG, MoJS and CPCB may look into the issue of flood plains demarcation and protection in the State of Bihar and interact with the State of Bihar.

24. *The States of Uttarakhand, UP, Jharkhand, Bihar and West Bengal may give their respective reports to the NMCG and also before the Tribunal 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). Consolidated report of the status as on 31.12.2020 may be filed covering all the issues as directed in the earlier order dated 18.12.2019 before the next date in a summarized form by the NMCG at same e-mail before the next date. **As the work in Jharkhand, Bihar and West Bengal till now has not picked up so far, the Chief Secretaries of the said States may remain personally present by way of video conference so that the Tribunal may be able to interact with them.***

Last Order dated 8.2.2021

11. The matter was last considered on 08.02.2021 in light of reports filed by the NMCG, CPCB, States of UP and Uttarakhand and the Oversight Committee³ for UP dated 05.02.2021, 04.02.2021, 05.02.2021, 29.12.2020 and 05.02.2021 respectively.

12. The status as per report of NMCG dated 05.02.2021 was noted as follows: -

“11.1 Status of bio-remediation/phyto-remediation of drains as interim remedial measures for treatment:

The bioremediation related interventions are best decided at local levels and State may take up the projects as per need at their level. This would be more appropriate and would also be quick. This view has been conveyed to all the States in a meeting held under chairmanship of Director General, NMCG on 12.09.2019 and also in meeting of Supervisory Committee of NGT held on 11.10.2019. The decision was once again reaffirmed that the State government may take up the projects from their own funds in a meeting chaired by Secretary, DoWR, RD & GR held on 08.01.2020. Further, in 3rd meeting of Central Monitoring Committee meeting in NGT matter OA No. 673/2018 held under Chairmanship of Secretary, DoWR, RD & GR on 23.06.2020, many of States have apprised that they have initiated bio-remediation and phyto-remediation measures under their own funding towards compliance of NGT directions in the matter. The views as above have been communicated to States to take necessary steps to comply with extant directions of Hon'ble NGT. The Action undertaken

³ Constituted by this Tribunal vide order dated 16.03.2020 for overseeing environmental norms in the State of UP headed by Justice SVS Rathore, former Judge of the Allahabad High Court at Lucknow

by various State Governments after order of Hon'ble NGT dated 13.08.2020 for bio-remediation/phyto-remediation of drains as interim remedial measures for treatment are as following:

- **Uttarakhand:** Uttarakhand State Govt. earlier submitted (vide letter No. 23/SPMG/ Namami Gange/Bio-Remediation Tech) that a total of 13 untapped drains required treatment through bioremediation/ phytoremediation. Further, it has been informed that the nodal agency i.e. Uttarakhand Jal Nigam has been directed to initiate tendering process for in-situ treatment of un-tapped drains identified in the 09 polluted rivers stretches in State through bio-remediation under Namami Gange Programme. The work would start one month prior to Kumbh Mela - 2021 and will continue one month post Kumbh Mela - 2021. The project would be funded under NGT Component — New Initiatives of Namami Gange Programme.

As regards the remaining 04 drains it has been informed that 01 drain at Swargashram is intercepted for treatment and with respect to other 03 drains at Joshimath, their water quality is being monitored regularly and their BOD level is reported to be less than 30 mg/L, hence, bioremediation is not required in these 03 drains.

- **Uttar Pradesh:** UP State Government earlier submitted (vide letter No. 4559/No-5-19-234/19 dated 04.11.2019) that a total of 459 drains in the State needed treatment through bioremediation/ phytoremediation. It has been informed that Bio-remediation is being done in 42 drains of Prayagraj. Bio-remediation in other drains is proposed through ULBs who had been directed to carry out this work. The work in these balance drains is yet to commence.
- **Bihar:** Bihar State Government had earlier submitted (vide letter No. BGCMS/2019/Gaya-22250 **UD&HD**) that total 110 drains in Bihar are untapped and needed alternative treatment. Also, it is informed that work has been started for in-situ treatment through bioremediation for 89 drains joining River Ganga and other polluted rivers. Bio-mining/bioremediation work has been initiated at Barahiya, Patna and Muzaffarpur for disposal of legacy waste.
- **Jharkhand:** The State of Jharkhand in its report has submitted that DPR for in-situ treatment through bioremediation of drains in identified ULBs viz. Chas, Ranchi, Mango and Adityapur, involving CSIR—NEERI has been prepared and tendering is under process. The State Govt. has projected to treat approx. 120 MLD of waste water by adopting in-situ treatment through bioremediation/ phytoremediation.

As an interim measure at 4 nos. of drains at Rajmahal, that are considered as dry / stagnant drains in which flow occurs only during monsoon season at Rajmahal, the screens at drains have been installed on dated 25.03.2019 i.e. well before the court order in this matter, to prevent the discharge of floating matter into the river and due to very less flow at these drains, as an interim measure natural and biological treatment with in-situ manual chemical method has been put in place well before 01.11.2019, and the same has been communicated to the CPCB during meeting on dated 07.01.2020 at CPCB, New Delhi and vide UD&HD letter No. 236 & 1391 dated 20.01.2020 & 22.05.2020 respectively to CPCB.

- **West Bengal:** *The State Government of West Bengal has submitted that work for in-situ treatment of drains through bioremediation has been started as pilot project for drains discharging in Ganga and Churni river stretches. Besides State is implementing primary treatment of drains identified on rivers in Priority V by adopting techniques such as providing screens sedimentation tank followed by disinfection. 82.58 MLD is proposed to be treated using such primary treatment techniques.*

11.2 Monitoring & updated status of STPs/ Sewerage Infrastructure projects [since the status report dated 26.07.2020]: *status of various projects related to setting up of STPs/ sewerage infrastructure in majors cities along the main stem of River Ganga in State of Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal, it is submitted that these Projects are being regularly monitored by NMCG at the highest level to ensure their completion within the timelines and shortfalls, if any, are duly reported. NMCG ensures that technical hand-holding, assistance prior to grounding of project and during implementation is also provided by field monitoring and supervision visits of PMCs. Since, August, 2020, 14 monitoring/ review meetings have been held at the level of the Hon'ble Minister (Jal Shakti), Secretary, Dept. of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti and Director General, National Mission for Clean Ganga. Earlier, 1st meeting of National Ganga Council was held under Chairmanship of Hon'ble Prime Minister of India on 14.12.2019. 5th and 6th meeting of Empowered Task Force under Chairmanship of Hon'ble Minister for Jal Shakti was held on 10.02.2020 and 25.09.2020 respectively. In addition to above, three meetings were taken by Hon'ble Minister for Jal Shakti, six at level of Secretary (Department of Water Resources, River Development & Ganga Rejuvenation) and five at level of Director General, National Mission for Clean Ganga.*

Besides regular review meeting are also taken at level of Executive Directors of NMCG to ensure completion of project works in accordance to prescribed timelines.

The updated status of STPs/ sewerage infrastructure (as on **31.12.2020**) is enclosed as **Annexure — IV**.

Following emerges from the above status:

- Since submission second quarterly report to this Tribunal, 01 new projects (faecal sludge management for Bijnore town) of have been sanctioned in the reach from Haridwar d/s to Unnao d/s.
- 02 projects in UP have been completed in reach downstream of Unnao.
- 07 project will be completed by March-2021 in UP, 07 projects will be completed by December-2021 in UP.
- 01 project under AMRUT (Bulandshar sewerage and STP) will be completed by March-2021 and another 01 project by December-2021.
- 09 new projects have also been included for Yamuna river and its tributaries which are under various stages of implementation.

Amongst others, major issues related to control and management of sewage pollution besides synopsis of sewerage infrastructure in Ganga basin area are as following:-

Uttarakhand:

- State has made timely progress in completion of sewerage infrastructure projects. Out of 19 projects sanctioned (for towns situated on main stem of River Ganga) under Namami Gange programme, 18 projects have been completed. Thus 5 more sewerage infrastructure projects have been completed since last quarterly report submitted to this tribunal.
- Hon'ble Prime Minister of India inaugurated all the major sewerage infrastructure projects in the State on 29th September 2020. These projects are:
 - * 68 MLD STP at Jagjeetpur, Haridwar;
 - * Upgradation of 27 MLD STP at Jagjeetpur & 18 MLD STP at Sarai;
 - * 26 MLD STP at Lakkarghat, Rishikesh;
 - * 7.5 MLD STP at Chandeshwarnagar and 5 MLD STP at Chorpani, Muni-ki-Reti;
 - * 1 MLD STP and 0.01 MLD STP at Badrinath;
 - * Ganga Avlokan — a museum on Ganga at Chandighat, Haridwar.
- 1 STP project at Joshimath was delayed because of landslide at original STP location necessitating change of STP location. The STP is expected to be completed by end of March'2021.

- *Towards monitoring of functioning of STPs, 16 STPs have online monitoring system which are connected to Ganga Tarang web portal. A dashboard is also being developed for monitoring the functioning of STPs.*

Uttar Pradesh:

- *10 STPs (50 MLD Ramanna, Varanasi/ 10 MLD Ramnagar/ 21 MLD Etawah/ 0.01 MLD Chunar/ 24 MLD Etah/ 20 MLD Modinagar/ 67 MLD Firozabad/ 120 MLD Luckhnow/ 26 MLD Jhansi/ 15 MLD Kanpur) out of 32 STPs were expected to be completed by March 2021. Out of them, 09 projects were to be completed by December 2020. However, construction for only 01 STP at Firozabad has been completed and is under trial run. The State of U.P. should make effort to complete remaining 08 STPs at the earliest and other 23 STPs as per the timelines.*
- *No progress since September 2020 for 04 projects at Balia, Pratapgarh, Jhansi and Kanpur (Baniyapurwa). Efforts should be made to expedite the progress and complete the projects as per the timelines.*
- *LoA for project at Lucknow was issued in September 2020 but the same has run into legal issues. Land issue for Moradabad project is pending for long. The issue for these projects need to be resolved at the earliest.*
- *Similarly, for Farrukhabad STP project, in spite of NOC being given by NMCG, the LoA has not yet been issued to the successful concessionaire by State. The LoA may be issued at the earliest.*
- *In addition to sub-optimal capacity utilization, poor operation and maintenance of the created sewage and industrial effluent treatment infrastructure also appears to be a critical issue of concern evident from the fact that 19 (03 and 67 MLD STP Firozabad/ 1.6 MLD Saifai/ 23 MLD STP at Mauja Odenya, Mainpuri/ 9.8 MLD Bhagwanpur Varanasi/ 12 MLD DLW Varanasi/ 14 MLD Pakka Pokhra, Mirzapur/ 4 MLD Vindhychal, Mirzapur/ 56 MLD Trans Hindon, Indirapuram, Ghaziabad/ 70 MLD Dudahaida Vijay Nagar, Ghaziabad/ 2.25 MLD, Budi ka Nagla, Agra/ 10 MLD, Peelakhar, Agra/ 4.50 MLD, Kalindi Vihar, Agra/ 13.59 MLD, Masani, Mathura/ 14.5 MLD, Trans Yamuna, Mathura/ 08 MLD Near 100 Bed Hospital Vrindavan, Mathura/ 04 MLD, Vrindavan Near Pagal Baba Mandir, Mathura/ 16 MLD, Trans Yamuna, Laxmi Nagar, Mathura/ 2.76 MLD Goverdhan STP/ 5 MLD Hathia Nala Sultanpur) of the 101 STPs are non-complying with prescribed standards apart from 5 non-operational (20 MLD Moradabad/ 56 MLD Bapudham, Ghaziabad/ 30 MLD, Sadullabad Loni, Ghaziabad/ Jajmau 5 MLD, Kanpur/ Kanwara Road Banda) STPs. Action plan for making these STPs compliant needs to be drawn along with timelines. Officials responsible for maintenance of these infrastructures need to be made accountable.*
- *It has been learnt that Garhmukteshwar STPs (3 + 6 MLD) constructed under Namami Gange Programme are not*

operational from last 3 months due to settlement of trunk sewers and choking of network. The issue need to be examined and resolved as soon as possible to ensure no untreated wastewater is discharged into river Ganga.

Bihar:

- Following STP and **I&D** schemes/projects in Bihar have been delayed inordinately and pending because of inter departmental issues related to land NOC to be granted by State Deptt./agencies:
 - * Land for two no Intermediate Pumping Station (IPS) for the Maner **I&D** and STP scheme;
 - * Land for 2 number IPS in Bakhtiyarpur STP project. Land NOC for STP itself was received very late on 02.12.2020
 - * Land for one IPS in Kankarbagh and one IPS for Digha STP and network project.
 - * Compensation towards land for the Begusarai STP is yet to be resolved so that work can start at site.
 - * Part land for one IPS in Karmalichak network project
 - * Land for one IPS in Sultanganj I&D and STP project.
- These issues are being continuously flagged for early resolution and were also raised recently during 8th meeting of Central Monitoring Committee held on 05.01.2021 followed by DO letter dated 18.01.2021 from the Secretary (Jal Shakti).
- Another inter-Departmental issues to be resolved pertains to permissions from Road Construction Department (RCD) of Bihar/ NHAI. The requisite permissions that have been delaying the progress of ongoing works to significant levels leading to spilling of this tribunal mandated timelines as below:
 - * RCD permission for 39Km road cutting and NHAI permission for 5.62Km road cutting is pending
 - * RCD permission is pending for 30.22km, from NHAI- 8.66km (mainly in Naugachia, Begusarai and Chhapra for sewerage projects outside Patna)
 - * Railway crossing permission in Mokama, Begusarai and Sonapur is pending.
- The tendering for the schemes like Munger, Hajipur, Barahiya, Kahalgaon and Khagaria has been pending for a long. In particular, the tendering for Hajipur and Munger sewerage infrastructure projects, the guidelines and/or directions of NMCG have not been adhered by State authorities. The insistence of the State to ignore the directions of NMCG has led to inordinate delays in finalization of procurement.
- These schemes along with Buxar sewerage network and STP need to be awarded without further delay. Secretary

(Jal Shakti) vide his DO letter dated 18.01.2021 has requested Chief Secretary Govt of Bihar that the concerned officials from BUIDCo and State Mission for Clean Ganga sitting over the directions/ guidelines of NMCG be directed or else identified so that seamless procurement procedures are implemented without further delays. The matter yet remains to be sorted out and information awaited at NMCG.

West Bengal:

- **Hooghly Chinsurah I&D and STP project:** - Revised DPR of Hooghly Chinsura has been sanctioned in 29th EC meeting and AA&ES amounting of Rs. 154.73 Crs. was issued on 23rd Sep 2020. Kolkatta Metropolitan Development Authority (KMDA) invited the tender on 23.11.2020. Now tenders have been kept on hold due to inter-Departmental issues (Department of Education) related to land which has not been sorted out by State. The land allocated for STP requires to be retained as proposal has already been changed twice and lingering since 2018.
- **Tolly Nullah I&D and STP project:** - NMCG has sanctioned a project for Pollution Abatement & Rehabilitation of Tolly's Nullah (Adi Ganga), Kolkata (Interception & Diversion with Pumping Station and STP) at a cost of Rs. 307.12 crore on 17.08.2017. Kolkata Municipal Corporation (KMC) has invited the tenders and bid have been received on 2nd call on 10.12.2020. KMC has to complete the award process at the earliest as the grounding of project is inordinately delayed. NMCG has provided necessary advise in the procurement matter.
- **Rehabilitation of Keorapukur & Garden Reach STP:-** NMCG has sanctioned the project on 05.03.2018 amounting of Rs. 165.16 Crs. State Government is revising the scope and revised DPR is yet to be received. State Government may expedite the work and submit the revised DPR at the earliest. The project will have to be re-sanctioned thereafter.

11.3 Faecal Sludge and Septage management:

The Govt. of India issued the National Policy on Faecal Sludge and Septage Management in February 2017. NMCG has suggested the States Govts. that FSTP implementation in all towns with population less than 1 lakh should be adopted in consonance with National Policy on FSSM.

NMCG had organized an online Webinar on "Strengthening Capacity of ULBs in Planning and Implementation of FSSM across Cities and Towns of Ganga Basin" on 19th January 2021. The webinar aimed to reiterate the commitment and focus of NMCG towards Faecal Sludge and Septage Management (FSSM)s one of the key approaches to reducing the pollution into river Ganga. Additionally, the webinar also

aimed to build awareness around the broad array of capacity building opportunities in this sector for effective planning and implementation of FSSM. It aimed to bring together various institutions and tools that are of relevance to these urban local bodies to implement FSSM.

The Webinar was attended by around 250 government officials from almost all the States. The webinar is a part of long term training and capacity building project on FSSM for Ganga towns being taken up with WASH Institute, supported by USAID and BMGF. The webinar presented case studies of various states where FSSM has been scaled up. Presentations were made by National Institute of Urban Affairs (NIUA) with regard to integrating FSSM in river management plan and by MoHUA on the schemes and initiatives of MoHUA that ULBs can utilize to scale up FSSM. The Webinar also included a session on experience of Odisha which has taken up FSSM extensively, besides initiatives taken by NMCG in this direction. States were urged to consider the implementation of FSTPs and/ or co-treatment of faecal sludge in existing STPs, in all towns wherever feasible, so that dumping of the faecal sludge in water bodies/ land and thereby polluting them, can be avoided.

Major initiatives/achievements undertaken by the States towards adoption of FSSM are as following:-

- **Uttarakhand:** The Govt. of Uttarakhand has notified the protocol for Septage Management. Septage Management Committee has been formed in all 15 priority towns/ULBs situated on the main stem of River Ganga as per the provisions of the Septage Management Protocols (SMP).
- **Uttar Pradesh:** UP Septage Management Policy' 2019 was approved in October 2019. FSTP is operational in Jhansi and Unnao and under construction in 05 towns (Chunar, Loni, Lakhimpur, Rae Bareilly and Modinagar). Projects approved and LOA issued for FSTP in 31 AMRUT towns (Aligarh, Moradabad, Shahjahanpur, Ayodhya, Pilibhit, Pt Deen Dayal Upadhyay Nagar, Shamli, Baraut, Hapur, Khurja, Chandausi, Hathras, Amroha, Badauan, Shikohabad, Farrukabad, Hardoi, Sitapur, Bahraich, Gonda, Orai, Jhansi, Lalitpur, Banda, Fatehpur, Akbarpur, Basti, Deoria, Azamgarh, Jaunpur, Maunath Bhanjan), LOA issued for co-treatment in 04 towns (Saharanpur, Mathura, Rampur, Muzaffarnagar); while tenders floated for co-treatment in 17 towns (Lucknow, Kanpur, Agra, Meerut, Varanasi, Prayagraj, Ghaziabad, Gorakhpur, Etawah, Mirzapur, Firozabad, Mainpuri, Sultanpur, Ballia, Bulandshar, Ghazipur, Ayodhya-Faizabad).
- **Bihar:** State has prepared **DPR** for FSSM for three towns namely, Digwara, Manihari and Teghra. The DPR are awaiting sanction of government for their implementation. This needs to be expedited.

11.4 Industrial Pollution Management:

CPCB through the State Pollution Control Boards is the central agency responsible for controlling the discharge of industrial/trade effluents in to the rivers and waterbodies and their effective treatment as per set standards through proper functioning of the ETPs/CETPs. NMCG has been regularly pursuing this issue with the apex regulator as well as the State agencies. A tabulated statement on the total number of Industries, effluent load, installed treatment capacity and proposed capacity to be created in the States of Uttarakhand, U.P., Bihar, Jharkhand and west Bengal has been represented in table below:

Table- 1: Statement on Industries and Treatment Capacity established in States

State	No. of Industries	Effluent Discharge (MLD)	No. of Industries having ETPs	Treatment Capacity of ETPs (MLD)	CETPs (Nos. and Capacity in MLD)
Uttarakhand	830	145	830	175	Existing-3(13.2MLD) Proposed- 3 CETPs of 18 MLD
Uttar Pradesh	1648	850.5	1404	NA	Existing — 7 (58.60 MLD) (NC-01/07 operational)/7 Nos. of cumulative capacity 58.55 MLD, Under Construction — 01No. (20
Jharkhand	190	-	187	-	Existing : 2 Nos. of 25.05 KLD Under Construction: 3.5 MLD at Ranchi, Tupadana Industrial Cluster.
Bihar	219	NA	212	-	Existing : NA Under Construction/Proposed: There are 52 industrial areas under control of BIADA, 5
West Bengal	454	1360.60	454 (400SPIs & 54 GPIs)	1360.60	Existing : 20 MLD CETP Under Construction: 4 module CETP of 20 MLD

Amongst others, major issues related to control and management of industrial pollution in Ganga basin area are as following:

- Upgradation of 6.25 MLD CETP (Rs.13,87 crore) for textile cluster at Mathura was sanctioned by NMCG with 25% contribution from industry members as well 100% O&M cost to be borne by them. There is provision for 50% reuse of treated water. LoA has been issued and contract is to signed but industry is not willing to sign the contract seeking additional time of 2-3 years due to industry running in loss due to Covid. The State Govt. of U.P./ agencies involved should be directed to expedite the process, of completing the upgradation of CETP and assuring its O&M upon commissioning of CETP.
- 2.1 MLD CETP for textile park at Pilkuwa under Pilkuwa-Hapur Development Authority remain non-compliant and nonresponsive to submission of action plan for shifting of industries working in residential areas to textile park since 2018.

- *1.5 MLD ZLD based CETP for Farrukabad textile cluster has been considered by NMCG for sanction. However, the project could not be sanctioned for transfer of land costing Rs. 7.95 crore, already allocated to SPV by UPSIDC as about 1.03 crore has been imposed as interest for 1.25 year towards delay in land acquisition process. A decision was taken by Hon'ble Cabinet Minister of Khadi, Village Industries, Sericulture, Textile, Micro, Small & Medium Enterprises and Export Promotion, Uttar Pradesh for exemption of overhead and Interest charges of the land from cabinet. This was discussed in meeting of Hon'ble Minister, (Jal Shakti) and the Chief Minister, State of U.P. held on 18.01.2021. The cabinet decision is awaited.*

11.5 Environmental Flows: *That as regards "Environmental flows" in River Ganga, as per paragraph 5 of the Notification dated 7.10.2016, every State Government shall endeavour to ensure that uninterrupted flows are maintained at all times in River Ganga. Further it is mentionable that every State Government shall also endeavour to maintain adequate flows of water in River Ganga in different seasons to enable River Ganga to sustain its ecological integrity and to achieve the goal and that all concerned authorities shall take suitable actions in a time bound manner.*

That the Government of India, in exercise of the powers conferred vide notification viz 'River Ganga (Rejuvenation, Protection and Management) Authority Order, 2016, has notified on 09.10.2018 the minimum environmental flows to be maintained in river Ganga, for stretch starting from its origin to Unnao in Uttar Pradesh specifically at locations downstream of structures or projects meant for diversion of river flows for purposes like irrigation, hydropower, domestic and industrial and other requirements.

The environmental flow regime is applicable to all existing, under-construction and future projects [barring Mini and Micro projects which do not alter the flow characteristics of the river or stream significantly]. An Expert Team comprising of officials from Central Water Commission, Central Electricity Authority and National Institute of Hydrology, Roorkee based on their inspection of projects during 1216 June, 2019 reported that all the existing projects have provisions for releasing the mandated e-flows through controlled gated spillways/ waterways and structural modifications in the body of projects may not be required for the same. The release of mandated e-flows is not being maintained by some of the projects, mainly HEPs, due to commercial considerations. In view of this, it was decided that the three year period given in original notification may not be needed. Accordingly, the time period for complying with the environmental flow norms has been reduced from 3 years i.e., 09.10.2021 to 15.12.2019.

The Central Water Commission (CWC) is the designated authority and custodian of the data, responsible for supervision, monitoring and regulation of flows. The monitoring of E-flows is being carried by Upper Ganga Basin Organization (UGBO), CWC since 01.01.2019. CWC in its capacity as the designated Authority, for supervision, monitoring and regulation of

Environmental flows regime, fixed the e-flow targets for the Hydro Electric Projects (HEPs) operating in the Ganga river Basin in the State of Uttarakhand and ensures strict adherence to the stipulated e-flow norms/targets by 15.12.2019. CWC has been submitting e-flows, monitoring-cum-compliance report on quarterly basis to NMCG

(a) Uttarakhand : *The project currently being monitored by CWC are Maneri Bhali Stage —I, Maneri Bhali Stage —II, Tehri Dam, Koteshwar Dam, Vishnuprayag HEP, Srinagar HEP, Pashulok barrage/ Chilla HEP, Bhimgoda barrage, Bijnor barrage, Narora barrage and Kanpur barrage. The structures/ projects to be monitored are to be reviewed after each year.*

*The CWC started monitoring of the 11 projects from January, 2019 and findings of the quarterly monitoring cum compliance reports for year 2019 had been submitted before this Hon'ble Tribunal in the report submitted on 11.12.2019. The 8th monitoring-cum-compliance report for quarter October-December, 2020 is enclosed as **Annexure -V**. The findings of the report are as follows:*

- *Most of the projects are providing the flow data on hourly basis regularly except Tehri and Kanpur barrage. The data from Tehri project is being received regularly but on daily basis instead of hourly basis while Kanpur barrage authorities are measuring and providing flow data on two hourly basis. The project authorities are being pursued to provide the data in desired format on regular basis. During the 2nd Phase of Inspection visit from 7-9 August, 2019, it was stressed that the pond level (between 609 m to 612 m) of Koteshwar dam extends up to the toe level of Tehri dam, as such the whole river reach between Tehri and Koteshwar remains under pool of water. It was suggested that whole system of Tehri and Koteshwar should be considered as one single system for e-flow monitoring with inflows in Tehri reservoir and outflows from Koteshwar dam. The same has been agreed upon and incorporated in this report.*
- *The automatic data acquisition and transmission system have not been installed on projects so far except at Tehri, Koteshwar dam, Bhimgoda barrage and Narora barrage. The project authorities are being pursued to complete the installation. Project authorities of Pashulok barrage and Maneri-Bhali-II HEP have completed the installation. In case of Vishnuprayag HEP, SCADA system has been installed by the project authority on all the gates including at sluice gates and desilting chambers entrance and flow data is being shared with CWC in hourly or half hourly basis.*
- *Based on the data supplied by project authorities, most of the projects met the e-flow norms during the period as inflows are normally high in monsoon period. However, the Srinagar HEP (GVK) does not comply with the mandated e-flow norms.*
- *It is submitted that as per the quarterly reports, provided by CWC starting from January 2019 till December, 2020, following projects have been found non-compliant in respective quarter:*

- 1st monitoring-cum-compliance quarterly report (Jan — March, 2019): Maneri Bhali-1, Maneri Bhali-2 HEP, Vishnuprayag HEP, Srinagar HEP
- 2nd monitoring-cum-compliance quarterly report (April-June 2019): Maneri Bhali-2 HEP, Vishnuprayag HEP, Srinagar HEP
- 3rd monitoring-cum-compliance quarterly report (July-Sep'2019): Maneri Bhali-2 HEP, Vishnuprayag HEP, Srinagar HEP
- 4th monitoring-cum-compliance quarterly report (Oct-Dec, 2019): Maneri Bhali-2 HEP, Vishnuprayag HEP, Srinagar HEP, Pashulok barrage.
- 5th monitoring-cum-compliance quarterly report (Jan-March, 2020): Srinagar HEP.
- 6th monitoring-cum-compliance quarterly report (April-June, 2020): Srinagar HEP.
- 7th monitoring-cum-compliance quarterly report (July-Sept, 2020): Srinagar HEP.
- 8th monitoring-cum-compliance quarterly report (Oct-Dec, 2020): Srinagar HEP. That only Srinagar HEP has been found non-compliant with e-flow norms even after ending of exemption provided to existing projects till 15.12.2019 as per the amendment Notification dated 14.09.2019.

That as per as per protocol for e-flow monitoring and compliance specified in SOPs "If non-compliance continued for more than 5 days without any compelling circumstances, a penalty may be imposed on project authorities by NMCG under section 3 of Environment (Protection) Act 1986".

*Further, it is relevant to submit that Alaknanda Hydropower Co. Ltd. (operator of the Srinagar HEP), has assailed the amended Notification dated 14.09.2019, for complying the minimum e-flows by 15.12.2019, before the Hon'ble High Court of Uttarakhand in a WP(C) No. 3889/2019 - Alaknanda Hydropower Co. Ltd. Vs. State of Uttarakhand. The Hon'ble High Court in its interim order dated 20.12.2019, has directed to keep the notification in abeyance qua the petitioner i.e stayed the notification, qua the petitioner till further order. The matter is still pending. A copy of the said order dated 20.12.2019 passed by the Hon'ble High Court of Uttarakhand is enclosed as **Annexure — VI**. NMCG has initiated action to move the Hon'ble Court for vacating the stay in the matter. The matter is yet to be decided by the Hon'ble High Court.*

(b) Uttar Pradesh: *The State of Uttar Pradesh is complying with the notification dated 14.09.2019, Department of Water Resources, River Development and Ganga Rejuvenation, Government of India with regard to ecological flow in River Ganga from Bhimgoda (Haridwar), Bijnore and Narora. Kanpur barrage project authority is not providing any flow data and same is being collected on monthly basis by CWC officials from their office. It was informed that project authority has stated that diversions from barrage are made for the purposes of drinking water supply only, which has priority over environmental*

flows. Thus even if environmental flows are not met, State is bound to provide water for drinking needs.

The beta version of online portal for e-flows is currently under trial and same is being developed by Central Water Commission along with National Mission for Clean Ganga.

(c) **Bihar:** Water Resource Department, Government of Bihar has informed that steps have been taken for installation of new gauge stations and making arrangements for the discharge measurement in the rivers throughout the year.

(d) **Jharkhand:** That the Government of Jharkhand has reported that there is no water flow/ discharge regulatory structure on river Ganga within the territory of Jharkhand, hence there is no issue regarding the maintenance of e-flow within the stretch of river Ganga in Jharkhand which is being maintained. Installation of Real Time Data Acquisition System along with Data Center is to be established at Ranchi for analysis and information and it shall be completed by 2024. Further, in order to maintain the E-flow, installation of instruments across the barrages shall be completed by March 2024.

(e) **West Bengal:** The river Ganga is perennial river of Bengal. The environmental flow is maintained in the river Ganga through the release of water from Farakka Barrage throughout the year.

