OFFICE OF THE EXECUTING COMMITTEE

Constituted by the Hon'ble National Green Tribunal in Original Application no.138 and 139 of 2016 in the matter of "Stench Grips Mansa's Sacred Ghaggar River (Suo-Moto Case) and Yogendera Kumar"

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To

The Registrar General,
National Green Tribunal,
Faridkot House, Copernicus Marg,
Near India Gate,
New Delhi-110001

No CEC/2020/1041
Dated: 7.9.2020

Subject: **6th report of Executing Committee, constituted by the Hon'ble National Green Tribunal in its order dated 7.8.2018 in OA No. 138 of 2016 and OA No. 139 of 2016 in the matter of "Stench Grips Mansa's Sacred Ghaggar River (Suo-Moto Case) and Yogendera Kumar" in compliance of order dated 22.11.2019 and 15.6.2020 of Hon'ble National Green Tribunal.**

It is submitted that the Hon'ble Tribunal vide its 15.6.2020 in OA No. 138 of 2016 and OA No. 139 of 2016 has passed the directions, the operating para no.15 of the same is reproduced as under: -

> ***"15. In view of the above, we direct that the directions already issued by this Tribunal in O.A. No. 673/2018, 606/2018, 148/2016, O.A. No. 325/2015 and 593/2017 and the recommendations of the Committee may be complied with. The Compliance Status may be verified by the Executing Committee and the next report may be furnished by 30.09.2020 by e-mail at judicialngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF. Simultaneously copy of the report be furnished to the Chief Secretaries/ PCBs and PCCs of the States of Punjab, Haryana, Himachal Pradesh and UT Chandigarh who may give their response within two weeks thereafter.***
> ***List for further consideration on 28.10.2020."***

In compliance to order dated 22.11.2019 of the Hon'ble Tribunal, the Executing Committee submitted its 5th report to the Hon'ble Tribunal on 16.4.2020. Further, in compliance to the order dated 15.6.2020 as mentioned in para no.15, the Executing Committee has prepared its 6th report based on the record of the Departments and discussion held with the State level officers in various meetings.

Therefore, 6th report of the Executing Committee is submitted for consideration of the Hon'ble Tribunal. The abovesaid report is being sent through email at ***judicial-ngt@gov.in.***

DA/As above

Sd/-
(Justice Pritam Pal)
Former Judge,
Punjab & Haryana High court
Chairman
Executing Committee

Endst. No. CEC/2020/1042-1045 Dated: 7.9.2020

A copy of the above is forwarded to the following for information and necessary action please. This is in compliance to the order dated 22.11.2019 and 15.6.2020 of the Hon'ble National Green Tribunal in O.A No. 138 of 2016 and 139 of 2016 in the matter of Stench Grips Mansa's Sacred Ghaggar river (Suo-Moto Case) and Yogendera Kumar:

1) The Chief Secretary to Govt of Punjab, Punjab Civil Secretariat, Chandigarh.
2) The Chief Secreatry to Govt of Haryana, Haryana Civil Secretariat, Chandigarh.
3) The Chief Secretary to Govt of Himachal Pradesh, Himachal Pradesh Secretariat, Shimla.
4) The Advisor to the administrator of U.T Chandigarh, U.T Secretariat, Sector-9 Chandigarh.

DA/As above

7/9/2020
(Dr. Babu Ram)
Technical Expert
Executing Committee

Endst. No. CEC/2020/1046-1049 Dated: 7.9.2020

A copy of the above is forwarded to the following for information and necessary action please. This is in compliance to the order dated 22.11.2019 and 15.6.2020 of the Hon'ble National Green Tribunal in O.A No. 138 of 2016 and 139 of 2016 in the matter of Stench Grips Mansa's Sacred Ghaggar river (Suo-Moto Case) and Yogendera Kumar.

1) The Member Secretary, Punjab Pollution Control Board, Vatavaran Bhawan, Nabha Road, Patiala.
2) The Member Secretary, Haryana State Pollution Control Board, # C-11, Sector 6, Panchkula, 134109.
3) The Member Secretary, Himachal Pradesh State Pollution Control Board, Him Parivesh, Phase-3, New Shimla, Shimla-171009.
4) The Member Secretary, Chandigarh Pollution Control Committee, Paryavaran Bhawan, Sector-19-B, Madhya Marg, Chandigarh.

DA/As above

7/9/2020
(Dr. Babu Ram)
Technical Expert
Executing Committee

6th Report of the
Executing Committee constituted by

Hon'ble National Green Tribunal
in OA No. 138 of 2016
&
OA No. 139 of 2016

in the matter of

"Stench Grips Mansa's Sacred Ghaggar River (Suo-Moto Case)" and Yogender Kumar

in compliance of order dated 22.11.2019 and 15.6.2020 of Hon'ble National Green Tribunal.

Submitted on :

7th September, 2020

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6th report of Executing Committee, constituted by the Hon'ble National Green Tribunal in its order dated 7.8.2018 in OA No. 138 of 2016 and OA No. 139 of 2016 in the matter of "Stench Grips Mansa's Sacred Ghaggar River (Suo-Moto Case) and Yogendera Kumar" in compliance of order dated 22.11.2019 and 15.6.2020 of Hon'ble National Green Tribunal.

1.0 Constitution of the Executing Committee

The Hon'ble National Green Tribunal in order dated 7.8.2018 had constituted an Executing Committee under the Chairmanship of Justice Pritam Pal Former Judge, Punjab and Haryana High Court for executing the orders of the Hon'ble NGT in OA No. 138 of 2016 and OA No. 139 of 2016 in the matter of "Stench Grips Mansa's Sacred Ghaggar River (Suo-Moto Case)" and Yogender Kumar. Subsequently, the Hon'ble Tribunal vide its order dated 21.05.2019 and 01.10.2019, included the name of Dr. Babu Ram, former Member Secretary, Punjab Pollution Control Board and Ms. Urvashi Gulati, IAS, former Chief Secretary, Haryana, respectively, as Members of the Executing Committee.

2.0 Submission of reports to Hon'ble National Green Tribunal by the Executing Committee.

The Executing Committee has submitted its four reports to Hon'ble National Green Tribunal on 28.2.2019, 14.6.2019, 1.10.2019 and 8.1.2020, which have already been considered by the Hon'ble Tribunal. The Executing Committee submitted its 5th report on 16.4.2020, which has been considered by the Hon'ble Tribunal on 15.6.2020. Based on the conclusions and recommendations made by the Executing Committee w.r.t various activities accomplished by the State of Punjab, Haryana, Himachal Pradesh and UT, Chandigarh regarding installation of new STPs, upgradation of Existing STPs, improve performance of existing STPs, assessment of water quality of river Ghaggar & groundwater quality of ground water sources along the catchment area of river Ghaggar, laying of irrigation network to utilize the treated sewage for irrigation, installation of STPs in rural areas, gaps in completing the different works and treatment of sewage of the towns of all the three States and UT. Chandigarh, Hon'ble Tribunal has passed the detailed order dated 15.6.2020, which is annexed herewith as per **Annexure-1.** The operating paras 9, 13, 14 and 15 of the said order are reproduced as under.

3.0 Operating Paras 9, 13, 14 and 15 of order dated 15.6.2020 of Hon'ble National Green Tribunal

Para 9

We regretfully note flagrant violation of mandate of the Water (Prevention and Control Pollution) Act, 1974 and the Waste Management Rules framed under the Environment (Protection) Act, 1986 as well as repeated directions given by the Hon'ble Supreme Court and this Tribunal. There is repeated failure by the concerned States and its authorities in performing their constitutional obligation in ensuring that no pollution is

discharged into the rivers or drains connected thereto. The timeline fixed by the Hon'ble Supreme Court in its judgment in Paryavaran Suraksha case, (2017) 5 SCC 326 to ensure treatment of sewage and effluent is by 31.03.2018, which has expired since long.

Para 13

The States have not filed their response even though the report of the Committee was made available in pursuance of direction in paragraph 12 of order dated 20.01.2020 quoted above.

Para 14

We note the presence of learned counsel for the States of Punjab, Haryana, Himachal Pradesh and UT Chandigarh who have nothing meaningful to explain the persistent defaults. Learned counsel for the State of Himachal Pradesh submitted that he is not able to get complete instructions on account of the lock down. Learned counsel for the UT Chandigarh states that certain further steps have been taken in the matter of plugging of the outlets and upgradation of STPs but the steps for use of treated water and action in terms of recommendations of the Committee are yet to be taken. Learned counsel for the State of Punjab and the Member Secretary State PCB stated that there is some progress but we find the progress to be highly inadequate and unsatisfactory. Learned counsel for the State of Haryana states that the State of Haryana is not even aware of the standards of faecal coliform and has yet to lay down the standards. We are surprised at this statement. The standard of faecal coliform has been dealt with by this Tribunal vide order dated 30.04.2019 in O.A. No. 1069 of 2018, Nitin Shankar Deshpande Vs. UOI &Ors. The Tribunal noted the standards proposed in the draft Notification dated 24.11.2015 by the MoEF&CC and held that dilution of the standards by Notification in October, 2017 was against the recommendation of the Expert Committee referred to therein. Such relaxed standards led to deterioration of water quality, adversely affecting the environment and public health. The Tribunal observed as follows.

"**13.** *We find that there is no justification for diluted standards for areas other than Mega and Metropolitan Cities. The water quality standards are required to be same for the population of major cities or other cities. No justification has been shown for different standards for persons living in cities other than Mega and Metropolitan Cities. Major population of this country will be affected by diluted standards and only persons in Mega and Metropolitan Cities will have comparatively better standards without any valid reason or distinction. We may note that filters, UV filters etc. are facilities mainly available in major cities and not in smaller cities or villages where the standards are proposed to be diluted.*

14. Accordingly, we accept the report of the Expert Committee with the modification that the standards recommended for Mega and Metropolitan Cities will also apply to rest of the country. We also direct that the standards will apply not only for new STPs but also for existing/under construction STPs without any delay and giving of seven years time stands disapproved. MoEF& CC may issue an appropriate Notification in the matter within one month from today."

Para 15

In view of the above, we direct that the directions already issued by this Tribunal in O.A. No. 673/2018, 606/2018, 148/2016, O.A. No. 325/2015 and 593/2017 and the recommendations of the Committee may be complied with. The compliance status may be verified by the Executing Committee and the next report may be furnished by 30.09.2020 by e-mail at judicialngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF. Simultaneously copy of the report be furnished to the Chief Secretaries/ PCBs and PCCs of the States of Punjab, Haryana, Himachal Pradesh and UT Chandigarh who may give their response within two weeks thereafter. List for further consideration on 28.10.2020.

Further, the Hon'ble Tribunal in its order dated 6.12.2019 in OA No. 673 of 2018 (mentioned in order dated 6.12.2019 uploaded on 12.12.2019 in OA No. 916 of 2018) had issued direction that 100% treatment of sewage may be ensured as directed by the Tribunal vide order dated 28.08.2019 in O.A No. 593/2017 by 31.03.2020 at least to the extent of in-situ remediation and before the said date, commencement of setting up of STPs and the work of connecting all the drains and other sources of generation of sewage to the STPs must be ensured. If this is not done, the local bodies and the concerned departments of States/UT's will be liable to pay compensation as directed vide order dated 22.08.2019 in case of river Ganga i.e. Rs. 5 lakh per month per drain for default in in-situ remediation and Rs. 5 lakh per STP for default in commencement of setting up of the STP. The timeline for completing all steps of action plans including completion of setting up STPs and there commissioning till 31.03.2021 in terms of order dated 08.04.2019 in the present case will remain as already directed.

