

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

Original Application No.138/2016 (TNHRC)
(Case No.559/19/11/14)

WITH

Original Application No. 139/2016 (TNHRC)
(Case No.600/19/11/14)

Stench Grips Mansa's Sacred Ghaggar River

WITH

Yogender Kumar

Date of hearing: 11.04.2019

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

For Applicant(s): Ms. Katyayni, Advocate

For Respondent (s): Mr. Rahul Khurana, Advocate for State of
Haryana and Haryana State PCB.
Mr. Shubham Bhalla, Advocate for Chandigarh PCC
Mr. Manish Kumar, Advocate for State of HP
Mr. Sanjay Kumar, Advocate for HPPCB
Mr. Rajkumar, Advocate for CPCB
Ms. Richa Kapoor, Advocate of PPCB

ORDER

1. The issue in the present case is making Ghaggar river pollution free. The river originates in the State of Himachal Pradesh and ends in the State of Rajasthan. The river is included by the Central Pollution Control Board (CPCB) in 351 polluted river stretches of the country, priority - I category, which is a category of highest pollution, having BOD more than 30 mg/l as against the prescribed standard of 3mg/l.
2. Proceedings in this matter were initiated before this Tribunal on a reference received from the National Human Rights Commission

(NHRC). The NHRC took Suo-Motu action on the basis of a news item appearing in 'The Tribute' dated 12.05.2014 under the caption "*Stench Grips Mansa's Sacred Ghaggar River*" to the effect that the river Ghaggar had turned into a polluted water body on account of discharge of effluents - industrial as well as municipal. The NHRC considered the matter in the light of reports from the States of Punjab and Haryana as well as the State of Himachal Pradesh. Vide letter dated 17.03.2016, the NHRC sent the record of the matter to this Tribunal.

3. Pursuant to the order of this Tribunal dated 09.12.2016, a joint inspection has been carried out by the representatives of the Central Pollution Control Board, Punjab State Pollution Control Board, Haryana Pollution Control Board, Himachal Pradesh State Pollution Control Board. Officials of Union Territory, Chandigarh also joined the said inspection team. Ms. Katyayni, Advocate was appointed as Amicus Curiae to assist the Tribunal. The findings of the joint inspection report are that values of various parameters such as BOD, TSS, Faecal Coliform, Lead and Iron were beyond permissible limits at most of the locations in Himachal Pradesh, Haryana, Punjab and Chandigarh.

4. The matter was reviewed vide order dated 07.08.2018 and noticing failure of the Regulatory Authorities in taking remedial steps by way of prevention of pollution and proceeding against the polluters, the Tribunal directed constitution of a Special Task Force (STFs) at the District level as well as at the State level. The State level STF was to be headed by Chief Secretary. The Tribunal directed preparation of action plans with firm timelines so as to ensure that water sample is

as per norms within the targeted time. The Tribunal also constituted an Executing Committee, under Section 25 of the National Green Tribunal Act, 2010, headed by a former Judge of Punjab and Haryana High Court, Justice Pritam Pal. The Executing Committee was to furnish an interim report to this Tribunal. Accordingly, report dated 28.02.2019 under the cover letter dated 01.03.2019 has been received and is taken up for consideration today.

5. We may also note that the issue of 351 polluted river stretches was taken up by this Tribunal vide orders dated 20.09.2018, 19.12.2018 and 8.04.2019, in Original Application No. 673 of 2018. On 20.09.2018, the concerned States were required to constitute River Rejuvenation Committees (RRCs) to prepare action plans to make polluted river stretches pollution free. The action plans were to be submitted to CPCB. The matter was further reviewed on 19.12.2018 and finally on 08.04.2019. This issue was also subject matter of consideration in order dated 16.01.2019, in Original Application No. 606 of 2018, which matter pertains to compliance of Municipal Solid Waste Management Rules. However, this Tribunal directed the Chief Secretaries of all the States to appear in person before this Tribunal after acquainting themselves with the progress not only on the issue of solid waste management but also other significant issues, including the subject of polluted river stretches. Accordingly, Chief Secretaries of Himachal Pradesh, Haryana, Punjab and Advisor to Administrator, Chandigarh appeared on 05.03.2019, 06.03.2019, 07.03.2019 and 26.03.2019 respectively and filed their reports which also include reports on the issues of polluted river stretches. The Tribunal directed the Chief Secretaries

to continue to monitor the subject and furnish quarterly reports. Reports were also furnished by RRCs to CPCB which matter has been dealt with by the Tribunal on 08.04.2019.