11.6 Flood plain demarcation: That the Flood Plain demarcation/ Zoning is required to be done by the State Governments concerned. In this regard the provisions of the Authority's Order, 2016 also mandate the State Government to identify and demarcate the flood plains in the concerned State. This Hon'ble Tribunal in its various orders has also directed that till the action is taken by the State Government, the criterion of 1 in 25 years HLF shall be taken into consideration for flood plain demarcation/zoning. As per the information furnished to NMCG, the action taken by the State Government with respect to demarcation, protection and management of floodplain area of the river Ganga is as following:

(a) **Uttarakhand:** Under the provisions of Uttarakhand flood plain zoning Act 2012, State Govt. of Uttarakhand vide notification dated 28.02.2017, for Haridwar District's Chandi Ghat bridge to village Kalsia (Laksar) stretch flood plains identified in schedule list-1 and list-2 within 50km reach, has been categorized as prohibited and restricted areas. The permissible land use activities in these identified prohibited and restricted areas has also been specified. Similarly, for Uttarkashi District's Gangori to Badethi Chungi stretch flood plains mentioned in the schedule list-1 and schedule list-2 within 10 km reach, has been categorized as prohibited and restricted areas. Initial notification in other 06 stretches namely; (1) Gangotri to Devprayag, (2) Bhilangana river, (3) Badrinath to Devprayag, (4) Mandakini river, (5) Devprayag to Rishikesh, and (6) Rishikesh to Bhimgauda has been issued in the month of September, 2020 to November, 2020 and final

notification is under process and is likely to be issued by February, 2021. Flood plain zoning work for Suswa, Gola and Kosi rivers have been planned and proposal has been sent for sanction. After sanctioning it is likely to be completed in 18 months.

(b) Uttar Pradesh: The State of Uttar Pradesh has submitted that for Phase —I (Segment B) of river Ganga, the notification for identification of flood plain zones as per the final report furnished by the Special Committee has been done. Flood plain has been notified as being either 100 m or 50 m from firm banks of river presently. In urban areas, this zone corresponds to 50 return period flood. The flood plain zone is to be physically demarcated and notified. Budget has been allocated for permanent demarcation of flood plain zones by fixing of stone pillars in Segment B of Phase—I. For Phase-II of River Ganga, identification of flood plain zone by Central Water Commission is under process. Additionally, demarcation of flood plain for Yamuna, Hindon, Kali-East, Varuna, Gomti, Ramganga, Betwa, Ghagra, Rapti, Sai, Saryu and regulation of construction/development activities are to be notified by the State Government.

NMCG has suggested the Govt. of U. P. for geo-tagging of stone pillars delineating flood plain area of the rivers. This will guard against physical damages to the pillars as geo-tagged pillar locations can always be accurately traced by simple dGPS tools and remain unaffected by physical damages.

(c) Bihar: That the State of Bihar in its report has submitted that considering the densely populated northern plain terrain and embanked river in the State, the directions pertaining to flood plain zonation is not applicable in case of Bihar and the State Government is contemplating to approach the Hon'ble NGT in this regard.

That Hon'ble NGT in its order dated 13.08.2020 has passed direction for constitution of a Joint Committee of members from NMCG, MoJS and CPCB to look into the issue of river floodplains demarcation and protection in the State of Bihar. In this regard, this Hon'ble Tribunal is to be apprised that the State Govt. of Bihar requested for modification in the definition of flood plain as described in the Gazette Notification S. O. 3187(E) dated 07.10.2016. The State Govt. of Bihar was asked to carry out a scientific study and report action taken based on such study and accordingly, letters dated 31.07.2020, 10.12.2020 and 06.01.2021 was issued to the Secretary, Water Resource Deptt. Govt. of Bihar. Copies of afore mentioned letters are placed at **Annexure - II**. No information in this respect has been furnished by the State Govt. of Bihar till date. The Joint Committee could look into issues pertaining to demarcation and protection of floodplains in State of Bihar once this study is in place and the requisite data is provided for examination.

(d) Jharkhand: That the State of Jharkhand in its report has submitted that demarcation of flood plain zones

necessitates earmarking in the vicinity of its existing water bodies which in turn requires regulation to ascertain flood plain zones for which the Water Resources Department (WRD), Government of Jharkhand has appointed Consultant. Further, for accurate assessment of the food pain zone, hydrology of the rivers is also required. That the Government of India sponsored National Hydrology Project in underway and is likely to provide the requisite data by the end of March 2024. Hence, the demarcation of the flood plains of the rivers in Jharkhand will be done during 2024-2025.

NMCG, after examination of this information observes that scientific studies for flood plain zonation are yet to be initiated by State for which State is having sufficient data base. There is no case for awaiting the outcome of National Hydrology Project before decision on flood plain zoning in State is taken. State has yet to start delineation of floodplains.

(e) West Bengal: *That the State of West Bengal has submitted that protection works on the left bank of the river Ganga from Mangal Pandey Ghat to Malancha Tourist lodge for a length of 135mts. including renovation of sluice gate under Barrackpore Municipality is in progress. Additionally flood protection works has been started on the right bank of river Hooghly at 04 locations of total length of 900mts. No further information has been provided by the State with regard to flood plain zoning work in Ganga River.*

NMCG, after examination of this information observes that these works are flood protection works undertaken by the State government and scientific studies for flood plain zonation followed with protection and management of identified floodplain areas, are yet to be initiated by the State.

11.7 Depicting biological diversity of Ganga in public domain: *One of NMCG's long term visions for Ganga Rejuvenation is to restore the viable populations of all endemic and endangered biodiversity of the river so that the biological communities occupy their full historical range and fulfil their role in maintaining the integrity of the Ganga River ecosystems.*

Presence of rich biodiversity in a river ecosystem is the ultimate indicator of the river's health. The Ganga river ecosystem supports more than 25,000 floral and faunal species. Biodiversity of any ecosystem is threatened foremost by the loss or degradation of its habitat. Major threats to River Ganga's biodiversity can be grouped under five overlapping categories: over-exploitation, water pollution, flow modification, destruction or degradation of habitat and invasion by exotic species, with global scale environmental changes being superimposed upon all of them.

Under Namami Gange Programme, biological water quality is assessed using Bio-monitoring field protocol towards semi-quantitative monitoring developed by Central Pollution Control Board. Community structure of the benthic macro-invertebrates of

River Ganga and its tributaries reflects taxonomic richness with representative distributed taxa.

As mentioned above, under Namami Gange Programme, since 2014 onwards bio-monitoring of River Ganga and its tributaries is being carried out on regular basis to know the spacio-temporal trends in biological water quality for better understanding of health of the river system. In total, 8 rounds of bio-monitoring along the entire course of River Ganga were carried out during 2014-2020.

The biological data is available for 93 unique locations of River Ganga covered so far. Based on comparative bio-assessment study of same period carried out at 41 locations and covered in eight rounds of bio-monitoring during 2014-2020, the spatio-temporal picture of biological water quality status of an entire river is reported.

It is revealed that there is improvement in biological water quality from moderate to good class at maximum number of (29 out of 41) locations during present investigation. These locations include Jagjeetpur u/s; Sukartal; Anupshahar; Narora; Kachla Ghat; Ghatia Ghat, Farrukhabad; Kannauj; Kannauj d/s; Bithoor; Kanpur u/s; Asni Village Fatehpur; Sirsa, Prayagraj Bridge; GT Road, Prayagraj; Varanasi u/s ; Varanasi, Rajghat; Rajwari a/c Gomti; Patna, Digha ghat; Patna, Fatuha (Bihar); Patna Malsalami; Falgu River (WB); Falgu River; Murshidabad; Behrampore d/s; Srirampore d/s; Belgharia; Ballykhal,; Howrah Bridge; Garden Reach.

Location of Khudaganj shows improvement in the water quality from moderate to clean class during 2014-2018. In Uttarakhand stretch, biological water quality at Haridwar Barrage (UK) recorded improvement from slight pollution or clean to very good class during 2014-2018. Towards post-monsoon 2020, the water quality at this location, however, fell to moderate class. Biological water quality of the river in Uttar Pradesh at Bijnour (UP); Varanasi d/s and Bihar at Patna Gandhi Ghat remained moderate during 2014-2020 however; some improvement upto clean class level was obtained during intermediate periods of investigation. Jagjeetpur d/s is the exceptional location of River Ganga in Uttarakhand where biological water quality deteriorated from clean or slight pollution (2014-2015) to poor class (post monsoon 2018-2019) during present investigation. Decline in the biological water from clean to moderate class was observed in the Kanpur stretch of river at Shakula Ganj, Deorighat during 2014-2019.

As reflected from the above comparative analysis, improvement with respect to biological water quality of River Ganga has been found which indicates the river environment in tendency of enhancing its ecological health.

Further, in order to address the threats to the aquatic biodiversity of Ganga, NMCG is working with Wildlife Institute of India (WII), Dehradun, Central Inland Fishery Research Institute (CIFRI), Barrackpore and State Forest Departments. All the reports generated from the study are uploaded in NMCG website:

https://nmcg.nic.in/biodiversity_reports.aspx. Summary of these reports is as below:-

- 49 % Ganga River has rich biodiversity value while sustained actions have to be continued to improve bio-diversity in the remaining reach.
- Six High Biodiversity Areas and Twelve Conservation Priority Zones exists
- Rescue & rehabilitation center established in Narora, Sarnath Bhagalpur and Kolkata.
- Cadre of more than 1000 volunteers (Ganga Praharis) developed and trained. These Ganga Praharis are actively involved in the Namami Programme and carrying out awareness programmes, cleanliness drives and plantation drives contributing towards the mission of the Namami Gange programme.
- Key ecosystem services of Ganga River identified and an assessment framework developed.
- The floating interpretation centre at Varanasi "Ganga Tarini" and interpretation centre at Sarnath "Ganga Darpan" established. Floating livelihood centre "Jalaj" established at Varanasi. Model was also adopted by District Administration in Jharkhand.
- Assessment of fish and fisheries conducted and a total of 190 fish species mapped in GIS platform to understand the fish status and distribution in Ganga
- Tagging procedures have been initiated to see whether the selected fishes like Hilsa can negotiate existing barrages.
- Conducted ranching cum awareness programmes and released more than 30 lakhs of fish seed in river Ganga for conservation and restoration of IMC & Mahseer.
- New sightings of Gangetic dolphins were recorded from downstream of Kanpur barrage, Smooth coated otters from Bhagalpur, Gharials at downstream of Rishikesh barrage and nesting of Indian skimmers near Prayagraj.
- On the basis of the recommendations by WII, a 30 km stretch near Varanasi was declared as 'Turtle Wildlife Sanctuary' by Government of Uttar Pradesh for the protection of the aquatic biodiversity and their habitat in the Ganga River.
- Continued engagement of the riverside communities was ensured in the conservation process through skill development trainings conducted for women Ganga Praharis from Uttar Pradesh and Jharkhand. The training and establishment of linkages are helping in improving livelihood and also linked with conservation.
- Training manuals created and distributed to teachers as resource material in Ganga bank districts.

11.8 Plantation Activities and setting up biodiversity parks: Plantations and setting up biodiversity parks along the floodplain of the rivers plays significant role in protection of floodplain area as well as restoration of river ecology. The initiatives and achievements of the States regarding plantation activities and setting up biodiversity parks are as following:-

- **Uttarakhand:** The plantation activities are being carried out in the larger catchment area of Ganges. In the year 2020-

2021 about 4151 ha of plantation activities have been completed under the various schemes of CAMPA.

- **Uttar Pradesh:** As per the MPR, status of plantation activities undertaken and proposed:

River Stretch	No. of Sampling	
	Planted Year 2019-20	Proposed for 2020-21
Hindon	55.34	55.64
Kali	65.93	69.35
Varuna	25.62	14.79
Yamuna	175.68	252.00
Gomti	180.26	151.99
Ganga	183.24	226.39
Ramganga	77.28	68.97
Betwa	24.61	49.78
Ghaghara	39.72	26.22
Sai	77.20	71.36
Rapti	57.25	29.08
Saryu	35.29	34.13
Total	997.42	1049.70

As per the MPR, Uttar Pradesh has identified the sites for the development of Bio-diversity parks in 25 districts in the main stem of Ganga and 02 districts in Yamuna covering a total area of 3591.984 ha. The project proposals for development of Bio-diversity parks are prepared under the supervision of Prof. C R Babu, former Pro Vice Chancellor, University of Delhi/ Emeritus Professor, CEMDE/ Incharge, Yamuna Bio Diversity park and his scientific team.

- **Bihar:** Plantation is being done under Namami Gange Scheme and Krishi Road Map wherein the polluted river stretches will be prioritized. The Bihar state has successfully achieved the total tree cover target of 15% for the Phase-I of Bihar Agriculture Road Map. For the Phase-II of Bihar Agriculture Road Map for the period 2017-18 to 2021-22 a target of 17% total tree cover has to be achieved by 2022. A team from the State Government had visited Yamuna Biodiversity Park in Delhi and at present are exploring possibilities of developing the replication of the same in the State.
- **Jharkhand:** Plantation activities along the rivers: Total — 124.69 Kms. 9 (Jumar — 20 Kms, Swarnrekha — 65 Kms, Damodar- 20.69 Kms, Konar — 6 Kms, Sankh -8 Kms and Garga - 5 Kms)

11.9 Action against officials responsible for delays in various projects for sanction, award of works etc.: NMCG has been continuously pursuing with the State Governments of Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal

for furnishing details regarding action against officials responsible for delays in sanction, award of works for various projects. In this regard communications were also sent to the Chief Secretaries of the respective States; however, the details are still awaited from their end.

As per the provisions of section 25 of the Water Act and section 21 of the Air Act, primarily the SPCBs are mandated and responsible for laying the consent conditions and ensure compliance of the conditions for prevention, control and abatement of pollution. Under section 18 of the above said Acts, the CPCB exercises the power for superintendence and supervision over the SPCBs and even may issue appropriate directions, as the case maybe, to the SPCBs for mitigating and or controlling/ preventing pollution. That NMCG/ Secretary, MoJS, while seeking timely submission of the next Quarterly Progress report, requested the Chief Secretaries of the respective States vide letter dated 21.08.2020 to arrange to furnish the list of officers identified for delays in sanction and award of works etc. for various projects and action taken against the erring officers for delay in commencement of sewage infra structure projects in River Ganga basin.

This was reiterated vide reminder letters dated 19.11.2020, 28.12.2020 and 18.01.2021 wherein it was emphasized that afore mentioned information is essentially required as per the directions passed by the Hon'ble Tribunal in order dated 18.12.2019. Copies of the letters issued on dated 21.08.2020, 19.11.2020, 28.12.2020 and 18.01.2021 are enclosed as **Annexure – VII.**

It is pertinent to mention before this Hon'ble Tribunal that directions under Section -5 of the Environment (Protection) Act, 1986 were issued on 29.10.2020 to the State Govt. of U.P./ Sate PCB by Director General, NMCG for taking coercive action including initiation of criminal proceedings against operators/clients etc. in respect of non-operational or dysfunctional STPs at Ghaziabad, Noida and Greater Noida. Copy of direction issued on 29.10.2020 is enclosed as **Annexure – VIII.** The compliance of the State of U. P. and its other agencies, in this respect is still awaited.

That there has been inordinate delay in award of works/ execution for the STP/ sewerage projects in Bihar, particularly, the tendering for Hajipur and Munger sewerage infrastructure projects due to non-adherence of the guidelines and/ or directions of NMCG by the officials of BUIDCo and State Mission for Clean Ganga who are sitting over the directions/ guidelines of NMCG.”

13. Annexure-4 to the report giving bird's eye view by way of tables 1,2 and 3 was quoted as follows:-

“Status as on Jan 2021

Table-I

Summary of the Sewerage Projects (Haridwar (d/s) to Unnao d/s)					
Projects	No. of Projects	Completed	Ongoing	Under Tendering	Remarks
NMCG	19	6	9	4	Annexure: IV.1
AMRUT	4	2	2	0	
TOTAL	23	8	11	4	

Table-II							
Status of Sewerage Infrastructure projects in Ganga Basin (d/s of Unnao to Ganga Sagar) as on 31-01-2021							
S.no	State	Total	Completed	Ongoing	Under Tendering/ Tender under Evaluation	Tender To be Floated	Remarks
1	Uttar Pradesh	32	14	14	3	1	Annexure- IV.2
2	Bihar	30	2	21	4	3	Annexure- IV.3
3	Jharkhand	3	1	1	1	0	Annexure- IV.4
4	West Bengal	23	3	13	2	5	Annexure- IV.5
	Total	80	20	49	10	9	

Table - III			
Statement showing State-wise Sewerage Infrastructure Projects			
State	Prior No. of Sewerage Projects to 2014	No. of Sewerage Projects after 2014 up to Jan 2021	Total
Uttarakhand	10	25	35
Uttar Pradesh	10	41	51
Bihar	1	29	30
Jharkhand	1	2	3
West Bengal	4	19	23
Delhi	0	11	11
Himanchal Pradesh	0	1	1
Haryana	2	0	2
Total	28	128	156

14. The Tribunal also noted the summary of compliance status prepared by the NMCG on issues of:

1. **Setting up of the STPs, I&D of drains and preventing discharge of untreated sewage/effluents into River Ganga**
2. **In-situ treatments of untapped drains through Bioremediation/Phytoremediation**
3. **Industrial Pollution Control through preventing discharge of industrial effluents into River Ganga and its**

tributaries by ensuring proper installation of ETPs/CETPs

4. Septage Management

5. Flood Plain demarcation

6. Maintenance of E-Flows

7. Mechanism for Monitoring

Mechanism is placed for monitoring of the compliance of directions of Hon'ble Tribunal has been established and monitoring is being done through CMC review meetings under Chairmanship of Secretary, (Jal Shakti), meetings by DG, NMCG and joint meeting of the Chief Secretaries. Pg No. 19-20

8. Depicting biological diversity of Ganga in public domain

9. Plantation Activity & Setting up biodiversity parks

10. Action against officials responsible for delays in various projects/sanction/award, monitoring etc.

Observations in the last order:

15. The Tribunal found that the progress left much to be desired and inspite of enactment of Water Act, 1974 forty seven years back, there was rampant violation even by the State Authorities on account of failure of treatment of sewage. This was adversely affecting the health of the citizens and threatening food safety. There was continued violation of Hon'ble Supreme Court orders on the subject. The observations of the Tribunal are reproduced below:-

"13. From the above, it is patent that the progress achieved so far leaves much to be desired. Table II in para 11 above shows out of 80 projects for treatment of sewage, only 20 have been completed so far. 11 projects are at tender stage. The summary of 3rd quarterly progress report filed by learned Senior Counsel for NMCG shows 'partly complied' status about various proposed targets in terms of earlier orders. Situation is particularly unsatisfactory in the States of Bihar and West Bengal. Even in Uttarakhand, UP and Jharkhand, there are areas of partial compliance. Obviously, water quality cannot improve till all the projects are successfully executed. This requires mission mode approach. This is only one aspect. Other steps have already been mentioned and need no repetition. It is only when all steps are effectively taken, one can say that there is good progress. During the interaction with the Chief Secretaries present, this has been conveyed to them.

14. At the cost of repetition, it may be mentioned that inspite of the fact that Water (Prevention and Control of Pollution) Act, 1974 was enacted 47 years back, to give effect to the decision in Stockholm Conference in the year 1972, the water pollution remains rampant. Though water pollution is a serious criminal offence under the law of

the land, the authorities have failed to take stringent action against the violators. In a way the major violators remain State-authorities, who are constitutionally under obligation to ensure treatment of sewage before the same is discharged into the rivers and drains connected thereto which is not fully happening. The effect of water pollution on health and food safety is well known. Water is scarce and large population remains deprived of access to drinking water but still steps to prevent pollution of sources of drinking water are inadequate. The Hon'ble Supreme Court in its judgment in *Paryavaran Suraksha vs. Union of India & Ors.*, (2017) 5 SCC 326 discussed the problem in detail and fixed a firm deadline of 31.03.2018 by which all necessary CETPs/STPs/ETPs should be in place failing which coercive action, including prosecution of State authorities was mandated. The States continue to violate the directions of the Hon'ble Supreme Court and give their own convenient deadlines which are thereafter further relaxed at will. This can hardly be held to be conducive to the environmental rule of law. The sewage treatment is less than 50% (**the sewage generation from the urban population of the country is reported to be about 70000 MLD and treatment capacity about 27000 MLD**)⁴ which is a matter of serious concern. The Tribunal has issued repeated directions. Till it is remedied, the goal of sustainable development is far cry.

15. The environmental law principles, which this Tribunal is mandated to apply under sections 20 and 15 of the NGT Act, 2010, are – 'sustainable development', 'precautionary' and 'polluter pays'. These principles, accepted in Stockholm conference, have been held to be part of right to life under article 21 of the Constitution in *Vellore Citizens' Welfare Forum v. Union of India*, (1996) 5 SCC 647. In *Hanuman Laxman*, (2019) 15 SCC 401, (paras 142-156), significance of environmental rule of law has been highlighted to achieve sustainable development goals for prosperity, health and well being. **This requires filling of gap between law and enforcement.** In *T.N. Godavarman Thirumulpad v. Union of India*, (2002) 10 SCC 606, at page 621, it was observed that the State has to

*“forge in its policy to maintain ecological balance and hygienic environment. Article 21 protects right to life as a fundamental right. Enjoyment of life and its attainment including the right to life with human dignity encompasses within its ambit, the protection and preservation of environment, ecological balance free from pollution of air and water, sanitation without which life cannot be enjoyed. Any contra acts or actions would cause environmental pollution. Therefore, **hygienic environment is an integral facet of right to healthy life and it would be impossible to live with human dignity without a humane and healthy environment.** Environmental protection, therefore, has now become a matter of grave concern for human existence. Promoting environmental protection implies maintenance of the environment as a whole comprising the man-made and the natural environment. Therefore, there is constitutional imperative on the Central Government, State Governments and bodies like municipalities, not only to ensure*

⁴ As per report of the CPCB dated 30.09.2020 quoted in the order of this Tribunal dated 05.02.2021 in OA 95/2018, *Aryavart Foundation v. M/s Vapi Green Enviro Ltd. & Ors.*

and safeguard proper environment but also an imperative duty to take adequate measures to promote, protect and improve the man-made environment and natural environment.”

16. In *A.P. Pollution Control Board v. Prof. M.V. Nayudu*, (1999) 2 SCC 718, at page 732, it was observed “..**Good governance is an accepted principle of international and domestic laws.It includes the need for the State to take the necessary “legislative, administrative and other actions” to implement the duty of prevention of environmental harm...**”. In *Techi Taga Tara* (2018) 11 SCC 734, the Hon’ble Supreme Court referred to several Committees on **need for revamping the regulatory bodies by appointing persons of outstanding ability and high reputation to the State PCBs and equipping them with laboratories and other equipment for performing statutory functions**. Apart from the Tribunal being approached under sections 14 and 15 by aggrieved parties, pointing out degradation of environment and inaction of the statutory regulators, the Hon’ble Supreme Court has required this Tribunal to monitor compliance of such statutory obligations for protecting environment. This is not possible unless the statutory regulators are effective. The Tribunal has recently dealt with the issue in some of its orders as follows:

“(I) OA 593/2017, *Paryavaran Suraksha Samiti & Anr. vs. Union of India & Ors.*⁵, involves monitoring of liquid waste management in terms of orders of the Hon’ble Supreme Court in (2017) 5 SCC 326. We have found that as a result of continuing failure of the statutory authorities to ensure compliance, industrial as well as municipal liquid waste is being discharged **resulting in pollution of groundwater as well as surface water, including water bodies, drains, streams, rivers and coastal areas. The Tribunal has noted that as per data compiled by the CPCB, 351 river stretches are declared polluted. Comprehensive Environment Pollution Index (CEPI) prepared by the CPCB shows that 100 industrial clusters are polluted.** The Tribunal is also dealing with the remedial action for restoration of the 351 stretches in OA 673/2018⁶, In Re: News item published in “The Hindu” authored by Shri Jacob Koshy, titled “More river stretches are now critically polluted: CPCB” for which the Tribunal has directed **preparation and execution of action plans for each of such stretches by constituting River Rejuvenation Committees (RRCs) for all States/UTs headed by Environment Secretaries which action needs to be overseen by the Chief Secretaries at the State level and by a Central Monitoring Committee (CMC) headed by Secretary, Jal Shakti alongwith NMCG and CPCB at the national level.** OA 829/2019⁷, *Lt. Col. Sarvadaman Singh Oberoi v. Union of India & Ors.* deals with the remedying of **coastal pollution for which directions have been issued on the same pattern for preparation and execution of**

⁵ Vide order dated 21.09.2020

⁶ Vide order dated 21.09.2020

⁷ Vide order dated 21.09.2020

action plans by the RRCs to be overseen by the Chief Secretaries at the State level and by the CMC at the national level. The same order also deals with utilisation of treated water, being OA 148/2016, Mahesh Chandra Saxena vs South Delhi Municipal Corporation & Ors. and OA 325/2015⁸, Lt. Col. Sarvadaman Singh Oberoi v. Union of India & Ors., dealing with the issue of restoration of water bodies by removing encroachments and preventing pollution has been dealt with by this Tribunal. OA 176/2015, Shailesh Singh v. Hotel Holiday Regency, Moradabad & Ors.⁹, the Tribunal has directed monitoring of groundwater extraction to give effect to the mandate in Hon'ble Supreme Court judgment in M.C. Mehta v. Union of India & Ors. (1997) 11 SCC 312.

(II) xxx.....xxx

(III) The issue of solid waste management has been dealt with by this Tribunal in OA 606/2018 in pursuance of directions of the Hon'ble Supreme Court in Writ Petition No. 888/1996, Almitra H. Patel & Anr. v. Union of India & Ors. In the said matter, the Chief Secretaries of all States/UTs were required to remain present before this Tribunal¹⁰ and after interaction with them, separate orders for all States/UTs referring to the individual issues in such States/UTs,¹¹ particularly **issue of legacy waste dump sites and remediation of current waste on scientific basis were dealt with and the Chief Secretaries were directed to monitor compliance every month by creating a monitoring cell, directly under them, in terms of directions of the Hon'ble Supreme Court and the District Magistrates monitoring such compliances every fortnight. It has been found that there are more than 3000 dump sites where legacy waste has accumulated over the years but the remedial action has not been taken except at very few places. This is resulting in water and air pollution and soil degradation on continuous basis, to the detriment of the environment and the public health.** The statutory timelines have come to an end. Reference is made in this regard also to order dated 29.01.2021 in OA No. 519/2019, In re: News item published in "The Times of India" Authored by Jasjeev Gandhiok & Paras Singh Titled "Below mountains of trash lie poison lakes" and order dated 28.02.2020 in OA No. 606/2018, Compliance of Municipal Solid Waste Management Rules, 2016. It was directed, vide order dated 10.01.2020, that compensation will be payable for failure to comply with the requirement of taking steps mentioned in Rule 22 of the SWM Rules, 2016 at scales mentioned therein, depending on the size of local bodies, from 01.04.2020 till compliance. Compensation was also directed to be recovered at the laid down scale for delay in commencing and completing the legacy waste remediation measures.

⁸ Vide order dated 18.11.2020

⁹ Vide order dated 20.07.2020

¹⁰ Vide order dated 16.01.2019

¹¹ Vide order dated 18.07.2019 (last such order is in respect of Jammu & Kashmir)

(IV) With regard to **bio-medical waste**, the matter has been dealt with in OA 710/2017, *Shailesh Singh, v. Sheela Hospital & Trauma Centre, Shahjahanpur & Ors.*¹², with regard to **hazardous waste**, matter has been dealt with in OA 804/2017, *Rajiv Narayan v. Union of India & Ors.*¹³, with regard to **e-waste**, matter has been dealt with in OA 512/2017, *Shailesh Singh v. State of UP*¹⁴, with regard to **plastic waste**, matter has been dealt with in EA 13/2019 in OA 247/2017, *Central Pollution Control Board v. State of Andaman & Nicobar & Ors.*¹⁵ for laying down liability to pay compensation for non-compliance.

17. The Tribunal has also found need for stringent monitoring at the higher level:

“18. It is well known that most of the key environmental laws have been enacted in the wake of Stockholm Conference (1972) under Entry 13 of List-I read with Article 253 of the Constitution, with a view to achieve ‘sustainable development’ of which the ‘Precautionary’ principle, “Polluter Pays” principle, Intergenerational Equity and Public Trust Doctrine principles are integral part. Sad part is that even after 47 years of Water Act and 40 years of Air Act, water and air pollution is rampant, without serious adverse action. Though there are criminal offences with minimum prescribed sentence, hardly any punishment is handed down. Hardly any compensation is recovered from the violators. Victims continue to suffer and so does the environment. This requires attention of all concerned at higher levels in governance.”

18. The Tribunal directed the Chief Secretaries of all the States/UTs in OA 606/2018 to appear before this Tribunal and after interaction with them directions were issued including a direction to set up a monitoring cell directly reporting to them and monitoring by the Chief Secretaries personally atleast once in a month and by the District Magistrates atleast twice in a month. Directions have been issued to the MoEF&CC to revamp monitoring mechanism for compliance of the EC conditions. The Tribunal finding negligence of the statutory regulators in controlling the water pollution appointed several independent Monitoring Committees¹⁶. Finally, it was found

¹² Vide order dated 18.01.2021

¹³ Vide order dated 29.01.2021

¹⁴ Vide order dated 15.01.2021

¹⁵ Vide order dated 08.01.2021

¹⁶ To monitor compliances with regard to:

- (i) River Ghaggar in OA No. 138/2016 (TNHRC), *Stench Grips Mansa’s Sacred Ghaggar River*
- (ii) River Sutlej in OA 916/2018, *Sobha Singh v. State of Punjab & Ors.*
- (iii) River Yamuna in OA 06/2012, *Manoj Mishra v. UOI & Ors.*
- (iv) River Musi in OA 426/2018, *Mohammed Nayeem Pasha & Anr. v. State of Telangana & Ors.*
- (v) River Ganga in OA 200/2014, *M.C. Mehta v. Union of India & Ors.*
- (vi) River Jojari in OA 329/2015, *Gram Panchayat Araba v. State of Rajasthan & Ors.*
- (vii) CETP in Taloja District in OA 125/2018, *Arvind Pundalik Mhatre v. Ministry of Environment, Forest and Climate Change & Ors.*
- (viii) District Environment Plan in OA 360/2018 *Shree Nath Sharma v. Union of India & Ors.*

that at the State level monitoring should be at the level of Chief Secretaries and at the Central level by a CMC headed by the Secretary, Ministry of Jal Shakti alongwith NMCG and CPCB.

19. In view of above, control of pollution of river Ganga needs to be taken seriously at all levels in Uttarakhand, UP, Bihar, Jharkhand and West Bengal. In absence thereof, the desired result of rejuvenation of river Ganga which is dream of every Indian will remain unfulfilled. As observed earlier, the Hon'ble Supreme Court has monitored the subject for 34 years (1985-2014) and finally transferred the matter to this Tribunal in the year 2014. Though certain steps have been taken, the tables and compliance summary filed by NMCG quoted above show that with respect to various projects, the matter is still at the tender/DPRs stage and progress in completing the ongoing projects in a timely manner remains a challenge, inspite of availability of funds, supported by the Government of India initiatives.