3.1 Operating para 8 and part of para 13 of order dated 21.5.2020 in OA No 593 of 2017

Para 8

The Hon'ble National Green Tribunal in para No.8 in its order dated 21.5.2020 in OA No.593 of 2017 has directed as under

i) 100% treatment of sewage may be ensured as directed by this Tribunal vide order dated 28.08.2019 in O.A. No. 593/2017 by 31.03.2020 at least to the extent of in-situ remediation and before the said date, commencement of setting up of STPs and the work of connecting all the drains and other sources of generation of sewage to the STPs must be ensured. If this is not done, the

local bodies and the concerned departments of the States/UTs will be liable to pay compensation as already directed vide order dated 22.08.2019 in the case of river Ganga i.e. Rs. 5 lakhs per month per drain, for default in in-situ remediation and Rs. 5 lakhs per STP for default in commencement of setting up of the STP

ii) Timeline for completing all steps of action plans including completion of setting up STPs and their commissioning till 31.03.2021 in terms of order dated 08.04.2019 in the present case will remain as already directed. In default, compensation will be liable to be paid at the scale laid down in the order of this Tribunal dated 22.08.2019 in the case of river Ganga i.e. Rs. 10 lakhs per month per STP.

Part of para 13

The part of para 13 of the said order directs that as regards non-compliant STPs, further action may be completed by the State PCBs/PCCs and it may be ensured that there is 100% treatment of sewage and till STPs are set up, at least in-situ remediation takes place. However, on account of Corona pandemic which has affected several on-going activities, the timeline of levy of compensation in terms of order dated 28.08.2019 in O.A. No. 593/2017 read with order dated 06.12.2019 in O.A. No. 673/2018, of 01.04.2020 may be read as 01.07.2020 and 01.04.2021 may be read as 01.07.2021. Further reports may be taken by the CPCB from all the State PCBs/PCCs as per the system evolved by the CPCB from time to time.

4.0 Compliance status w.r.t various activities carried out/ under progress to clean river Ghaggar by the State of Punjab, Haryana, Himachal Pradesh and Union Territory of Chandigarh.

4.1 Himachal Pradesh

River Ghaggar originates in village Dagsai in Shivalik hills of Himachal Pradesh at an elevation of 1927 meters above mean sea level and flows through Punjab and Haryana States and enters into Rajasthan just south west of Sirsa (Haryana) and by the side of Talwara lake in Rajasthan. From Ottu Barrage near Sirsa, two irrigation canals originate from river Ghaggar which lead to Rajasthan.

In the State of Himachal Pradesh, the sources of pollution, control thereof and compliance status is as under: -

4.1.1 Brief review of pollution sources in Sukhna Nallah and Markanda river leading to river Ghaggar and status of sewage treatment plants

As per the Action Plan submitted by the State of Himachal Pradesh, the following sources of pollution were identified.

4.1.1.1 Sukhna Nallah Catchment area

Pollution Sources

- Sewage of Parwanoo town: 1.9 MLD

- Industries in catchment area: 48

  Map shoring Sukhna Nallah, Samtel Nallah, existing STPs, proposed STPs and phyto remediation technology is shown as per Fig 1 below:

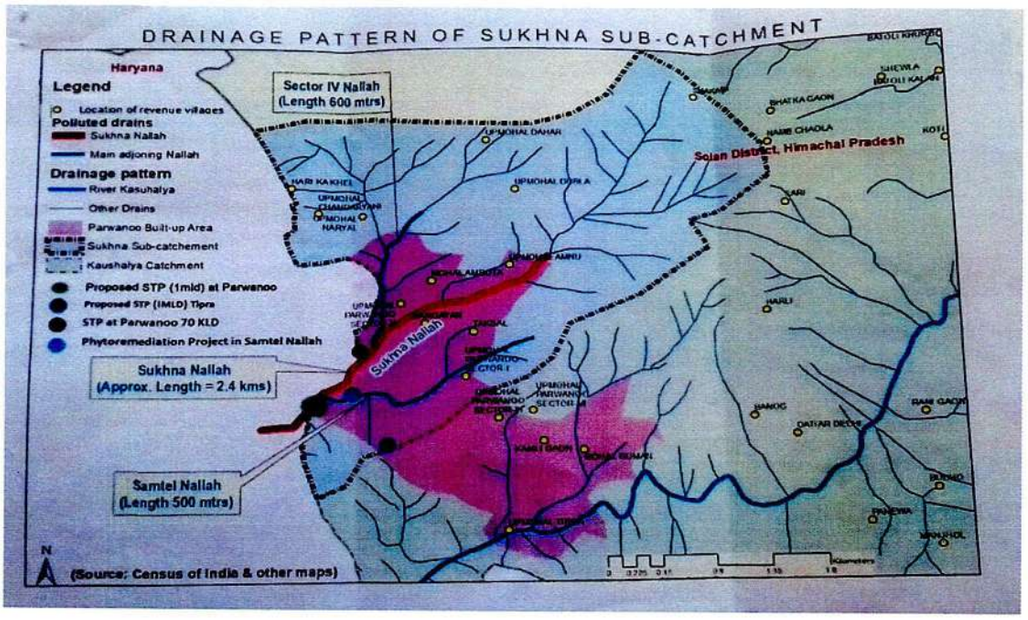

Fig 1: Map showing Sukhna Nallah, Samtel Nallah, existing STPs, proposed STPs and phyto-remediation technology

- **After the completion and commissioning of 02 STPs each of capacity 1 MLD, there shall be no gap in treatment of sewage**
- **Number of industries existing in catchment area of Sukhna Nallah: 48**

Himachal Pradesh Pollution Control Board is conducting surprise inspection of the industries to check the operational status of ETPs and their performance and legal action under the provisions of the Water Act, 1974 is taken against the violating industries.

4.1.1.2 River Markanda catchment area

River Markanda is a tributary of river Ghaggar, covering a distance of 24 Kms in Himachal Pradesh and 130 Kms in Haryana area before meeting to river Ghaggar. River Markanda passes through Kala Amb area and carries domestic and industrial effluent.

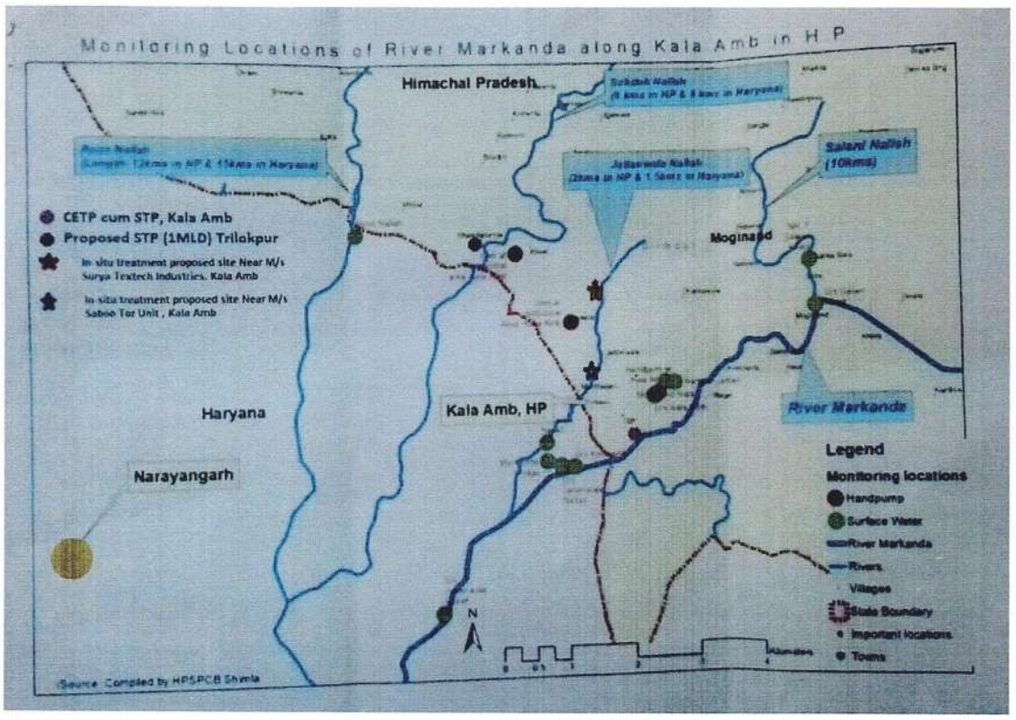

Fig 2: Map showing River Markanda with Jattan wala Nallah as its tributary

Pollution Sources:

- Sewage of Kala Amb area: 1.5 MLD
- Industies in catchement area: 94

4.1.2 Compliance on the recommendations made by the Executing Committee in its 5th report submitted before Hon'ble National Green Tribunal on 16.4.2020

As mentioned in aforesaid para, four reports have already been submitted and 5th report was submitted on 16.4.2020. Based on the recommendations made by the Executing Committee, the State of Himachal Pradesh has submitted its compliance report, which is mentioned in Table 1 given below:

Table 1: Compliance by the State of Himachal Pradesh on recommendations of Executing Committee in its 5th report submitted to Hon'ble Tribunal:

Sr. No	Recommendations made by the Executing Committee in its 5th report submitted before Hon'ble NGT	Compliance by the State of Himachal Pradesh
1.	The Executing Committee recommends that the Executing agency of the sewage treatment plants of State of Himachal Pradesh shall ensure that 2 STPs each of capacity 1 MLD to treat the sewage of Parwanoo area, 1 STP of capacity 1.15 MLD to treat the sewage of Trilokpur (Kala Amb area) and 1 CETP cum STP of capacity 5 MLD to treat the industrial and domestic wastewater of Kala Amb area should be completed and commissioned by 31.12.2020.	• **STPs for Parwanoo area** • Tender work of both STPs has been awarded on 19.03.2020. • For construction of one STP, land is available near HPMC Parwanoo, whereas, for the second STP, which is to be located on forest land in Village-Tipra, the case for land transfer is in process. • The pipes for the sewer line have reached at site. **CETP of Capacity 5 MLD** • The GM DIC cum Nodal Officer, CETP Kala Amb informed in 18th District Level Special Task force

		meeting held on 04.07.2020 that 1st phase tender of CETP has already been floated. Technical and Financial bids opened and will be awarded soon. • The Executive Engineer, IPH Nahan informed in 18th District Level Special Task force meeting held on 04.07.2020 that the tender of STP Trilokpur and STP Kala Amb has been awarded. The pipe for sewage network has been received. The work of laying pipeline and STP constructional has been started and will be completed within prescribed timelines by Hon'ble NGT.
2.	Sewage treatment plants for 4 villages of Kala Amb area, District Sirmaur should be completed by 31.12.2020.	The Executive Engineer, IPH Nahan informed in 18th District Level Special Task force meeting held on 04.07.2020 that the tender of STP Trilokpur and STP Kala Amb has been awarded. The pipe for sewage network has been received. The work of laying pipeline and STP constructional work has been started and will be completed within prescribed timelines by Hon'ble NGT.
3.	HPPCB shall identify more villages, which are located in the catchment area of Sukhna Nallah, Jattanwala Nallah and river Markanda and prepare comprehensive plan for treatment of sewage of these villages by 31.05.2020.	**Parwanoo Area** • All the villages in the catchment of Sukhna nallah at Parwanoo have been covered in the action plan for the sewage treatment. **Kala Amb Area** • All the villages in the catchment of Jattanwala Drain and River Markanda have been covered in the action plan for the sewage treatment.
4.	HPPCB shall continue to make surprise inspection of industries located in the catchment area of Sukhna Nallah, Jattanwala Nallah and Markanda river further leading to river Ghaggar and action against the defaulting industries be taken as per the provisions of the Water Act, 1974.	• HPSPCB is regularly conducting surprise inspection of industries in the catchment area of Sukhna Nallah. • Show cause notice was issued to 5 industrial units. Out of these 5 units, the parameters of 4 industrial units are marginally higher than the prescribed discharge limit/standards. 3 units out of these 4 are reusing the water for irrigation in lawns and gardens. • Directions were issued to the remaining 1 industrial unit (having high discharge parameters) to improve its treatment system efficiency. Re- sampling will be done within a week.