6. The States of Himachal Pradesh, Haryana, Punjab and Chandigarh have filed their reports in these proceedings with respect to river Ghaggar.

7. We now proceed to consider the report of the Executing Committee headed by Justice Pritam Pal, former Judge of Punjab and Haryana High Court and action plans prepared by Himachal Pradesh, Haryana, Punjab and Chandigarh. We have perused the said reports with the assistance of learned counsel.

8. The Executing Committee, after noting location of catchment areas of the river and topography of the drains, has mentioned gap analysis with reference to sewage generation, existing management and plans to cover the gap. The said analysis is State wise and area wise. The substance of the said analysis is as follows:-

(i) Himachal Pradesh – Parwanoo and Kala Amb
The gap for Parwanno is 569.414 KLD
The gap for Kala Amb is 1046.24 KLD

(ii) With regard to Chandigarh the gap is 23.225 MLD

(iii) With regard to Punjab the gap is 75.92 MLD

(iv) With regard to Haryana the gap is 42.9 MLD

9. With regard to gap analysis of industrial effluent generation and management, the Committee observed that though capacity for management in the State of Himachal Pradesh is adequate, at ground level gap is not ruled out on account of lack of adequate

mechanism of the pollution boards to check inadequate operation of treatment systems.

10. With regard to gap of waste water generation and its management in Chandigarh from industries, the gap has been found to be 23.225 MLD. The Committee also observed that efficiency of captive ETPs needed verification. With regard to gap of sewage generation and the existing management scenario in Punjab, the Committee found it to be about 75.92 MLD. While taking into consideration the contribution of 389 villages in the catchment, the total gap in sewage treatment in the catchment of river Ghaggar in Punjab is about 175.92 MLD. As regards Haryana, the gap between sewage generation and existing management according to Committee is 42.9 MLD.

11. On the subject of industrial effluent management in the State of Punjab, the Committee has found that capacity of CETPs/ETPs is adequate. With regard to industrial effluent management in the State of Haryana, the position is similar to Punjab. Adequacy of actual operation of CETPs/ETPs remains a question.

With respect to industrial management in the catchment or river Ghaggar in Himachal Pradesh the Committee observed although there is no any gap in the treatment capacity, discharge of untreated effluent and the sewage by the industrial units and STPs cannot be ruled out, due to lack of adequate mechanism in SPCBs to check the industrial discharges or improper operation of the STPs as such scenario is evident from physical observations of the Committee.

Similarly, with regard to waste management in Chandigarh, the Committee observed that total gap in wastewater treatment is 23.225 MLD. Presently, the industrial inspection mechanism of CPCC for verification of compliance to the discharge norms is not upto remark due to lack of adequate technical skilled manpower and as the industries are allowed to discharge into public sewerage system. In order to avoid interference of the existing STPs working and operations, the efficiency of captive ETPs installed by the industries needs thorough verification for which a mechanism needs to be evolved by CPCB for ensuring compliance to the discharge standards prescribed under Schedule -VI of the Environment (Protection) Rules, 1986.

12. The Committee also considered the solid waste management, bio-medical waste management and hazardous waste management scenario for the State of Himachal Pradesh, Haryana, Punjab and UT Chandigarh to the extent it affected pollution of river.