20. We have noted the huge gaps in preventing water pollution and generation. We also note inadequate steps in demarcating and protecting the floodplain zones inspite of there being a clear Notification dated 07.10.2016 issued by the Ministry of Water Resources, River Development, and Ganga Rejuvenation under the Environment (Protection) Act, 1986. The definition is as follows:

“3. xxx.....xxxxxx

(l) flood plain” means such area of River Ganga or its tributaries which comes under water on either side of it due to floods corresponding to its greatest flow or with a flood of frequency once in hundred years;”

21. While removing already raised constructions from the floodplain zones may be dealt with separately, there is need to atleast identify and take protective measures. All remedial measures have already been outlined in the earlier orders of this Tribunal and need not be repeated. As earlier observed, the desirable situation is that not a drop of pollution is discharged into the river Ganga, but in any case, **every next report must show decreasing trend of pollution load which needs to be quantified by the NMCG in a tabular form giving the extent of pollution load on a particular date and reduction achieved in terms of gap after steps for treatment.** Stopping pollution is as much necessary as stopping any other heinous crimes of homicides and assaults as pollution is acknowledged cause of deaths and diseases and deprivation of access to drinking water.

22. Out of reverence for the Ganga water, innocent citizens drink the same without knowing the harmful contents including high level

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- (ix) 'Rat Hole' coal mining in OA 110(THC)/2012, Threat to Life Arising Out of Coal Mining in South Garo Hills District v. State of Meghalaya & Ors.
 - (x) Solid waste management rules in OA 606/2018, Compliance of Municipal Solid Waste Management Rules, 2016 and other environmental issues.

of faecal coliform. **Least expected from the authorities, till satisfactory results are shown, is to notify the extent of harmful contents at appropriate locations including at Ganga Sagar to avoid adverse health effects.** These steps are required on war footing.

23. With regard to the recovery of laid down compensation, it is made clear that the compensation must be faithfully paid by the concerned States by way of deposit to the CPCB which can thereafter be spent for restoration in the same State, as per action plan prepared for the purpose by the State and approved by the NMCG, after due evaluation on the pattern of orders earlier passed by this Tribunal¹⁷. NMCG may monitor compliance. Control of pollution of river Ganga will be incomplete without controlling pollution of all the tributaries and drains connected thereto. In this regard, we have noted the report of CPCB dated 04.02.2021 which gives the summary of environmental compensation calculation in terms of earlier orders of this Tribunal as follows:

“SUMMARY OF UTTARAKHAND DRAINS FOR EC CALCULATION

EC Calculation Period: 01.07.2020 till 31.12.2020

1. Drains Discharging into River Ganga or its tributaries	:	156
2. Tapped Drains	:	127
3. Drains, where interim measures not required (Dry drains-03, Drains with Eutrophication-02, STP Outlet drains-02)	:	07
4. Untapped Drains, where interim measures required	:	22
5. Untapped Drains, where interim measures taken	:	0
6. No. of drains considered for EC calculation	:	22
7. Calculated EC = No. of drains x @10 lakhs/month/drain (Since 01.07.2020 till 31.12.2020)	:	22x 10 x 06 Lakhs = 1320

EC Calculation Period: 01.11.2019 till 30.06.2020

1. Drains Discharging into River Ganga or its tributaries	:	142
2. Tapped Drains	:	118
3. Drains, where interim measures not required (Dry/Stagnant/STP Outlet)	:	07
4. Untapped Drains, where interim Measures not feasible (130D <40mg/1)	:	08
5. Untapped Drains, where interim measures required	:	09

¹⁷ Vide order dated 22.01.2021 in OA 916/2018, Sobha Singh v. State of Punjab & Ors.

6. Untapped Drains, where interim measures taken	:	09
7. No. of drains considered for EC calculation	:	0
8. Calculated EC = No. of drains X @5 lakhs/month/drain (Since 01.11.2019 till 30.06.2020)	:	0

SUMMARY OF UTTARAICHAND STPs FOR EC CALCULATION

EC Calculation Period: 01.07.2020 till 31.12.2020

1. Total no. of STPs	:	87
2. Completed/Operational STPs	:	64
3. Non-operational STPs	:	0
4. Under Construction STPs	:	06
5. Under Tendering/DPR/Proposed STPs	:	17
6. No. of STPs considered for EC calculation	:	04
7. Calculated EC = No. of STPs x @10 lakhs/month/STP (Since 01.07.2020 till 31.12.2020)	:	04x 10 x 6 = 240 Lakhs

** Environmental Compensation (EC) to be calculated for under tendering/DPR/Proposed STPs (17 nos.) with effect from 01.01.2021

SUMMARY OF UTTAR PRADESH DRAINS FOR EC CALCULATION

EC Calculation Period: 01.07.2020 till 31.12.2020

1. Drains Discharging into River Ganga or its tributaries	:	301
2. Tapped drains	:	116
3. Drains, where interim measures not required (Dry drains-01 & STP Outlet drains-03)	:	15
4. Untapped Drains, where interim measures required	:	170
5. Untapped Drains, where interim measures taken	:	0
6. No. of drains considered for EC calculation	:	170
7. Calculated EC = No. of drains x @10 lakhs/month/drain (Since 01.07.2020 till 31.12.2020)	:	170 x 10 x 06 = 10200 Lakhs

EC Calculation Period: 01.11.2019 till 30.06.2020

1. Drains Discharging into River Ganga or its tributaries	:	152
2. Tapped drains	:	08

3. Drains, where interim measures not required (Dry/Stagnant/partially tapped)	:	02
4. Drains, where Interim Measures not feasible (BOD <40mg/l)	;	22
5. Untapped Drains, where interim measures required	:	120
6. Untapped Drains, where interim measures taken	:	Nil
7. No. of drains considered for EC calculation	:	120
8. Calculated EC = No. of drains X @5 lakhs/month/drain (Since 01.11.2019 till 30.06.2020)	:	120 x 8 x 5 = 4800 Lakhs

SUMMARY OF UTTAR PRADESH STPs FOR EC CALCULATION

1. Total no. of STPs	:	169
2. Operational STPs	:	102
3. Non-operational STPs	:	02
4. Under Construction STPs	:	44
5. Under Tendering/ Proposed STPs	:	21
6. No. of STPs to be considered for EC calculation	:	44
7. Calculated EC = No. of STPs x @10 lakhs/month/STP (Since 01.07.2020 till 31.12.2020)	:	44 x 10 x 06 = 2640 Lakhs

** Environmental Compensation (EC) to be calculated for Under tendering/DPR/Proposed STPs (17 nos.) with effect from 01.01.2021

SUMMARY OF BIHAR DRAINS FOR EC CALCULATION EC

Calculation Period: 01.07.2020 till 31.12.2020

1. Drains Discharging into River Ganga or its tributaries	:	130
2. Tapped Drains	:	0
3. Drains, where interim measures not required (Dry drains-01)	:	01
4. Untapped Drains, where interim measures required	:	129
5. Untapped Drains, where interim measures taken	:	79
6. Untapped Drains, where interim measures not taken	:	50
7. No. of drains considered for EC calculation	:	50
8. Calculated EC = No. of drains x @10 lakhs/month/drain (Since 01.07.2020 till 31.12.2020)	:	50 x 10 x 6 = 3000 Lakhs

EC Calculation Period: 01.11.2019 till 30.06.2020

1. Drains Discharging into River Ganga or its tributaries	:	19
2. Drains Tapped	:	Nil
3. Drains where, interim measures not required (Dry/Stagnant)	:	01
4. Interim Measures not feasible (BOD <40mg/ l)	:	08
5. Untapped Drains, where interim measures required	:	10
6. Untapped Drains, where interim measures taken	:	02
7. No. of drains considered for EC calculation	:	08
8. Calculated EC = No. of drains X @5 lakhs/month/drain (Since 01.11.2019 till 30.06.2020)	:	08 x 08x 05 = 320 Lakhs

SUMMARY OF BIHAR STPs FOR EC CALCULATION**EC Calculation Period: 01.07.2020 till 31.12.2020**

1. Total no. of STPs	:	52
2. Completed/Operational STPs	:	02
3. Non-operational STPs	:	02
4. Under Construction STPs	:	15
5. Under Tendering/DPR/Proposed STPs	:	33
6. No. of STPs considered for EC calculation	:	15
7. Calculated EC = No. of STPs x @10 lakhs/month/STP (Since 01.07.2020 till 31.12.2020)	:	15 x 10 x 06 = 900 Lakhs

** Environmental Compensation (EC) to be calculated for Under tendenng/DPR/Propose STPs nos.) with effect from 01.01.2021

SUMMARY OF JHARKHAND DRAINS FOR EC CALCULATION

1. Drains Discharging into River Ganga or its tributaries	:	06
2. Tapped Drains	:	02
3. Drains where interim measures not required (Dry/STP Outlet/Stagnant)	:	Nil
4. Untapped Drains (where interim measures required)	:	04
5. Interim Measures taken (Bioremediation)	:	04
6. No. of drains to be considered for EC calculation	:	0

7. Calculated EC = No. of drains x @10 lakhs/month/drain (Since 01.07.2020 till 31.12.2020)	:	0
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SUMMARY OF JHARKHAND STPs FOR EC CALCULATION

1. Total no. of STPs	:	15
2. Completed/Operational STPs	:	02*
3. Non-operational STPs	:	0
4. Under Construction STPs	:	0
5. Under Tendering/DPR/Proposed STPs	:	03
6. No. of STPs to be considered for EC calculation	:	0
7. Calculated EC = No. of STPs x @10 lakhs/month/STP (Since 01.07.2020 till 31.12.2020)	:	0

**The Bengdubbi STP at Rajmahal is under trial from Dec 2020*

*** Environmental Compensation (EC) to be calculated for Under tendering/DPR phase STPs (06 nos.) with effect from 01.01.2021*

SUMMARY OF WEST BENGAL DRAINS FOR EC CALCULATION

1. EC Calculation Period: 01.07.2020 till 31.12.2020

1. Drains Discharging into River Ganga or its tributaries	:	56
2. Tapped Drains	:	25
3. Untapped Drains, where interim measures required	:	31
4. Untapped Drains, where interim measures not feasible	:	21*
5. Untapped Drains, where interim measures taken	:	1 (Jangirpur drain)
6. Untapped Drains, where interim measures not taken	:	09
7. No. of drains considered for EC calculation	:	09
8. Calculated EC = No. of drains X @10 lakhs/month/drain (Since 01.07.2020 till 31.12.2020)	:	09x10x06 = 540 Lakhs

** Please refer Explanatory Note on 21 Special Category drains with a request to exempt the listed drains for EC calculations*

2. EC Calculation Period: 01.11.2019 till 30.06.2020

1. Drains Discharging into River Ganga or its tributaries	:	56
2. Tapped Drains	:	03
3. Drains, where interim measures not required (Dry/Stagnant)	:	29
4. Drains, where interim Measures not feasible (BOD <40mg/l and Tidal effect)	:	23

5. Untapped Drains, where interim measures required	:	1
6. Untapped Drains, where interim measures taken	:	Nil
7. No. of drains considered for EC calculation	:	01
8. Calculated EC = No. of drains X @5 lakhs/month/drain (Since 01.11.2019 till 30.06.2020)	:	01x05x08 = 40 Lakhs
9. EC deposited in CPCB account (in Jun 2020)	:	Rs. 20 Lakhs
10. EC to be deposited	:	Rs. 20 Lakhs

SUMMARY OF WEST BENGAL STPs FOR EC CALCULATION

EC Calculation Period: 01.11.2019 till 30.06.2020

1. Total no. of STPs	:	61
2. Completed/Operational STPs	:	18
3. Partially operational STPs	:	02
4. Under Rejuvenation/Renovation STPs	:	18
5. Under Construction STPs	:	07
6. Under Tendering/DPR/Proposed STPs	:	16
7. No. of STPs considered for EC calculation	:	07
8. Calculated EC = No. of STPs x @10 lakhs/month/STP (Since 01.07.2020 till 31.12.2020)	:	07 x 10 x 6 = 420 Lakhs

**** Environmental Compensation (EC) to be calculated for Under tendering/DPR/Proposed STPs (16 nos.) with effect from 01.01.2021”**

24. The CPCB has also mentioned that the guidelines for the biodiversity parks have been issued. With regard to impact of e-flow on riverine and aquatic life, CPCB has sought time of one and a half years which is not necessary in view of report of the NMCG.

25. The requisite e-flow may be maintained in terms of Notification dated 09.10.2018. The main part¹⁸ of the Notification is as follows:

“I. Upper Ganga River Basin Stretch starting from originating glaciers and through respective confluences finally meeting at Devprayag up to Haridwar:

Sl. No.	Season	Months	(%) Percentage of Monthly Average Flow observed during each of preceding 10-daily period
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¹⁸ Exceptions and other conditions are not being quoted

1	Dry	November to March	20
2	Lean	October, April and May	25
3	High Flow season	June to September	30 ⁴

* 30% of monthly flow of High flow season.

II. Stretch of main stem of River Ganga from Haridwar, Uttarakhand to Unnao, Uttar Pradesh

S. No.	Location of Barrage	Minimum flow releases immediately downstream of barrages (In Cumecs) Non-Monsoon (October to May)	Minimum flow releases immediately downstream of barrages (In Cumecs) Monsoon (June to September)
(1)	Bhingoda (Haridwar)	36	57
(2)	Bijnor	14	48
(3)	Narora	24	48
(4)	Kanpur	24	48

Cumec — Cubic Meter per second.”

26. In view of above discussion, the concerned five States may take further remedial action on the subject of preventing discharge of untreated sewage/effluents and compiling the relevant information under relevant heads in terms of earlier directions as on 15.6.2021, which must include the following:

- (a) **Quantity of Sewage being discharged in river Ganga and its tributaries/connected drains and correspondingly proposed / existing STPs to intercept the same with timelines.**
- (b) **Performance of STPs and their compliance, particularly for Fecal coliform.**
- (c) **Water quality of Ganga at inter-State borders and at important public places/Ghats, which may show the level of compliance with regard to water quality.**
- (d) **Status of compliance of CETPs at Jajmau, Unnao and Banther (applicable only to UP).**

27. Further progress reports may be furnished by the concerned five States to the NMCG on or before 30.06.2021 showing status as on 15.6.2021. NMCG may give its consolidated progress report with its recommendations to this Tribunal by 15.07.2021 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, with liberty to the States to file their response to such report. The NMCG report may inter alia specify reduction in pollution load, if any achieved during the interregnum, and if not, suggest further measures to achieve such reduction.”

Separate consideration of connected issues:

16. Two connected issues are being dealt with by separate orders – relating of Varuna and Assi rivers at Varanasi which are tributaries of Ganga and issue of chromium dump at Jajmau and continued discharge of chromium and other waste into Ganga at Jajmau and nearby places in UP.

Today's consideration and discussion of progress with reference to earlier orders:

17. **Progress on the subject of setting up and maintaining STPs, in-situ treatments of drains, Septage Management, flood plain demarcation, maintenance of e-flow, industrial pollution, monitoring, depiction of biological diversity of Ganga, plantation activity and setting up biodiversity parks and actions against officials responsible for delays in various projects/sanction/award, monitoring etc. has not improved inspite of order dated 08.02.2021. Compensation assessed has not been recovered nor coercive measures in terms of orders date 13.9.2020 and 8.2.2021 reported.** Further, remedial action on specific points mentioned in para 26 of the last order, quoted above, with regard to the prevention of discharge of sewage in Ganga and its tributaries, performance of STPs particularly for Fecal coliform, water quality at inter-State borders and at other important locations and status of compliance of CETPs at Jajmau, Unnao and Banther has also not improved which will be depicted from the report of the NMCG filed on 12.11.2021, extracts from which are reproduced below:-

“8. Further specific observations of NMCG on the status furnished by the States on the issues as well as compliance status are as follows:-

8.1 Status of bio-remediation/ phyto-remediation of drains as interim remedial measures for treatment:

The bioremediation related interventions are best decided at local levels and State may take up the projects as per need at their level. This would be more appropriate and would also be quick. This view has earlier been conveyed to all the States in a meeting held under Chairmanship of Director General, NMCG on 12.09.2019 and also in meeting of Supervisory Committee of NGT held on 11.10.2019. The decision was once again reaffirmed that the State government may take up the projects from their own funds in a meeting chaired by Secretary, DoWR, RD & GR held on 08.01.2020. Further, in 3rd meeting of the CMC in NGT matter OA No. 673/2018 held under Chairmanship of Secretary, DoWR, RD & GR on 23.06.2020, many of the States have apprised that they have initiated bio-remediation and phyto-remediation measures under their own funding towards compliance of NGT directions in the matter. The views as above have been communicated to States to take necessary steps to comply with extant directions of the Hon'ble NGT. The Action undertaken by various State Governments after order of the Hon'ble NGT dated 13.08.2020 for bio-remediation/ phyto-remediation of drains as interim remedial measures for treatment are as following:

- **Uttarakhand:** Uttarakhand State Govt. earlier submitted (vide letter No. 23/SPMG/ Namami Gange/Bio-Remediation Tech) that a total of 13 untapped drains required treatment through bioremediation/ phytoremediation. Out of which, tendering for work in 9 drains have been completed and will start within one month. As regards the remaining 04 drains it has been informed that 01 drain at Swargashram is intercepted for treatment and with respect to other 03 drains at Joshimath, their water quality is being monitored regularly and their BOD level is reported to be less than 30 mg/l, hence, bioremediation is not required in these 03 drains. Further, as informed by the State, in-situ treatment work has been taken up in February, 2021 for 19 drains along 9 polluted river stretches identified in Uttarakhand. The independent monitoring of these works is being carried out by the Doon University. However, appraisal of water quality status of these drains in terms of reduction in pollution load, post-bioremediation works is awaited from the State Government.
- **Uttar Pradesh:** UP State Government earlier submitted (vide letter No. 4559/No-5-19-234/19 dated 04.11.2019) that a total of 459 drains in the State needed treatment through bioremediation/ phyto-remediation. It has been informed that bio-remediation is being done in 42 drains of Prayagraj. As reported in the latest MPR submitted in the matter of O. A. No. 673 of 2018 a total of 5,500 MILD sewage is generated in 652 ULBs present in Uttar Pradesh. The State has instructed the concerned ULBs to take up interim measures for treatment of drains till permanent infrastructure for treatment of sewage is

created. However, status of the interim measures in place is to be provided by the State Government. Bio-remediation in other drains is proposed through ULBs who had been directed to carry out this work. However, work in these balance drains is yet to commence.

- **Bihar:** As submitted by the State Govt. of Bihar, Bihar has 416 drains in 103 towns carrying 2,056 MLD flow. Out of these 42 drains (760 MLD flow) are discharging into Ganga and 111 drains (976 MLD flow) are discharging into various tributaries. Balance drains are discharging either into low lying areas (83 Nos.; 253 MLD flow) or are in stagnant condition (24 Nos.). It has been reported that 541 MLD of sewage is being treated through alternate technology. In-situ treatment through bio-remediation of 89 drains joining Ganga and other polluted rivers that started in September 2020 has been discontinued with effect from 18.06.2021 due to heavy rains. Letter of award is in process for 115 drains. Screening arrangements have been provided in a total no. of 124 out of 127 drains along the Ganga front towns in the State. In remaining 03 Nallas screening is not required as their water quality is not deteriorated.
- **Jharkhand:** The State of Jharkhand in its report has submitted that DPR for in-situ treatment through bioremediation of drains in identified ULBs viz. Chas, Ranchi, Mango and Adityapur, involving CSIR—NEER1 has been prepared and tendering is under process. The State Govt. has projected to treat approx. 120 MILD of waste water by adopting in-situ treatment through bioremediation/ phyto-remediation.

As an interim measure at 04 nos. of drains at Rajmahal, that are considered as dry/ stagnant drains in which flow occurs only during monsoon season at Rajmahal, the screens at drains have been installed on dated 25.03.2019. Provisions for tapping of 04 drains to 3 5 MLD STP have been completed under Namami Gange Programme. The interception and diversion work has been completed and 600 house service connections have been provided. Accordingly, flow of sewage into these drains has been arrested and bio-remediation may not be required. However, Jharkhand State PCB may continue monitoring the water quality of these drains regularly.

- **West Bengal:** There are total 56 drains reported by State Government out of which 41 drains are part of various interceptions and diversion projects while remediation in respect of balance 15 drains are yet to be planned. Amongst these 41 drains, presently in-situ treatment work is ongoing on one drain viz., Jangipur drain. The State Government of West Bengal has submitted that work for in-situ treatment of drains through

bioremediation has been started as pilot project for drains discharging in Ganga and Churni river stretches. Besides State is implementing primary treatment of drains identified on rivers in Priority V by adopting techniques such as providing screens, sedimentation tank followed by disinfection. 82.58 MLD is proposed to be treated using such primary treatment techniques. It is submitted by the State that 910 MLD of sewage is being treated by East Kolkata wetlands by natural process.

As reported by the State, screens has been put up in 400 drains out of 402 discharging to River Ganga in 31 Ganga towns in West Bengal. In rest 2 Nos. of drains where screening is not technically feasible, bio-remediation/ phyto-remediation measures have been undertaken. However, WBPCB may be directed to monitor and report the water quality of these drains regularly.

8.2 Monitoring & updated status of STPs/ Sewerage Infrastructure projects [as on 31.10.2021]: In respect of Status of various projects related to setting up of STPs/ sewerage infrastructure in majors cities along the main stem of River Ganga in State of Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal, it is submitted that these projects are being regularly monitored by NMCG at the highest level to ensure their completion within the timelines and shortfalls, if any, are duly reported. NMCG ensures that technical hand-holding, assistance prior to grounding of project and during implementation is also provided by field monitoring and supervision visits. Since, August' 2020, 23 monitoring/ review meetings have been held at the level of the Hon'ble Minister (Jal Shakti); Secretary, DoWR, RD&GR, Ministry of Jal Shakti and Director General, NMCG. Earlier, the meeting of National Ganga Council was held under Chairmanship of the Hon'ble Prime Minister of India on 14.12.2019. 6th, 7th and 8th meeting of Empowered Task Force under Chairmanship of the Hon'ble Minister for Jal Shakti was held on 25.09.2020, 19.03.2021 and 22.09.2021 respectively. In addition to above, seven meetings were taken by Hon'ble Minister for Jal Shakti, nine at level of Secretary DoWR, RD &GR and seven at the level of Director General, NMCG.

Besides regular review meeting as well as visit to project sites are also undertaken at level of Executive Directors of NMCG to ensure completion of project works in accordance to prescribed timelines.

The updated status of STPs/ sewerage infrastructure (as on 31.10.2021) is enclosed as Annexure — III.

It emerges from the above status that in the reach of d/s Unnao to Ganga Sagar, 01 new project has been sanctioned, 07 projects have been completed and work has started for 04 projects.

Amongst others, major issues related to control and management of sewage pollution besides synopsis of sewerage infrastructure in Ganga basin area are as follows:-

Uttarakhand:

- State has made timely progress in completion of sewerage infrastructure projects. Out of 33 projects sanctioned (for towns situated on main stem of River Ganga) under Namami Gange Programme, 30 projects have been completed. Thus 2 more sewerage infrastructure projects have been completed since last quarterly report submitted to this tribunal.
- Hon'ble Prime Minister of India inaugurated all the major sewerage infrastructure projects in the State on 29.09.2020. These projects are:
 - * 68 MLD STP at Jagjeetpur, Haridwar, 26 MLD STP at Lalckarghat, Rishikesh, 7.5 MLD STP at Chandeshwarnagar and 5 MLD STP at Chorpani, Muni-ki-Reti;
 - * Upgradation of 27 MLD STP at Jagjeetpur & 18 MLD STP at Sarai;
 - * 1 MLD STP and 0.01 MLD STP at Badrinath;
 - * Ganga Avlokan — a museum on Ganga at Chandighat, Haridwar.
- 01 STP project at Joshimath was delayed because of landslide at original STP location necessitating change of STP location. The STP is expected to be completed by June, 2022.
- 01 project for sludge management at Muni-ki-Reti which has been sanctioned by NMCG in October, 2020 has been completed and is under trial run.
- 09 Nos. of STPs having total capacity of 30.30 MLD to rejuvenate river Bhela — 02 STPs (3 MLD), Dhela — 03 STPs (10.80 MLD), Kichha — 01 STP (3 MLD), Kosi — 01 STP (0.50 MLD), Nandhore — 01 STP (3 MLD), and Pilankher — 01 STP (10 MLD) and 17 Nos. of I&D of drains in 06 Polluted river stretches mainly Bhela, Dhela, Kichha, Kosi, Nandhore, Pilankher, and Kashipur Sewerage (I&D) Scheme phase-1 on (Dhela River) has been sanctioned on 17.09.2021 under Namami Gange Programme. The work for these projects is under tendering stage and tenders will be finalized by end of December'2021.
- Towards monitoring of functioning of STPs, 16 STPs have online monitoring systems that are connected to Ganga Twang web portal. A dashboard is also being developed for monitoring the functioning of STPs.

Uttar Pradesh:

- 10 STPs (50 MLD Ramanna, Varanasi/ 10 MLD Ramnagar/ 21 MLD Etawah/ 0.01 MLD Chunar/ 24 MLD Etah/ 20 MLD Modinagar/ 67 MLD Firozabad/ 120 MLD Lucknow/ 26 MLD Jhansi/ 15 MLD Kanpur) out of 32 STPs were expected to be completed by March'2021. Out of them, 9 projects were to be completed by December 2020. However, construction for only 5 STPs (50 MLD Ramanna, Varanasi/ 10 MLD Ramnagar/ 0.01 MLD Chunar/ 67 MLD Firozabad/ 26 MLD Jhansi) has been completed and is under trial run. In addition, 01 STP at Jhansi is also reported by the State to be under stabilization process. Rigorous monitoring is required at the State level. Efforts should be made to complete remaining 5 STPs at the earliest and other 22 STPs as per indicated timelines.
- The State of U.P. should make effort to complete remaining 05 STPs at the earliest and other 22 STPs as per the timelines.
- No progress since September 2020 for 03 projects at Balia, Pratapgarh, and Kanpur (Baniyapurwa). Efforts should be made to expedite the progress and complete the projects as per the timelines.
- Letter of Award (LoA) for project at Daulat Ganj, Lucknow was issued in September 2020, however, the same has run into legal issues. The work order for the project was awarded. While the Hon'ble High Court of Allahabad (Lucknow Bench) has dismissed the Writ Petition No. 15664/2020 — M/s Geo Miller & Co. Pvt. Ltd. Vs. U P. Jul Nigam and Others vide order dated 17.08.2021, the Petitioner has filed a SLP against the said order dated 17.08.2021 in the Hon'ble Supreme Court. The SLP is pending for final disposal. The legal process has delayed the project by close to 02 year.
- LoA for Moradabad project was issued on 30.03.2020 but this project has also been delayed due to filing of Writ Petition No. 7155/2020 - Kallan Vs. State of U.P. & Others and Writ Petition No. 647/2020 — Abdul Razzak Vs. State of U.P. & Others in the Hon'ble High Court of Allahabad that are pending adjudication.
- In addition to sub-optimal capacity utilization, poor operation and maintenance of the created sewage and industrial effluent treatment infrastructure also appears to be a critical issue of concern evident from the fact that 13 (03 MLD STP Firozabad/ 13.59 MLD, Masani, Mathura/ 13.5 MLD Mauja Umrain, Etawah/ Kanpur/ 36 MLD Kanpur/ 130 Jajmau, Kanpur/ 14.5 MLD, Trans Yamuna, Mathura/ 16 MLD, Trans Yamuna, Laxmi Nagar, Mathura/ 2.76 MLD Goverdhan STP/ 5 MLD Hathia Nala Sultanpur)/ 12 MLD DLW, Varanasi/ 2 MLD Greater Noida (Badalpur)/ 15 MLD Eco-Tech -2 (Greater Noida)/ 20 MLD Eco-Tech -3 (Greater Noida)/ 137 MLD

Kasna (Greater Noida) of the 103 STPs are non-complying with prescribed standards apart from 02 non-operational (20 MLD Moradabad/ 4 MLD Kanwara Road Banda STPs. 01 non-operational STP at Sultanpur (5 MLD) is currently under upgradation. Action plan for making these STPs compliant needs to be drawn along with timelines. Officials responsible for maintenance of these infrastructures need to be made accountable.

Bihar:

- *That with regards to status of various projects for STPs/ Sewerage infrastructure in the State of Bihar (as on October 2021), among the 29 projects; 4 nos. of project (43 MLD Beur, 37 MLD Karmalichak, 60 MLD & 55.10 km sewer network Patna, 87.69kms Sewerage at Pahari Zone IVA) has been completed. Trial run for 01 STP (10 MLD) and I&D Sultanganj is expected completion by November, 2021. The I&D and STP Scheme of Sultanganj is expected to be completed by December 2021.03 ongoing projects (11 MLD I&D and STP at Barh, 60MLD STP—Pahari (Patna), and I&D and STP 3.5 MLD Sonepur) projects are expected to be completed by December, 2021 and 14 projects (Sewerage Scheme at Pahari Zone-V 115.93kms, Beur Sewerage Network 180 km, Sewerage Scheme at Karmalichak 97Kms, Saidpur Sewerage Network 172kms, Digha 100MLD STP and Network 303kms; Kankarbagh 50 MLD STP and Network 1501tms, Mokama I&D and 8 MLD STP, Begusarai STP 17 MLD and Network 1141ans, Chhapra 32 MLD STP and I&D, Bhakhtiyarpur 10 MLD STP and I&D, Maner 6.5 MLD SW and I&D, Danapur 25 MLD STP and I&D, Phulwarishariff 13 MLD STP and I&D, Fatuha 7 MLD STP and I&D are expected completion not beyond December 2022. Tenders have been floated for 6 projects and works awarded for 3 projects (namely Bhagalpur 45 MLD SIT and I&D scheme, Hajipur 22 MLD STP and Sewerage Network 189.30kms and Munger 30 MLD STP and Sewerage Network 174.75kms). These projects are expected to be completed not beyond December, 2023. Tender is under evaluation for the remaining 3 projects (namely Khalagaon 6 MLD STP and I&D scheme, Barahiya 6 MLD STP and I&D scheme and Buxar 16 MLD STP and Sewerage Network 106.06kms).*
- *Following ongoing STP and I&D schemes/projects in Bihar have been delayed inordinately and pending because of inter departmental issues related to land NOC to be granted by State Deptt./agencies:*
 - * *Land for 02 number IPS in Bakhtiyarpur STP project. Land NOC for STP and IPS was received very late i.e. on 02.12.2020 and 01.04.2021 respectively.*
 - * *Compensation towards land for the Begusarai STP is yet to be resolved. The issue requires faster resolution.*
 - * *Land for one IPS in Sultanganj I&D and STP project.*
- *These issues are being continuously flagged for early resolution and were also raised recently during 08th,*

09th & 10th meeting of Central Monitoring Committee and in the review meetings taken by DG, NMCG followed with DO letter dated 01.07.2021 and 09.07.2021. Copies of letters dated 01.07.2021 and 09.07.2021 are annexed as Annexure - IV.