		Action taken by HPSPCB RO Kala Amb: HPSPCB is regularly conducting surprise inspection of industries in the catchment area of Jattanwala Nallah and Markanda River. HPSPCB has taken action against 2 nos of violating industries i.e. M/s Virgo Industries, Village Rampur Jattan, Kala Amb and M/s Ovation Remedies, Village Johron, Kala. The power supply of these units were disconnected and also imposed environmental compensation of total Rs. 7,06,250/-.
5.	Water Quality of Sukhna Nallah in terms of BOD, DO and T.Coli, as monitored by HPPCB, during December-2019 to Februaray-2020 indicate that there is improvement of in water Quality of Sukhna Nallah in terms of said parameters.	The Water quality of Sukhna Nallah was analyzed and it was observed that there is improvement in the water quality w.r.t BOD and T.Coli parameters.
6.	Monitoring of Water Quality of river Markanda was carried out by HPPCB during December-2019 to February-2020 and its analysis results indicate that water quality of River Markanda downstream of Jattanwala Nallah has been degraded in terms of BOD and F-coli parameter because in Jattanwala Nallah, the values of BOD and F-coli have been found varied between 37.3-54.6 mg/l and 58333-74400 MPN/100 ml. The Executing Committee recommends that HPPSB shall identify the sources contributing high value of BOD and F-coli by 7.04.2020 and shall take action against the defaulting industries/ agencies by 15.05.2020.	**River Markanda** • There is improvement in the water quality of river Markanda **Jattanwala Nallah** • There is improvement in water quality w.r.t BOD & T.Coli parameters but still the value of T.Coli is quite high as compared to the prescribed standards.
7.	The data w.r.t. health checkup camps organized by Department of Health during December-2019 to February-2020 indicate that out of 410 patients checked in District Solan, 47 patients were found suffering with water borne diseases. Similarly, in district Sirmour, 432 patients were checked out of which 9 patients were found affected with water borne diseases. Therefore, the Executing Committee recommends that in catchment area of river Markanda and Sukhna Nallah, where the patients have been found suffering with water borne diseases should be provided with potable and safe drinking water supply to the residents by the Department of public Health.	IPH Department is directed to supply the potable drinking water to the residents in the catchment area of river Markanda and Sukhna Nallah, where the patients have been found suffering with water borne diseases and also directed to ensure the supply of potable and safe drinking water in future.
8.	HPPCB shall continue to create public awareness about water quality of river Markanda, Jattanwala Nallah and Sukhna Nallah, Ground water quality of water sources located in the catchment area of Sukhna Nallah, Jattanwala Nallah and river Markanda and status of health	• HPSPCB Parwanoo has organised a cleanliness drive with M/s Microtek India Ltd. at Parwanoo Barrier. • Plantation work has been carried out by Inner wheel Club along with HPSPCB/ MC Parwanoo in sector-4.

	check up camps organized by Department of Health.	• 40 No's of plants have been planted in Sector-4 as well as in sector-6, 25 No's of plants have been planted. • HPSPCB RO Parwanoo organized the Plantation drive on 24.07.2020. • 250 plants have been planted in the Parwanoo town. • HIMUDA also planted 500 plants in Parwanoo Town. • M/s Shivalik Agro Poly Products Ltd. also planted 52 plants. • HPSPCB RO Kala Amb organized the cleanliness drive and plantation drive on the occasion of World Environment Day. • Plantation of 300 plants in catchment of Markanda river done on World Environment Day, 2020.
9.	In order to maintain environmental flow in river Markanda and Sukhna Nallah, the Department of irrigation shall explore the possibility of providing check dams/ storage ponds in the vicinity of river Markanda and Sukhna Nallah by 30.04.2020 so as to discharge the regulated flow in the Nallah/River to maintain E-Flow.	• Total 27 Check Dams constructed in Sukhna at Parwanoo to maintain the environmental flow. • Jal Shakti Vibhag has provided following check dams/rain water harvesting structures. ✓ Total 30 Check Dams constructed in River Markanda at Kala Amb. ✓ 3 low height dams and 3 rain water harvesting structure will be constructed in Markanda at Kala Amb during 2020-21.
	For septage and Faecal Sludge Management, HPPCB shall take up the matter with DDPOs of Districts Solan and District Sirmaur w.r.t. improvement in the performance of Septic Tanks and degradation of septage and faecal sludge so that there is no illegal disposal of septage and faecal sludge into any nallah/river. HSPPCB shall make surprise inspections in the catchment area of Sukhna Nallah, Jattanwala Nallah and river Markanda and ensure that there is no illegal disposal of septage and faecal sludge from septic tanks into said Nallahs/rivers.	• Teams have been constituted to conduct surprise inspections to ensure that there is no illegal disposal of septage and faecal sludge from septic tanks into Nallahs/rivers. • The surprise inspection was conducted along catchment of Sukhna Nallah, Masoolkhana Road & Taksaal village on dated 1.07.2020 and no disposal of any septage and faecal sludge in the Sukhna Nallah was observed. • In future squad will also undertake surprise inspections. • Teams have been constituted to conduct surprise inspections to ensure that there is no illegal disposal of septage and faecal sludge from septic tanks into Nallahs/rivers. • No disposal of any septage and Faecal sludge in the River Markanda catchment was observed as per inspection conducted by team on 16.07.2020. • In future squad will also undertake surprise inspections.

4.1.3 Compliance of the recommendations made/directions given by the Executing Committee during 17th meeting with State level officers of State of Himachal Pradesh held on 4.6.2020

In order to monitor the various activities to clean river Ghaggar in Himachal area, the Executing Committee held its 17th meeting with State level Officers of State of Himachal Pradesh on 4.6.2020. The minutes of the meeting are enclosed as per **Annexure-2.**

The compliance report submitted by State of Himachal Pradesh is mentioned as per Table2 given below:

Table 2: Compliance by State of Himachal Pradesh on the directions given by Executing Committee in its 17th meeting held on 4/6/2020

Sr. No.	Actionable Points	Directions by the Chairman Executing Committee	Compliance report
1	**Comparison of water quality of Sukhna Nallah, Jattanwala Nallah, Markanda River during the period December, 2019 to February,2020 and March, 2020to May, 2020**	STPs of Parwanoo and Kala Amb areas should be completed timely as per the time schedule fixed by Hon'ble National Green Tribunal so that water quality in Sukhna Nallah, Jattan Wala and River Markanda may be improved	**STP (1 MLD) Trilokpur area and STP (1.5 MLD) Kala Amb area:** • Work awarded on 07.03.2020. • Land handed over to the contractor. • Pipes are procured. **2 STPs each of capacity 1 MLD to treat the sewage of Parwanoo area:** • Tender work of both STPs has been awarded on19.03.2020. • For construction of one STP, land is available near dumping site in sector-5, Parwanoo, whereas for the second STP, which is to be located on forest land in Village-Tipra, land transfer case is under process. **Setting up of CETP at Kala Amb:** • Tender was floated on 15th March, 2020 but no bids were received due to lockdown. • Tenders have been again invited on 05.06.2020 and last date of receipt of tenders is 29.06.2020.
2	**Status of STPs under construction.**	02 STPs each of capacity 1 MLD for Parwanoo area, 1 MLD STP to be installed at village - Trilokpur, Kala Amb area and 01 CETP-cum- STP of capacity 5 MLD at Kala Amb. Amb should be installed and commissioned by 31.12.2020	
3	**Gaps in treatment of Sewage of the of the towns located on river Ghaggar**	The concerned Departments of State of Himachal Pradesh shall ensure that all the STPs and CETP in Parwanoo and Kala Amb area should be completed and commissioned by 31.03.2021	
4	**Status of Irrigation Schemes for STPs**	The STPs of Parwanoo and Kala Amb area should be completed timely as per the time schedule fixed by Hon'ble National Green Tribunal so that water quality in Sukhna Nallah, Jattanwala Nallah and River Markanda may be improved.	Sewerage system with STP is coming up at Trilokpur. Work is in progress. Treated sewage would be expected after its completion and commissioning of STPs. Treated sewage would be provided. Toilets flushing in their premises on demand/request basis. There is no horticulture area available in the vicinity of Proposed upcoming STP. Use of treated sewage for horticulture/plantations is not

			possible. Jal Shakti Vibhag is providing only sewage networking with primary treatment in the area of Kala Amb Moginand. Primary treated effluent will be linked to upcoming CETP by the Industrial Department where industrial effluent and sewage will be treated. Disposal of treated effluent from CETP is with Industrial department only and can be used or disposed off as per the planning of Department of Industries.
5	Status of installation of STPs for the villages	After the installation of STPs and CETP-cum- STP at Parwanoo and Kala Amb area, the discharge of the adjoining villages to these towns should be connected to these STPs and CETP-cum-STP.	All the villages in the catchment of Sukhna Nallah at Parwanoo and Markanda at Kala Amb have been covered in the Action Plan for the sewage treatment and industrial wastewater treatment of proposed STPs and CETPs.
6	Inspection of industries/STPs by HPPCB and District Level Special Task Force in the month of March, 2020 to May, 2020 and action against the defaulters	HPSPCB shall make surprise inspection of the industries and ensure that their ETPs are functioning efficiently and are meeting with the norms. Action against the defaulting industries shall be taken as per the provisions of Water Act, 1974.	• The industries located in the catchment area of River Markanda is being regularly inspected to check the efficiency of effluent treatment plants/sewage treatment plants. • After 21st March onwards industries are not in operation due to outbreak of COVID-19 pandemic. No effluent discharge is observed in Samtel Nallah and Sukhna Nallah. • However, now the industries have resumed operations. • The teams are constituted for conducting surprise inspections. Total 12 inspections have been made and action has been taken as per the provisions of the Water Act, 1974.
7	Ground Water Quality of ground water sources in the catchment area of River Ghaggar	HPSPCB shall send the analysis results of the ground water samples collected from the catchment area of river Ghaggar so as to assess the concentration of parameters in these samples. The comparative statement of these ground water analysis results may also be prepared and shall be placed before the Executing Committee in its next meeting.	Ground water analysis results have been received and the analysis results indicate that all the parameters are within the norms
8	Septage and Faecal Sludge management	A Committee consisting of the officers of HPSPCB, Department of Local Govt. and Department of Rural Development and Panchayat shall	• Teams have been constituted to conduct surprise inspections to ensure that there is no illegal disposal of septage and faecal sludge from septic tanks into Nallahs/rivers.