13. The Committee also got the water sample analyzed at various locations as follows:-

“River Markanda

- *Dissolved Oxygen which is in the order of 8-12 mg/l and complying to the water quality criteria for bathing at the monitored locations.*
- *BOD is in the order of 1-3 mg/l and is complying with the water quality criteria for bathing at the monitored locations.*
- *Faecal Coliform is in the order of 33000 to 70000 MPN/100ml and is not complying with the water quality criteria for bathing at the monitored locations.*

Therefore, based on the measured values at the sampling locations, river Markanda is not

complying to the water quality criteria for bathing.

River Kaushalaya

- Dissolved Oxygen concentration at the monitored location is observed as 7.8 mg/l and complying to the water quality criteria for bathing at the monitored location.
- BOD is observed as 2 mg/l and is complying with the water quality criteria for bathing at the monitored location.
- Faecal Coliform is observed as 11000 MPN/100ml and is not complying with the water quality criteria for bathing at the monitored locations.

Therefore, based on the measured values at the sampling location, river Kaushalya is not complying to the water quality criteria for bathing

River Ghaggar

- Dissolved Oxygen content is in the order of 0.3 to 7.6 at all the 14 sampling locations. 11 out of 14 sampling locations are not complying to the water quality criteria for bathing.
- BOD is in the order of 2-94 mg/l and 13 out of 14 sampling locations are not complying with the water quality criteria for bathing. Highest BOD of 94 mg/l is observed after confluence of Patiala drain/nadi.
- Faecal Coliform is in the order of 200 to 3,40,000 MPN/100ml and is not complying with the water quality criteria for bathing at 9 out of 13 monitored locations.

Therefore, based on the measured values at the sampling locations, river Ghaggar is not complying to the water quality criteria for bathing.

Drain Samples

The analysis results of the drain samples for analysed parameters reveal that

- TSS is in the order of 30 -612 mg/l whereas TDS is observed as 120 to 6060 mg/l and highest TSS and TDS observed at Patiala drain and Derabassi drain respectively.
- COD is in the order of 30 - 6741 mg/l and highest COD is observed at Derabassi Drain;

- BOD is in the order of 6- 2000 mg/l and highest BOD is observed Derabassi Drain
- NH₃-N is in the order of 3-89 mg/l and highest Ammonical Nitrogen is observed at Patiala drain.”

14. The Committee thereafter considered details of functioning of STPs and found as follows:-

“With regard to Chandigarh –

The analysis results of the treated sewage from the sewage treatment plants for the period January 2019 reveals that the observed values of the 3 out of 5 STPs located at Khurd, Diggian and Raipur Kalan are observed in the order of 59-69 mg/l, 51-58 mg/l, 59-70 mg/l and the measured values w.r.to BOD is not complying to the prescribed parameter. Also, all the treated sewage is having Faecal Coliform more than 1000 MPN/100 ml which may be due to improper disinfection. Therefore, all the existing STPs require upgradation.

With regard Punjab -

- As observed during the visit, 02 out of the 20 STPs are not in operation.
- Treated sewage from all the 18 STPs is complying with the parameters viz., pH and TSS.
- 09 out of 18 STPs inspected are not complying to the Faecal Coliform, which may be due to improper disinfection.
- In 18 STPs, BOD content in the treated sewage was observed to be in the order of 7 to 61 mg/l and 05 STPs located at Bhikhi, Budhlada, SAS Nagar, Sardulgarh and Patiala are not complying to the treated sewage discharge norms with respect to BOD.
- Faecal Coliform content in all the 18 inspected STPs was observed to be in the order of 780 to 330 MPN/100 ml and 09 STPs are not complying to the norm w.r.to Faecal Coliform.
- STPs located at Bhikhi, Budhlada, SAS Nagar, Sardulgarh and Patiala are not complying to both the parameters such as BOD and Faecal Coliform.
- Total STPs Complying = 09; Total STPs Non Complying = 09

With regard Haryana –

BOD content is observed in treated sewage samples of STP, Urban Estate, Ambala Cant (52 mg/l); STP, Baldevnagar, Ambala Citty (56 mg/l); STP, Devinagar, Ambala (64 mg/l); STP, PHED Industrial Area, Jind (110 mg/l), STP at Debwali, Sirsa (36 mg/l) and STP, Vill, Amani, Fatehbad (56 mg/l) i.e., 06 out of 53 STPs monitored are having BOD more than 30 mg/l and afore-said STPs are not complying to the treated sewage discharge norms which may be due to improper operation of these STPs.”