West Bengal:

- **Hooghly Chinsurah I&D and STP project:** - Revised DPR of Hooghly Chinsura has been sanctioned in 29th Executive Committee meeting and administrative approval and expenditure sanction amounting of Rs. 154.73 Crore was issued on 23.09.2020. Kolkatta Metropolitan Development Authority (KMDA) invited the tender on 23.11.2020. Now tenders have been kept on hold due to inter-Departmental issues (Department of Education) related to land which has not been sorted out by State. Land for new STP has been finalized, which is now in possession of KMDA. Scope of work has changed due to change in STP site. A new effluent Pumping Stations has also been added in the scope. The tendering is underway. Bids have been received from 09 bidders and technical examination is undergoing.
- **Tolly Nullah I&D and STP project:** - NMCG has sanctioned a project for Pollution Abatement & Rehabilitation of Tolly's Nullah (Adi Ganga), Kolkata (Interception & Diversion with Pumping Station and STP) at a cost of Rs. 307.12 crore on 17.08.2017. Kolkata Municipal Corporation (KMC) has invited the tenders and bid have been received on 2nd call on 10.12.2020. KMC has to complete the award process at the earliest as the grounding of project is inordinately delayed. NMCG has provided necessary advice in the procurement matter. Financial bid have been opened and report submitted to World Bank for NOC. World Bank has sought few clarifications and it is informed that the State is preparing explanations to observations of the World Bank. Work will be awarded after receiving NOC from the World Bank.
- **Rehabilitation of Keorapukur & Garden Reach STP:-** NMCG has sanctioned the project on 05.03.2018 amounting of Rs. 165.16 Crores. State Government has revised the scope and submitted the revised DPR and some observations on DPR have been communicated to KMDA which are being incorporated in DPR. Proposal from the State is awaited. The State has been advised to examine the possibility of setting up new STP as proposal for upgradation of GAP —I STP to comply with new norms prescribed by the Hon'ble NGT order dated 30.04.2019 (passed in the matter of O. A. No. 1069/2018 — Nitin Shankar Despande Vs. Union of India & Ors.) costs more than the proposal for setting up new STPs compliant to NGT prescribed norms.

8.3 Faecal Sludge and Septage management: In the 2nd Quarterly Report it was stated that the Govt. of India issued the National Policy on Faecal Sludge and Septage

Management in February 2017. NMCG has suggested the States Governments that FSTP implementation in all towns with population less than 1 lakh should be adopted in consonance with National Policy on FSSM. Further, NMCG had organized an online Webinar on "Strengthening Capacity of ULBs in Planning and Implementation of FSSM across Cities and Towns of Ganga Basin" on 19.01.2021. The webinar aimed to reiterate the commitment and focus of NMCG towards Faecal Sludge and Septage Management (FSSM) as one of the key approaches to reducing the pollution into river Ganga. States were urged to consider the implementation of FSTPs and/ or co-treatment of faecal sludge in existing STPs, in all towns wherever feasible, so that dumping of the faecal sludge in water bodies/ land and thereby polluting them, can be avoided.

Major initiatives/ achievements undertaken by the States towards adoption of FSSM are as following:-

- **Uttarakhand:** The Govt. of Uttarakhand has notified the protocol for Septage Management. Septage Management Committee has been formed in all 15 priority towns/ULBs situated on the main stem of River Ganga as per the provisions of the Septage Management Protocols (SMP). State has submitted 4 DPRs to NMCG for which third party appraisal of 2 DPRs (Rishikesh and Haridwar) have been completed and examination of other 2 DPRs is underway.
- **Uttar Pradesh:** UP Septage Management Policy' 2019 was approved in October 2019. FSTP is operational in Jhansi and Unnao and under construction in 05 towns (Chunar, Loni, Lakhimpur, Rae Bareilly and Modinagar). Projects have been approved and Letter of Award (LoA) issued for FSTP in 31 AMRUT towns (Aligarh, Moradabad, Shahjahanpur, Ayodhya, Pilibhit, Pt. Deen Dayal Upadhyay Nagar, Shamli, Baraut, Hapur, Khurja, Chandausi, Hathras, Amroha, Badauan, Shikohabad, Farrukabad, Hardoi, Sitapur, Bahraich, Gonda, Orai, Jhansi, Lalitpur, Banda, Fatehpur, Akbarpur, Basti, Deoria, Azamgarh, Jaunpur, Maunath Bhanjan), Letter of Award (LOA) has been issued for co-treatment in 04 towns (Saharanpur, Mathura, Rampur, Muzaffarnagar); while tenders have been floated for co-treatment in 17 towns (Lucknow, Kanpur, Agra, Meerut, Varanasi, Prayagraj, Ghaziabad, Gorakhpur, Etawah, Mirzapur, Firozabad, Mainpuri, Sultanpur, Ballia, Bulandshar, Ghazipur, Ayodhya-Faizabad). Thus, as informed by the State, tender has been also finalized and LoA issued for another 50 FSTP Plants and expected to be completed by December'2021 end.
- **Bihar:** State has prepared DPR for FSSM for three towns namely, Digwara, Manihari and Teghra. The DPR are awaiting sanction of government for their implementation. This needs to be expedited.
- **Jharkhand:** The State Government has reported that works have started for 04 projects for integrated liquid

waste management through FSTP. 04 projects are in tendering stage and 15 projects are in DPR stage. The State may be requested to expedite.

- **West Bengal:** 30ICLD integrated septage treatment plant of capacity 30KLD for South Dum Dum Municipality had commissioned. Another 30ICLD Septage treatment plant for North Dum Dum and Baranagar Municipalities is under construction stage. As reported by State, 01 FSTP in every district in the State is being planned.

8.4 Industrial Pollution Management: CPCB through the State Pollution Control Boards is the central agency responsible for controlling the discharge of industrial/ trade effluents into the rivers and water bodies and their effective treatment as per set standards through proper functioning of the ETPs/CETPs. NMCG has been regularly pursuing this issue with the apex regulator as well as the State agencies. A tabulated statement on the total number of industries, effluent load, installed treatment capacity and proposed capacity to be created in the States of Uttarakhand, U.P., Bihar, Jharkhand and West Bengal has been represented in **Table-1** below:

Table-1: Statement on Industries and Treatment Capacity established in States

State	No. of Industries	Effluent Discharge (MLD)	No. of Industries having ETPs	Treatment Capacity of ETPs (WILD)	CETPs (Nos. and capacity in MLD)
Uttarakhand	830	145	830	175	Existing-3 (13.2MLD) Proposed- 3 CETPs of 18 MLD.
Uttar Pradesh	1648	850.5	1404	NA	Existing— 7 (58.55 MUD) (01 non-operational, 06 operational)* Under Construction — 01No. (20 MLD)/ 3 Nos. of 26.65 MLD. Sanctioned — 2 Nos. of (7.1 MLD)
Jharkhand	190	NA	187		Existing :2 Nos. (2.2 MLD in Operation, 0.5 MLD CETP complete) Under Construction: 3.5 MLD at Ranchi, Tupadana Industrial Cluster.

Bihar	179	34.40	148	93.63	<p>Existing: Nil Under Construction/ Proposed: There are 52 industrial areas under control of State Bihar Industrial Area Development Authority (BIADA) which is implementing construction of five CETP projects in five industrial areas out of State Plan. 5</p> <p>Industrial Areas were identified in first Phase for construction of CETPs – Fathua (distt Patna), Hajipur (distt. Vaishali), Bela (distt Muzaffarpur), Barari (distt Bhagalpur), Patliputra (distt Patna).</p> <p>In respect of four industrial areas viz., Hajipur (distt Vaishali), Fatua (distt Patna) Barhi (distt Bhagalpur) and Bela (distt Muzaffarpur), State government has called tenders for five times but the bids were not successful. Sixth bid attempt for Hajipur in Vaishali distt with help of GIZ is underway and financial bids are under processing.</p> <p>Bihar Pollution Control Board has also sought advice from CPCB in respect of three industrial areas viz., Fatua (distt Patna) Barari (distt Bhagalpur) and Bela (distt Muzaffarpur) as to whether these areas can be exempted from CETP construction as volume of effluent involved is small and accordingly construction of CETP is commercially unviable vide their letter dated June 2021, CPCB vide letter dated 6.8.2021 has conveyed that State may ascertain the feasibility of CETP but industries shall remain compliant through functioning ETPs.</p>
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West Bengal	454	1360.60	454(400 SPIs & 54 GPIs)	1360.60	Existing : 20 MLD CETP Under Construction: 4 module CETP of 20 MLD. No update provided.
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- Earlier in July-2021 State has reported that all operational 6 CETPs in Jajmau, Banthar, Unnao, Tronica Ghaziabad Rooma Kanpur, are compliant to norms while 01 CETP is nonoperational. As per report of Oversight Committee for the same period, out of 7 CETPs only 5 are operational. Out of the operational CETPs, 3 are achieving norms while two are not. However as per status reported for October-2021., all operational 6 CETPs in Jajmau, Banthar, Unnao, Pilakhuan, Rooma Kanpur and Mathura are non-compliant to norms while 01 CETP at Tronika City Ghaziabad is non-operational.

Amongst others, major issues related to control and management of industrial pollution in Ganga basin area are as following:

- Upgradation of 6.25 MLD CETP (Rs. 13.87 crore) for textile cluster at Mathura was sanctioned by NMCG with 25% contribution from industry members as well 100% O&M cost to be borne by them. There is provision for 50% reuse of treated water. Contract agreement has been signed on 4.4.2021. The construction work has been started and proposed completion date is February-2022. The State Govt. of U.P./agencies involved should be directed to monitor the progress to ensure timely upgradation of CETP and assuring its O&M upon commissioning of CETP.
- 1.5 MILD ZLD based CETP for Farrukhabad textile cluster has been considered by NMCG for sanction. However, the project could not be sanctioned for transfer of land costing Rs. 7.95 crore, already allocated to SPV by UPSIDC as about 1.03 crore has been imposed as interest for 1.25 year towards delay in land acquisition process. A decision was taken by Hon'ble Cabinet Minister of Khadi, Village Industries, Sericulture, Textile, Micro, Small & Medium Enterprises and Export Promotion, Uttar Pradesh for exemption of overhead and Interest charges of the land from cabinet. This was discussed in meeting of Hon'ble Minister, (Jal Shakti) and the Chief Minister, State of U.P. held on 18.01.2021. The cabinet decision is awaited.

8.5 Environmental Flows: That as regards "Environmental flows" in River Ganga, as per paragraph 5 of the Notification dated 7.10.2016, every State Government shall endeavor to ensure that uninterrupted flows are maintained at all times in River Ganga. Further it is mentionable that every State Government shall also make effort to maintain adequate flows of water in River Ganga in different seasons to enable River Ganga to sustain its ecological integrity and to achieve the goal and that all concerned authorities shall take suitable actions in a time bound manner.

That the Government of India, in exercise of the powers conferred vide notification viz. `River Ganga (Rejuvenation,

Protection and Management) Authority Order, 2016, has notified on 09.10.2018 the minimum environmental flows to be maintained in river Ganga, for stretch starting from its origin to Unnao in Uttar Pradesh specifically at locations downstream of structures or projects meant for diversion of river flows for purposes like irrigation, hydropower, domestic and industrial and other requirements.

The environmental flow regime is applicable to all existing, under-construction and future projects [barring Mini and Micro projects which do not alter the flow characteristics of the river or stream significantly]. An Expert Team comprising of officials from Central Water Commission (CWC), Central Electricity Authority and National Institute of Hydrology, Roorkee based on their inspection of projects during 12-16 June, 2019 reported that all the existing projects have provisions for releasing the mandated e-flows through controlled gated spillways/ waterways and structural modifications in the body of projects may not be required for the same. The release of mandated e-flows is not being maintained by some of the projects, mainly HD's, due to commercial considerations. In view of this, it was decided that the three year period given in original notification may not be needed. Accordingly, the time period for complying with the environmental flow norms has been reduced from 3 years i.e., 09.10.2021 to 15.12.2019.

The CWC is the designated authority and custodian of the data, responsible for supervision, monitoring and regulation of flows. The monitoring of E-flows is being carried by Upper Ganga Basin Organization (UGBO), CWC since 01.01.2019. CWC in its capacity as the designated Authority, for supervision, monitoring and regulation of Environmental flows regime, fixed the e-flow targets for the Hydro Electric Projects (HEPs) operating in the Ganga river Basin in the State of Uttarakhand and ensures strict adherence to the stipulated e-flow norms/targets by 15.12.2019. CWC has been submitting e-flows, monitoring-cum-compliance report on quarterly basis to NMCG.

*(a) **Uttarakhand:** Projects currently being monitored by the CWC are Maneri Bhali Stage —I, Maneri Bhali Stage —II, Tehri Dam, Koteshwar Dam, Vishnuprayag HEP, Srinagar HEP, Singoli-Bhatwari HEP, Pashulok barrage/ Chilla HEP. The structures/ projects to be monitored are to be reviewed after each year.*

The CWC started monitoring of the 11 projects from January, 2019 and findings of the quarterly monitoring cum compliance reports for year 2019 had been submitted before this Hon'ble Tribunal in the report submitted on 11.12.2019. The findings of the 9th monitoring-cum-compliance report for quarter January-March, 2021 and 10th draft monitoring-cum compliance report for quarter April-June, 2021 report are as follows:

- *Most of the projects are providing the flow data on hourly basis regularly except Tehri and Kanpur barrage. The data from Tehri project is being received regularly but on daily basis instead of hourly basis while Kanpur barrage authorities are measuring and providing flow data on two hourly basis. The project authorities are being pursued to provide the data in desired format on regular basis. During the 2nd Phase of Inspection visit from 7-9 August, 2019, it was stressed that the pond level (between 609 m to 612 in) of Koteshwar dam extends up to the toe level of Tehri dam, as such the whole river reach between Tehri and Koteshwar remains under pool of water. It was suggested that whole system of Tehri and Koteshwar should be considered as one single system for e-flow monitoring with inflows in Tehri reservoir and outflows from Koteshwar dam. The same has been agreed upon and incorporated in this report.*
- *The automatic data acquisition and transmission system have not been installed on projects so far except at Tehri, Koteshwar dam, Bhimgoda barrage and Narora barrage. The project authorities are being pursued to complete the installation. Project authorities of Pashulok barrage and Maneri-Bhali-II HEP have completed the installation. In case of Vishnuprayag HEP, SCADA system has been installed by the project authority on all the gates including at sluice gates and desilting chambers entrance and flow data is being shared with CWC in hourly or half hourly basis.*

Based on the data supplied by project authorities, most of the projects met the e-flow norms during the period as inflows are normally high in monsoon period. However, the Srinagar REP (GVK) and Pashulok Barrage do not comply with the mandated e-flow norms.

- *It is submitted that as per the quarterly reports, provided by CWC starting from January 2019 till June, 2021, following projects have been found non-compliant in respective quarter:*
- *1st Monitoring-cum-compliance quarterly report (Jan — March, 2019): Maneri Bhali-1, Maneri Bhali-2 HEP, Vishnuprayag HEP, Srinagar HEP.*
- *2nd monitoring-cum-compliance quarterly report (April-June 2019): Maneri Bhali-2 HEP, Vishnuprayag REP, Srinagar HEP.*
- *3rd monitoring-cum-compliance quarterly report (July-Sep'2019): Maneri Bhali-2 HEP, Vishnuprayag HEP, Srinagar HEP.*
- *4th monitoring-cum-compliance quarterly report (Oct-Dec, 2019): Maneri Bhali-2 HEP, Vishnuprayag HEP, Srinagar HEP, Pashulok barrage.*
- *5th monitoring-cum-compliance quarterly report (Jan-March, 2020): Srinagar HEP.*
- *6th monitoring-cum-compliance quarterly report (April-June, 2020): Srinagar HEP.*
- *7th monitoring-cum -compliance quarterly report (July-Sept, 2020): Srinagar HEP.*

- 8th monitoring-cum-compliance quarterly report (Oct-Dec, 2020): Srinagar HEP.
 - 9th monitoring-cum-compliance quarterly report (Jan-March, 2020): Srinagar HEP, Pashulok Barrage
 - 10th monitoring-cum-compliance quarterly report (April-June, 2021): Maneri Bhali-2, Pashulok barrage, Srinagar HEP.
- i. That only Srinagar HEP has been found non-compliant with e-flow norms for First 10 days of January 2021 and from April to June 2021 except few days in June 2021.
 - ii. Pashulok barrage is in non-compliance only for Month of February, 2021 and for few days in April 2021.
 - iii. Maneri Bhali-2 Project is broadly in compliance with the e-flow norms except for few days in April and May 2021.

That as per as per protocol for e-flow monitoring and compliance specified in SOPs "If non-compliance continued for more than 5 days without any compelling circumstances, a penalty may be imposed on project authorities by NMCG under section 3 of Environment (Protection) Act 1986".

*(b) **Uttar Pradesh:** The State of Uttar Pradesh is complying with the notification dated 14.09.2019, Department of Water Resources, River Development and Ganga Rejuvenation, Government of India with regard to ecological flow in River Ganga from Bhimgoda (Haridwar), Bijnore and Narora. Kanpur barrage project authority is not providing any flow data and same is being collected on monthly basis by CWC officials from their office. It was informed that project authority has stated that diversions from barrage are made for the purposes of drinking water supply only, which has priority over environmental flows. Thus even if environmental flows are not met, State is bound to provide water for drinking needs.*

The ecological flow as per notification dated 02.07.2021 in River Ganga from Bhimgoda Barrage (Haridwar), Bijnore Barrage and Narora Barrage is being complied.

The beta version of online portal for e-flows is currently under trial and same is being developed by Central Water Commission along with National Mission for Clean Ganga.

*(c) **Bihar:** The State Govt. of Bihar vide Letter Dt. 24.04.2019 flagged issues of quantum of e-flows in upper riparian States of Uttar Pradesh/Uttarakhand and desired that e-flows should be maintained at > 36 cumecs in upper riparian States of Uttar Pradesh/ Uttarakhand. Further, it is desired that MoJS/GOI should notify the quantum of e-flows for entire stretch of Ganga as well as important tributaries. In this regard it is submitted that minimum flows observed at UP-Bihar border are of an order of not less than 400 cumecs*

while e-flows mandated through notification dated 09.10.2018 at Kanpur barrage during lean season (October-May) is 24 cumecs. Additional of 12 cumecs to be mandated as e-flows to be released by upper Riparian State, as being pointed out by Govt of Bihar, may be insignificant in view of more than 30 times flows availability at border location of UP-Bihar. The issues raised by the Govt. of Bihar may therefore may therefore not be relevant.

(d) **Jharkhand:** That the Government of Jharkhand has reported that there is no water flow/ discharge regulatory structure on river Ganga within the territory of Jharkhand, hence there is no issue regarding the maintenance of e-flow within the stretch of river Ganga in Jharkhand which is being maintained. Installation of Real Time Data Acquisition System along with Data Center is to be established at Ranchi for analysis and information and it shall be completed by 2024. Further, in order to maintain the E-flow, installation of instruments across the barrages shall be completed by March 2024.

(e) **West Bengal:** The river Ganga is perennial river of Bengal. The e-flows is maintained in the river Ganga through the release of water from Farakka Barrage throughout the year.

8.6 Flood Plain Demarcation: That the Flood Plain demarcation/ Zoning is required to be done by the State Governments concerned. In this regard the provisions of the Authority's Order, 2016 also mandate the State Government to identify and demarcate the flood plains in the concerned State. This Hon'ble Tribunal in its various orders has also directed that till the action is taken by the State Government, the criterion of 1 in 25 years HLF shall be taken into consideration for flood plain demarcation/zoning. As per the information furnished to NMCG, the action taken by the State Government with respect to demarcation, protection and management of floodplain area of the river Ganga is as following:

(a) **Uttarakhand:** Under the provisions of Uttarakhand flood plain zoning Act 2012, State Govt. of Uttarakhand vide notification dated 28.02.2017, Notification done for Haridwar District's ChandiGhat bridge to village Kalsia; Uttarkashi District's Gangori to Badethi Chungi stretch; Gangotri to Devprayag, Bhilangana river, Badrinath to Devprayag, Mandakini river. The process has been initiated for flood plain zoning of Susva Gola and Kosi river, about 295 kuu, and proposal has been sent for approval. Further scope of flood plain zoning in 1st phase 13 rivers about 955 lam and in 21'd phase 9 rivers about 1151 km have been identified.

(b) **Uttar Pradesh:** The State of Uttar Pradesh has submitted that for Phase —I (Segment B) of river Ganga, the notification for identification of flood plain zones as per the final report

furnished by the Special Committee has been done. Flood plain has been notified as being either 100 m or 50 m from firm banks of river presently. In urban areas, this zone corresponds to 50 return period flood. The flood plain zone is to be physically demarcated and notified. Budget has been allocated for permanent demarcation of flood plain zones by fixing of stone pillars in Segment B of Phase—I. Additionally, demarcation of flood plain for Yamuna, Hindon, Kali-East, Varuna, Gomti, Ramganga, Betwa, Ghagra, Rapti, Sai, Saryu and regulation of construction/development activities are to be notified by the State Government.

NMCG has suggested the Govt. of U. P. for geo-tagging of stone pillars delineating flood plain area of the rivers. This will guard against physical damages to the pillars as geo-tagged pillar locations can always be accurately traced by simple dGPS tools and remain unaffected by physical damages.

*(c) **Bihar:** With respect to status floodplain zonation and management in the State of Bihar, Hon'ble Tribunal in its order dated 08.02.2021 observed as following:*

"...(c) Bihar: That the State of Bihar in its report has submitted that considering the densely populated northern plain terrain and embanked river in the State, the directions pertaining to food plain zonation is not applicable in case of Bihar and the State Government is contemplating to approach the Hon'ble NGT in this regard. That Hon'ble NGT in its order dated 13.08.2020 has passed direction for constitution of a Joint Committee of members from NMCG, MoJS and CPCB to look into the issue of river floodplains demarcation and protection in the State of Bihar. In this regard, this Hon'ble Tribunal is to be apprised that the State Govt. of Bihar requested for modification in the definition of flood plain as described in the Gazette Notification S. O. 3187(E) dated 07.10.2016. The State Govt. of Bihar was asked to carry out a scientific study and report action taken based on such study and accordingly, letters dated 31.07.2020, 10.12.2020 and 06.01.2021 was issued to the Secretary, Water Resource Deptt. Govt. of Bihar. Copies of afore mentioned letters are placed at Annexure - II No information in this respect has been furnished by the State Govt of Bihar till date. The Joint Committee could look into issues pertaining to demarcation and protection of floodplains in State of Bihar once this study is in place and the requisite data is provided for examination."

In this regard the Hon'ble Tribunal is to be apprised that the Govt. of Bihar has furnished on 10.08.2021 a 'Report on Scientific study on the feasibility of Flood Plain Zoning in the State of Bihar' prepared by the Flood Management

Improvement Support Centre (FMISC), Water Resource Deptt., Govt. of Bihar (Copy annexed as Annexure — V). Further, an inter-departmental Joint Committee has been constituted for reviewing the report submitted by the Govt. of Bihar and examining the request of the State of Bihar as regards their claim that (i) demarcation of floodplains of the river Ganga in Bihar cannot be done, and (ii) provisions of flood plain zoning in subsection (1) (1) of Section 3 and subsection (3) of Section 6 of the River Ganga (Rejuvenation, Protection and Management) Order, 2016 needs revisiting and amended thereof, for having special provisions for Bihar State. The 151 meeting of the Committee is proposed to be held on 23.11.2021 with participation of officials of State Govt. of Bihar.

(d) **Jharkhand:** That the State of Jharkhand in its report has submitted that demarcation of flood plain zones necessitates earmarking in the vicinity of its existing water bodies which in turn requires regulation to ascertain flood plain zones for which the Water Resources Department (WRD), Government of Jharkhand has appointed Consultant. Further, for accurate assessment of the food pain zone, hydrology of the rivers is also required. That the Government of India sponsored National Hydrology Project in underway and is likely to provide the requisite data by the end of March 2024. Hence, the demarcation of the flood plains of the rivers in Jharkhand will be done during 2024-2025. Under National Hydrology Project, Central Water Commission is working on developing advance flood warning monitoring system. Demarcation of flood plain zone along river Ganga as per available data has been completed.

NMCG, after examination of this information observes that scientific studies for flood plain zonation are to be undertaken by State. There is no case for awaiting the outcome of National Hydrology Project before decision on flood plain zoning in State is taken.

(e) **West Bengal:** The State Govt. of West Bengal has submitted that a report regarding demarcation of flood plain has been prepared by Department of Geography, University of Calcutta that has been received on 28.06.2021. This report is being examined by the Environment Deptt. and the Urban Development & Municipal Affairs Deptt., Govt. of West Bengal. The State has submitted that action will be taken after through study and review of the report. Further, the State has submitted status of various protection works which is provided in Table - 2 below.

Table-2: Status of protection and management of floodplain zones in the State of West Bengal

Sr. No.	Protection and management of flood plain zones (FPZ)	Current Status Target	Revised	Action taken or suggested for violation of
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				timelines or non-achieving of targets
1	North 24 Parganas - Protection to the severely damaged left bank of river Hooghly in between Chaiotanya Ghat and Kanch Mandir Ghat by providing cement concrete block pitching for a length of 170 nun and boulder sausage protection work for a length of 50 m within Ward no. 30 & 31 of Baranagar municipality in P.S. Baranagar, District North 24 Parganas.	10% physical progress achieved.	Sep-21	All out effort has been laid to complete revised target in
2	North 24 Parganas - Protection to the severely damaged left bank of river Hooghly in between Alambazar Government Quarter campus to Ramlochan Babu Ghat by providing cement concrete block pitching for a length of 215 m and reconstruction of 50 m guard wall in front of Bhabkunja Ashram undre Ward no. 4 of Baranagar municipality in P.S. Baranagar, District North 24 Parganas.	29% physical progress achieved.	Jun-21	Allout effort has been laid to complete revised target in
3	North 24 Parganas - Protection to the left bank of river Hooghly from Mangal Pandey Ghat to Malanch Tourist Lodge near Vivekananda State Police Academy for a length of 135 m including renovation of sluice under Barrackpore Municipality in PS – Barrackpore, Dist. – North 24 Pgs.	Completed	NA	NA
4	South 24 Parganas - Protection work to the left bank of Hooghly embankment at SulapaniGhat near Harna Sluice for a length of 200m in Block - Diamond Harbour-I, P.S. Diamond Harbour, Dist-South 24 Parganas.	Administrative approval issued by the Finance Department on 02.02.2021, tender has been invited.	Dec-21	All out effort has been laid to complete revised target in
5	South 24 Parganas - Protection on left embankment of the Hooghly River for a length of 150 m by dumping Geo-Bag below L.W.L with slope protection by HDPE bags at pujali in P.S —	85% physical progress achieved.	NA	NA

	<i>Budge Budge, Dist- South 24 Parganas.</i>			
6	South 24 Parganas- <i>Protection of Hooghly left embankment with Brick Block Pitching for a length of 250 Mat Kanchantala Shasan Ghat Department Kali Mandir within Ward No 140 of KMC in P.S — Nadial, Dist- South 24 Parganas</i>	<i>Administrative Approval issued by the Finance on 21.01.2021, tender has been invited.</i>	<i>Dec-21</i>	<i>All out effort has been laid to complete revised target. in</i>
7	Howrah - <i>Protection to right embankment of Hooghly River at the confluence of Chapa Khal for a length of 210 m at Kalinagar in Block Uluberia -I, P.S. Uluberia, District Howrah.</i>	<i>Completed</i>	<i>NA</i>	<i>NA</i>
8	Howrah - <i>Protection to right embankment of Hooghly River at Tetikhola for a length of 150 m in Block Shyampur-I, P.S Shyampur, District Howrah.</i>	<i>Completed</i>	<i>NA</i>	<i>NA</i>
9	Howrah - <i>Protection to right embankment of Hooghly River at the confluence of Gouriganga Khal at Challcashi for a length of 240 m in Block Uluberia-I, PS Uluberia, District Howrah.</i>	<i>Completed</i>	<i>NA</i>	<i>NA</i>
10	Howrah - <i>Protection of Hooghly right embankment for a length of 300 m at Sirishtala, Gadiara, in Block Shyampur-I, P.S Shyampur, District Howrah.</i>	<i>Completed</i>	<i>NA</i>	<i>NA</i>

NMCG, after examination of this information observes that these works are flood protection works undertaken by the State government. Decision on above mentioned report on flood plain zonation followed with protection and management of identified floodplain areas, are yet to be undertaken by the State.

8.7 Depicting biological diversity of Ganga in public domain: *One of NMCG's long term visions for Ganga Rejuvenation is to restore the viable populations of all endemic and endangered biodiversity of the river so that the biological communities occupy their full historical range and fulfill their role in maintaining the integrity of the Ganga River ecosystems.*

Presence of rich biodiversity in a river ecosystem is the ultimate indicator of the river's health. The Ganga river ecosystem supports more than 25,000 floral and faunal

species. Biodiversity of any ecosystem is threatened foremost by the loss or degradation of its habitat. Major threats to River Ganga's biodiversity can be grouped under five overlapping categories: over-exploitation, water pollution, flow modification, destruction or degradation of habitat and invasion by exotic species, with global scale environmental changes being superimposed upon all of them.

Under Namami Gange Programme, biological water quality is assessed using Bio-monitoring field protocol towards semi-quantitative monitoring developed by Central Pollution Control Board. Community structure of the benthic macro-invertebrates of River Ganga and its tributaries reflects taxonomic richness with representative distributed taxa.

As mentioned above, under Namami Gange Programme, since 2014 onwards bio-monitoring of River Ganga and its tributaries is being carried out on regular basis to know the spatio-temporal trends in biological water quality for better understanding of health of the river system. In total, 8 rounds of bio-monitoring along the entire course of River Ganga were carried out during 2014-2020.