		make surprise inspections in the area along the catchment area of river Ghaggar and ensure that there is no indiscriminate disposal of septage and fecal sludge in the area.	• The surprise inspection was conducted along catchment of Sukhna Nallah, Masool Khana Road & Taksaal village on dated 1.07.2020 and no disposal of any septage and faecal sludge in the Sukhna Nallah was observed. • No disposal of any septage and Faecal sludge in the River Markanda catchment was observed as per inspection conducted by team on 16.07.2020.
9	Environmental Flow	There is need to construct pond system, check dams and water retaining structures in the catchment area of river Ghaggar so that water in Markanda and Kaushalya rivers may be regulated and environmental flow may be maintained. The same may be provided by the Department of Irrigation and Public Health (IPH)	• Total 27 Check Dams have been constructed on Sukhna at Parwanoo. • Total 30 Check Dams have been constructed on River Markanda at Kala Amb. • 3 low height dams and 3 rain water harvesting structures will be constructed on Markanda at Kala Amb during 2020-21. • Plantation of 2200 plants in the catchment of Sukhna Nallah completed. • Plantation of 1600 plants in catchment of Markanda in Kala Amb completed. • Plantation of 350 plants in catchment of Sukhna Nallah and 300 plants in catchment of Markanda river done on World Environment Day, 2020.
10	Watershed Management	More check dams/ low height dams should be provided by IPH Department in Sukhna and Markanda catchment area. The Forest Department shall plant at least 3000 plants each along Sukhna Nallah and Markanda River.	
11	Installation of Real Time Water Quality Monitoring Stations(RTWQMS) in Kaushlaya and Markanda Rivers	The analysis results Manual monitoring data w.r.t. various parameters should be submitted on quarterly basis. The comparison statement of analysis results carried out through these two methods should also be submitted.	The Online Continuous Water Quality Monitoring Station (OCWQMS) has been installed in river Kaushalya and online data has been connected to HPSPCB server. • The Online Continuous Water Quality Monitoring Station (OCWQMS) has been installed in river Markanda.
12	Status of Health checks Camps	Process of holding camps in the catchment area of Sukhna Nallah and Markanda River may be continued as and when the present circumstances allow.	• Due to outbreak of COVID-19 pandemic, mass gathering is prohibited. Therefore, no public awareness and health check-up camps have been organized during this period.
13	In-situ remediation of drains/ Nallahs carrying untreated sewage.	In-situ remediation technology should be installed in the drains carrying untreated sewage and not connected to STPs as per the directions of Hon'ble National Green Tribunal.	• Phyto-remediation technology has been proposed in Samtel Nallah at 02 identified sites. • Tender awarded and work started with plantation and foundation. • Phyto-remediation technology has been proposed on Jattanwala Nallah at 02 identified sites. Tender work is progress.

4.1.4 Compliance status on the various activities to clean river Ghaggar submitted in 18th meeting of the Executing Committee held with State level officers on 19.8.2020 and observations/directions of the Executing Committee

1 & 2. Water quality of river Ghaggar at various locations and sources of pollution in river Ghaggar and details of the drains carrying sewage/industrial effluent into the river Ghaggar.

The water quality of Sukhna Nallah at Parwanoo, Kaushalya river, Semtal Nallah and Sector 4 Nallah falling in catchment area of river Ghaggar was monitored in the month of March, 2020 to May, 2020 and June, 2020 to July, 2020. The data indicate that there is improvement in the water quality of Sukhna Nallah, Kaushalya river, Semtal Nallah and Sector 4 Nallah w.r.t. BOD, DO and F.Coli parameters.

The river water quality in the catchment area of Kala Amb was also monitored wherein, monitoring of Markanda river upstream of Jattanwala Nallah, Jattanwala drain, river Markanda downstream Jattanwala drain, Sailani nallah and Roon Nallah was carried out in the month of March, 2020 and June, 2020. As per analysis results, there is slight improvement in BOD, DO and F.Coli parameters. However, Jattanwala drain was found having effluent with high value of faecal coliform ranging between 6200-19360 MPN/100 ml, which is quite higher than the permissible levels.

After detailed discussion on the issue, it was directed that HPPCB shall issue necessary directions to the concerned agencies contributing high values of faecal coliform in Jattanwala drain, so as to bring the parameters within the norms.

3 to 6. Status of laying of sewerage network, sewage treatment plants which are in operation & their performance, sewage treatment plants which are under construction and sewage treatment plants which are under proposal.

The Executing Committee was informed as under:

i) There is proposal to install 2 sewage treatment plants of capacity 1 MLD and 1.5 MLD in Trilokpur area and Kala Amb Area, respectively, for which the work has been awarded on 7.3.2020 and land has been handed over to the contractor. Sewerage network has been laid upto 2.5 Kms and 0.5 Kms, respectively, in these areas.

ii) 2 STPs each of capacity 1 MLD to treat sewage of Parwanoo area has been proposed. The tender work of both the STPs has been awarded on 19.3.2020. However, land for installation of sewage treatment plant is available for 1 STP, whereas, in case of 2nd STP, no land is available.

iii) Presently, 2 small STPs each of capacity 70 KLD have been installed at Sector 5, Parwanoo and Khadeen, respectively, and these are working properly.

iv) For installation of CETP of capacity 5 MLD, the tender was floated on 15.3.2020 but due to non-availability of bids, it has been re-invited in the month of June, 2020 and now technical bid has been opened and thereafter financial bids shall be opened and work shall be allotted accordingly.

After detailed discussion on the issue it was directed as under: -

i) STPs of capacity 1 MLD and 1.5 MLD to be installed in Trilokpur and Kala Amb area should be completed by 31.3.2021.

ii) 2 STPs each of capacity 1 MLD to treat sewage of Parwanoo area should be completed by 31.3.2021.

iii) CETP of capacity 5 MLD to be installed in Kala Amb area should be completed by 31.3.2021.

iv) HPPCB shall monitor the performance of 2 small STPs each of capacity 70 KLD and submit its performance reports w.r.t. various parameters within 21 days.

7. Status of STPs which require technology upgradation

It was informed that presently all the new STPs are under construction stage, which was noted by the Executing Committee.

8. Gap in treatment of the sewage of the towns located on river Ghaggar.

It was reported that presently 2 STPs of capacity 1 MLD and 1.5 MLD have been proposed to be installed in Trilokpur area and Kala Amb area. To treat the sewage of Parwanoo area, 2 STPs each of capacity 1 MLD have been proposed. These STPs are likely to be completed by 31.3.2021.

For treatment of industrial effluent and effluent from other sources in Kala Amb area, CETP of capacity 5 MLD has been proposed. Thus, the total capacity of treatment of sewage to be provided shall be 4.5 MLD in addition to 5 MLD capacity CETP to handle the industrial and other sources. As such, the treatment of capacity is much more as compared to generation of sewage/effluent in these two catchment areas (Parwanoo and Kala Amb area) of river Ghaggar.

Therefore, presently, there is no gap in treatment of sewage.

The Chairman of the Executing Committee directed that HPPCB shall ensure that all the sources of generation of sewage and industrial effluent should be tackled by the proposed STPs and CETPs and there shall be no extra discharge which may lead into any nallah/river further leading to river Ghaggar.

9. Status of installation of effluent treatment plant by the industries, inspection by State Pollution Control Board and action against the violating industries.

It was informed that in Sukhna catchment area, 5 industries were inspected, out of which 4 industries were found not meeting with the prescribed standards, as such show cause notices were issued to these industries. Out of these 4

industries, 3 industries have started using treated wastewater for irrigation in the lawns and garden. Necessary direction has been issued to remaining 1 industrial unit to improve the performance of its treatment system.

Similarly, in Markanda catchment area, 94 industries are there and all these industries have provided ETPs. These industries were inspected in the month of June, 2020 and show cause notices were issued to 2 industrial units.

It was directed that Himachal Pradesh State Pollution Control Board shall continue to make surprise inspection of the industries and action against the defaulting industries may be taken as per the provision of Water Act, 1974.

10. Installation of CETPs and their operations

There is proposal to install 1 CETP of capacity 5 MLD at Kala Amb area. The tender for installation of CETP was invited on 5.6.2020 and now technical bids have been opened and financial bid shall be opened shortly. CETP shall be completed by 30.6.2021.

It was directed that CETP of capacity 5 MLD at Kala Amb area shall be completed by 31.3.2021.

11. Implementation of irrigation scheme to utilize treated sewage for irrigation and irrigation scheme which are under construction/planning.

It was informed that the treated sewage to be generated after commissioning of proposed STPs shall be utilized for construction purposes, plantation, green belt toilet flushing etc.

It was directed that HPPCB shall issue necessary direction to the executing agency of STPs and CETPs to prepare detailed scheme for utilization of treated sewage of Parwanoo and Kala Amb area within 3 months and the said scheme may be implemented for utilization of treated sewage for various usages simultaneously along with commissioning of STPs.

12. Non point sources and control of pollution of these sources and In-situ bio remediation in the drains carrying untreated sewage and not connected to STPs.

It was informed that no non point sources has been observed in the nallahs/river. However, in order to improve the quality of nallah/river water, Phyto-remediation technology has been setup in Samtel nallah and civil work of the same has been completed. Phyto remediation system to be installed in Jattan Wala Nallah at 2 identified sites has been proposed for which tenders are in the progress.

After detailed discussion on the issue, it was directed as under:

i) **HPPCB and Rural Development & Panchayats shall jointly carry out the survey along the Nallah/river and check as to whether any illegal discharge of sewage/industrial effluent through tankers or any other mechanism is discharged into these nallahs/river. In case any**

violators are found, legal action under the provision of the Water Act, 1974 may be taken accordingly.

ii) **HPPCB shall get install Phyto remediation technology in Jattan Wala nallah at 2 location by 31.10.2020.**

13. Status of installation of sewage treatment plant for the villages

It was reported that all the villages falling in the catchment area of river Ghaggar in Parwanoo area and Kala Amb area have been covered in the Action Plan for sewage treatment and industrial waste treatment of proposed STPs and CETPs.

The Executing Committee noted the claim of the department and directed that HPPCB shall ensure that all the villages in the catchment of Sukhna Nallah at Parwanoo and Markanda at Kala Amb area shall have connectivity of the sewage to the proposed STPs.

14. Groundwater quality in catchment area of river Ghaggar

The analysis results of the groundwater samples collected from the groundwater sources in the catchment area of Sukhna nallah have been collected and all the parameters are within the norms.

The Chairman of the Executing Committee directed that HPPCB shall continue to monitor groundwater quality of groundwater sources falling in catchment area of Sukhna nallah and Markanda river as per the frequency maintained by it.

15. Environmental Flow and Watershed Management

The Executing Committee was informed that the water of river Kaushalya is meeting with class-B standards. Besides, 27 and 30 check dams have been constructed in Sukhna nallah at Parwanoo and river Markanda at Kala Amb. Also, 03 low height dams and 03 rain harvesting structures shall be provided within next 03 months. 8450 plants have also been planted in the catchment area of Sukhna nallah and Markanda river.

The Executing Committee noted the progress.

16. Septage and Faecal sludge management

It was claimed that teams have been constituted to conduct surprise inspection to ensure that there is no illegal dispose of septage and faecal sludge from septage tanks. However, during inspection on 1.7.2020 in the catchment area of Sukhna nallah, no disposal of any septage and faecal sludge in Sukhna nallah was observed. Similarly, during the inspection on 16.7.2020 along river Markanda, no disposal of any septage and faecal sludge was observed.

The Executing Committee noted the compliance and directed that the team constituted by HPPSB shall continue to make surprise inspection in the catchment area of Sukhna nallah and river Markanda from time to time and ensure that there is no disposal of septage and faecal sludge in the nallah/river.

17. Installation of Real Time Water Quality Monitoring Stations in river Ghaggar.

It was submitted that HPPCB has installed Real Time Water Quality Monitoring Stations in river Kaushalya and its analysis results indicate that the value of pH, DO and BOD monitored through RTWQMS as well as manual monitoring are almost matching except F.Coli parameter, where large variation was observed. In order to make some changes/modifications in the system, the matter has been taken up with the concerned agency.

The Executing Committee noted the progress.

18. Status of prosecution launched by the State Pollution Control Board against the violators under the provisions of the Water Act, 1974.