15. Dealing with the sludge characteristics and its management, the Committee found as follows:-

“Based on the analysis results of the sludge samples collected from 07 STPs in the catchment of river Ghaggar concluded that the sludge of all the said STPs is not fit for use as manure especially for food based crops and may be used for greenery.”

16. On the subject of ground water quality, the Committee found as follows :-

“Himachal Pradesh

The analysis results of the collected 57 water samples reveals that 05 out of 57 samples are not complying with respect to TDS (> 500 mg/l), 18 out of 57 samples w.r.to Total Alkalinity (200 mg/l), 2 out of 57 samples w.r.to Fluoride (> 1 mg/l), 05 out of 57 samples w.r.to Total Hardness (> 200 mg/l) as well as Iron content(> 0.3 mg/l) when compared with the drinking water standards prescribed under IS10500-2012.

Chandigarh

The analysis results of the collected 7 water samples reveal that

- *Pre - monsoon samples are not complying when compared with the drinking water standards prescribed under IS10500-2012 with respect to*
 - *NH3-N at ground water samplings locations located at Sector-15, Village Palsora*
 - *Turbidity at ground water samplings locations at Dadu Majra, Sector-25, Sector-22, Village Palsora, Dhanas and Sector-35*

- Total Alkalinity at ground water samplings locations at Dadu Majra, Sector-25, Sector-22, Village Palsora, Dhanas, Sector-20 and Sector-35
 - TDS at ground water samplings locations Sector-15 and Village Palsora;
 - Faecal Coliform at ground water samplings locations at Dadu Majra and Dhanas.
- Post-monsoon samples are not complying when compared with the drinking water standards prescribed under IS10500-2012 with respect to
- NH3-N at ground water samplings locations located at Dadu Majra, Sector-21, Village Palsora, Dhanas, Sector-20 and Sector-35;
 - Turbidity at ground water samplings locations at Dadu Majra, Sector-15, Village Palsora, Dhanas, Sector-20 and Sector-35;
 - Total Alkalinity at ground water samplings locations at Dadu Majra, Sector-15, Village Palsora, Dhanas, Sector-20 and Sector-35
 - TDS at ground water samplings locations Dadu Majra, Sector-15, Sector-35 and Village Palsora;
 - Faecal Coliform at ground water samplings locations at Sector-22 and Village Palsora.

Punjab

As per directions of Executing Committee, the Punjab Pollution Control Board has carried out ground water sampling at 79 locations in and around 62 industries (in some industries, more than one sample was drawn) to ascertain the quality of ground water in respect of parameters such as fluoride, sulphate, cadmium, copper, lead, nickel, zinc, arsenic, mercury and oil & grease. Out of these, 71 samples were found conforming to the prescribed standards as laid down in IS: 10500 – 2012. In 8 samples, the concentration of either fluoride or sulphate or both was found beyond the prescribed standards. The Board will take necessary action and monitor the quality of ground water regularly and the same will be reviewed at the district and state level.

Haryana

The industries found indulged in reverse pumping are closed and power of closure has already been delegated to the Regional Officers of HSPCB. Further, the STFs have also been directed to close down the contaminated sources of drinking water and also place sign boards nearby the respective contaminated source regarding "Water is not fit for Drinking purpose". The monthly action taken reports are being sought in this regard from District Level Task Forces constituted in this matter by the State Government."