The biological data is available for 93 unique locations of River Ganga covered so far. Based on comparative bio-assessment study of same period carried out at 41 locations and covered in eight rounds of bio-monitoring during 2014-2020, the spatio-temporal picture of biological water quality status of an entire river is reported.

It is revealed that there is improvement in biological water quality from moderate to good class at maximum number of (29 out of 41) locations during present investigation. These locations include Jagjeetpur u/s; Sukartal; Anupshahar; Narora; Kachla Ghat; Ghatia Ghat, Farrukhabad; Kannauj; Kannauj d/s; Bithoor; Kanpur u/s; Asni Village Fatehpur; Sirsa, Prayagraj Bridge; GT Road, Prayagraj; Varanasi u/s; Varanasi, Rajghat; Rajwari a/c Gomti; Patna, Digha ghat; Patna, Fatuha (Bihar); Patna Malsalami; Falgu River (WB); Falgu River; Murshidabad; Behrampore d/s; Srirampore d/s; Belgharia; Ballykhal,; Howrah Bridge; Garden Reach. Location of Khudaganj shows improvement in the water quality from moderate to clean class during 2014-2018. In Uttarakhand stretch, biological water quality at Haridwar Barrage (UK) recorded improvement from slight pollution or clean to very good class during 2014-2018. Towards post-monsoon 2020, the water quality at this location, however, fell to moderate class. Biological water quality of the river in Uttar Pradesh at Bijnour (UP); Varanasi d/s and Bihar at Patna Gandhi Ghat remained moderate during 2014-2020 however; some improvement upto clean class level was obtained during intermediate periods of investigation. Jagjeetpur d/s is the exceptional location of River Ganga in Uttarakhand where biological water quality deteriorated

from clean or slight pollution (2014-2015) to poor class (post monsoon 2018-2019) during present investigation. Decline in the biological water from clean to moderate class was observed in the Kanpur stretch of river at Shakula Ganj, Deorighat during 2014-2019.

As reflected from the above comparative analysis, improvement with respect to biological water quality of River Ganga has been found which indicates the river environment in tendency of enhancing its ecological health.

Further, in order to address the threats to the aquatic biodiversity of Ganga, NMCG is working with Wildlife Institute of India (WII), Dehradun, Central Inland Fishery Research Institute (CIFRI), Barrackpore and State Forest Departments. All the reports generated from the study are uploaded in NMCG website:

https://nmcg.nicin/biodiversity_reports.aspx. Summary of these reports is as below:-

- 49% Ganga River has rich biodiversity value while sustained actions have to be continued to improve biodiversity in the remaining reach.*
- Six High Biodiversity Areas and Twelve Conservation Priority Zones exists*
- Rescue & rehabilitation center established in Narora, Sarnath Bhagalpur and Kolkata.*
- Cadre of more than 1300 volunteers (Ganga Praharis) developed and trained. These Ganga Praharis are actively involved in the Namami Gange Programme and carrying out awareness programmes, cleanliness drives and plantation drives contributing towards the mission of the Namami Gange Programme.*
- Key ecosystem services of Ganga River identified and an assessment framework developed.*
- The floating interpretation Centre at Varanasi "Ganga Tarini" and interpretation Centre at Sarnath "Ganga Darpan" established. Floating livelihood Centre "Jalaf" established at Varanasi. Model was also adopted by District Administration in Jharkhand.*
- Assessment of fish and fisheries conducted and a total of 190 fish species mapped in GIS platform to understand the fish status and distribution in Ganga.*
- Tagging procedures have been initiated to see whether the selected fishes like Hilsa can negotiate existing barrages.*
- Conducted ranching cum awareness programmes and released more than 30 lakhs of fish seed in river Ganga for conservation and restoration of IMC & Mahseer.*
- New sightings of Gangetic dolphins were recorded from downstream of Kanpur barrage, Smooth coated otters from Bhagalpur, Gharials at downstream of Rishikesh barrage and nesting of Indian skimmers near Prayagraj.*

- On the basis of the recommendations by WII, a 30 km stretch near Varanasi was declared as 'Turtle Wildlife Sanctuary' by Government of Uttar Pradesh for the protection of the aquatic biodiversity and their habitat in the Ganga River.
- Continued engagement of the riverside communities was ensured in the conservation process through skill development trainings conducted for Women Ganga Praharis from Uttar Pradesh and Jharkhand. The training and establishment of linkages are helping in improving livelihood and also linked with conservation.
- Training manuals created and distributed to teachers as resource material in Ganga bank districts.

8.8 Plantation Activities and setting up biodiversity parks: Plantations and setting up biodiversity parks along the floodplain of the rivers plays significant role in protection of floodplain area as well as restoration of river ecology. The initiatives and achievements of the States regarding plantation activities and setting up biodiversity parks are as following:-

- **Uttarakhand:** The plantation activities are being carried out in the larger catchment area of River Ganga. In the year 2020-2021 about 4,151 ha of plantation activities have been completed under the various schemes of CAMPA.
- **Uttar Pradesh:** As per the latest MPR, status of plantation activities undertaken and proposed by the State Govt. of Uttar Pradesh in the State are enumerated in the **Table - 3** below:

Table-3: Status of plantation activities

River Stretch	No. of Sampling	
	Planted Year 2019-20	Proposed for 2020-21
Hindon	55.34	55.64
Kali	65.93	69.35
Varuna	25.62	14.79
Yamuna	175.68	252.00
Gomti	180.26	151.99
Ganga	183.24	226.39
Ramganga	77.28	68.97
Betwa	24.61	49.78
Ghaghara	39.72	26.22
Sai	77.20	71.36
Rapti	57.25	29.08
Saryu	35.29	34.13
Total	997.42	1049.70

As per the MPR, Uttar Pradesh has identified the sites for the development of Bio-diversity parks in 25 districts in the main stem of Ganga and 02 districts in Yamuna covering a total area of 3591.984 ha. The project proposals for development of Bio-diversity parks are prepared under the supervision of Prof. C.R. Babu, former Pro Vice Chancellor, University of Delhi/ Emeritus Professor, CEMDE/ Incharge, Yamuna Bio Diversity Park and his scientific team.

It is relevant to mention that a project for 'Conserving and Sustainably Managing Gangetic Floodplain Wetlands of Uttar Pradesh' has been sanctioned to Uttar Pradesh State Forest Department under Namami Gange Programme at a cost of Rs. 4.16 Crores. The project under implementation since June 2020 and an amount of Rs 2.49 Crores has been released by NMCG till date for the project. The project involves comprehensive and management of Gangetic floodplain wetlands of U.P. within buffer of 10kms each side from the flood plain of river Ganga main stem in the 27 Ganga river bank districts in Uttar Pradesh. The major components of project include — Wetland Inventory and Assessment, Wetland Management Planning, Wetland Monitoring and Capacity Building and Outreach.

The UP State Forest Department has reported that out of 282 wetlands identified, 197 wetlands have been reviewed and brief documents of 118 wetlands have been prepared. The 'Rapid Wetlands Ecosystem Services Assessment Protocol' has been developed, strengthening of GIS infrastructure and lab development has been done, and training and workshops of wetland managers has been completed at Prayagraj, Badaun, Kanpur, Meerut and Varanasi and hydro-geomorphic based wetland classification for the model district (Meerut) has been completed.

- **Bihar:** *Plantation is being done under Namami Gange Scheme and Krishi Road Map wherein the polluted river stretches will be prioritized. The Bihar state has successfully achieved the total tree cover target of 15% for the Phase-I of Bihar Agriculture Road Map. For the Phase-II of Bihar Agriculture Road Map for the period 2017-18 to 2021-22 a target of 17% total tree cover has to be achieved by 2022. A team from the State Government had visited Yamuna Biodiversity Park in Delhi and at present are exploring possibilities of developing the replication of the same in the State.*
- **Jharkhand:** *Plantation activities along the rivers: Total — 124.69 Kms. 9 (Jumar — 20 Kms, Swarnrekha — 65 Kms, Damodar-20.69 Kms, Konar — 6 Kms, Sankh -8 Kms and Garga - 5 Kms).*
- **West Bengal:** *24 biodiversity parks construction projects are ongoing in the State.*

9. Quantity of Sewage being discharged in river Ganga and its tributaries /connected drains and correspondingly proposed/existing STPs to intercept the same with timelines.

States in the Ganga Basin have submitted updated information with regard to the sewage generation and existing sewage infrastructure in the States. Therefore, as per the updated information, 10,139.30 MLD of sewage (from urban settlements) is being generated in 5 States in the Ganga Basin and 5,586.74 MLD capacity of STPs (226 nos.) is existing which approximates to about 50% of sewage generation. Against the existing capacity, only 61% of the capacity is being utilized for treatment of municipal sewage. Rest of the existing capacity remains unutilized because of various reasons, including lack of availability of conveyance of sewage to treatment plants, technology issues requiring up-gradation of plants, or dysfunctionality on various counts. This leaves a gap of 4,619.96 MLD in treatment capacity for which States are regularly being asked to provide details with regards to their plans to fill the gap, including that for financing the creation of infrastructure. It is also important that operational STPs remain compliant to the STP outlet standards as per environmental norms. The details of sewage generation, existing sewage treatment capacity, its utilization and gap thereof is presented in **Table-4**.

Table-4: Details of Existing Sewage Infrastructure in the 5 Ganga Basin States

No.	State	Sewage generation (MLD)	Existing STP (capacity in MLD and Nos.)	Capacity Utilization (MLD)	Gap in Treatment at present (MLD)
1	Bihar	1100	230 (6 STPs)	100 (44%)	870
2	Jharkhand	452	103.5 (15 STPs)	77%	348.45
3	Uttarakhand	329.3	396.75 (66 STPs)	235.82 (59%)	-
4	Uttar Pradesh	5500	3471.8 (108 STPs)	2616.7 (75%)	2028.2
5	West Bengal	2758	474.69 (31 STPs) +910 MLD addl. Treatment through EKW	1201 (86%)	1373.31
	Total	10,139.3	5586.74 (226 STPs)	68%	4619.96

*State reported that 910 MLD of sewage is being treated by East Kolkata Wetlands by natural process.

10. Performance of STPs and their compliance, particularly for Faecal coliform.

As per the information received from CPCB on the basis of the inspections undertaken for verifying the

compliance status of STPs, it is observed that out of 128 STPs being monitored by CPCB (102 operational STPs at the time of inspections), 09 STPs were found complying and 74 were found non-complying for Faecal Coliform as per Hon'ble NGT prescribed norms (<230 MPN/100ml) dated 30.04.2019 passed in the matter of O. A. No. 1069/2018 —Nitin Shanzar Despande Vs. Union of India & On. Details of the compliance status of STPs in five Ganga basin States (as on 31.10.2021) is depicted in Table- 5 below:

Table- 5: Compliance Status of STPs in 5 Ganga Basin States (Till October 31st 2021)

State	Towns covered by 128 STPs	Average Sewage Generation in Ganga Front towns (MLD)	Installed sewage treatment capacity (MLD)	Utilized Capacity (MLD)	Total STPs monitored	Operational STPs	No. of non-complying STPs	No. of STPs Non-Complying for Faecal Coliform (<230 MPN/100 ml) norms
Uttarakhand	16	239.8	347.2	214.1	54	51	36	35*
Uttar Pradesh	11	1255.2	1137.9	930.11	32	29	26	19
Bihar	01	480	205	64	05	04	4	04
Jharkhand	01	12	12	07	02	02	2	2
West Bengal	22	1571.5	545.7	184.9	35	16	15	14
Total	51	3558.5	2247.8	1400.1	128	102	83	74

Note: 1. For 2020 and 2021 compliance status is based on norms prescribed by Hon'ble NGT in order dated 30.04.2019 (passed in OA No. 1069/2018).

2. STPs in Jharkhand and Bihar were not monitored in 2021 and last reported status is given in the Table-5.

* As reported by Uttarakhand Govt., all the STPs have been reported to be compliant with respect to Faecal Coliform norms, based on inspections carried out during January-October'2021.

The State of U. P. has informed that directions have been issued by the State PCB for starting monitoring of Faecal Coliform in STP treated water. Presently, Faecal Coliform is being monitored for STPs in Chitrakoot and Lucknow only and the value is found to be within prescribed limits. It is to be submitted that it is responsibility of the State to ensure that all operational STPs are compliant to prescribed outlet standard, including that for Faecal Coliform norms and compliance to directions issued is reported accordingly.

Further, in view of contradictory claims of CPCB and Uttarakhand Govt. in respect of compliance status of existing STPs it for consideration of the Hon'ble Tribunal that the compliance monitoring may be carried out jointly by the Central and State regulators and the raw data may be shared with NMCG. In many of projects inspected by NMCG officials, it is seen that residual chlorine is being reported at the outlet while significantly higher Faecal Coliform levels are also being reported. This may not be physically and scientifically possible. Therefore, reconciliation of scientific finding by both State and Central regulator is necessary. It is also to be verified by State PCB and CPCB alike that availability of the OCEMS sensors in respect of various parameters like pH, DO, BOD (or TOC wherever applicable), COD, Total Nitrogen and Total Phosphorous at STPs (in all five Ganga basin States) including their operational status and connectivity on real time basis with CPCB, SPCB and NMCG be ascertained and reported upon.

11. Water quality of Ganga at inter-State borders and at important public places/Ghats, which may show the level of compliance with regard to water quality.

(A) Water Quality assessment at Inter State Borders: *Water Quality of River Ganga at inter-state borders were comparatively assessed at 07 locations of Inter State Border in the Ganga main stem States namely Uttarakhand, Uttar Pradesh, Bihar and West Bengal namely; border of Uttarakhand and U.P - D/s Roorkee, Garhmukteshwar; border of UP and Bihar — Tarighat (Ghazipur), Buxar; border of Bihar and W.B. — Kahalgaon, Berhampore; border end of W. B. - Diamond Harbour. The comparative assessment of median data of Biochemical Oxygen Demand (BOD) of year 2014 and 2021 reveals that BOD levels have improved at all the 6 out of 7 identified water quality locations at the Inter-State Borders (except for Tarighat, Ghazipur).*

*The comparative assessment of water quality median data was done for water quality parameters viz. Dissolved Oxygen (DO) and Biochemical Oxygen Demand (BOD) for the year 2014 and 2021 is depicted in **Fig. 1 and Fig. 2 resp. at Annexure — VI.***

(B) Compliance to water quality standards: *Under the Namami Gange Programme, CPCB is carrying out the manual water quality monitoring of River Ganga at 97 water quality locations in association with SPCBs. As per CPCB data for the year 2021 (January to July), the observed water quality of River Ganga indicates that DO has been found to be within acceptable limits of notified primary bathing water quality criteria.*

As per comparison of median data of water quality parameters viz., DO, BOD and Faecal Coliform of year

2014 and 2021 (January to July), Dissolved Oxygen has improved at 40 locations, BOD at 41 locations and Faecal Coliform at 21 locations, respectively. Graphic representation of the comparative assessment for DO, BOD and Faecal Coliform is depicted in annexed **Fig. 3, Fig. 4 and Fig. 5 resp. at Annexure – VII.**

(C) **Water Quality in Polluted River Stretches:** The water quality data presented by the 5 Ganga Basin States during period since January 2020 up to December 2020 has been analyzed and the same has been summarized in **Table-6** given below:

Table - 6: Water Quality Status Stretch wise for States of Bihar, Jharkhand, Uttarakhand, Uttar Pradesh, West Bengal.

Sl. No.	States	Water Quality Status Stretch wise	
		Stretch	Range of BoD (mg/l)
1	Bihar	Ganga River, Buxar to Manihari; P-V	1.2-5
		Punpun River, Fatuha; P-V	1.8-5.6
		Ramrelcha River Harinagar (Ramnagar) ; P-V	1.9-4.0
		Sikrahna River, Narkatiaganj; P-V	1.1-3.2
		Parmar River, Jogbani; P-V Sirsia River, Raxual; P-III	1.9- 4.0 3-5
2	Jharkhand	Garga, Along Talmuchu; P-IV	3.7
		Sankh, Kongserabasar to Bolba; P-IV	8.4
		Swarnrekha, Hatia Dam to Jamshedpur, P-IV	3.4 – 10
		Damodar, Phusro Road Bdg to Turio; P-V	3.9
		Jumar, Kanke Damto Kadal; P-V	2.1 – 3.3
		Konar, Along Tilaya and Komar; P-V	3.4 – 3.6
3	Uttar Pradesh	Nalkari, Along Patratu; P-V	3.8
		Based on Water Quality report for August & September 2020, as reported in the MPR provided.	
		Ganga	2.1 – 4.8
		Yamuna	1.9 – 27
		Kali East	4.6 – 66
		Hindon	14 – 52
		Sai	2.8 – 14
Ami	3.2 – 4.6		

		Rapti Saryu Betwa	5.8 – 20 4 – 5.4 3.2 5.4
4	Uttarakhand	Dhella Bhella Kichha Suswa Kalayni Kosi Pilakhar Nandhour Ganga	1.8-16 4-17 3-9 2-28 2.4-18 3-7.8 4.1-10 2.5- 5 1- 1.2
5	West Bengal	Vidyadhari Mahananda Ganga Chumi Dwarka Damodar Mathanbhanga Kansi Jalangi Rupnarayan Mayurakshi Dwarakeshwar Silabati Barakar Kaljani Karola Teesta	5.42-10 1.20-21 1-3.20 2-7.3 3.05-4.20 1.65-3.75 4-5.88 0.6-2.40 2.25-2.85 0.90-1.70 <2 1.85 - 2.80 <2 2.15-2.45 1.20-2.10 <2 0.80-1.4

As informed by the State of U. P., water quality of River Ganga is being monitored by UPPCB at 32 sampling points in U. P. and data is uploaded at UPPCB website. Water quality of River Ganga at borders and important public places-ghats is reported to show improvement from 2017 to 2021.

It is relevant to mention that the Oversight Committee has reported that as per the latest available report for the period Jan-May, 2021, water quality at 22 locations in U.P. is critically polluted. Out of the 22 locations, at 8, water quality falls in category C which means that water is suitable for drinking purpose after conventional treatment and disinfection while at 14 locations the water quality falls in category D which suggests that water is not suitable for drinking or bathing purposes but only for propagation of wildlife and fisheries.

12. Status of compliance of CETPs at Jajmau, Unnao and Banther (applicable only to UP)

As per the recent inspections of these three CETPs, the status is presented in Table -7 below.

Table -7: Status of CETPs in Ganga Main stem (As on October, 2021)

CETP Name/ District	Installed Capacity (MLD)	Utilized capacity (MLD)	Type & nos. of Operational member Units	Compliance status/ date of monitoring	Issues/Action taken
CETP Jajmau Kanpur, UP	36 (09 MLD industrial + 27 MLD sewage)	34.5- 36 (11.26 - 12 industrial effluent + 23.3- 24 Sewage)	Tannery (345)	<p><u>Latest inspection:</u> 06.09.2021</p> <p><u>Compliance status</u></p> <p>Non-complying w.r.t. BOD (176 mg/l against norm of 30 mg/l) COD (391 mg/l against norm of 250 mg/l), TSS (151 mg/l against norm of 100 mg/l), chloride (1428 mg/l against norms of 1000 mg/l), Oil & Grease (28.2 mg/l against norm of 10 mg/l) and Chromium (4 mg/l against norm of 2.0 mg/l).</p>	<ul style="list-style-type: none"> CETP was found operational and non-complying during inspection carried out on 06.09.2021. CPCB issued direction dated 23.07.2021 to UPPCB under section 18 (1) (b) of Water Act, 1974 regarding non compliance of CETP Jajmau Letter dated 20.09.2019 issued to UPPCB regarding non-compliance of CETP. Direction dated 13.05.2019 issued to UPPCB under Section 18 (1) (b) of Water Act, 1974.
CETP, Site-II, Unnao Unnao City, UP	2.15	0.786 to 0.999	Tannery (15)	<p><u>Latest inspection:</u> 07.09.2021</p> <p><u>Compliance status:</u></p> <p>Non-complying w.r.t. FDS (3490 mg/l against norm- 2100 mg/ l) and Chloride (1521 mg/ l against norm- 1000 mg/ l).</p>	<ul style="list-style-type: none"> CETP was found operational and non-complying during inspection carried out on 07.09.2021. Letter was issued on 06.09.2021 to Unnao Tanneries Pollution Control Company (UTPCC) for non-compliance of CETP Unnao. CPCB issued directions dated 10.05.2019 under 18 (1) (b) of Water Act, 1974 based on inspection of CETPs Site-II, Unnao.
CETP, Banthar Unnao, UP	4.5	0.918 to 1.098	Tannery (27)	<p><u>Latest inspection:</u> 07.09.2021</p> <p><u>Compliance status:</u></p> <p>Non-complying w.r.t. BOD (140 mg/l against 30 mg/l), COD</p>	<ul style="list-style-type: none"> CETP was found operational and non-complying during inspection carried out on 07.09.2021. Show Cause Notice dated 21.10.2021 was

				(466 mg/l against 250 mg/l), TSS (118 mg/l against norm- 100 mg/l), FDS (11057 mg/l against norm- 2100 mg/l) and Chloride (3911 mg/l against norm- 1000 mg/l).	<p>issued to Banthar Industrial Pollution Control Company (BIPCC) and directed to show cause as to, why environmental compensation should not be levied on the BIPCC for the non-compliance period from 15.03.2021 to 15.06.2021.</p> <ul style="list-style-type: none"> • CPCB issued directions dated 10.05.2019 under 18 (1)(b) of Water Act, 1974 based on inspection of CETPs, Banthar.
CETP, Rooma Kanpur, UP	1.55	0.498 MLD (August, 2021)	Textile (18)	<p><u>Latest inspection:</u> 02.09.2021</p> <p><u>Compliance status:</u> Non-complying w.r.t. BOD (75.6 mg/l against norm- 30 mg/l) and FDS(3689 mg/l against norm-2100 mg/l).</p>	<ul style="list-style-type: none"> • CETP was found operational and non-complying during inspection carried out on 02.09.2021. • CETP was found operational and non-complying during inspection on 04.03.2021. Show Cause Notice dated 15.06.2021 was issued to CETP under Section 5 of E (P) A, 1986 regarding non-compliance of CETP Rooma. • Show Cause Notice dated 15.07.2019 was issued to CETP under Section 5 of E(P)A, 1986. • Closure directions dated 12.06.2018 issued to all member units for continuous non-complying of CETP. • Member units are permitted to operate on 50% of operational capacity.
CETP, Pilakhuwal Hapur, UP	2.1	500-800 KLD	Textile (11)	<p><u>Latest inspection:</u> 12.10.2021</p> <p><u>Compliance status:</u> Non-complying w.r.t. BOD (53 mg/l against 30 mg/l) and FDS (297 mg/l against 2100 mg/l)</p>	<ul style="list-style-type: none"> • CETP was found operational and non-complying during inspection carried out on 12.10.2021. • CETP was found complying w.r.t. treated effluent discharge norms on 13.07.2021. Revocation of closure direction dated 11.05.2021 is proposed. As proposed by NMCG, re-inspection of CETP Pilakhuwa to verify compliance status of CPCB directions dated 11.05.2021 was carried out by officials of CPCB,

					<p>NMCG and UPPCB on 12.10.2021.</p> <ul style="list-style-type: none"> • CETP was found operational and non-complying during inspection on 22.03.2021. Direction dated 11.05.2021 issued under Section 5 of E(P) A, 1986 regarding non-compliance w.r.t. treated effluent discharge standards. UPPCB issued letter dated 12.07.2021 to HPDA to comply with CPCB directions dated 11.05.2021. • Letter dated 21.02.2020 issued to HPDA, Hapur to explain the reason for high TDS at outlet. • Show Cause Notice dated 24.09.2019 issued under Section 5 of E(P)A, 1986.
<p>CETP SIDCUL, Haridwar, UK</p>	4.5	4.8-5.0	<p>Mixed type industries (516)</p>	<p><u>Latest inspection:</u> 29.09.2021</p> <p><u>Compliance status:</u> Non-complying w.r.t. BOD (31 mg/l against norm-30 mg/l).</p>	<ul style="list-style-type: none"> • CETP was found operational and non-complying during inspection carried out on 29.09.2021. • CETP was found operational and non-complying during inspection on 17.03.2021, Letter dated 31.08.2021 issued to SIDCUL Haridwar. • A meeting was held on 16.01.2019 under NGT directions dated 29.11.2018 regarding installation of bio-digester and ZLD system for CETP. • Show Cause Notice dated 11.05.2018 issued to SIDCUL.
<p>CETP, Pantnagar (SIDCUL) US Nagar, UK</p>	4.0	2.3	<p>Mixed type industries (309)</p>	<p><u>Latest inspection:</u> 22.09.2021</p> <p><u>Compliance status:</u> Non-complying w.r.t. Fluoride (2.1 mg/l against 2.0 mg/l) and Boron (15.48 mg/l against 2.0 mg/l)</p>	<ul style="list-style-type: none"> • CETP was found operational and non-complying during inspection carried out on 22.09.2021. • CETP was found inspection on 19.08.2021. Letter dated 01.11.2021 issued to CETP Operator (M/s Ramky Infrastructures Pvt. Ltd.). • Direction dated 16/20.09.2019 issued under 18(1)(b) for OCEMS connectivity and flow meters operationalization.

CETP, Sitarganj US Nagar, UK	4.0	1.3-1. 9	Mixed type industries (Agro based and Engineering) (67)	<u>Latest inspection:</u> 23.09.2021 <u>Compliance status:</u> Non-complying w.r.t. TDS (2456 mg/l against norm- 2100 mg/l), Fluoride (11.83 mg/l against 2.0 mg/l), Cyanide (0.42 mg/l against 0.2 mg/l) and Boron (8.34 mg/l against 2.0 mg/l).	<ul style="list-style-type: none"> • CETP was found operational and non-complying during inspection carried out on 23.09.2021. • CETP was found operational and non-complying during inspection on 22.03.2021. Letter dated 18.08.2021 issued to Jindal ES1PL. • Show Cause direction dated 03.07.2019 under Section 5 of E(P) A, 1986 issued by CPCB, reply from the unit received on 19.07.2019 & 20.09.2019. • Matter is prejudice and NGT is monitoring the case of CETP non-compliance. NGT imposed an EC of Rs. 5,70,000 on the operating agency which was deposited by the unit. • NGT imposed another EC for Rs. 1.00 Crore vide order dated 07.09.2019 in the matter of OA No. 200/2014.

13. Authorities at State and District Level: The River Ganga (Rejuvenation, Protection and Management) Authorities order under Environment (Protection) Act, 1986 by the Government of India dated 7th October, 2016, creates mechanism at the State and District Level (State Ganga Committees and District Ganga Committees) for addressing the challenge of pollution abatement and rejuvenation of river Ganga. The SGCs have been formed in all five Ganga States and DGCs have been constituted for all the 52 Ganga main stem districts and 7 on tributaries. In total 59 DGCs have been notified.

A symbiotic and close functional relationship is now evolving, one - between NMCG and SGCs, two- between NMCG and DGCs directly and three - between SGCs and DGCs leading to joint partnership and ownership in Ganga rejuvenation efforts. Regular meetings of SGCs and DGCs are taking place under the chairmanship of respective Chief Secretaries and the DMs on matters relating to various aspects of Ganga rejuvenation. NMCG is closely associating the DGCs in river rejuvenation activities directly addressing bottlenecks on the ground and playing a greater coordination role with

Central Government departments as well as with State level agencies to resolve the issues.

The DGCs have also been directly provided with funds by NMCG to begin their activities and set up requisite secretariat for Ganga Rejuvenation and DGCs. The NMCG is also holding regular dialogues with the concerned line departments of the respective States to resolve the inter-department issues and to speed up clearances and grounding of projects. The line departments of the State Governments have also been asked to involve various agencies of the States in Ganga rejuvenation efforts to make the programme more organic and comprehensive.

NMCG has also held a number of Virtual Conferences directly with DGCs across states to sensitize them on the Ganga restoration initiatives, appraising their work on river rejuvenation efforts and guiding them further for bringing the river Ganga as the key focus of their planning and development in the districts.

NMCG is working continuously to develop an organic and three tiered relationship between the State and District level authorities to converge all efforts and resources specially in Ganga towns and villages to not only restore the health of the river but also to bring about Ganga centric development in the areas abutting the river for a symbiotic relation between the river ecology and sustainable growth in livelihood opportunities. States have also been requested to suitably strengthen the institution of DGC, so that it can start performing various tasks assigned to it in the Authority Notification.

As of now, the following District Ganga Committees (DGCs) have been constituted, on main stem of river Ganga and on tributaries of River Ganga:

Table- 8: District Ganga Committees in States

States	Number of Districts	
	Main Stem of River Ganga	Tributaries
Uttarakhand	7	6
Uttar Pradesh	25	23
Bihar	12	26
Jharkhand	1	3
West Bengal	7	2
Total	52	60
Grand Total	112	

Moving ahead with rejuvenation of tributaries of Ganga, DGCs are being constituted for districts on major tributaries and the State and respective District authorities have been asked to nominate members for the DGCs.

14. *That vide order dated 17.06.2021 passed by the Hon'ble NGT in another matter of O. A. No. 128 of 2021 — Saurabh Tiwari Vs. Union of India & Ors. related amongst others to pollution caused into the rivers Ganga, Varuna and Assi at Varanasi due to discharge of untreated sewage and unauthorized construction in river bed/floodplain of these rivers, the Hon'ble NGT directed for constitution of a Monitoring Committee comprising of members from NMCG, CPCB, UPPCB and Varanasi District administration for monitoring action for remedial measures for rejuvenation of rivers Ganga, Varuna, and Assi in Varanasi. UPPCB is nodal agency for this Committee. Further, based on the report of the Committee, NMCG has been directed to submit action taken report in the matter before 04.08.2021 inter alia giving information on (a) status of water quality of Varuna & Assi; (b) action taken on diversion and treatment of sewage; (c) water quality of u/s and d/s of confluence of Assi and Varuna to Ganga, and (d) demarcation of flood plain zones of Assi, Varuna and Ganga at Varanasi.*

It is submitted for consideration of this Hon'ble Tribunal that in furtherance of compliance of above said order, the Monitoring Committee has been constituted and the Committee held its first meeting on 03.07.2021. The copy of minutes of the Monitoring Committee held on 03.07.2021 is annexed as Annexure — VIII. Further follow up including site visits and field assessment has also been carried out.