It was reported that no prosecution has been launched by HPPCB against any violator.

The Executing Committee noted the claim of the Department.

4.1.5 Latest progress w.r.t performance of existing STPs, installation of new STPs, gap in treatment of sewage of the towns, installation of ETPs by the industries, installation of CETP, utilization of treated sewage, water quality of drains/nallah, ground water quality etc.

4.1.5.1 Performance of existing Sewage treatment plants:

Presently, no STP in Parwanoo as well as Kala Amb area is in operation. However, a small pilot scale STP of capacity 0.07 MLD has been commissioned and its performance was carried out in the month of June and July, 2020 and the analysis results are mentioned as per Table 3 given below.

Table 3: Performance of small pilot plant of capacity 0.07 MLD installed in Parwanoo area

Sr. No.	Name of the Town	Capacity of STP	Performance w.r.t. parameters BOD,TSS and F. Coli				
			March, 2020	April, 2020	May, 2020	June, 2020	July, 2020
1.	Parwanoo	0.07MLD	-	-	-	BOD :12.0 mg/l TSS :2.4 mg/l	BOD: 3.2 mg/l TSS: 5.1 mg/l

The values of BOD and TSS are within the limits prescribed.

4.1.5.2 Status of STPs under construction

Sr. No.	Name of the Town	STP Capacity	Target date of completion/ commissioning	% Work Done	
				Earlier Status as on 29.2.2020	Status as on 31.07.2020
1	STP Trilokpur and Kala Amb area	1.0 MLD and 1.5 MLD	31-12-2020	Tender awarded. Survey of sewer network done. The pipes of sewage	Work awarded. The electric fitting at STP Site is in process. The pipeline laying out work is under

				connectivity reached on site.	process. The construction work of STP to be started within one week.

4.1.5.3 Status of STPs under planning and funds tied up

Sr. No.	Name of the Town	STP Capacity (MLD)	Target date of completion/ commissioning	Earlier Status as on 29.02.2020	Status as on 31.07.2020
1.	Parwanoo	02 STPs each of capacity 1 MLD	31.12.2020	Technical bids opened and finalized. Financial bid is under finalization, contract will be awarded by 31-03-2020.	• Tender work of both STPs has been awarded on 19.03.2020. • For construction of one STP, land is available near HPMC, whereas for the second STP, which is to be located on forest land in Village- Tipra, the case for land transfer is in process. • The pipes for the sewer line reached on site.

4.1.5.4 Status of CETP of capacity 5 MLD at Kala Amb area

Sr. No.	Name of the Town	STP Capacity (MLD)	Target date of completion/ commissioning	Earlier Status as on 29.02.2020	Status as on 31.07.2020
1.	Kala Amb (CETP cum STP)	5 MLD	31.12.2020	Funds are being arranged; Tender floated and will be opened in 1st week of April.	• Tender was floated on 15th March, 2020 but no bids were received due to lockdown. • Tender for proposed CETP was re-invited by Kala Amb Infrastructure Development Company on 6-6-2020 and technical bids were opened on 30-7-2020 by the committee. • There were some observations on technical points as bidders have submitted bids of different technology. • Bidders have been asked to give bids on MBBR/SBR technology separately by 12-8-2020, so that fair comparison of bids is made by the committee.

4.1.5.5 Status of sewerage system for towns located in catchment area of river Ghaggar

Sr. No.	Name of the Town	Length of sewer to be laid (In meters)	Progress as on 31.07.2020	Percentage of work done
1	Village Kotiyan, Trilokpur, Bhudriyan, Karyalwala, Rampur Jattan and Mainthapal	6000 m	Work for laying of pipeline is under process.	50%

4.1.5.6. Details of the towns where sewerage system yet to be laid in the catchment area of river Ghaggar.

Sr. No.	Name of the Town	Length of sewer to be laid (In meters)	Latest Progress, if any as on 31.07.2020
1	Village Kheri, Johron, Mogin and, Kala Amb and Ogli	Approx. 13 Km	The work of laying of pipelines has been started. 500 m of sewer line is laid till date.

4.1.5.7 Comparison of water quality of River Ghaggar in terms of average values of BOD,D.O and T.Coli, (December to February, 2020 and March to July, 2020).

Sr. No.	Sampling location	Average values (Dec. to February,2020)			Average values (March to July, 2020)			Remarks
		BOD (mg/l)	DO (mg/l)	T. Coli (MPN/100 ml)	BOD (mg/l)	DO (mg/l)	T. Coli (MPN/100 ml)	
1.	Sukhna Nallah at Parwanoo (Near Kalka Barrier, Exit Point of H.P.)	1.8	5.7	120	2.5	5.55	32	There is improvement in water quality of Sukhna Nallah w.r.t DO and F.Coli parameters.
2.	Kaushalya River d/s Parwanoo	0.667	8.3	51	1.16	8.16	26.8	Water quality of river Kaushalya is complying with Class B standards.
3.	River Markanda u/s Jattanwala Nallah	0.7	8.8	44	0.94	8.8	43.6	Water quality of river Markanda is complying with Class B standards.
4.	Jattanwala Nallah	54.66	0.76	74400	26.3	0.62	39440	Improvement w.r.t BOD and T.Coli parameters but still the values of T.Coli parameters is much higher than the prescribed limits.
5.	River Markanda D/s Jattanwala at Deheramli	6.8	5.2	29466	6.0	5.7	4666	Improvement w.r.t BOD and T.Coli parameters but still the values of T.Coli parameters is much higher than the prescribed limits.

4.1.5.8 Status of installation of Real Time Water Quality Monitoring Station (RTWQMS)

Parwanoo Area

- The RTWQMS along with Radar system for water quality monitoring and flow measurement, respectively, have been installed in river Kaushalya near village Kamli. The parameters DO, BOD, TSS, pH, Temp and flow rate are being monitored and results are displayed at State Board server on real time basis.

Kala Amb Area

- The Real Time Water Quality Monitoring Station on River Markanda is installed. The parameters DO, BOD, TSS, pH, Temp and flow rate are being monitored and results are displayed at State Board server on real time basis.

4.1.5.9 Ground Water Quality in the catchment area of river Ghaggar

a) Catchment area of Sukhna Nallah(Parwanoo area)

HPSPCB and IPH Department is regularly monitoring the ground water quality of the Sukhna catchment by taking samples from Borewells/ Hand pumps. All the results are well within prescribed limits..

b) Catchment area of Markanda River (Kala Amb area)

HPSPCB and IPH Department is regularly monitoring the ground water quality of the Markanda catchment by taking samples from Borewells/ Hand pumps. All the results are well within prescribed limits.

4.1.5.10 Information, Education & Communication (IEC) activities (March, 2020 to July, 2020)

The following IEC activities have been carried out during March to July, 2020

i. 350 plants have been planted in the Parwanoo area and 1000 more will be planted in this rainy season.
ii. Plantation work has been carried out by Inner wheel Club along with HPSPCB/ MC Parwanoo in Sector-4.
iii. 250 plants have been planted in the Parwanoo town.
iv. HIMUDA also planted 500 plants in Parwanoo Town.
v. M/s Shivalik Agro Poly Products Ltd. also planted 52 plants.
vi. Plantation work has been carried out by Inner wheel Club along with HPSPCB/ MC Parwanoo in Sector-4.
vii. Plantation of 300 plants in catchment of Markanda river done on World Environment Day, 2020

4.1.5.11 Environmental Flow and Watershed Management

The following activities have been accomplished

- Total 27 Check Dams constructed in Sukhna at Parwanoo.
- Plantation of 2200 plants in the catchment of Sukhna Nallah completed.
- More than 4000 plants have been planted in Kaushalya catchment by M/s G.R. Infrastructure limited.
- Total 30 nos of Check Dams constructed on River Markanda at Kala Amb.
- 3 low height dams and 3 rain water harvesting structure will be constructed on Markanda at Kala Amb during 2020-21.
- Plantation of 1600 plants in catchment of Markanda in Kala Amb completed.

4.1.5.12 Septage and Faecal Sludge management

Parwanoo Area:

- Teams have been constituted to conduct surprise inspection to ensure that there is no illegal disposal of septage and faecal sludge from septic tanks into said Nallahs/rivers.
- Surprise inspection was conducted along catchment of Sukhna Nallah, Masoolkhana Road & Taksaal village on dated 1.07.2020 and no disposal of any Septage and Faecal sludge in the Sukhna Nallah was observed.

- In future, squad will also undertake surprise inspections.

Kala Amb area:

- Teams have been constituted to conduct surprise inspections to ensure that there is no illegal disposal of septage and faecal sludge from septic tanks into said Nallahs/rivers.
- No disposal of any Septage and Faecal sludge in the River Markanda catchment was observed as per inspection conducted by team on 16-07-2020.
- In future, squad will also undertake surprise inspections.

4.1.5.13 In-situ bio remediation in the drains carrying untreated sewage and not connected to STPs.

Parwanoo Area:

- Root Zone Phyto-remediation work has been started under the guidance of Dr. C.R. Babu at Samtel Nallah. Civil Work has been completed.
- The plantation of reeds has been completed.
- The water will be diverted to the root zone bed for treatment after this rainy season.

Kala Amb Area:

- Two sites have been identified for phyto-remediation in Jattanwala Nallah. Jal Shakti Vibhag has floated the tender for DPR of phyto-remediation. The partial work of land levelling has been started and also planted the plants.

4.1.5.14 Implementation of irrigation schemes to utilize treated sewage for irrigation and irrigation schemes which are under construction/ planning.

It has been committed as under:

- Sewerage system with STP is coming up at Trilokpur Kheri-Johdron and work is in progress. Treated sewage would be expected after its completion and commissioning.
- Treated sewage would be provided free of cost to any user/demanding agency/person/ industries for construction activities/plantation and toilet flushing in their premises.
- Jal Shakti Vibhag is providing only sewage networking with primary treatment in the area of Kala-Amb Mogin and. After primary stage treatment, primary treated sewage will be linked to upcoming CETP by the department of industries for its further treatment which can be utilized for plantation or any other useful purposes as per the planning of department of industries.

4.1.6 Conclusions and Recommendations

Keeping in view the detailed interaction made with the State level officers of State of Himachal Pradesh with regard to various activities carried out/ to be carried out to clean river Ghaggar, the Executing Committee has made the following conclusions and recommendations.

1. Sukhna Nallah, a tributary of Kaushalaya River, sub tributary of river Ghaggar, falls in the catchment area of river Ghaggar, therefore, sewage treatment plants to treat sewage of the towns located on Sukhna Choe need to be installed in a time bound manner. The State of Himachal Pradesh is in the process of installing 2 STPs each of capacity 1 MLD in Parwanoo town, out of which, land is available for one STP for which tender work has been awarded. For 2nd STP, land is located in forest area in village Tipra. The concerned department of the State should make immediate arrangements to get the land transferred so that work of STP may be started.

   The Executing Committee recommends that 02 STPs each capacity 1 MLD to treat the sewage of Parwanoo town should be installed by 31.3.2021

2. For providing STP of capacity 1.5 MLD in Kala Amb area and 1 MLD in Trilokpur falling in catchment area of river Markanda, construction work has been awarded. The electric fitting at STP Site is in process. The pipeline laying work is under process and 2500 m sewer line has been laid. The construction work of STP shall be started within one week.

   The Executing Committee recommends that STP of capacity 1.5 MLD in Kala Amb and 1 MLD in Trilokpur should be completed by 31.3.2021

3. Presently, 2 small STPs each of capacity 0.07 MLD have been installed in Parwanoo area and are in working condition. One STP is meeting with prescribed norms and 2nd STP of capacity 0.07 MLD has recently been commissioned.