17. Concluding its consideration, the Committee has, *inter-alia*, made following recommendations:

"During the water sample collection by the Executing Committee, at most of the places river Ghaggar is having highly coloured wastewater might be due to discharge of industrial effluent likely from Paper & Pulp Industries, Sugar and Distilleries as these industries have not been insisted for removal of 'colour' under Consent mechanism by the respective States and not having strict vigilance by the respective State Pollution Control Boards.

Considering depletion of groundwater resources, Government of Punjab should take a policy decision with regard to the supply of meter water to the public as per the demand or supply prescribed under the guidelines issued by Ministry of Urban Development.

Also, policy with regard to the utilization of treated sewage for beneficial use which include agriculture, construction activity and green development so as to reduce abstraction and consumption of the ground water resources should be implemented and promoted.

Also, all the industries located in the catchment of river Ghaggar should be allowed to use ground water abstraction for commercial use only with the approval of the Central Ground Water Authority and such industries also be suggested to explore alternate water supply sources (including

adoption of low water consuming technologies) without depending on the natural ground water resources.

All the existing STPs should be insisted upon to obtain Consent under Water (Prevention and Control of Pollution) Act, 1974 from the Punjab Pollution Control Board, with immediate effect.

Therefore, Punjab Government should bring all the STPs under one authority so that it becomes easy for planning, commissioning and for ensuring proper operation and maintenance of the existing or upcoming STPs.

Government should allocate adequate budget for management of sewage in the State and this allocated budget should be released as and when required. Periodic training of all the officials i.e., O & M Staff, field staff or supervisors of the concerned departments involved in operation of the STPs should be organized by PPCB in association with the reputed organizations such as NEERI, Nagpur or NPC, Delhi or IITs.

All the existing STPs should also be connected with electromagnetic flow meters at all the salient points (i.e., inflow, at the bye-pass arrangement, after treatment and before discharge of treated water within the STPs) and proper records maintained. Also, STPs also be connected with continuous online effluent monitoring system for monitoring of prescribed parameters including discharges with a provisions of CC Cameras and real time data also be displayed at the entrance of the STPs and also transferred to the servers of PPCB and CPCB.

Therefore, all the STPs should have a provision of uninterrupted power supply or DG Set of adequate capacity for ensuring proper treatment of sewage during power failures.

All the parameters of the treated sewage may be get analyzed as per the frequency prescribed by the States through any laboratory approved under the E (P) Act, 1986 or NABL approved laboratory.

All such drains should be restored by properly designed sewerage network connectivity (including interception and diversion of sewage from the drains to the existing STPs or upcoming STPs), for ensuring proper treatment of generated sewage to comply with the discharge norms and thereafter only such treated sewage may be discharged into the drains as a part of maintaining the E-flows.

All such existing STPs should be upgraded for ensuring compliance to the effluent discharge norms notified under the Environment (Protection) Act, 1986.

Also, the option of 'Sludge Digester' as a part of STP be created for methane recovery and such generated sludge from the sludge digester may be used as manure and STPs shall ensure that at any instance the generated STP sludge should not be disposed of in river system.

All upcoming STPs preferably should have standby arrangements atleast for two days as a part of the upcoming STPs.

Therefore, Pollution Control Boards are required to prescribe PETP Standards for all the CETPs located in the catchment of river Ghaggar and in the respective States."

18. On the subject of industrial effluent, the Committee inter-alia recommended as follows:-

"The Committee is also of the view that the technology available, can also be used for the surveillance of the industries located in the catchment area of river Ghaggar by all the concerned States in order to assess illegal discharge by the industries."

19. With reference to action plans for rejuvenation of river Ghaggar, the Committee has recommended as follows:

"In addition to the action plans prepared by the respective Governments, following action plans also need to be included with timelines:

Development of Bio-diversity parks in the catchment of river Ghaggar.

Watershed management and maintaining E-flows in the river Ghaggar and its tributaries for maintaining biological system of the water body.

Evolving and Effective Implementation of Sand Mining Policy of the Governments.

Dredging and maintenance of all the drains contributing to river Ghaggar pollution and proper disposal of the sludge generated from the dredging and maintenance of the drains.