*That in the above said meeting it was decided amongst others that NMCG may engage experts from the Center for Environmental Management of Degraded Ecosystems (CEMDE) for guidance and preparing Action Plans for revival of river ecosystem activity and experts from Deptt. of Civil Engineering, IIT-Roorkee may be engaged for review of existing sewage master plan and to suggest further action points on Sewage Management, industrial Waste Management, Solid Waste & Flood Plain Zone Management, Ground Water Management, E-monitoring & Evaluation. Accordingly, NMCG vide letters dated 20.07.2021 requested Prof. C. R. Babu, CEMDE and Prof. A. A. Kazmi, IIT-Roorkee for preparation of Action Plan and to start field works in Varanasi in consultation with the Monitoring Committee. The Copies of aforesaid letters are annexed as **Annexure — IX**. Further, the Hon'ble Tribunal is to be apprised that Action Plan has been submitted by UPPCB to NMCG on 16.08.2021 (copy annexed as **Annexure — X**).*

Following are the significant observations/recommendations in the Action Plan:

- *The river Varuna traverses the districts of Prayagraj, Bhadohi and Varanasi of Uttar Pradesh. For restoration of the river it is divided into three stretches with specific activities to be undertaken.*
- *Stretch I constitute the origin of the river Varuna which is a highly silted wetland, converted to paddy fields that receives agricultural run-offs. Suitable intervention proposed for it is to acquire cultivated land and convert it back into wetland as well as biodiversity park. Also, desilting may be carried out for restoration.*
- *Stretch II has two tributaries of river Varuna which carry agricultural run-off, excess water from canals and catchments from agricultural fields may carry high levels of nutrients & pesticides. Depending upon the results of assessment of nutrient load & pesticides, these may be remediated by riparian vegetation along the embankments. Besides, Burbuspur drain (Rampur) and Chauri drain (Kom, Bhadahi) were found to discharge sewage into Morwa river. Basuhi carries both sewage and industrial waste water. The sewage of Burbuspur drain and Chauri drain is suggested to be treated by Constructed Wetland System (CWS) at the mouth of the drains.*
- *Dhoraira drain, Basti Bazar drain and Durga drain discharges into the river Varuna. Basti Bazar drain carries sewage and industrial effluents from carpet industries. Durga drain carries sewage and industrial effluents from Lohta of Varanasi. In-situ bioremediation through CWS is suggested for treatment of these drains.*
- *Stretch III is the most polluted stretch that carries that carries untapped and tapped drains. Untapped drains is to be tapped via interception/diversion to the related STPs. If overflow exists even after interception/ diversion that could be tapped into Constructed Wetlands System for in-situ remediation.*
- *The floodplains on either side of Ganga, particularly the side where Varuna joins Ganga (Adikeshwar Ghat) and the area between ghat and bridge in d/s of Ganga, is suggested to be developed into floodplain Biodiversity Park.*
- *River Assi originates from Kardmeshwar Kund — Khandwa Pokhri, Varanasi. Continued illegal constructions along the river course and encroachment of the river bed/flood plain, obstructed the flow of the river especially from Kardmeshwar kund to pond near Kadmeshwar Inter College. This blockage of the river path led to back flow of wastewater into the Kardmeshwar kund that caused pollution of the kund. The outlet of the Kardmeshwar kund is sealed that changed the origin of River Assi, thus, effecting flow and pollution status of the river. River Assi is polluted and encroached all along its course starting from origin till it joins River Ganga.*
- *For rejuvenation of the River Assi it is divided into two stretches out of which Stretch I is relatively clean and do*

not require any major intervention. Pollution is not the pressing issue in this stretch but it is the restoration of the origin, identification of the lost path of the river Assi and allowing freshwater from the Kardmeshwar kund into the channel. The presumed path is heavily encroached therefore it is required that the encroachment may be removed and channel is restored by excavation / desilting.

- In Stretch II, Drains mainly, DLW-1 and DLW-2 coming from DLW area and discharges sewage load from Indira Nagar Colony, Newada area, into Assi.
- The present confluence points of River Assi, behind Ravidas Ghat Park is situated 770 meters u/s of original confluence point at Assi Ghat. A bandh is constructed on the River Assi just before the old confluence with River Ganga near the Assi Ghat. The old channel of River Assi carries household sewage from the point of bandh onwards and is encroached at diversion point.
- It is recommended that the first step, towards the rejuvenation of this stretch of Assi river, should be removal of the encroachments (wherever required and possible) through coordinated action by State and district administrations.
- The Khandwa Pokhri near Kardmeshwar Mahadev Inter College, Kandwa, from which it originates is a wetland and it could be restored by desilting it upto its bed level and the desilted material will be used for making embankments. The embankments should be vegetated. The sewage that enters into this pond should be channelized and treated by CWS that will be setup at the mouth of channel that discharge sewage into wetland. A series of CWS (minimum 5 units) is suggested to be setup at stretches where width of Assi river is maximum. Also, CWS is suggested at the mouth of DLW-2 drain (an open storm drain) where this drain empties into River Assi. The BOD level of the drain is 16.1 mg/L that could be easily taken care by CWS and can help reduce it further.
- A floodplain Biodiversity Park may be developed concurrently in d/s upto 5 km of the area where once River Assi used to confluence with River Ganga around Assi ghat. Once this biodiversity park is constructed having functional CWS, the channel of River Assi can be restored back by passing the river water through treatment wetlands of Biodiversity Park before it is discharged into Ganga.

Views of NMCG:

The views of NMCG on Action Plan that emerged during discussions with Prof. C. R. Babu and Prof. A. A. Kazmi are as below:

- Water quality of u/s and d/s of confluence of Assi and Varuna to Ganga as per reported monitoring data for the

period January to July 2021 is tabulated below in Table - 9.

Table - 9: Water quality of u/s and d/s of confluence of Assi and Varuna

Stretch	DO (mg/L)	BOD (mg/L)	Faecal Coliform (MPN/100ml)
U/s Varanasi (Assi Ghat)	8.8	2.3	800
Varanasi D/s (Malviya Bridge)	7.9	3.8	11,000

- *Regarding sewerage management in sewerage district 3, the current estimation of Assi flow appears to consider monsoon runoffs, hence, there is a need for assessment of dry weather flow of Assi river post monsoon, sometime in October- November'2021 through scientific measurements using V-notch etc.*
- *Non-revenue water need to be checked and controlled. There has been significantly higher per capita water supply/ uses compared to CPHEEO guidelines and the non-revenue water is around 40-50% as against the norm of less than 15%. It is worth mentioning that JICA in its sewerage master plan estimated the need for 37 MLD STP at Ramana for year 2015 and 75 MLD for year 2030 (with de-commissioning of Bhagwanpur STP) which was reviewed in 2014-15 by RCA and revised the proposed 75 MLD SW capacity at Ramana to 50 MLD with continuation of 9.8 MLD SW at Bhagwanpur. Recently, a visit was undertaken in Varanasi by a senior official of NMCG to look into the aforementioned issue of excess flow into the Ramana STP. Various interventions have been suggested to control excess flow in this SIT. These interventions are being studied so that further cation plan can be finalized.*
- *There has been storm water drain, with smaller drains and sewerage connections, constructed under JNNURM programme connecting part of sewerage district 2 to sewerage district 3 leading to river Assi. These drains should be only be used as storm water drain only. Thus controlling waste water from other sewerage districts reaching Assi has also to remain under focus.*
- *Biodiversity park near Assi Ghat with sewage feed on the flood plains may not be desirable considering it to be right at the upstream of all major ghats of Varanasi.*
- *12 MLD DLW STP is treating around 5-6 MLD and the treated water is discharged to the DLW-1 drain leading to river Assi which not only is required to be treated again at Ramana STP but also increases the hydraulic load. The feasibility of optimum utilization of DLW SIT i.e. 12 MLD and laying a separate pipeline for discharging the treated water to river Ganga/ Varuna without its*

mixing with flows of Assi through DLW-I drain (leading to double treatment of treated water) has to be explored and ensured by UPJN. This alone may reduce the flows at Ramana STP by about 10-12 MLD. An interceptor sewer network has been laid all along Assi and the feasibility of connecting all inlets/ outfalls, currently into the Assi river, to this interceptor sewer may need to be examined. This will ensure that sewage from contributing catchment is trapped and conveyed to downstream instead of sewage diluted with raw ground water allowed to flow into Assi. Thereafter, the collected sewage from interceptor can be conveyed to OTS or RTS through a link conveyance to be treated at existing 140 MLD STP at Dinapur where spare capacity is available. This can be explored provided discharging capacity is available in OTS/ RTS and space for laying of link conveyance and a pumping station, if required, is available. Actions in this respect have to be ensured by UPN.

- *Recommendations for an additional STP of requisite capacity can always be considered as part of long term futuristic planning based on merits but since the entire process is time consuming starting from conceptualizing the project, its sanction, procurement and implementation, the priority has to ensure using the spare capacity available in existing STPs located in other sewerage zones by providing inter-sewerage zonal linkages, which can be implemented in comparatively shorter time span.*
- *Short term measures indicated by the experts pertaining to restoration of the wetlands and development of the constructed wetlands for river Varuna and Assi appears to be in order and can be accepted for further actions i.e. detailed feasibility / project report and implementation. Regarding sewage management, re-assessment of the dry weather flow post monsoon is necessary before any investment decision is taken. The engineered transfer of water may be reviewed internally after examination of MCA sewerage plans as well as follow-up meetings with relevant stakeholders i.e. UPPCB, CPCB, UPJN, department of Irrigation, NMCG, UPSMCG etc. before arriving at final recommendations. It is submitted for consideration of this Hon'ble Tribunal that as far as the short-term measures such as constructed wetlands system, ecological restoration, Biodiversity parks and bio-remediation/phyto-remediation etc. are concerned, NMCG is in agreement with the recommendations and these measures may be taken up by the State agencies as it would also add not only to aesthetic beauty of the riverscape in Varanasi but will also contribute towards pollution abatement and river rejuvenation. The Dept. of Irrigation, Govt. of U.P. is being consulted for their input in this regards as they are the custodian of the land along the rivers that will be used for initiating these short-term measures. As regards long term measures in the form of setting up additional STPs, laying of interceptor and diversion lines, NMCG is in discussion*

with all stakeholders and requests this Hon'ble Tribunal to grant two months' time to come up with firm recommendation/suggestions in this regard.”

18. Report of the Oversight Committee dated 12.11.2021 in continuation of report dated 29.07.2021 gives the compliance status as follows:-

“

V. LATEST COMPLIANCE STATUS IN O.A 200/2014

The Tribunal had directed Oversight Committee to monitor the compliance of directions passed. In view of the same, the latest compliance status as per the reports received from the concerned departments is as follows:

1. Compliance report received from Uttar Pradesh Jal Nigam (Annexure 1)

a) Status of tapping of drains

The report details out the status of Tapping of 86 Drains in Phase-I, Segment-B (Bijnor to Kanpur) and 215 Drains Phase-II (Kanpur to U.P. Border) as on 22.01.2021.

It has been stated that in Phase I, (Details in Annexure 1a)

- *09 drains do not require tapping*
- *34 drains are tapped*
- *05 are partially tapped*
- *38 drains are untapped (24-to be tapped in project under construction, 10-to be tapped in sanctioned projects, 04-to be tapped in projects which are submitted for approval)*
- *The timeline for 24 untapped drains which are under construction is as follows:*

01- Drain by Aug- 21

13- Drains by Sep-21

5- Drains by Oct-21

05 Drains in 24 months after availability of land for Moradabad STP. Matter is currently sub-judice at Hon'ble High Court

The status of Phase II (details in Annexure 1b) is as follows:

- *14 drains do not require tapping*

- 104 drains are tapped
- 01 are partially tapped
- 96 drains are untapped (23-to be tapped in project under construction, 35-to be tapped in sanctioned projects, 38-to be tapped in projects which are submitted for approval)
- The timeline for 23 untapped drains which are under construction is as follows:
 - 11 Drains by Sep-21
 - 06 Drains by Dec-21
 - 06 Drains of Trans Varuna region are being taken up by Irrigation Deptt.

b) Status of Sewage Treatment Plants

The State has 106 existing STPs out of which O & M of 67 STPs are being taken up by Uttar Pradesh Jal Nigam. The status of 67 STPs is as follows:-

Operational - 66 STPs.

Not-operational - 01 STPs (at Banda, 4 MLD)

LOA for rehab works at Banda STP was issued to M/s Verdhmanh Engineering Works Pvt., Delhi Ltd. on 25.11.2020, but work could not be started before as permission from Railway Deptt. was required for laying the rising main pipeline beneath the railway line. The permission has been given on 24.06.2021 and presently, the rehab work is in progress. The STP will be made operational by August, 2021.

Out of 66 operational STPs, 60 STPs are compliant and 06 STPs are non-compliant. Details of these 06 non-compliant STPs are as follows: -

- 03 STPs at Mathura (Masani 13.59 MLD, Trans-yamuna 16 MLD and Trans-yamuna-2 14.5 MLD) are undergoing rehabilitation under the Namami Gange Programme in Hybrid Annuity Model (HAM) and are likely to be completed by Oct-2021. In addition to this, the above STPs are non-compliant due to ingress of untreated industrial effluent into the domestic sewage. As a result, the treated effluent parameters are higher than the prescribed standards. In this regard, the Managing Director, UPJN has requested Member Secretary, UPPCB, Lucknow for taking adequate measures to stop the ingress of untreated industrial effluent into the domestic sewage vide his letter dated 03.06.2021.
- 02 STPs at Kanpur (Jajmau 130 MLD and Bingawan 210 MLD) are non-compliant. Rehab of 130 MLD STP is under progress as on HAM Project under the Namami Gange Programme and is likely to be completed by Oct-21. The COD of sewage reaching

the 210 MLD STP at Bingawan is higher than the design parameters.

- *01 STP at Sultanpur (Lolepur 05 MLD) is non-compliant as capacity upgradation is being done under the Namami Gange Programme which is proposed to be completed by Dec-21.*
- c) **Status of Fecal Sludge and Sewage Treatment Plants under the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) programme** :Detailed Status of FSSTP under AMRUT programme is annexed herewith (Annexure-1c). Work is in progress in 56 towns while it is complete in Unnao.
- d) **Status of CETP Jajmau:** O&M of the 36 MLD CETP at Jajmau is being done by U. P. Jal Nigam. At present, the CETP is compliant.

2. Compliance report received from Uttar Pradesh Pollution Control Board (Annexure 2)

a) Status of Chromium dump, Kanpur Dehat

- *The dump is still lying and so far no progress has been made in clearing off the site.*
- *Tenders were floated thrice by UPSIDA for shifting of hazardous waste to the nearby TSDF but only one bid was received which was rejected on the ground of being monopolistic and prohibitive. To resolve the issue scientifically, under instructions from the Government, IIT Kanpur has been selected for the Project Management Consultancy (PMC). An MOU has been signed on 2.02.2021 with the following scope of work:*
 - *Suitable technology to be adopted for remediation of hazardous chromium waste*
 - *Estimation of project cost as per chosen technology*
 - *Preparation of RFP/Bidding documents as per estimate*
 - *Handholding in bidding process*
 - *Third party quality and quantity checking during execution of work*
 - *Any ancillary work required for the successful completion of the project*
- *IIT Kanpur has visited the site & collected the samples. As far as suitable technology is concerned, they have submitted a preliminary report. IIT-Kanpur suggested that out of 5 reductants tested for stabilisation only Iron Sulphate (FeSO₄) has passed acceptable TCLP limit test and is also cost effective. Further, as per the report of the IIT-Kanpur, the actual volume of Chromium waste lying at the site is much higher (1,22,800 m³) in comparison to the volume reported in the earlier DPR of*

the CPCB (37,712 m³). In this regard, the Secretary, Environment has ordered to finalize the correct quantity of chromium dump after joint discussion between the CPCB and IIT Kanpur, to fix the final cost accordingly, and to seek prior approval of the budget from the competent authority.

- *Vide meeting dated 15.7.21 held by the Oversight Committee it was informed by the UPSIDA that adequate land area has been identified near the legacy dump for landfill site construction as the chromium waste has to be treated in the vicinity of the dump and a proposal has been sent to the DM, Kanpur Dehat for its resumption and allocation to the project free of cost. Accordingly, with regard to the resumption of land for creation of landfill site vide meeting dated 9.11.2021, DM, Kanpur Dehat informed that they received the first letter from UPSIDA on 20/10/2021 requesting for the resumption of 15 acres of land for the creation of landfill site. He further informed that the land, which is to be resumed for landfill site, was in the jurisdiction of Gaon Sabha. Recently, it has been notified as Nagar Panchayat area. However, the new local body is yet to be constituted. The Secretary, Urban Development clarified that The Collector has all the powers for land resumption whether the land is in the rural area or the urban area. The Committee directed the DM, Kanpur Dehat to clarify all his doubts in this regard with Secretary, Urban Development and by consulting the relevant Revenue Rules and ensure that a decision is taken within 3 weeks.*
- *As per the report of the IIT-Kanpur, the actual volume of Chromium waste lying at the site is much higher (1,22,800 m³) in comparison to the volume reported in the earlier DPR of the CPCB (37,712 m³). Vide meeting dated 9.11.2021 in O.A 985/2019 & 986/2019 the Committee directed the CPCB and the IIT Kanpur to carry out a joint inspection to ascertain the correct quantity of Chromium Dump as it has a direct bearing on the final cost of the project. But the report submitted to the UP Government is prepared by the IIT Kanpur with input from the CPCB. The Secretary, Department of Infrastructure and Industrial Development expressed difficulty in accepting this report and granting necessary approvals although a date for this meeting has been fixed. She also informed that the Department has already released Rs. 23 Cr in the ESCROW account of the DM, Kanpur Dehat. But this fund is not being utilized because of the above mentioned dispute in the estimation of volume. The Oversight Committee directed the CPCB and IIT Kanpur to complete the joint inspection report by 20/11/2021. The Committee also directed the Secretary, Infrastructure & Industrial Development Department, UP to ensure that the competent authority takes decision on this by 27/11/2021.*
- *Earlier the UPPCB had imposed the environmental compensation of Rs. 280.01 Cr on 6 defaulting industries. Now, 05 other defaulting units engaged in production of basic chrome sulphate, which were responsible for the illegal dumping of chrome waste*

on said site, has been identified by the UPPCB and show cause notices have been issued against them for the imposition of environmental compensation. After getting response from these 05 units and following due process of law, appropriate orders will be passed by the UPPCB. It was clarified by the UPPCB in the meeting that total EC will remain the same only their distribution amongst the parties will change.

b) Environmental compensation on drains and STPs (details in Annexure 2a)

- EC of Rs. 102 crore imposed for the period 1.07.2020 to 31.12.2020 on untapped drains @ 10 lakh per month
- EC of Rs.48 crore imposed for the period 1.11.2019 to 30.6.2020 on untapped drains @ 5 lakh per month
- EC of Rs.26.4 crore imposed for the period 1.07.2020 to 31.12.2020 on incomplete STP projects (44 no.)
- Notice sent to the Chief Secretary, UP on 3.2.2021 by the CPCB for ensuring deposition of above stated amount of environmental compensation.

c) Status of Common Effluent Treatment Plants (CETPs) (details in Annexure 2b)

- There are total 7 CETPs, out of which 5 are operational.
- Out of the operational CETPs, 3 are achieving norms while two are not.

d) Status of STPs (Details in Annexure 2c) : As far as Liquid Waste is concerned, the total Sewage generation in the State is 5500 MLD (80% water used) in 651 ULBs. Presently, there are 106 STPs with total installed capacity of 3276.07, out of which 101 STPs are operational and 05 are non-operational. The capacity utilization is 2728.44 MLD which is 83% of the installed capacity. In addition to the above, 37 STPs having total capacity of 887.06 MLD are under construction and 25 STPs having total capacity of 564.10 MLD are under tendering process. Upon completion of these STPs, the total sewage treatment capacity shall become 4727.23 MLD. Still a gap of 772.77 MLD would remain.

- Operational STP-101
- STP achieving norms-82
- STP not achieving norms-19
- STP not in operation-5
- STP under construction-62

e) Status of the 20 MLD CETP Jajmau, 15 MLD STP Unnao and 5 MLD STP Unnao:

20 MLD CETP Jajmau

- *In regard to the progress in construction of the CETP in Jajmau, Kanpur, vide meeting dated 15.7.2021 held by the Oversight Committee, the UP Jal Nigam informed that a total progress of 30.11% has been achieved including the civil construction progress of 11.38% at site. Owing to the ongoing covid situations, the extension of time has been suggested by the Project Engineer and the contractor has been instructed to complete the project before 02.02.2022.*
- *All the operational Tannery units have installed PETP. At present PETP treated effluent of tanneries goes to the CETP of 36 MLD capacity (9 MLD Tannery Effluent and 27 MLD Domestic Effluent), operated by the UP Jal Nigam. This treated effluent is mixed with treated domestic effluent from the STP installed at Jajmau CETP area and is discharged through irrigation channel.*
- *For the Jajmau Tannery cluster, the NMCG has approved a 20 MLD CETP (dilution based) as per the NGT direction costing Rs. 554 Crore. The proposal was consented by the tannery association and the Government of U.P.*
- *The SPV has committed to contribute Rs. 25 crore and has proposed to bear the estimated cost of Rs. 137 Crore for modified PETP. Rest 392 Crores will be borne by the NMCG.*
- *SPV has allotted the work of construction of the CETP to M/s VA Tech Wa Bag Ltd. after finalizing the tender and proposed time of completion is March 2022.*

15 MLD STP Village-Dakari, Pargana-Hadaha,Unnao

- *The State board has issued the Consent to Establish (CTE) to the U.P. Jal Nigam, Unnao for installation of 15 MLD capacity SBR technology based STP at Village-Dakari, Pargana-Hadaha, Tehsil and District-Unnao under the Namami Gange Programme. Presently, the STP is under construction and completion period of this STP is October, 2021 as per the information provided by the U.P. Jal Nigam, Unnao.*

5 MLD STP Village-KatariPeeperkheda, Gangaghat, Shuklaganj Unnao

- *The State board has issued the Consent to Establish (CTE) to the U.P. Jal Nigam, Unnao for installation of 5 MLD capacity SBR technology based STP at Village-Katari-Peeperkheda, Gangaghat, Shuklaganj, Tehsil and District-Unnao under the Namami Gange Programme. So far, the construction work of the STP has not started due to land dispute. Proposed completion date of this STP was October, 2021.*
- f) Monitoring of water quality:** *The UPPCB is regularly monitoring the water quality of the river Ganga at 32 sampling points. As per the latest available report for the period Jan-May, 2021, water quality at 22 locations is critically polluted.*

Out of the 22 locations, at 8, water quality falls in 'category C' which means that water is suitable for drinking purpose after conventional treatment and disinfection while at 14 locations the water quality falls in 'category D' which suggests that water is not suitable for drinking or bathing purposes but only for propagation of wildlife and fisheries. Detailed monitoring report is attached as **Annexure 10**.

Closing, till compliance, all establishments near river banks being run without necessary STPs and compliance of environmental norms: During January 2021 to May 2021, show cause notices have been issued against 169 defaulter industries and closure order against 184 defaulter industries. During February 2021 to June 2021, EC of Rs 4.11 crores has been imposed against the defaulter industries. Out of 106 STPs, 11 STPs were found to be defaulting during the period of January, 2021 to May, 2021. Notices have been issued for compliance and Environmental compensation of Rs 26.25 Lacs has been imposed against the operators of 2 non-compliant STPs.

- h) The CPCB and the SPCBs may periodically undertake biological assessment of Ganga:** Biological assessment of Ganga has not yet started.
- i) Action against slaughter houses discharging waste into rivers:** 35 Slaughtering units are under operation. 25 units discharge their treated effluent as per norms on land. 10 Units discharge their treated effluent as per norms into different drains which ultimately meet either river Yamuna or Ganga through their tributaries.

3. Compliance report from the Dept. of Urban Development (Annexure 3)

a) Status of solid and other waste in and around Ganga

- With regard to Ganga towns, 21 urban local bodies (ULBs) have been declared and certified as Open Defecation Free(ODF) towns. 12 ULBs have got ODF+ status and 5 as ODF++.
- There are 697 wards in 21 ULBs with facility of door to door collection of waste.
- Total waste generation in 21 towns is 3275 TPD out of which the total capacity of mechanized processing is 2650 TPD i.e 81 %, established in 4 major towns i.e. Kanpur, Varanasi, Prayagraj and Kannauj.
- Two plants of 140 TPD (Mirzapur-100TPD; Ballia-40TPD) were under arbitration which have been awarded in the favour of the Department of Urban Development. To make these plants functional, the re-construction work is under progress. It is expected to make these plants functional by March 2022.

- In addition, three windrows based mechanised plants (Farrukhabad/ Ghazipur/ Gangaghat – total 220 TPD) have been sanctioned and expected to be completed by March 2022. This will enable mechanized processing plant capacity to be around 3010 TPD i.e. 92 % against the total requirement of 3275 TPD.
- De-centralized scientific treatment of waste to be done.
- Material Recovery Facility (MRF) sanctioned in every ULB and construction work is under progress.
- 46 open dumps removed.
- In Swachh Sarvekshan 2020, the 3 Best Ganga Towns in different population range are from U.P i.e Varanasi, Kannauj and Bithoor
- Strict enforcement for plastic ban in the State. 126 tonnes of banned plastic seized in the ULBs along river Ganga and penalty of Rs.1.27 crore imposed. b) **Status of legacy waste around Ganga:** No legacy waste within 1 km from the banks of river Ganga. However, for accumulated legacy waste in Prayagraj and Kanpur, the bio remediation of the legacy waste is under progress. Disposal of all legacy waste in the State is proposed to be done by December, 2022. The updated status with regard to legacy waste in 17 Nagar Nigam is attached as Annexure 7. Legacy waste has been cleared off in Varanasi, Saharanpur and Gorakhpur.

4. Compliance report from the Dept. Of Irrigation, Uttar Pradesh (Details in Annexure 4, Annexure 5)

a) Demarcation of floodplain zone:

- Notification for identification of flood plain zone in Segment B Phase-1 from Bijnore to Kanpur issued on 04.09.2020 and permanent construction activities within 100 meter on both banks of river Ganga has been banned.
- 5491 No. of pillars have been constructed and fixed as flood plain zone boundary pillars.
- For Phase-II, identification of flood plain zone by the Central Water Commission is under process.
- The ecological flow as per notification dated 02.07.2021 in River Ganga from Bhimgoda Barrage (Haridwar), Bijnore Barrage and Narora Barrage is being complied.

5. Compliance report from the State Ground Water Board, Uttar Pradesh (Annexure 9)

a) Steps for conservation of groundwater particularly with reference to critical, semi-critical or over-exploited areas

- THE UTTAR PRADESH GROUND WATER (MANAGEMENT AND REGULATION) ACT, 2019 (U.P. Act No-13 Of 2019) Dated- 07, August 2019 and WATER (MANAGEMENT AND REGULATION)

RULES, 2020 vide notification No.-158/76-3-2020-10GW-2014, dated 25-02-2020 for protecting, conserving, controlling and regulating ground water notified.

- *GoI's –Jal Shakti Abhiyan" being implemented aiming at comprehensive, water management. in 'Over-exploited' and 'Critical' blocks/ cities.*
 - *GoI's –Jal Shakti Abhiyan-II" being launched on 22 March 2021 aiming at comprehensive, water management in whole country.*
 - *GoI's –Atal Bhujal Yojna" aiming at participatory comprehensive water management in 550 gram panchayats in 26 blocks of 10 districts of U.P. (20 blocks of 6 districts of Bundelkhand and 6 blocks of 4 district of Western U.P.) is implemented.*
 - *Similar to Atal Bhujal Yojna, government of U.P. also launched –Uttar Pradesh Atal Bhujal Yojna" in remaining 65 districts of U.P. aiming participatory comprehensive water management.*
- b) As per Ground Water Resource Estimation, 2017, out of 820 blocks of Uttar Pradesh:*
- i. 82 blocks have been categorized as 'Over-Exploited' (where ground water extraction is >100%).*
 - ii. 47 as 'Critical' (where ground water extraction is >90 &<100%),*
 - iii. 151 as 'Semi- Critical'(where ground water extraction is >70 &<90%), and*
 - iv. 540 as 'Safe' (where ground water extraction is <70%).*
 - v. Out of 10 Urban Agglomerates, 9 have been categorized as 'Over-exploited' and 1 as 'Critical'.*
- c) The –Rajya Bhoojal Sanrakshan Mission" started from year 2017-18 to ensure convergence of the works of different departments in problematic areas so as to get significant effect on Ground water. In this Mission, all Over Exploited, Critical, Semi-Critical blocks and rest blocks of Bundelkhand and Vindhya regions (Total 272 blocks) are covered under this Mission, progress of some major works are given below (up to March, 2021)-*

<i>Check Dam</i>	<i>4742</i>	<i>2716</i>
<i>Pond Rejuvenation / Construction</i>	<i>91749</i>	<i>36191</i>
<i>Farm Pond</i>	<i>187065</i>	<i>171521</i>
<i>Distribution of Drip/ Sprinkler System</i>	<i>270684</i>	<i>63131</i>

- d) The minor irrigation Department has constructed 5957 Check Dams and 789 ponds and target for the current*

year 2020-21 is construction of 183 Check Dams and 182 ponds.

6. Restoration of water bodies

- a) 07 Wetlands notified as Ramsar sites
- b) The Environment, Forest and Climate Change Department Government of Uttar Pradesh has identified 226 potential wetlands existing within 10 kms of the Ganga river and has prepared a project for Conserving and Sustainably Managing these Gangetic Floodplain Wetlands in the State, which has been sanctioned by NMCG on 16.10.2019.
- c) Uttar Pradesh State Wetland Authority will start the work as soon as fund will release.

7. Afforestation and setting up of biodiversity parks

- a) Status of Afforestation- Across the State- 22.59 Crore in 2019-20 and 25.87 Crore in 2020-21. Forest Survey of India, Dehradun has been assigned the task of monitoring of the survival of the seedlings planted in the year 2019.
- b) The Environment, Forest and Climate Change Department of Uttar Pradesh has identified the sites for development of Bio-diversity Park in 25 districts in the main stem Ganga and in 02 districts in Yamuna covering a total area of 3591.984 ha. The project proposals are being revised as per guideline of CPCB and will be implemented if NMCG approves the projects along with its funding.

VI. SUMMARY OF THE COMPLIANCE STATUS

S.No	Directions by Hon'ble NGT	Concerned Department	Compliance Status July, 2021
1.	The State of UP may take steps for Remediating Chromium dump at Rania Kanpur, as Directed earlier vide orders dated 22.08.2019 and 15.11.2019	UPSIDA	Not Complied a) The lifting of Chromium dump has not started yet. Tenders were floated thrice by UPSIDA for shifting of hazardous waste to the nearby TSDF but only one bid was received which was rejected on the ground of being monopolistic and excessive. To resolve the issue scientifically, under instructions from the Government, IIT Kanpur was selected for the Project Management Consultancy (PMC).