4. For the treatment of effluent of the industries after their primary treatment and sewage of industrial units and other areas, a CETP of capacity 5 MLD has been proposed for which tender was floated on 15th March, 2020 but no bids were received due to lockdown. Tender for proposed CETP was re-invited by Kala Amb Infrastructure Development Company on 6-6-2020 and technical bids were opened on 30-7-2020 by the committee. There were some observations on technical points as bidders have submitted bids of different technology. Bidders have been asked to give bids on MBBR/SBR technology separately by 12-8-2020.

   The Executing Committee recommends that CETP of capacity 5 MLD in Kala Amb area should be completed by 30.6.2021

5. There are 48 industries in the catchment area of Sukhna Nallah i.e in Parwanoo area and all these industries have installed their individual effluent treatment plants. Similarly, 94 industries exist in catchment area of river Markanda i.e. in Kala Amb area. These industries have also installed their individual effluent treatment plants. In order to check the performance of

ETPs of the industries, 59 industries were inspected by HPPCB from March, 2020 to July, 2020, out of which 5 industries were found violating the norms and these industries were issued show cause notices but now these industries started using their treated wastewater for irrigation.

Similarly, HPPCB has also visited all the 94 industries of Kala Amb area during March, 2020 to June, 2020, out of which 2 industrial units were found violating the norms and these industries were issued show cause notices.

The Executing Committee recommends that HPPCB shall continue to make surprise inspection of the industries as per the time schedule prescribed by HPPCB/CPCB and action against the defaulting industries may be taken under the provisions of the Water Act, 1974.

6. In order to treat the sewage of the villages located in the catchment area of Sukhna Nallah at Parwanoo and river Markanda at Kala Amb, it has been claimed that all the adjoining villages have been covered under the Sewage Treatment Plants and CETP being set up at Parwanoo and Kala Amb area.

   The Executing Committee recommends that the State of Himachal Pradesh shall ensure sewage of all the villages, located in the catchment area of Sukhna Nallah and river Markanda, should be connected to the STPs and CETP being installed in these areas

7. The Ground Water quality in catchment area of river Ghaggar is monitored by the Irrigation and Public Health Irrigation Departments of the State. As per the analysis results, all the parameters are within the prescribed norms.

8. Water quality of Sukhna Nallah at Parwanoo, Samtel Nallah and Sector-4 Nallah has been analyzed by HSPPCB for the period December 2019 to February, 2020 and March, 2020to July, 2020. The analysis results indicate that there is improvement in the water quality of Sukhna Nallah w.r.t DO and F.Coli.

   Water quality of Kaushalya River at downstream Parwanoo shows that water quality of the river is complying with Class B standard.

   The water quality of River Markanda upstream of Jattan Wala Nallah was also monitored and its analysis result indicate that the water quality of River Markanda is complying with Class B standard.

   The water quality of River Markanda downstream of Jattan Wala Nallah was also monitored and it was observed that there is an improvement w.r.t BOD and T.Coli parameters but the value of T.Coli is much higher than the prescribed limits. Similarly, the water quality of the river Markanda downstream of Jattan Wala Nallah also indicate that there is improvement w.r.t. BOD and T.Coli parameters but the value of T.Coli parameter is much higher than the prescribed limits.

The State of Himachal Pradesh should install STPs and CETP in Kala Amb area and Parwanoo area by 31.3.2021, so that organic parameters and F.Coli are always within the prescribed norms and water quality of the drains/river may be further improved.

9. As per the record and discussion held with the Officers of State of Himachal Pradesh, presently, there is no scheme to utilize the treated sewage. As such, the concerned department of State of Himachal Pradesh should prepare a detailed scheme to utilize the treated sewage for construction activities, toilet flushing, industrial usage, plantation, road cleaning, watering of green belt or any other use within 02 months.
10. HPPCB should monitor the ground water quality of groundwater sources located in the catchment area of Sukhna Nallah and River Markanda, as per the frequency prescribed by CPCB. In case any ground water source is found contaminated, the same shall be sealed by HPPCB and display board be erected at the site with caption as **"Water is not fit for drinking purposes".**
11. In order to maintain environmental flow in Sukhna Nallah and Markanda river, more check dams and water retaining structures may be provided so as to retain and store the excess rain water flow and discharge the same in a regulated manner in the drains/nallahs during non-Monsoon periods.
12. HPPCB shall constitute teams to conduct surprise inspections of the catchment area of Sukhna Nallah and river Markanda to ensure that there is no discharge of septage and faecal sludge from septage tank in these Nallahs. Also, policy/guidelines for management of septage and faecal sludge from rural areas and other un-sewered areas may be framed within 3 months.
13. Since presently, no STP along Sukhna Nallah and Markanda river has been constructed, therefore, there is need to treat sewage of the towns of Kala Amb area and Parwanoo area by providing in-situ remediation technology in the drains. In-situ remediation technology work undertaken at Samtel Nallah and proposed on Jattan Wala Nallah at 2 locations should be installed and commissioned by 31.10.2020.
14. HPPCB shall install Real Time Water Quality Monitoring Stations in Jattan Wala Nallah, Markanda river and Sukhna Nallah by 31.12.2020.

4.2 U.T., Chandigarh

Though river Ghaggar is not directly passing through the jurisdiction of U.T. Chandigarh and it is running about 7 Kms away from Chandigarh but the Sukhna Choe, N- Choe and Patiala-Ki-Rao are major contributors of pollution in river Ghaggar, which are passing through Chandigarh and carry treated/partially treated/untreated sewage of Chandigarh. The water quality of Sukhna Choe and N- Choe was found contaminated due to high value of BOD ranging in between 110-250 mg/l, for which the reasons were mentioned due to breaking of sewer line and falling of the untreated sewage at Daria Outlet in Sukhna Choe, whereas, for higher value of BOD in N-Choe, the reason was mentioned due to discharge of untreated sewage from SAS Nagar (Punjab), for which a separate team has been constituted to identify the source and the department responsible for the same. Thus, there is need to give attention towards the control of pollution by the industries as well as sewage of Chandigarh area.

The Map showing Sukhna choe, N-Choe, Patiala Ki Rao and sewage treatment plants of Chandigarh is shown in figure 3 given below:

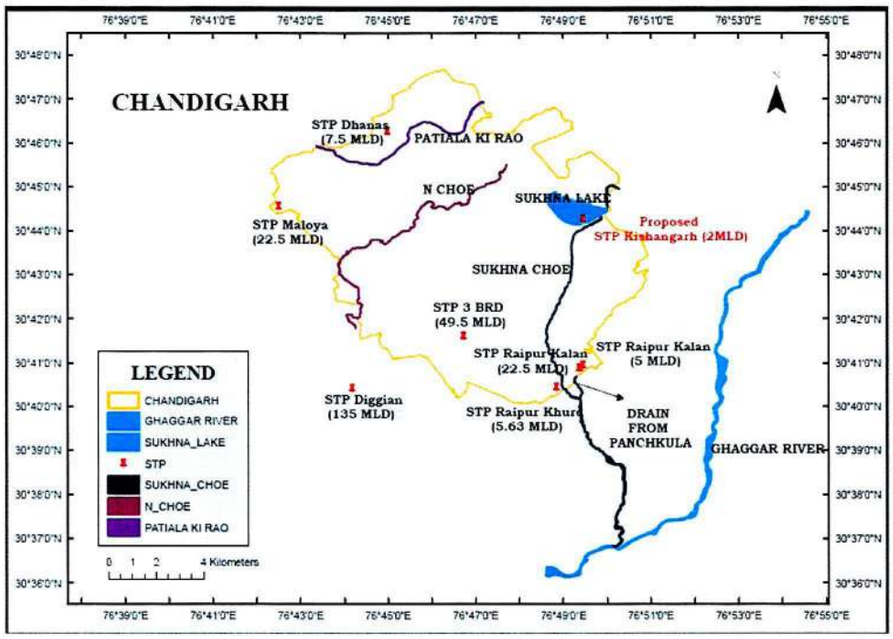

Fig3: Map showing Sukhna Choe, N-Choe, Patiala Ki Rao and river Ghaggar

The sources of pollution in Sukhna Choe, N-Choe, Patiala Ki Rao and subsequently in river Ghaggar are as under:

4.2.1 Industrial Pollution

There are 192 red category and 575 orange categories of industries in the jurisdiction of Chandigarh and all these industries have provided their individual ETPs.

4.2.2 Domestic wastewater

The water supply available in Chandigarh is from two sources i.e. surface water and tubewells. The present availability of Water Supply and Sewage Generation in the city is as under:

Sr. no.	Source of Water Supply	Quantity (MGD)
1.	Daily average receipt of surface water from Kajauli	53
2.	Daily average receipt of ground water from Tube Wells	26
3.	Total Daily Availability of Water	79
4.	Taking 15% distribution losses in the system	11.85
5.	Water available (Average daily receipt)	67.15
6.	Sewage generation (80% of available water)	53.72 (Say 54 MGD)

Note: With the commissioning of Phase V & VI for supply of canal water, additional raw water of 29 MGD will be available in Chandigarh. Then all the tubewells withdrawing 26 MGD of water will be phased out.

4.2.3 The existing / capacity enhancement of existing STPs to treat the sewage.

Sr. No	Location of STP	Existing Capacity	Capacity enhancement/ New installation (MGD)
1.	Diggian	30 MGD (135 MLD)	-
2.	3 BRD	11MGD (49.5 MLD)	-
3.	Raipur Kalan	5 MGD (22.5 MLD)	-
4.	Raipur Khurd	1.25 MGD (5.63 MLD)	2MGD (9 MLD)
5.	Dhanas	1.65 MGD (7.43 MLD)	-
6.	Raipur Kalan	-	1.25 MGD (5.63 MLD)
7.	Maloya	5MGD (22.5MLD)	-
8.	Kishangarh	-	0.44 MGD (2 MLD)
	Total MGD	**53.9(242.6 MLD)**	

4.2.4 Compliance on the recommendations made by the Executing Committee in its 5th report submitted before Hon'ble National Green Tribunal on 16.4.2020

As mentioned in aforesaid para, four reports have already been submitted and 5th report was submitted on 16.4.2020. Based on the recommendations made by the

Executing Committee, U.T Chandigarh has submitted its compliance report, which is mentioned as under: -