Restoration of all the drains as natural drains for carrying only storm water;

Provision of measurement of flows in all the drains before its outfalls in to the river Ghaggar or its tributaries in all the States to know the contribution of discharges into the river Ghaggar or its tributaries and records shall be maintained by the concerned departments in order to evolve further strategies if required.

Installation of real time water quality of monitoring stations at all the outfalls of the drains and at the salient points of the river Ghaggar or its tributaries and display of such data in public domain, by all the concerned State Governments.

Interception of diversion of wastewater from the drains (not meeting to the water quality criteria), to the near by STPs or CETPs for ensuring further treatment to comply with the discharge norms.

Septage management in the catechment areas of river Ghaggar and its tributaries for beneficial use including irrigation, construction activities.”

20. We may now take up for consideration Affidavits filed by the concerned States.
21. According to the Chandigarh Pollution Control Committee, STP of 5 MGD capacity at Maloya will be operational by 30.04.2018 upon which the gap in sewage treatment will stand bridged. The

Municipal Corporation Chandigarh will also construct a new STP of capacity of 2.0 MGD at Raipur Kalan and 0.40 MGD capacity at Kishangarh under the smart city project.

22. The Himachal Pradesh Pollution Control Board has filed a 'comprehensive report' on control of pollution of river Ghaggar, giving timelines for implementation of rejuvenation of river Markanda at Kala Amb, District – Sirmour. Timeline for execution of laying down of sewerage lines and setting up CETP at Kala Amb and STP at Trilokpur timelines is 31.01.2022. Timelines for STP at Parwanoo by the Local Body is 06.05.2019 and STP with full utilization capacity to be set up by Irrigation Department is 31.01.2022.

23. As per action plan submitted by State of Haryana, STPs which are under construction, will be completed on different dates, extending upto 31.03.2020 which will meet the gap in the generation and treatment of sewage. We note the submission of learned counsel for the State of Haryana that though STPs may be set up, the major challenge is in laying down the sewerage lines to connect the STPs with the sewage.

24. As per action plan of the State of Punjab, different dates for steps for setting up STPs extend upto December, 2020, as per Annexure – L annexed to the plan.

25. Learned Amicus Curiae, Ms. Katyayni has given a note of submission analyzing the report of the Executing Committee with reference to steps required to be taken in the gap in different areas/drains/choes. It is submitted that recommendations of the

Executing Committee should be fully implemented. She also invited our attention to the CAG report on Performance Audit on the subject. She has pointed out that a study is necessary in respect of cumulative deposition impact on soil and ground water. In view of contents of metals and chemicals in the effluents, metals and chemicals need to be separated from the sludge. The STP sludge treatment was important for wide contamination of ground water. Health camps need to be continued in view of occurrence of diseases in the area. CETPs must be properly operated and maintained. New industries should be set up only after taking all possible precautions to avoid any further gap, adding to the pollution. Ground water status needs to be checked near the landfills. Ground water extraction must be regulated in dark zones. Green energy sources may be promoted in the catchments areas. We find the suggestions of learned Amicus to be relevant and worth acceptance.

26. We place on record our deep appreciation for the sincere efforts undertaken by the Committee in conducting proceedings and preparing exhaustive report. The report is accepted.
27. In view of the above, we direct that various actions proposed in the action plans of Himachal Pradesh, Haryana, Punjab and Chandigarh may continue to be monitored by the Chief Secretaries, as already directed. Recommendations of the Committee and suggestions of learned Amicus may be acted upon.
28. The Committee may also continue to monitor the execution of the directions of this Tribunal. The Executing Committee may give a further report in the matter after six months or as and when

considered necessary. Learned Amicus Curiae will be at liberty to forward any further suggestion to the Committee.

Put up for consideration as and when necessary or in October, 2019.

Adarsh Kumar Goel, CP

K. Ramakrishnan, JM

Dr. Nagin Nanda, EM

April 11, 2019

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