			<p>b) <i>As per the preliminary report it will take 12 months for the remediation of chromium waste from the date the work is started but before that some formalities have to be completed. This entire process will consist of digging the chromium legacy waste from dumping site, creation of sanitary landfill in the nearby area, treatment and dumping of waste in landfill site and lastly plantation of saplings on the landfill site. However, the work will start only after the technology, volume and cost are finalized and the work is awarded through a competitive bidding process. He also informed that the PMC has suggested that land availability in the vicinity of the dump for creation of landfill sites is essential and precursor to the process.</i></p> <p><i>Accordingly, with regard to the resumption of land for creation of landfill site vide meeting dated 9.11.2021, DM, Kanpur Dehat informed that they received the first letter from UPSIDA on 20/10/2021 requesting for the resumption of 15 acres of land for the creation of landfill site. He further informed that the land, which is to be resumed for landfill site, was in the jurisdiction of Gaon Sabha. Recently, it has been notified as Nagar Panchayat area.</i></p> <p><i>However, the new local body is yet to be constituted. The Secretary, Urban Development clarified that The Collector has all the powers for land resumption whether the land is in the rural area or the urban area. The Committee directed the DM, Kanpur Dehat to clarify all his doubts in this regard with Secretary, Urban Development and by consulting the relevant Revenue Rules and ensure that a decision is taken within 3 weeks.</i></p> <p>c) <i>Further, as per the report of the IIT-Kanpur, the actual volume of Chromium waste lying at the site is much higher (1,22,800 m³) in comparison to the volume reported in the earlier DPR of the CPCB (37,712 m³). Moreover, as per the CPCB, the area of dump at the site is 37,000 m² while as per IIT Kanpur the area is 50,312 m². A decision has been taken to ascertain</i></p>
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			<p>the correct quantity of Chromium Dump after discussion between the CPCB and IIT-Kanpur as it has a direct bearing on the final cost of the project. Thereafter, the prior budgetary approval will be obtained from the government. Vide meeting dated 9.11.2021, this discrepancy in reports of CPCB and IIT Kanpur was discussed. The Secretary, Infrastructure & Industrial Development Department, UP informed that she has fixed a meeting on 16.11.2021 for taking decision on the report of the IIT Kanpur but it will be difficult to accept this report in the light of earlier report of the CPCB. Both expert agencies should put their heads together and come up with an agreed volume through a joint report, as directed in the last meeting of the Oversight Committee. It was decided that they will complete the joint report by 20.11.2021. The Secretary, Infrastructure & Industrial Development Department, UP will ensure that competent authority takes decision on this by 27.11.2021</p> <p>d) Earlier the UPPCB had imposed the environmental compensation of Rs. 280.01 Cr on 6 defaulting industries. Now, 05 other defaulting units engaged in production of basic chrome sulphate, which were responsible for the illegal dumping of chrome waste on said site, has been identified by the UPPCB and show cause notices have been issued against them for the imposition of environmental compensation. After getting response from these 05 units and following due process of law, appropriate orders will be passed by the UPPCB. It was clarified by the UPPCB in the meeting that total EC will remain the same only their distribution amongst the parties will change.</p>
2.	Vide order dated 22.08.2019 the Tribunal stated that timely completion of all projects Relating to sewage Treatment be ensured i.e. by 31.06.2020 in respect of	U.P. Jal Nigam, Dept. of Urban Development , National Mission for Clean Ganga (NMCG)	<p>Partially Complied</p> <p>Status of Tapping of 86 Drains in Phase-I, Segment-B (Bijnor to Kanpur) and 215 Drains Phase-II (Kanpur to U.P. Border) as on 22.01.2021 is as follows:</p> <p>Status of Tapping of 86 Drains in Phase-I, Segment-B (Bijnor to Kanpur) and 215</p>

<p>ongoing projects and by 31.12.2020 in respect of work not yet started, failing which, compensation has to be paid apart from action against the Erring officers. (After 01.07.2020, direction for payment of environmental compensation of Rs. 10 lakhs per month to CPCB for discharging untreated sewage in any drain connected to river Ganga or its tributaries and Rs. 10 lakhs per month to CPCB per incomplete STP and its sewerage network will apply. Further with regard to the sectors where STP and Sewerage Network works have not yet started, the States of UP, Jharkhand, Bihar and West Bengal have to pay an Environmental Compensation of Rs. 10 lakhs per month after 31.12.2020)</p>		<p>Drains Phase-II (Kanpur to U.P. Border) as on 22.01.2021 is as follows:</p> <p>A. Status of 86 Drains in Phase-I, Segment-B</p> <p>(Bijnor to Kanpur)</p> <table border="1" data-bbox="812 591 1412 1223"> <tr> <td>Do not require tapping</td> <td>09</td> </tr> <tr> <td>Tapped</td> <td>34</td> </tr> <tr> <td>Partially tapped</td> <td>05</td> </tr> <tr> <td>Untapped</td> <td>38</td> </tr> <tr> <td>(i) To be tapped in project under construction- 24</td> <td></td> </tr> <tr> <td>(ii) To be tapped in sanctioned project -10</td> <td></td> </tr> <tr> <td>(iii) To be tapped in Project submitted for approval- 04</td> <td></td> </tr> </table> <p>The revised timeline for tapping of these 24 drains is as follows:</p> <ol style="list-style-type: none"> 1. 01- Drain by Aug- 21 2. 13- Drains by Sep-21 3. 05- Drains by Oct-21 4. 05 Drains in 24 months after availability of land for Moradabad STP. Matter is currently sub- judice at the Hon'ble High Court. <p>B. Status of 215 drains in Phase II</p> <table border="1" data-bbox="812 1908 1412 2163"> <tr> <td>Do not require tapping</td> <td>14</td> </tr> <tr> <td>Tapped</td> <td>104</td> </tr> <tr> <td>Partially tapped</td> <td>01</td> </tr> <tr> <td>Untapped</td> <td>96</td> </tr> </table>	Do not require tapping	09	Tapped	34	Partially tapped	05	Untapped	38	(i) To be tapped in project under construction- 24		(ii) To be tapped in sanctioned project - 10		(iii) To be tapped in Project submitted for approval- 04		Do not require tapping	14	Tapped	104	Partially tapped	01	Untapped	96
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4.	Preventing discharge of industrial effluents in Ganga and its tributaries/drains by ensuring installation of proper functioning of ETPs/CETPs.	Dept. of Urban Development, U.P. Jal Nigam	<p>Partially Complied</p> <p>According to UPPCB, there are total 106 STPs</p> <table border="1" data-bbox="812 1714 1422 2287"> <tr> <td>Operational STP</td> <td>101</td> </tr> <tr> <td>STP achieving norms</td> <td>82</td> </tr> <tr> <td>STP not achieving norms</td> <td>19</td> </tr> <tr> <td>STP not in operation</td> <td>5</td> </tr> <tr> <td>STP under construction</td> <td>62</td> </tr> </table>	Operational STP	101	STP achieving norms	82	STP not achieving norms	19	STP not in operation	5	STP under construction	62
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		<p>Details of STP in Annexure 2c</p> <p>The State has 106 existing STPs out of which O & M of 67 STPs are being taken up by UPJN. The status of 67 STPs is as follows:-</p> <p>1. Operational – 66 STPs.</p> <p>2. Not-operational - 01 STPs (at Banda, 4 MLD)</p> <p>LOA for rehab works at Banda STP was issued to M/s Verdhmanh Engineering Works Pvt., Delhi Ltd. on 25.11.2020, but work could not be started before as permission from Railway Deptt. was required for laying the rising main pipeline beneath the railway line. The permission has been given on 24.06.2021 and presently, the rehab work is in progress. The STP will be made operational by August, 2021.</p> <p>Out of 66 operational STPs, 60 STPs are compliant and 06 STPs are non-compliant. Details of these 06 non-compliant STPs are as follows: -</p> <p>1. 03 STPs at Mathura (Masani 13.59 MLD, Trans Yamuna 16 MLD and Trans-yamuna-2 14.5 MLD) are undergoing rehabilitation under the Namami Gange Programme Hybrid Annuity Model project (HAM) and is proposed to be completed by Oct-2021. In addition to this, the above STPs are non-compliant due to ingress of untreated industrial effluent into the domestic sewage. As a result, the treated effluent parameters are higher than the prescribed standards. In this regard, Managing Director, UPJN has requested Member Secretary, UPPCB,</p> <p>Lucknow for taking adequate measures to stop the ingress of untreated industrial effluent into the domestic sewage vide his letter dated 03.06.2021.</p> <p>2. 02 STPs at Kanpur (Jajmau 130 MLD and Bingawan 210 MLD) are non-compliant. Rehab of 130 MLD STP is under progress in HAM Project under the Namami Gange and is likely to be completed by Oct-21. The COD of sewage reaching the 210 MLD STP at Bingawan is higher than the design parameters.</p>
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			<p>3. 01 STP at Sultanpur (Lolepur 05 MLD) is noncompliant as capacity upgradation is being done under the Namami Gange Programme which is proposed to be completed by Dec-21</p> <p>Upgradation of CETPs approved by the NMCG:</p> <ul style="list-style-type: none"> • Mathura CETP of 6.5 MLD • Banthar 4.5 MLD • Site 2 of Unnao CETP of capacity 2.15 MLD • Jajmau Kanpur CETP 20 MLD (Mar,2022) <ul style="list-style-type: none"> ➤ Stringent effluent norms notified for industrial activities in critically/severe polluted areas dated 27.02.2020 is being complied for setting up of new industries. ➤ The Primary Effluent Treatment Plant outlet and inlet Effluent Quality standard for 3 CETPs of tannery sector have been notified on 2.11.2019 and are being complied. ➤ Inlet Effluent Quality Standards for 5 CETPs of textile sectors have been notified on 7.12.2018. ➤ Notification has been issued that all new molasses based distilleries including yeast manufacturing units/expansion project in existing molasses based distilleries including yeast manufacturing units shall achieve zero liquid discharge (ZLD by concentrating and incinerating the spent wash in Slope Boiler on 28.01.2020). ➤ All GPI units have been directed to install OCEMS along with PTZ Camera with open access to UPPCB ➤ UPPCB has also set up a control room at headquarters at Lucknow where ETPs of the GPIs are monitored remotely. ➤ As per the latest report 977 GPIs have installed OCEMS and 126 GPIs have installed PTZ web camera also. ➤ Regular monitoring of industries along with action against defaulter is being done time to time. <p>Status of CETPs in the State: There are total 7 CETPs</p> <table border="1" data-bbox="829 2145 1356 2352"> <tr> <td>Operational CETP</td> <td>5</td> </tr> <tr> <td>CETP achieving norms</td> <td>3</td> </tr> <tr> <td>CETP not achieving norms</td> <td>2</td> </tr> </table>	Operational CETP	5	CETP achieving norms	3	CETP not achieving norms	2
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5.	<p>It was reported that in Jajmau 20 MLD work has started.</p> <p>However, in Banther, STP is at sanctioning stage and at Unnao at project formulation stage.</p> <p>Compensation in this regard to be calculated by CPCB. Details required with reference to the three STPs from UPPCB, U.P Jal Nigam and NMCG</p>	UPPCB/U.P Jal Nigam	<p><u>Partially Complied</u></p> <p><u>20 MLD CETP Jajmau</u></p> <ul style="list-style-type: none"> ➤ In regard to the progress in construction of the CETP in Jajmau, Kanpur, vide meeting dated 15.7.2021 held by the Oversight Committee, the UP Jal Nigam informed that a total progress of 30.11% has been achieved including the civil construction progress of 11.38% at site. Owing to the ongoing covid situations, the extension of time has been suggested by the Project Engineer and the contractor has been instructed to complete the project before 02.02.2022. ➤ All the operational Tannery units have installed PETP. At present PETP treated effluent of tanneries goes to CETP of 36 MLD capacity (9 MLD Tannery Effluent and 27 MLD Domestic Effluent), operated by UP Jal Nigam. This treated effluent is mixed with treated domestic effluent from STP installed at Jajmau CETP area and is discharged through irrigation channel. ➤ For Jajmau Tannery cluster, NMCG has approved 20 MLD CETP (dilution based) as per NGT direction worth Rs. 554 Crore. The proposal was consented by the tannery association and the Government of U.P. ➤ The SPV has committed to contribute Rs. 25 crore and has proposed to bear the estimated cost of Rs. 137 Crore for modified PETP. Rest 392 Crores will be borne by NMCG. ➤ The SPV has committed to contribute Rs. 25 crore and has proposed to bear the estimated cost of Rs. 137 Crore for modified PETP. Rest 392 Crores will be borne by NMCG. <p><u>15 MLD STP Village-Dakari, ParganaHadaha, Unnao</u></p> <ul style="list-style-type: none"> ➤ The State board has issued Consent to Establish (CTE) to the U.P. Jal Nigam, Unnao for installation of 15MLD capacity SBR technology based STP at Village-Dakari, Pargana-Hadaha, Tehsil and District-Unnao under Namami Gange Programme. Presently, the STP is under construction and is expected to be complete by October, 2021 as per the information provided by the U.P. Jal Nigam, Unnao. 	

				<p><u>5 MLD STP Village-KatariPeeperkheda, Gangaghat, Shuklaganj Unnao</u></p> <p>➤ The State board has issued Consent to Establish (CTE) to U.P. Jal Nigam, Unnao for installation of 5 MLD capacity SBR technology based STP at Village-KatariPeeperkheda, Gangaghat, Shuklaganj, Tehsil and District-Unnao under the Namami Gange Programme. Presently construction work of STP is not started due to land dispute. Expected to be complete in October, 2021 as per the information provided by the U.P. Jal Nigam, Unnao.</p>
6.	Utilization of treated sewage, use of sludge as a manure and septage management.	U.P Jal Nigam	Jal	<p>Partially Complied</p> <p>A project of Rs. 160 Crores has been sanctioned for covering all the 57 AMRUT towns in State with population more than 1 lakh. Detailed Status of FSSTP under AMRUT programme is annexed herewith (Annexure-1c)</p> <p>Work is in progress in 56 towns while it is complete in Unnao.</p> <p>➤ The State's policy for use of treated water is being notified</p> <p>➤ Total sewage generation is around 5500 MLD (80 % of water used). The State has 104 STPs with installed capacity of 3200MLD against which the capacity utilization is 2248 MLD (68 %).</p> <p>➤ At present, nearly 410 MLD treated water is being used in agriculture.</p> <p>➤ The State government is planning to get the treated water utilized in thermal power plants.</p> <p>➤ The State has promulgated the Septage policy on 31.10.2019.</p> <p>➤ State Mission for Clean Ganga, UP has informed vide letter dated 7.12.2019 that the State is implementing projects of tertiary treatment and supply of treated water to Indian Oil Corporatin Ltd., Mathura and Panki Power Plant in Kanpur.</p>
7.	Demarcation of flood plain zones and preventing encroachments thereof	Dept. of Irrigation, U.P	of	<p>Partially Complied</p> <p>a) Notification for identification of the flood plain zone in Segment B Phase-1 from Bijnore to Kanpur issued on 04.09.2020 and permanent construction activities within 100 meter from both banks of river Ganga has been banned.</p> <p>b) 5491 No. Pillars have been Constructed and fixed as flood plain zone boundary pillars</p>

			<p>c) For Phase-II, identification of flood plain zone by the Central Water Commission is under process.</p> <p>d) The ecological flow as per the notification dated 02.07.2021 in River Ganga from Bhimgoda Barrage (Haridwar), Bijnore Barrage and Narora Barrage is being complied.</p> <p>Details in Annexure 4.</p>																				
8.	Maintenance of e-flow	Dept. of Irrigation, U.P.	<p>Partially Complied</p> <table border="1"> <thead> <tr> <th>River</th> <th>Critically Polluted River Stretch</th> <th>Possibility of maintaining E-flow</th> <th>Timeline</th> </tr> </thead> <tbody> <tr> <td>Hindon</td> <td>Saharanpur to Ghaziabad</td> <td>E-flow study being carried out by IIT Roorkee</td> <td>12 Months</td> </tr> <tr> <td>Yamuna</td> <td>Azgarpur to Etawah, Shahpur tp Prayagraj</td> <td>E-flow will be studied and decided by Central Water Commission.</td> <td>12 Months</td> </tr> <tr> <td>Ganga</td> <td>Kannauj to Varanasi</td> <td>E-flow from Kannauj to Unnao is maintained from Narora Barrage and Kanpur Barrage as per directions of Central Water Commission 24 cumec - Nov. to May 48 cumec - June to Oct.</td> <td>-</td> </tr> <tr> <td></td> <td></td> <td>E-flow from Unnao to Varanasi will be studied & decided by Central Water Commission.</td> <td>12 Months</td> </tr> </tbody> </table>	River	Critically Polluted River Stretch	Possibility of maintaining E-flow	Timeline	Hindon	Saharanpur to Ghaziabad	E-flow study being carried out by IIT Roorkee	12 Months	Yamuna	Azgarpur to Etawah, Shahpur tp Prayagraj	E-flow will be studied and decided by Central Water Commission.	12 Months	Ganga	Kannauj to Varanasi	E-flow from Kannauj to Unnao is maintained from Narora Barrage and Kanpur Barrage as per directions of Central Water Commission 24 cumec - Nov. to May 48 cumec - June to Oct.	-			E-flow from Unnao to Varanasi will be studied & decided by Central Water Commission.	12 Months
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			Ramgan ga	Moradaba d to Kannauj	E-flow has been decided and notification issued on 5.2.2021	-
			Betwa	Hamirpur to Wagpura	E-flow study will be carried out by IIT Delhi or other agency	12 Months
			Ghaghra	Barhalgan j to Deoria	E-flow has been decided and notification has been issued on 2.3.2021	-
			Rapti	Domingar h to Rajghat	E-flow has been decided and notification has been issued on 2.3.2021	-
			Saryu	Ayodhya to Elafatganj	E-flow been decided and notification issued on 1.3.2021	-
			Details in Annexure 5.			
9.	Preventing dumping of solid and other waste in and around Ganga	Dept. of Urban Development	Partially Complied a) With regard to Ganga towns, 21 ULBs have been declared ODF. 12 ULBs have got given ODF+ status and 5 ODF++. b) There are 697 wards in 21 ULBs with facility of door to door collection of waste. c) Total waste generation in 21 towns is 3275 TPD. The total capacity of mechanized processing is 2650 TPD i.e 81 %, established in 4 major towns i.e. Kanpur, Varanasi, Prayagraj and Kannauj. d) Two plants of 140 TPD (Mirzapur-100TPD; Ballia-40TPD) were under arbitration which has been awarded in the favour of Department. Further to make these plants functional, the reconstruction work is required for which the work is under progress. It is expected to make these plants functional by March 2022. e) In addition, three windrows based mechanised plants (Farrukhabad/			

			<p>Ghazipur/ Gangaghat – total 220 TPD) have been sanctioned and expected to be complete by March 2022.</p> <p>f) This will enable mechanized processing plant capacity to be around 3010 TPD i.e.92 % against the total 3275 TPD.</p> <p>g) De-centralized scientific treatment of waste to be done.</p> <p>h) MRF sanctioned in every ULB and construction work is under progress.</p> <p>i) Total 46 numbers of open dumps as reported in Quality Council of India survey report dated 09- 01-2019, have been removed.</p> <p>j) There is no legacy waste site situated within 1 KM from the banks of river Ganga.</p> <p>k) Bio-remediation of legacy waste in Kanpur (15 Lac MT), Prayagraj (5 Lac MT), Ghaziabad (2.5 Lac MT), Bareilly (5 Lac MT), Aligarh (0.6 Lac MT), Moradabad (2.5 Lac MT) is in progress</p>
10.	Clearing old legacy waste dump sites	Dept.of Urban Development , U.P Jal Nigam	<p>Complied</p> <p>No legacy waste within 1 km from the banks of river Ganga.</p> <p>Out of 17 Nagar Nigams, legacy waste has been cleared off in Gorakhpur, Saharanpur and Varanasi. However, for accumulated legacy waste in other areas including Prayagraj, and Kanpur the bio remediation of the legacy waste is under progress. The updated status of the dump sites is attached herewith as (Annexure7)</p> <p>Disposal of Legacy waste in the State is proposed to be done by December, 2022.</p>
11.	Preventing and regulating illegal sand mining	Mining Department	<p>Partially Complied</p> <p>Enforcement (Feb,2020-upto Dec,2020)</p> <p>Number of raids = 14335</p> <p>Number of FIR lodged = 532</p> <p>Number of complaint lodged = 1718</p> <p>Compounding amount = 60.73 crore</p> <p>Integrated Mining Surveillance System (IMSS) rolled out in the State. Geo fencing and PTZ cameras installed in mining areas.</p> <p>310 weigh bridges installed in mining areas and integrated with State Command Centre.</p>

12.	Steps for conservation of groundwater particularly with reference to critical, semi-critical or over-exploited areas	District Administration/ CGWA	<p>Partially Complied</p> <ul style="list-style-type: none"> • THE UTTAR PRADESH GROUND WATER (MANAGEMENT AND REGULATION) ACT, 2019 (U.P. Act No-13 Of 2019) Dated- 07, August 2019 And WATER (MANAGEMENT AND REGULATION) RULES, 2020 vide notification No.-158/76-3-2020- 10GW-2014, dated 25-02-2020 for protecting, conserving, controlling and regulating ground water notified. • GoI's –Jal Shakti Abhiyan being implemented aiming at comprehensive, water management. in ‘Over-exploited’ and ‘Critical’ blocks/ cities • GoI's –Jal Shakti Abhiyan-III being launched on 22 March 2021 aiming at comprehensive, water management in whole country • GoI's –Atal Bhujal Yojna aiming at participatory comprehensive water management in 550 gram panchayats in 26 blocks of 10 districts of U.P. (20 blocks of 6 districts of Bundelkhand and 6 blocks of 4 district of Western U.P.) is implemented. Similar to Atal Bhujal Yojna, government of U.P. also launched –Uttar Pradesh Atal Bhujal Yojna in remaining 65 districts of U.P. aiming participatory comprehensive water management. <p>e) As per Ground Water Resource Estimation, 2017, out of 820 blocks of Uttar Pradesh :</p> <ul style="list-style-type: none"> vi. 82 blocks have been categorized as ‘Over-Exploited’ (where ground water extraction is >100%). vii. 47 as ‘Critical’ (where ground water extraction is >90 & <100%). viii. 151 as ‘Semi-Critical’ (where ground water extraction is >70 & <90%). ix. 540 as ‘Safe’ (where ground water extraction is <70%). x. Out of 10 Urban Agglomerates, 9 have been categorized as ‘Overexploited’ and 1 as ‘Critical’. <p>f) The “Rajya Bhoojal Sanrakshan Mission” started from year 2017-18 to ensure convergence of the works of different departments in problematic areas so as to get significant effect on Ground water. In this Mission, all Over Exploited, Critical, Semi-Critical blocks and rest blocks of Bundelkhand and Vindhyan regions (Total 272 blocks) are covered under this Mission, progress of</p>
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			<p>some major works are given below (up to March, 2021)-</p> <table border="1"> <thead> <tr> <th></th> <th>Target</th> <th>Progress</th> </tr> </thead> <tbody> <tr> <td>Check Dam</td> <td>4742</td> <td>2716</td> </tr> <tr> <td>Pond Rejuvenation/ Construction</td> <td>91749</td> <td>36191</td> </tr> <tr> <td>Farm Pond</td> <td>187065</td> <td>171521</td> </tr> <tr> <td>Distribution of Drip/ Sprinkler System</td> <td>270684</td> <td>63131</td> </tr> </tbody> </table> <p>The Minor Irrigation Dept. had constructed 5884 check dams and 779 ponds and the target for 2020-21 is construction of 183 check dams and 116 ponds.</p>		Target	Progress	Check Dam	4742	2716	Pond Rejuvenation/ Construction	91749	36191	Farm Pond	187065	171521	Distribution of Drip/ Sprinkler System	270684	63131
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13.	Restoration of water bodies.	District Administration	<p>Partially Complied</p> <p>➤ State has 7 wetlands listed as Ramsar Sites of International importance. The Environment, Forest and Climate Change Dept. of Govt. of UP has identified 226 potential wetlands existing within 10 kms of Ganga river and prepared a project for conserving and sustainably managing these Gangetic Floodplain wetlands in the state. This project has been sanctioned by the NMCG.</p>															
14.	Monitoring and displaying of water quality	CPCB/UPPC B	<p>Complied</p> <p>UPPCB is regularly monitoring the water quality of river Ganga at 32 sampling points. As per the latest available report for the period JanMay,2021, water quality at 22 locations is critically polluted. Out of the 22 locations, at 8, water quality falls in _category C' which means that water is suitable for drinking purpose after conventional treatment and disinfection while at 14 locations the water quality falls in _category D' which suggests that water is not suitable for drinking or bathing purposes but only for propagation of wildlife and fisheries. Detailed monitoring report attached as Annexure 10.</p>															

15.	Closing, till compliance, all establishments near river banks being run without necessary STPs and compliance of environmental norms.	UPPCB	<p>Partially Complied</p> <p><i>During January 2021 to May 2021, Show cause notices issued against 169 defaulter industries and closure order against 184 defaulter industries. During February 2021 to June 2021, EC of Rs 4.11 crores was imposed against the defaulter industries. Out of 106 STPs, 11 STPs have been found defaulting during January, 2021 to May, 2021. Notices have been issued for compliance and Environmental compensation of Rs 26.25 Lacs has been imposed against the operators of 2 noncompliant STPs. No EC amount has been realized so far from these defaulters.</i></p>
16.	Public awareness and involvement for prevention and control of pollution of Ganga.	Dept. of Urban Development	<p>Not Complied</p> <p><i>Public awareness Programmes could not be conducted due to covid-19 pandemic.</i></p>
17.	<p>Afforestation and setting up of biodiversity parks.</p> <p><i>CPCB may take further action to finalise and circulate Guidelines for Biodiversity parks expeditiously which may be complied with by the concerned States and status of compliance included in the reports to be filed before this Tribunal.</i></p>	Dept. of Environment, Forest and Climate Change, UP.	<p>Partially Complied</p> <p><i>Project on Biodiversity Parks with estimated total cost 32381.755 lakhs submitted to the NMCG. The NMCG showed its limitation to fund the project and also made certain observations regarding the location of identified sites and costs involved through letter dated 13.05.2020.</i></p> <p><i>In July, 2020 the State planted 25 crore seedlings and the entire exercise was coordinated by Department of Environment, Forest and Climate Change, Government of Uttar Pradesh</i></p> <p><i>During the Van Mahotsav, 2021, the State government has targeted for plantation of 30 crore seedlings. As on 8.7.2021, 27.92 crore seedlings have been planted.</i></p> <p><i>The Environment, Forest and Climate Change Dept. of Uttar Pradesh has identified the sites for development of Bio-diversity Park in 25 districts in the main stream of Ganga and in 2 districts in Yamuna covering total area of 3591.984 hectares. The project proposal is being revised as per the guidelines of the CPCB and will be implemented if NMCG approves the projects along with its funding.</i></p>

18.	<i>CPCB and SPCBs may periodically undertake biological assessment of Ganga. NMCG and States concerned may depict biological diversity of Ganga in public domain</i>	<i>CPCB/UPPC B/ U.P Jal Nigam</i>	Partially Complied <i>Water quality report of Ganga available on the UPPCB website. Biological assessment of Ganga has not yet started.</i>
19.	<i>Slaughter houses discharging waste into rivers</i>	<i>UPPCB</i>	Complied <i>35 Slaughtering units are under operation. 25 units discharge their treated effluent as per norms on land. 10 Units discharge their treated effluent as per norms into different drains which ultimately meets either river Yamuna/Ganga through tributary rivers</i>
20.	<i>Meetings at the level of Chief Secretary in this case</i>	<i>Chief Secretary, UP</i>	Partially Complied <i>Meeting held on 2.12.2020. No further progress reported.</i> <i>(MoM attached as Annexure 8)</i>

VII. RECOMMENDATIONS BY THE OVERSIGHT COMMITTEE

1. *CPCB and IIT Kanpur may be directed to conduct a joint inspection and determine the volume of the chromium waste scientifically for its remediation so that once this process is complete, the site is completely free from this hazardous waste.*
2. *The Chief Secretary, UP may be directed to personally supervise the project on monthly basis and ensure that all the formalities are completed at the earliest so that the actual work of scientific disposal of chromium dump is started without any further delay and completed in the shortest possible time. The Chief Secretary, UP may also be directed to submit a monthly progress report in this regard to the Oversight Committee for submission to the Hon'ble NGT.*
3. *There are mechanisms available to recover EC from the defaulter industries which are in operation. For closed down units when efforts are made to recover EC as arrear of land revenue, several legal and other complications arises and EC remains unrecovered. So there is an urgent need to develop a mechanism to recover the EC from the closed units. Attention of the Central Government may be drawn towards it so that by way of amendment in law effective mechanism is introduced to*

recover EC as arrear of land revenue or by any other effective mode to facilitate the recovery from the closed units also.