Sr. No.	Recommendations of the Executing Committee made in its 5th report	Compliance by U.T. Chandigarh
1.	The data w.r.t. performance of 6 existing sewage treatment plants (Raipur Khurd: 5.63 MLD, 3 BRD :49.5 MLD, Raipur Kalan: 22.5 MLD, Dhanas: 7.43 MLD, Maloya: 22.5 MLD and Diggian: 135 MLD) of U.T. Chandigarh, as monitored by CPCC during the period December-2019 to February-2020 indicate that STPs: Raipur Kalan (22.5 MLD), Dhanas (7.5 MLD) and Diggian (135 MLD) are not meeting with the prescribed limits for BOD parameter. However, none of the STP's is meeting with F-coli parameter.	Performance of four STPs is now better. As per the latest data, four STPs are complying with the prescribed norms. All the existing STPs are being upgraded so that these can meet with the prescribed standards.
2.	The sewage treatment plants of capacity 5 MLD, being installed at industrial area Phase III, Raipur Kalan, has been completed upto 90%, the said STP should be completed by 30.06.2020 2 MLD STP to treat the gap in sewage quantity of U.T. Chandigarh should be completed by 31.12.2020.	The 5 MLD Sewage Treatment Plant at Raipur Kalan has start working and is under stabilization. The tender for installation of STP at Kishangarh was allotted, but the qualifying agency refused to accept the allotment and accordingly, tenders have been re-invited, for which, the technical bid is under evaluation.
3.	In order to meet with the stringent parameters, the Executing Committee recommends that 6 STP's (Raipur Khurd: 5.63 MLD, 3 BRD (49.5 MLD), Raipur Kalan: 22.5 MLD, Dhanas: 7.5 MLD, Maloya: 22.5 MLD and Diggian: 135 MLD) should be technologically upgraded by 31.03.2021.	Work orders for the upgradation of all the existing STPs except STP at Maloya, will be allotted by 24.08.2020.
4.	CPCC shall continue to carry out inspection of industries located in the catchment area of river Ghaggar and action against the violating industries/polluting sources be taken as per the provisions of the Water Act 1974.	CPCC shall continue to carry out inspection of industries located in the catchment area of river Ghaggar and action against the violating industries/polluting sources be taken as per the provisions of the Water Act 1974.
5.	Municipal Corporation Chandigarh shall	Action plan regarding the use of treated

	utilize the treated sewage of STPs for gardening, watering of parks and golf course and vehicle washing etc., so as to control the discharge of treated sewage into choes/nallahs/drains further leading to river Ghaggar.	sewage has already been submitted by the MCC.
6	The data provided by CPCC, as mentioned at point 4.2.2.8, indicate that there is no improvement in river Ghaggar water w.r.t. BOD and F.Coli parameters. Therefore, the Executing Committee recommends that Municipal Corporation Chandigarh should upgrade its existing STPs to meet with the stringent standards for BOD, F.Coli and other parameters by 31.03.2021.	MC Chandigarh is in the process to upgrade the existing non-complying STPs. Work orders for the upgradation of all the existing STPs will be allotted by 24.08.2020

4.2.5 Compliance of the directions given/recommendations made the Executing Committee during its 17th meeting with the State Level Officers of UT, Chandigarh on 12.6.2020

The Executing Committee held its 17th meeting with State level Officers of U.T.Chandigarh on 12.6.2020. The minutes of the same are annexed as per **Annexure-3**. During the meeting, various recommendations were made/directions were issued and UT, Chandigarh has submitted its compliance report, which is mentioned as under.

S.N.	Decision taken in the meeting held on 12.6.2020	Compliance report by U.T. Chandigarh
1.	MC, Chandigarh shall upgrade their STPs by 31.3.2021, so that all the STPs should meet with the prescribed norms of BOD, TSS, F. Coli and other parameters.	Work orders for the upgradation of all the existing STPs except STP at Maloya, will be allotted by 24.08.2020.
2.	New STP proposed to be set up at Kishangarh, shall be installed and commissioned by 31.3.2021.	The tender for installation of STP at Kishangarh was allotted, but the qualifying agency refused to accept the allotment and accordingly, tenders have been re-invited, for which, the technical bid is under evaluation.
3.	MC shall make arrangements to use the treated sewage for construction activities and other allied usage wherever possible and shall ensure that maximum quantity of treated sewage of Chandigarh is utilized for various activities.	The tenders for up gradation of all sewage treatment plants has been received and the work will be allotted to successful bidders very soon and after up-gradation of STPs, the treated wastewater will be used for construction as well as for other commercial purposes. As per the Action Plan submitted by MC, Chandigarh for utilization of treated sewage, 36 MGD wastewater is treated to the level of tertiary, out

		of which 10 MGD treated wastewater is pumped back to the city for use in gardens, green belts, schools, colleges, institutions and houses. Further, there is proposal to utilize about 20 MGD treated wastewater in the green spaces of various Sectors, washing of rail coaches, bus depots for cleaning purposes and industries.
4.	Deptt. of forest MC, Chandigarh and CPCC shall jointly visit the area and submit the plan regarding watershed management and submit the report by 15.7.2020	Forest & Wildlife Department; U.T. Chandigarh has been asked to submit the action plan w.r.t. watershed management.
5.	The water of the ground water sources located in the catchment area of river Ghaggar, should not be allowed to utilize for drinking purposes, wherever the ground water quality is found contaminated and display boards, mentioning that water is not fit for the drinking purposes, may be erected at the contaminated ground water sources.	Municipal water supply is everywhere in Chandigarh. Ground Water (if used) is used for general purpose other than drinking purpose.
6.	Chairman directed that the health department shall continue to organize health checkup camps as and when the prevailing conditions allow.	During meeting of District Level Special Task Force, representative of department of Health informed that the department will organize the health camp once situation eased out after COVID-19 situation.
7.	Officers of CPCC and MC, Chandigarh shall make a joint visit along Sukhna choe and N-choe, so as to check whether all the outlets have been closed or not and submit a detailed report on quantity and quality of the sewage being discharged through the outlets into both the choes, by 7.7.2020.	Joint visit to Sukhna Choe has already been done on 01.07.2020 and the joint inspection of N-Choe has been done on 3.07.2020. Report of the same will be provided very soon.
8.	MC and CPCC shall explore the possibility of providing storage tanks and barriers along the catchment areas of Sukhna choe and N-choe so as to maintain environmental flow and submit the report by 15.7.2020.	Chandigarh Administration has been asked to carry out the said activities .
9.	CPCC shall continue to make surprise inspections of the industries to ensure that their ETPs are always in operation. The effluent samples of their ETPs at their inlet and outlet shall be collected during the surprise inspection. Legal action under the provisions of the Water Act, 1974 may be taken by the CPCC against the industries which are found violating the norms.	CPCC is conducting surprise inspections of electroplating units and take the effluent samples to assess the performance of ETP. However, because of COVID-19 situation, most of the industries are not in operation.

10.	CPCC shall send the analysis results with regard to water quality of Sukhna choe and N-choe monitored during the month of June, 2020 by 19.6.2020.	The reports have been submitted and the data indicate that the values of BOD have been found varying between 110-250 mg/l, for which the reasons were mentioned due to breaking of sewer line and falling of untreated sewage at Daria Outlet in Sukhna Choe, whereas, for higher value of BOD in N-Choe was mentioned due to discharge of untreated sewage from SAS Nagar (Punjab), for which a separate team has been constituted to identify the source and the department responsible for the same.
11.	MC shall install in-situ remediation technology in Sukhna choe and N-choe to improve the quality of wastewater flowing into these choes immediately.	Plant species viz. Pongamiapinnata, Terminalia arjuna and Syzygiumcumini have been planned to be planted along the Sukhna choe and N-choe. Along with this about 2000 Canna plants (wetland plants) are also to be planted along the Sukhna choe and N-choe by the end of August, 2020.
13.	Proposal regarding installation of real time water quality monitoring stations in Sukhna Choe and N-Choe may be submitted to the Executing committee by 15.7.2020 and these stations shall be installed by 30.9.2020.	**Status of Installation of Real Time Water Quality Monitoring Station at N-Choe** The tender is under process and work will be completed by 30.09.2020. **Status of Installation of Real Time Water Quality Monitoring Station at Sukhna-Choe** Due to rain, the forest area near boundary of UT Chandigarh and Mohali, near Raipur Khurd is not approachable/feasible and proper space is being worked out to install RTWQMS.

4.2.6 Recommendations made/directions given by the Executing Committee in its 18th meeting, held with the Officers of U.T., Chandigarh on 19.8.2020.

1. Water quality of river Ghaggar

CPCC informed that the water quality of river Ghaggar was monitored in the month of April to July, 2020 and its analysis results indicate that the value of BOD was varying between 24-46 mg/l and faecal coliform between 2000-70000 MPN/100 ml. The value of TSS was observed between 485-3545 mg/l.

It was observed that water quality in river Ghaggar can be improved only after the upgradation of STPs of Chandigarh area in a time bound manner.

The Executing Committee noted the observation.

2. Status of pollution in river Ghaggar and details of the drains carrying sewage/industrial effluent in river Ghaggar.

It was informed that in Chandigarh area, there are two main sources of discharges into river Ghaggar. These sources are Sukhna Choe and N-Choe and

presently there is no sewage flow at all the outlets because these have been plugged except at one point i.e. village Daria which happened due to breaking of sewerage line and the same shall be repaired within 15 days.

The Executing Committee observed that the analysis results of effluent samples collected from Sukhna Choe and N-Choe indicated that the value of BOD varies between 117-202 mg/l and 38-210 mg/l, respectively, whereas, the value of F.Coli has been found much higher than the permissible value.

With regard to said observation of the Executing Committee, Municipal Corporation Chandigarh claimed that reasons for high value of BOD in Sukhna Choe is due to discharge of untreated sewage at Daria outlet due to breaking of sewer line, whereas, in case of excess value of BOD and F.Coli in N-Choe, as observed by Executing Committee, these may be due to discharge from untreated sewage from Mohali area

After detailed discussion on the issue, the Chairman of the Executing Committee directed as under: -

i) **CPCC shall make surprise inspection on all the outlets which have been plugged by Municipal Corporation Chandigarh and U.T. Administration falling into Sukhna Choe and N-Choe and ensure that no sewage is discharged from any outlet into Sukhna Choe and N-Choe.**

ii) **Municipal Corporation Chandigarh shall repair the damaged sewer line within 15 days and there shall be no discharge from the outlet at village Daria into Sukhna Choe.**

iii) **A joint committee consisting of Commissioner, Municipal Corporation Chandigarh, Commissioner Municipal Corporation SAS Nagar, Member Secretary, Punjab Pollution Control Board and Member Secretary CPCC shall conduct joint survey of the area to detect the agency responsible for discharge of untreated sewage into N-Choe and remedial measures to be taken for stoppage of sewage discharge into the Choe by the responsible departments.**

3. Status of laying of sewerage network in the towns and interception of sewage

It was informed that in Chandigarh sewerage system has been laid in residential and other areas, as such, no extra sewerage network is to be laid.

The Executing Committee noted the version of the department.

4. Status of sewage treatment plants installed for treatment of sewage of the towns and their performance.

The analysis data of existing 6 STPs was submitted as under.

- STP Diggian is meeting with the prescribed standards w.r.t. BOD and TSS. However, F.Coli parameter is beyond the permissible limits.

- STP at 3 BRD is meeting with the prescribed standards w.r.t. BOD and TSS. However, F.Coli parameter is beyond the permissible limits
- STP at Raipur kalian and Raipur Khurd are not meeting with the prescribed standards w.r.t BOD and F.Coli parameter.
- STP Maloya is meeting with the prescribed norms. However, the value of F.Coli has not been detected in the effluent samples collected in the month of August, 2020.

After detailed discussion on the issue, the Chairman of the Executing Committee directed that CPCC shall collect the effluent samples of all the STPs from their outlets and inlets and these may be got analyzed from three reputed laboratories and analysis results be submitted to the Executing Committee within 15 days.

5 &6. Status of STP under construction/planning

The Executing Committee was informed that work for installation of STP at Kishangarh was allotted but due to refusal by the qualifying agency, tenders have been re-invited and technical bid is under evaluation. However, 1 STP at Raipur Kalan of capacity 1.25 MGD has been commissioned and is under trial run.

After detailed discussion on the issue, the Executing Committee directed that the work for construction of STP at Kishangarh should be allotted within 2 months and sewage treatment plant should be completed by 30.6.2021.

7. STPs which require technologically upgradation

It was submitted that work order for upgradation of all the 5 existing sewage treatment plants (STP at Diggian: 30 MGD, STP at 3 BRD:11 MGD, STP at Raipur Kalan: 5 MGD, STP at Raipur Khurd: 1.25 MGD and STP at Dhanas: 1.6 MGD) shall be allotted by 24.8.2020 except Maloya STP of capacity 5 MGD, which is meeting with the prescribed norms.