4. *Vide order dated 14.07.2020 in O.A. No.-985/2019, the Tribunal had directed the State of UP to pay environmental compensation of Rs. 10 crores for damage to the environment for permitting discharge of untreated sewage containing toxic Chromium into the river Ganga directly. The State of UP was given the liberty to recover the amount from the erring officers apart from taking action against the persons responsible. The U. P Jal Nigam was held liable to pay a sum of Rs. 1 crore for releasing untreated large quantity sewage containing toxic Chromium in the river Ganga. The UPPCB was also held liable to pay a sum of Rs. 1 crore for failing in their responsibilities towards keeping the river Ganga clean. These amounts were to be deposited with the CPCB within one month and the compliance had to be overseen by the Chief Secretary, UP. None of the amounts have been deposited till date. The Chief Secretary may be directed to get the said amount deposited without any further delay and also explain the reasons for noncompliance so far.*
5. *In compliance of the direction of the Hon'ble NGT vide order dated 14.07.2020 in O.A.985/2019 to issue strict directions to ensure that no authority allows discharge of polluted sewage or polluted effluents directly into a water channel or stream even during the monsoon season, the CPCB and the UPPCB have issued directions under section 33A of the Water (Prevention and Control of Pollution) Act, 1974. The UPPCB may be directed to effectively enforce these directions by using digital technology at polluting points and clusters.*
6. *The Hon'ble NGT had directed to complete the ongoing sewerage network by 1.07.2020 to stop discharge of untreated sewage in any drain connected to the river Ganga or its tributaries. In cases of noncompliance environmental compensation of Rs. 10 lakhs per month is to be imposed by the CPCB. Till date, 38 drains out of total 86 drains in Phase I and 96 drains out of total 215 drains in Phase II are untapped. Accordingly, the CPCB has imposed EC of Rs.150 crores and issued notices. Similarly, in respect of 44 incomplete STPs, the CPCB has imposed an EC of Rs.26.4 crores for the period 1.7.2020 to 31.12.2020. Till date, no amount has been deposited. It is recommended that the Chief Secretary, UP should be made responsible for ensuring that these works are completed speedily on priority and for the deposition of environmental compensation within a month of receiving the demand.*
7. *The CPCB has installed 36 real time monitoring stations all across the country out of which 21 are in Uttar Pradesh as part of the Online Continuous Effluent Monitoring System(OCEMS). The number of stations in Ganga is 15, on its tributaries 5 and 1 is on a drain. A central control room has been established at UPPCB HQs to do 24x7 monitoring of pollution data relating to these stations. The system proved very effective in monitoring*

pollution in the river Ganga during the Kumbh and was widely appreciated. The Committee feels that such stations should be established in other left out pollution pockets in the river Ganga, its tributaries and drains so that all the major polluting sources are monitored on 24x7 basis. The UPPCB may be directed to identify the number of such stations and work out the tentative cost of setting them up along with likely sources of funding within one month. The online monitoring stations will overcome the challenges of manual monitoring and make the entire system transparent. This Committee recommends that the UPPCB may be allowed to utilise EC for this purpose. The oversight committee should have open access to the OCEMS.

- 8. The progress of setting up of the FSTPs is extremely slow. The concerned authorities must ensure that timelines for various activities are fixed and implemented strictly. The monthly progress of it be monitored by the Chief Secretary, UP in his monthly review meeting on Environmental issues.*
- 9. The State Pollution Control Board should ensure compulsory installation of Online Continuous Effluent Monitoring System (OCEMS) in all industrial units along with Pan-tilt Zoom Web Camera with open access to this Committee. Moreover, consent to operate shall be provided only after such compliance.*
- 10. The Irrigation Department should coordinate with Forest Department of the State to identify vacant areas /flood planes on the banks of river Ganga, its tributaries and drains which may be developed as Green Belts. An action plan regarding this may be prepared by the Irrigation Department in convergence with the schemes of the Forest Department , Uttar Pradesh and implement the same in the next monsoon season.*
- 11. The Irrigation Department, Uttar Pradesh and the Central Water Commission need to expedite remaining works related to the identification and demarcation of floodplain zones. Proper coordination at the field level between the Irrigation and Revenue Department for correction of records to execute the demarcation work is essential. The Chief Secretary should ensure coordination between the two departments so that floodplains are jointly demarcated, revenue records corrected accordingly, encroachments removed and pillars are fixed.*
- 12. The State government must ensure active involvement of local people, NGOs and professional agencies in cleaning and maintenance of ghats. The ULBs should launch awareness campaign of the local people every quarter to sensitise them about the need to preserve and improve the environment by keeping the rivers and their surroundings (ghats etc.) clean. A report on the action taken with documentary evidences to be submitted to the Committee. Penalty to be imposed on ULBs for non-compliance. Correction missing??*
- 13. In order to prevent disposal of dead bodies into the river Ganga and its tributaries provision of electric crematoria in rural areas is necessary. The existing scheme of construction of crematoria in villages handled by the Panchayati Raj Department needs to*

be strengthened. Before this, a mass advocacy campaign for weaning away people from traditional open funeral system and motivating them to accept electrical crematoria needs to be taken up by the State Government through urban and rural local bodies.

14. *The Committee recommends banning of idol immersion in Ganga and its tributaries in Uttar Pradesh. Directions need to be issued to concerned department for creation of temporary artificial ponds (as done in NCR-Delhi region for preventing pollution in river Yamuna) for idol immersion during traditional festivals like Ganesh Chaturthi and Durga Puja specifying prior permission of District Administration and strict timelines pertaining to religious days only.*
15. *The Committee recommends steps to be taken for ground water recharge by digging of ponds, construction of check dams and establishing drain network to tap excess runoff during rainfall. Essentiality of rainwater harvesting structure in every house in the urban areas should be enforced effectively by the Development authorities and its progress should be monitored by the Housing Department from the highest level.*
16. *The Committee also recommends replication of successful waste management models such as that of Vengurla town in Sindhudurg district, Maharashtra in small towns of Uttar Pradesh. This town has converted a landfill into a waste management park, generates revenue from waste and has paved way for Sustainable Development.*
17. *In order to restrict and regulate waste into rivers, the committee recommends use of floating barriers as being used on Cooum River in Chennai.*
18. *The Committee feels that along with establishing new STPs/CETPs, every effort should be made to improve the efficacy and functioning of the existing STPs/CETPs. They need to be continuously monitored on a 24x7 basis. All the STPs in the State should be equipped with SCADA, connected with a central control room, receiving data 24x7, their performance analysed on day to day basis, problem areas like maintenance issues be addressed without any delay and accountability be fixed for non-performance/suboptimal performance. The Committee appreciates the One Operator One City scheme followed by UP, which will certainly help in fixing the responsibility and taking corrective action.*
19. *Use of bio-plastics/bio-degradable in every sector viz. domestic and industrial is a viable solution to prevent rivers from choking and warding off adverse implications on biodiversity. The State government may promote reusable bags of jute or cloth along with bio-plastics/degradable through well thought out macro and micro level plans. The State may be directed to develop an action plan in this regard and submit the same to the Hon'ble Tribunal within six months.*

20. *In this particular matter, the oversight committee is deeply concerned that the progress on ground is far from satisfactory and the promised timelines for completing the action keep on getting shifted. The committee finds that a number of problems hindering the progress are coordination problems among various departments. Such issues can easily be resolved if there is a regular monthly meeting at the level of the Chief Secretary as laid down in the monitoring framework submitted by the State Govt. before the Hon'ble NGT. The Chief Secretary may be directed to hold the monthly monitoring meeting regularly and share its minutes with this committee in so far as they concern the orders/directions of the Hon'ble NGT."*

Report of Comptroller and Auditor General (CAG) 2017:

19. As noted earlier in para 2 above that the Hon'ble Supreme Court referred to the report of CAG dated 10.10.2006 for the year ended 2000 on deficiencies in performance of projects for Ganga cleaning. In Thirty-ninth report of CAG dated 19.12.2017 on Rejuvenation of river Ganga (Namami Gange)¹⁹ deficiencies in terms availability and utilisation of funds, implementation of Projects, inadequacy of human resources, inadequacy of monitoring and evaluation have been noted and it has been suggested that more rigorous and serious execution of Namami Gange project is required. The executive summary and recommendations of the report is as follows:

“EXECUTIVE SUMMARY:

The Ganga is the National River of India. For thousands of years, the River Ganga along with her tributaries has provided material, spiritual and cultural sustenance to millions of people living in the Ganga river basin. The river has been facing threats due to population pressures, extensive and unplanned urbanization, industrialization, expansion of agriculture, destruction of forests, abstraction of water for irrigation and industry, lack of proper investment in water quality infrastructure and governance problems. Government of India has taken various initiatives since the mid 1980's to address the issues affecting the River Ganga and its tributaries. Government approved (May 2015) the Integrated Ganga

¹⁹ [https://cag.gov.in/cag_old/sites/default/files/audit_report_files/Report_No.39_of_2017 -
Performance Audit on Ministry of Water Resources%2C River Development %26 Ganga Rejuvenation
Union Government.pdf](https://cag.gov.in/cag_old/sites/default/files/audit_report_files/Report_No.39_of_2017_-_Performance_Audit_on_Ministry_of_Water_Resources%2C_River_Development_%26_Ganga_Rejuvenation_Union_Government.pdf)

Conservation Mission namely, Namami Gange as an umbrella programme with the aim of integrating previous and currently ongoing initiatives by enhancing efficiency, extracting synergies and supplementing them with more comprehensive and better coordinated interventions.

We undertook a Performance Audit of the Rejuvenation of River Ganga (Namami Gange) to assess the adequacy of estimation, availability and utilisation of funds, planning and implementation of various schemes/projects, adequacy of human resources and effectiveness of monitoring and evaluation mechanisms.

We sampled 87 projects (73 ongoing, 13 completed and one abandoned project) for audit scrutiny which constituted sanctioned cost of ₹ 7,992.34 crore. Of the 87 projects selected for audit, 50 projects were sanctioned after 01 April 2014. The 87 projects also included all the 11 institutional projects, five afforestation and one biodiversity project.

Financial Management

Only eight to 63 per cent of the funds were utilised during 2014-15 to 2016-17, as compared to Revised Estimate. Funds amounting to ₹ 2,133.76 crore, ₹ 422.13 crore and ₹ 59.28 crore were lying unutilised with National Mission for Clean Ganga, various State Programme Management Groups and Executing Agencies/ Central Public Sector Undertakings respectively as on 31 March 2017. (Paragraphs 2.2.1 & 2.2.5)

State Programme Management Groups of Uttar Pradesh and West Bengal did not conduct their internal audit as per prescribed frequency (quarterly) during 2014-17. Internal audit was not conducted at all in respect of State Programme Management Groups of Bihar and Uttarakhand. (Paragraph 2.4)

A corpus of ₹198.14 crore (as of 31 March 2017) was available in the Clean Ganga Fund. However, National Mission for Clean Ganga could not utilize any amount out of the Clean Ganga Fund and the entire amount was lying in banks due to nonfinalization of action plan. (Paragraph 2.6.1)

Planning

National Mission for Clean Ganga could not finalise the long-term action plans even after more than six and half years of signing of agreement with the consortium of Indian Institutes of Technology. As a result, National Mission for Clean Ganga does not have a river basin management plan even after a lapse of more than eight years of National Ganga River Basin Authority notification. (Paragraph 3.3)

Out of 154 Detailed Project Reports pertaining to 2014-15 to 2016-17, only 71 Detailed Project Reports were approved. Of these 71 Detailed Project Reports, 70 were approved after delays ranging from 26 to 1,140 days. Out of remaining 83 Detailed Project Reports, 54 were pending at National Mission of Clean Ganga level for a period ranging from 120 to 780 days. (Paragraph 3.4)

River Conservation Zones were not identified in the States of Uttar Pradesh, Bihar, Jharkhand and West Bengal, till May 2017. In Uttarakhand the identification was under progress. (Paragraph 3.8)

Pollution Abatement and Ghat Development

As per the target dates, award for the work of all the Sewage Treatment Plants was to be completed by September 2016. National Mission for Clean Ganga is yet to finalise and approve Detailed Project Reports for projects totalling 1,397 MLD capacity as of August 2017. (Paragraph 4.2.1)

Out of 46 Sewage Treatment Plants, Interception & Diversion projects and Canal works costing ₹ 5,111.36 crore, there were delays in 26 projects costing ₹ 2,710.14 crore due to delay in execution of projects, non-availability of land, slow progress of work by contractors and under-utilisation of Sewage Treatment Plants. Projects relating to Ghats and Crematoria works suffered from non-obtaining of requisite clearances. (Paragraphs 4.4 & 4.5)

Rural Sanitation

Against the total funds of ₹ 951.11 crore released by National Mission for Clean Ganga and State Governments for activities relating to construction of Individual Household Latrines, Information, Education and Communication and Solid Liquid Waste Management, the five States namely Bihar, Jharkhand, Uttarakhand, Uttar Pradesh and West Bengal could utilise a sum of ₹ 490.15 crore only. (Paragraph 5.3)

Except Uttarakhand, the other four States namely Bihar, Jharkhand, Uttar Pradesh and West Bengal could not achieve the target of construction of 100 per cent Individual Household Latrines as of 31 March 2017. (Paragraph 5.4)

Solid Liquid Waste Management activities were not taken up in any of the identified districts of the States of Uttar Pradesh, Bihar, Jharkhand and West Bengal. In Uttarakhand work relating to Solid Liquid Waste Management in two out of 132 Gram Panchayats were completed and were in progress in 11 Gram Panchayats as of March 2017. (Paragraph 5.6)

There were discrepancies in the data reported under Management Information System and basic records maintained by Gram Panchayats in 12 test-checked districts of Uttar Pradesh and Jharkhand. (Paragraph 5.7.2)

Conservation of Flora & Fauna and Maintenance of Ecological Flow

In Bihar and Jharkhand, no interventions for Agriculture and Urban Landscape were undertaken in the identified districts/divisions. In Bihar, conservation and support activities were also not undertaken. In Uttarakhand, shortfall under natural landscape, agricultural

landscape, urban landscape and conservation interventions were noticed. (Paragraph 6.3.2)

National Mission for Clean Ganga did not identify places of discontinuity of water flow due to engineered diversion or storage and did not initiate any remedial action thereof, as required under the notification of October 2016. (Paragraph 6.5)

Human Resource Management

There was overall shortage of manpower, ranging from 44 to 65 per cent during 2014- 15 to 2016-17 in National Mission for Clean Ganga. In SPMGs, the overall shortage ranged between 20 to 89 per cent. National Mission for Clean Ganga did not initiate any proposal for strengthening the human resources of State Programme Management Groups. (Paragraph 7.2)

Monitoring and Evaluation

Monitoring Bodies/ Committees such as Governing Body, High Level Task Force, Empowered Task Force and Governing Council did not meet as per required frequency. (Paragraph 9.2)

The mandate of establishment of 'Ganga Monitoring Centre' was still under conceptualization and planning phase at NMCG as of July 2017. (Paragraph 9.4)

Implementation of Bhuvan Ganga Web-portal to enable planning, execution and monitoring of investment projects as well as providing platform for central repository of all data through GIS mapping, was slow. (Paragraph 9.5)

National Mission for Clean Ganga did not develop any mechanism to take appropriate remedial action on the information shared by the public on the Bhuvan Ganga App. (Paragraph 9.6)

Against an amount of ₹ 198.48 crore sanctioned to Central Pollution Control Board for three projects on monitoring and evaluation, expenditure of ₹ 14.77 crore (7.44 per cent) only was incurred as of March 2017. (Paragraph 9.7)

Against 5,016 compliance verifications required to be conducted by Central Pollution Control Board in respect of 988 Grossly Polluting Industries, only 3,163 compliance verifications were conducted during 2011-17. Against the 120 mandatory adequacy assessments required to be conducted in respect of five identified Common Effluent Treatment Plants, only 17 were carried out as of August 2017. Against the mandatory 560 inspections to be carried out for performance evaluation of 67 Sewage Treatment Plants, only 177 were carried out as of August 2017. (Paragraph 9.7.1)

Central Pollution Control Board could deploy only 36 Automatic Water Quality Monitoring Systems as against 113 sites identified along the River Ganga for continuous receipt of water quality monitoring on real-time basis. (Paragraph 9.7.3)

In six cities²⁰ of Uttar Pradesh, Bihar and West Bengal, Dissolved Oxygen declined from 2012-13 levels. Biochemical Oxygen Demand was higher than the prescribed limit in the three towns (Kanpur, Allahabad and Varanasi) of Uttar Pradesh. During 2016-17, Total Coliform levels in all the cities of Uttar Pradesh, Bihar and West Bengal was very high; ranging between six²¹ to 334²² times higher than the prescribed levels. Specific parameters for water quality monitoring of the river Ganga have not been prescribed by National Mission for Clean Ganga. (Paragraph 9.8)

RECOMMENDATIONS:

We recommend that

- i. NMCG may prepare Annual Action Plan, align Budget Estimates based on Annual Action Plan and take appropriate action to regularly review actual expenditure vis-à-vis budget allocation.*
- ii. NMCG may ensure preparation and timely submission of UCs/ consolidated Financial Statements by SPMGs, for regular monitoring of the expenditure.*
- iii. NMCG may ensure Internal Audit of all the SPMGs as per the prescribed frequency.*
- iv. MoWR, RD&GR may release subsequent grants to NMCG, after taking into account the unspent balances available with NMCG/ SPMG/ EAs etc. at the end of the financial year.*
- v. NMCG may formulate the action plan for augmentation and utilization of Clean Ganga Fund.*
- vi. NMCG may finalize Ganga River Basin Management Plan for implementation of long-term intervention on Ganga Rejuvenation on priority and implement it in a time bound manner.*
- vii. NMCG may ensure appraisal of DPRs as envisaged in NGRBA framework in time bound manner.*
- viii. NMCG may identify and declare River Conservation Zones on priority, in order to conserve the River Ganga from encroachment and construction activities.*
- ix. NMCG may address the capacity gaps of sewerages pertaining to all towns and villages comprehensively and plan sewage systems, STPs, Interception and Diversion works accordingly in a time bound manner.*
- x. NMCG/ SPMGs may synchronize Interception and Diversion Projects with setting up of Sewage Treatment Plants and their*

²⁰ Kanpur, Varanasi (downstream), Patna, Munger, Gayespur and Budge Budge

²¹ Patna

²² Gayespur

operationalization for ensuring that no untreated sewage flows into the River Ganga.

- xi. NMCG, SPMGs in consultation with the State Government authorities and Executing Agencies may make tripartite agreements for making land available before awarding the contracts. xii. NMCG, in consultation with MoDW&S, may ensure the optimum utilisation of available funds with the State Governments.*
- xiii. NMCG, in consultation with MoDW&S, may ensure more realistic planning, data integrity and strict monitoring for achievement targets.*
- xiv. NMCG and MoDW&S may ensure the reliability of the data reported under MIS by cross checking with monthly physical/ financial reports submitted by all Swachh Bharat Mission (Gramin) Project Districts.*
- xv. NMCG may identify threats and implement programmes / schemes to maintain the Ganga river ecology and conserve flora and fauna in sustainable and time bound manner.*
- xvi. NMCG may on priority address the concerns of Aviral Dhara by identifying the discontinuity of flow of the River Ganga water due to engineering diversion or storage so as to determine and maintain the ecological flow.*
- xvii. NMCG may frame recruitment rules for filling-up the vacancies and increase the sanctioned strength for effectively implementing the projects both at NMCG and SPMG levels.*
- xviii. NMCG may have regular meetings for monitoring of Ganga Rejuvenation Programmes, make recommendations and actionable points and follow up scrupulously.*
- xix. NMCG may make all efforts to expedite the work already assigned to CPCB on monitoring of pollution, inventorization of crucial parameters of pollution, surveillance on the River Ganga and strengthening of regulators.*
- xx. NMCG may expedite the setting up of Ganga Monitoring Centres as envisaged in River Ganga (Rejuvenation, Protection and Management) Authorities Order (2016).*
- xxi. NMCG may use geo-spatial data of National Remote Sensing Centre for better monitoring.”*

Final Report on Environmental and Social Audit (December, 2020) of NMCG:

20. In NMCG's final report on Environmental and Social Audit²³ (December, 2020) again such deficiencies have been noted and recommendations made. This report examines the execution of projects relating to sewerage and STPs with reference to monitoring, plantation, granting CTO and others. Deficiencies observed include untreated sewage, Drains, Rural sanitation, encroachment of FPZs, E flows, depiction of Water quality in terms of FC and FS etc. Executive summary of the said report is as follows:

“EXECUTIVE SUMMARY:

GANGA BASIN is the largest river basin in India in terms of the catchment area and constitutes, almost one-fourth of the country's land mass, near about one-third of country's water resources and supports more than 40 percent of country's population. The delta of the Ganga basin is one of the largest in the world, which is known by Sundarbans. It is the 20th longest river in Asia. The Ganga basin extends over an area of 1,086,000 kms. Drainage of the River traverses through 11 states of the country (Uttar Pradesh, Madhya Pradesh, Rajasthan, Bihar, West Bengal, Uttarakhand, Jharkhand, Haryana, Chhattisgarh, Himachal Pradesh and Delhi), where largely covered states are Uttar Pradesh (28.02%), Bihar (10.86%), West Bengal (8.3%), Uttarakhand (6.15%) and Jharkhand (5.85%). The current focus of World Bank funded National Ganga River Basin Projects (NGRBP) under National Mission for Clean Ganga (NMCG) is on five basin states namely Uttarakhand, Uttar Pradesh, Jharkhand, Bihar and West Bengal.

Government of India has launched “Namami Gange” an Integrated Conservative Mission programme in the year 2014. The Namami Gange Programme is an umbrella programme of the Department of Water Resources, River Development, & Ganga Rejuvenation, Ministry of Jal Shakti, Government of India. The programme covers the previously sanctioned ongoing projects as well as the projects in new components with multi sector mandate to address both water quality and water quantity issues. The programme aims at integrating previous & currently ongoing initiatives by enhancing efficiency, extracting synergies and supplementing them with more comprehensive and better coordinated interventions. The programme structure attempts to bring all stakeholders on one platform to take a holistic approach towards the task of Ganga cleaning and rejuvenation. Namami Gange Programme has been segregated into two different components:

²³ https://nmcg.nic.in/writereaddata/fileupload/23_NMCG_FINAL_FOLLOW-UP_E&S-Audit-Report_March2021_f1_ES%20.pdf

- *Component A: Pertains to ongoing projects of cleaning of river Ganga & its tributaries, including World Bank Assisted NGRBA programme having remaining central liabilities.*
- *Component B: Pertains to new initiatives to be undertaken in 5 major sectors i.e. Infrastructure Development (Sewage Treatment, River Front Development, and Industrial Waste Water Treatment & Solid Waste Management), Institutional Development, Ecological Sustainability, Research & Development and Communication & Public Outreach.*

At the Central level, National Mission for Clean Ganga (NMCG) was constituted as an authority to ensure implementation of programmes. At the State level, State Mission for Clean Ganga (SMCGs) of Uttar Pradesh, Uttarakhand, Bihar and West Bengal were set-up as registered societies. In Jharkhand, a dedicated Nodal Cell within the Department of Urban Development and Housing was set up. At the local level, specific Executing Agencies (EAs) are selected for implementation of various activities, including infrastructure investments under the Namami Gange Programme.

LEA Associates South Asia Private Limited (LASA), New Delhi has been appointed as the Environmental and Social Audit Consultant for carrying out the E&S Audit of sub-projects under NMCG. Accordingly, LASA has visited the designated project sites in five basin states. The findings of the audit are presented in detail, in this Audit Report.”

Analysis and further directions:

21. As observed in the earlier orders of this Tribunal including the last order dated 08.02.2021, progress in control of pollution of Ganga leaves much to be desired. There does not seem to be any significant improvement over the compliance status noted in the order dated 08.02.2021 quoted above. Table 4 of the report of NMCG, quoted earlier, shows that gap in sewage generation and treatment is about **46%**. It shows that only **68%** of the available STP capacity is utilized. Treatment capacity is about **55%** only, out of which **32%** is un-utilized. Table 5 shows that out of 128 STPs, only 102 are operational out of which **83 are non-compliant**. Non-compliance for Fecal coliform component is 74. Compliance thus appears to be about **20%** only. Table 7 dealing with the status of CETPs shows that **all the CETPs are non-compliant**. Status of

remediation of drains meeting river Ganga shows that all the drains have not yet been remediated in any of the concerned States. While in Uttarakhand, 9 out of 13 drains are said to have been taken up for treatment and tendering work has been done, in UP out of 459 drains, work has been done only in 42. In Bihar, out of 416 drains in-situ bioremediation is done for 89 drains. 42 drains are discharging directly into Ganga and 111 drains are discharging into the tributaries of Ganga. 83 drains are discharging in low-lying areas. In Jharkhand, only tendering is said to be under process and interim steps have been taken only for four drains. In West Bengal, steps have been taken for 41 drains and no steps have yet been taken for 50. With regard to sewerage infrastructure, all necessary steps have not yet been taken as per requirements of the Water Act and as per directions of the Hon'ble Supreme Court in *Paryavaran Suraksha* (Supra). In Uttarakhand, the matter is pending at the stage of DPRs. In UP, letter of award for 131 towns has been issued. Some work has been allotted while other work is at tender stage. In Bihar, DPRs are awaiting sanction. In Jharkhand also, the work is at tender stage. In West Bengal, some plants are under construction and some have been commissioned. With regard to Industrial Pollution Management, in Table 1 statement, it is mentioned that CETPs are to be upgraded and other steps taken.

22. On the subject of e-flow, Srinagar HEP (GVK) and Pashulok Barrage do not comply with the e-flow norms and many other projects have been found to be non-compliant in Uttarakhand. Information on the subject about UP is not complete. While it is stated that data is not being provided by the Kanpur Barrage Project Authority on the ground that drinking water supply is a priority. In Jharkhand, there is no issue of e-flow. Flood plain demarcation issue has also not been finalized. In Uttarakhand, the matter

is pending for approval, in UP demarcation of flood plains is to be notified at most of the places. In Bihar, the issue remains un-resolved. In Jharkhand, demarcation has yet not been done. In West Bengal also, action remains to be taken. Much remains to be done on the subject of setting up of bio-diversity parks. The issue is still at planning stage in UP and in other States also no substantial progress is reported. NMCG is providing funds to the State Ganga Committees and also directly to the District Ganga Committees.

Conclusion:

23. Thus, it is clear that challenge of cleaning Ganga remains inspite of monitoring by the Hon'ble Supreme Court and by this Tribunal for the last 36 years. Though, initiatives at the level of Central Government have been taken by way of Ganga Action Plans I & II and thereafter, setting up of NMCG, pollution of Ganga remains unabated. We note:

- i. **No data showing reduction in pollution load and progressive improvement provided in terms of preventing discharge of sewage and other effluents and discharge of liquid and solid waste from different sources as a result of steps for treatment of sewage/effluents before discharge into Ganga directly or through various tributaries/drains.**
- ii. Various projects are planned but not fully executed.
- iii. Timelines are breached without accountability and adverse consequences. Encroachment of flood plains also remains a challenge. Uncontrolled continuous unscientific river bed mining aggravates the situation.
- iv. Public awareness programmes undertaken are not shown to be adequate.

- v. Directions of this Tribunal requiring the Chief Secretaries of the concerned States to remedy the situation remain un-complied in most of the States. In short, the ownership and responsibility remain lacking.
- vi. On being asked, Shri Mathuria fairly stated that even when failures are noticed and established, matter of taking action is left to the States. States have never taken any meaningful action.
- vii. Not even a single case of misappropriation has been filed nor any action is shown to have been taken for non-compliance. Thus, the situation remains disappointing.
- viii. Level of Fecal coliform very high. 4619.96 million litres per day of sewage is being discharged into main Ganga river. CETPs are non-compliant.
- ix. Flood plain zones are encroached as Ganga States are not having demarcation of FPZ.
- x. E-flow and its maintenance at critical locations, particularly in summers, downstream of Narora to border of UP and Bihar are not given.
- xi. Tributaries are still pouring degraded water into Ganga.
- xii. States are still caught up in issues of locating sites for STPs and unending prolonged tendering processes.
- xiii. There is no ownership and accountability of States on their responsibility to keep water quality at Ganga stretch in their State at least of bathing level.
- xiv. There is no assurance on maintaining E flows, ensuring stoppage of encroachment even for future, control of industrial pollution control at individual and CETP level, water quality in terms of fecal coliform

and fecal streptococcus as per MoEF laid down criteria for bathing waters.

24. We have already noted the reports of CAG (2017) and report of internal audit of NMCG itself (2020) noting deficiencies in monitoring and execution of Namami Gange which need remedial action in the light thereof.

Directions:

25. We are thus of the view that time has come when accountability needs to be fixed for proper and timely utilization of funds allocated and timely performance of constitutional obligation of ensuring clean environment, including clean water of the rivers by meeting of the targets in taking steps. Failure of monitoring and fixing accountability only results in wastage of public funds, continued pollution and resultant deaths and diseases. There appears to be need to consider, at the highest level in the hierarchy of the concerned administration, structural changes in functioning of the NMCG in terms of fixing accountability for maintaining the timelines and exploring management strategies so as to achieve the targets within foreseeable time. Performance parameters and timelines need to be clearly defined and performance audit conducted. The same may include Sewage treatment, tackling encroachments of FPZ, E flows at critical locations, remedying non-compliant CETPs and other issues, including those specified in para 21 of the order dated 18.12.2019, quoted above in para 9 of this order.

26. Standard DPR and tender process SOPs need to be in place. Further, there is need for due investigation about the funds allocated and utilized in terms of achieving the result of reducing pollution load. To the extent failure, causes for the same and persons responsible needs to be identified

and made appropriately accountable. A mechanism needs to be worked out to be operative on continuous basis in this regard of identifying those responsible for failure in performance. Without disciplinary and quality control, there may be little chance of success of the laudable mission. In-house review mechanism is required to be strong which at present does not appear to be. If it is found that agencies employed by NMCG for executing its pollution abatement and control plan cannot adequately deliver, structural changes need to be considered by assigning the work to an appropriate agency – Governmental, Private or Hybrid, who can be held accountable in terms of performance and achieving the targets. In short, performance needs to be evaluated and accountability fixed. Quarterly report giving the details of the funds allotted and progress achieved in terms of reduction in pollution load and other parameters may be placed on the website of NMCG so as to enable enhanced community participation and support. Compensation as directed in the last order may now be positively collected by the CPCB and the NMCG within two months. In case of non-compliance, coercive measures be taken including initiating prosecution against the defaulters under Section 26 of the NGT Act, 2010. NMCG and CPCB may file their report of further progress as on 31.3.2022 by 15.4.2022 which may also be simultaneously uploaded on their respective websites. Report may state the progress in qualitative as well as quantitative terms under different heads as per para 21 of the order dated 18.12. 2019 preferably State-wise in tabular form with remarks.

27. Needless to say, the mission undertaken by the Central Government is under the Environment (Protection) Act, 1986, with reference to List 1, Entry 14 of Schedule 7 of the Constitution read with Article 253 to give effect to International Obligations. There is no lack of legislative/ administrative authority in the Central Government for any decision on

the subject. There is also equal responsibility of the States under Articles 48A, 51 and 51A and also of the Local Bodies and District Magistrates under Articles 243G and 243W read with 11th and 12th Schedules of the Constitutions. Further, obligations of public authorities also flows from “Public Trust Doctrine” and the fact that clean environment is part of Right to Life under Article 21 of the Constitution.

List for further consideration on April 28, 2022.

A copy of this order be forwarded to CPCB, NMCG and MoJS by e-mail for compliance. A copy of this order be also forwarded to Executive Chairmen, Legal Services Authorities of Uttarakhand, U.P., Jharkhand, Bihar and West Bengal by e-mail.

A copy of this order be forwarded to the Hon’ble Supreme Court in terms of directions of the Hon’ble Supreme Court vide order dated 29.10.2014, *(2015) 12 SCC 764* Para 20.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Dr. Nagin Nanda, EM

November 23, 2021
Original Application No. 200/2014
SN