The Chairman of the Executing Committee directed that upgradation work of all the 5 existing STPs except Maloya STP should be completed by 31.3.2021.

8. Gap in treatment of sewage of the town located on river Ghaggar.

It was reported that total sewage generation in the town is 54 MGD, whereas treatment capacity of STPs is 55.1 MGD, as such, there is no gap of sewage to be treated.

The Executing Committee noted the compliance.

9. Status of ETP, inspection, performance of ETPs and action against the violating industries

The Executing Committee was informed that all the water polluting industries in Chandigarh area have installed their individual ETPs. CPCC is regularly inspecting

the performance of ETPs of the industries and action against the violating industries is taken under the provisions of the Water Act, 1974.

It was directed by the Chairman of the Executing Committee that CPCC shall continue to make surprise inspection/raids on the industries and action against the violating industries may be taken under the provisions of the Water Act, 1974.

10. Installation of CETPs and their operation.

CPCC informed that though the electroplating industries of Chandigarh area have installed their individual ETPs but in order to monitor these electroplating industries as single outlet, there is proposal to get these electroplating industries join to CETP (for electroplating industries) to be installed at Chanalon, for which EC is awaited.

The Executing Committee noted the observation made by the Department.

11. Status of irrigation schemes to utilize the treated sewage of STPs

It was reported that in Chandigarh area, no irrigation scheme can be implemented, whereas, the treated sewage is being utilized in green belts, parks and horticulture uses. Further, after the upgradation of the STPs, the treated sewage may be utilized at Bus Depots and Industrial Clusters.

The Executing Committee noted the compliance and directed that the treated sewage of STPs may be utilized for garden, green belts, parks and other usage, wherever possible so that consumption of fresh water may be reduced.

12. Non-point sources and control of pollution of these sources.

It was reported that presently no sewage is flowing into Choe, as all the outlets have been plugged except 1 outlet at village Daria where sewerage pipeline has been broken due to which sewage is flowing into the Sukhna Choe.

The said sewerage network shall be repaired within 15 days and flow into Sukhna Choe through Daria outlet shall be stopped.

13. Groundwater quality in catchment area of river Ghaggar

The analysis results of groundwater samples submitted to the Executing Committee indicate that no contamination has been found in these groundwater sources w.r.t heavy metals.

It was directed by the Executing Committee that CPCC shall continue to monitor the groundwater quality of groundwater sources located in the catchment area of river Ghaggar as per the frequency maintained by CPCC.

14. Environmental Flow

It was informed that Sukhna Choe and N-Choe, which are passing through Chandigarh area, are non-perennial drains and carry only storm water, as such, it is not possible to maintain environmental flow in these choes.

The Executing Committee noted the observation of the department.

15. Septage and Faecal Sludge Management

It was reported that since Chandigarh is fully covered with sewerage network and no septic tanks are allowed in Chandigarh, as such, there is no generation of any septage and faecal sludge.

The Executing Committee noted the observation of the department.

16. In-situ bio remediation in the drains carrying untreated sewage and not connected to STP.

It was informed that different plant species have been planned to be planted in Sukhna Choe along with additional 2000 canna plants along Sukhna Choe and N-Choe by 31.8.2020.

However, it was further informed that U.T Chandigarh shall also follow technology for in-situ bio remediation provided in the drains in Punjab area and accordingly, the said technology shall be installed in Sukhna Choe and N-Choe by 31.10.2020.

It was directed by the Chairman of the Executing Committee that in-situ bio remediation technology in Sukhna Choe and N-Choe shall be provided by 31.10.2020.

17. Installation of Real Time Water Quality Monitoring Stations in river Ghaggar.

It was informed that estimate for installation of RTWQMS in Sukhna Choe and N-Choe is under process and will be finalized within 1 week.

After detailed discussion, it was directed by the Chairman of the Executing Committee that RTWQMS in Sukhna Choe and N-Choe shall be installed by 31.8.2020.

18. Watershed Management

It was reported as under:

- Chandigarh Forest department has undertaking various soil and moisture conservation measures to avert soil erosion.
- More than 100 check dams have been constructed in Sukhna Wild life Sanctuary.

The Executing Committee noted the compliance.

19. Status of prosecution launched by State pollution control Board against the violators under the provision of the Water Act, 1974.

CPCC has reported that 118 cases for violation of Water/Air Act have been filed, which are pending in District Courts.

After discussion on the issue, it was directed that joint meeting of Haryana State Pollution Control Board and CPCC shall be held within next 3 weeks, wherein, the officers of Haryana State Pollution Control Board, CPCC, ADA and presiding officers shall remain present. Date of meeting shall be fixed shortly.

4.2.7 Latest progress w.r.t performance of existing STPs, installation of new STPs, gap in treatment of sewage of the towns, installation of ETPs by the industries, installation of CETP, utilization of treated sewage, water quality of drains/nallah, ground water quality etc.

1. Performance of existing Sewage treatment plants

Monitoring of STPs was not conducted in the month of March, 2020 due to lockdown.

STP DIGGIAN

Sr. No.	Name of the Town	Capacity of STP	Performance w.r.t parameters BOD,TSS and F. coli								
			April, 2020			May, 2020			June, 2020		
			BOD (mg/l)	TSS (mg/l)	F. coli (MPN/ 100 ml)	BOD (mg/l)	TSS (mg/l)	F. coli (MPN/100 ml)	BOD (mg/l)	TSS (mg/l)	F. coli (MPN/ 100 ml)
1.	Chandigarh	135 MLD	55	28	--	14	6	3.3×10^5	12	14	--

STP 3 BRD

Sr. No.	Name of the Town	Capacity of STP	Performance w.r.t parameters BOD,TSS and F. coli								
			April, 2020			May, 2020			June, 2020		
			BOD (mg/l)	TSS (mg/l)	F. coli (MPN/ 100 ml)	BOD (mg/l)	TSS (mg/l)	F. coli (MPN/1 00 ml)	BOD (mg/l)	TSS (mg/l)	F. coli (MPN/10 0 ml)
2.	Chandigarh	49.5 MLD	10	19	--	10	10	230	9	3	4.9×10^2

STP RAIPUR KALAN

Sr. No.	Name of the Town	Capacity of STP	Performance w.r.t parameters BOD,TSS and F. coli								
			April, 2020			May, 2020			June, 2020		
			BOD (mg/l)	TSS (mg/l)	F. coli (MPN/ 100 ml)	BOD (mg/l)	TSS (mg/l)	F. coli (MPN/100 ml)	BOD (mg/l)	TSS (mg/ l)	F. coli (MPN/100 ml)
3.	Chandigarh	22.5 MLD	84	47	--	69	45	2.4×10^5	59	23	4.6×10^5

STP RAIPUR KHURD

Sr. No.	Name of the Town	Capacity of STP	Performance w.r.t parameters BOD,TSS and F. coli								
			April, 2020			May, 2020			June, 2020		
			BOD (mg/l)	TSS (mg/l)	F. coli (MPN/ 100 ml)	BOD (mg/l)	TSS (mg/l)	F. coli (MPN/100 ml)	BOD (mg/l)	TSS (mg/ l)	F. coli (MPN/100 ml)
4.	Chandigarh	5.63 MLD	87	66	--	101	58	2.4×10^5	101	102	4.9×10^6

STP DHANAS

Sr. No.	Name of the Town	Capacity of STP	Performance w.r.t parameters BOD,TSS and F. coli								
			April, 2020			May, 2020			June, 2020		
			BOD (mg/l)	TSS (mg/l)	F. coli (MPN/ 100 ml)	BOD (mg/l)	TSS (mg/l)	F. coli (MPN/100 ml)	BOD (mg/l)	TSS (mg/ l)	F. coli (MPN/100 ml)
5.	Chandigarh	7.5 MLD	40	44	--	38	33	2.2×10^6	10	6	7×10^3

STP MALOYA

Sr. No.	Name of the Town	Capacity of STP	Performance w.r.t parameters BOD,TSS and F. coli								
			April, 2020			May, 2020			June, 2020		
			BOD (mg/l)	TSS (mg/l)	F. coli (MPN/ 100 ml)	BOD (mg/l)	TSS (mg/l)	F. coli (MPN/100 ml)	BOD (mg/l)	TSS (mg/ l)	F. coli (MPN/10 0 ml)
6.	Chandigarh	22.5 MLD	<1	3	--	2.1	7	2.4×10^5	2.9	10	--

The analysis results indicate that STPs at Diggian, 3 BRD and Dhanas are meeting with all the parameters except F.Coli parameter. STPs Raipur Kalan and Raipur Khurd are not meeting with BOD and F.Coli parameters. STP Maloya is meeting with the prescribed norms for all the parameters.

4.2.8 Installation of New STPs, upgradation of existing STPs, Technology upgradation of existing STPs.

4.2.8.1 Installation of New STPs:

- Presently, 54 MGD wastewater is generated by the MC Chandigarh and the capacity of existing STPs is 53.9 MGD.
- There is proposal to enhance the capacity of STP Raipur Khurd to 2 MGD, STP Raipur Kalan 1.25 MGD and Kishangarh 0.44 MGD.
- STP of capacity 5 MLD at Raipur Kalan has been completed but yet to be commissioned.
- To treat the sewage of Kishangarh area, STP of capacity 2 MLD has been proposed. Tender was opened on 11.06.2020 but the qualifying agency has refused to accept the allotment and tender has been recalled.

- Enhancement of capacity of STP Raipur Khurd from 1.25 MG to 2.0 MGD is under consideration for future planning.

4.2.8.2 STP which require Technology upgradation and funds tied up:

Sr. No.	Name of the Town	Present capacity of STP (MLD)	Capacity to be upgraded technologically	Target date for completion/ commissioning	Earlier Status as on 29.2.2020	Status as on 31.7.2020
1.	Chandigarh					
i.	STP at Diggian	135	135	31.08.2022	Separate tenders in 3 packages were invited on 26.2.2020. 1.Diggian (package-I) 2.Raipur khurd and Raipur Kalan (package-II) 3.3BRD and Dhanas (package-III)	Work has been allotted.
ii.	STP at Raipur kalan	22.5	22.5	28.2.2022		
iii.	STP at Raipur khurd	5.63	9			
iv.	STP at Dhanas	7.5	7.43	31.8.2021		
v.	STP at 3 BRD	49.5	49.5			

4.2.9 Installation of Real Time Water Quality Monitoring Stations.

Status of Installation of Real Time Water Quality Monitoring Station at N-Choe:

The tender is under process and work will be completed by 30.09.2020.

Status of Installation of Real Time Water Quality Monitoring Station at Sukhna-Choe:

Due to rain, the forest area near boundary of UT Chandigarh and Mohali, near Raipur Khurd is not approachable/feasible and proper space is being worked out to install RTWQMS.

4.2.10 Ground Water Quality in the catchment area of river Ghaggar.

S. No.	Parameters	Units	DaduMajra	SEC-15/Near Dumping ground	SEC-22/Sec 24	Village Palsora	Dhanas	Sec - 35	Sec-20
			July,2020						
1	Temp	^{0}C	28.5	28.5	28	28.5	29	28	28
2	pH	-	6.8	6.8	6.9	6.9	7.0	6.7	7
3	Conductivity	µs/cm	1020	767	747	991	649	952	735
4	BOD	mg/l	1.3	2.3	0.80	1.6	1.7	0.72	0.96
5	Turbidity	NTU	2.9	4	3.8	5.7	1.9	2.7	2.5
6	P-Alkalinity	mg/l	NIL	NIL	NIL	6	16	NIL	NIL
7	Total alkalinity	mg/l	348	314	232	372	294	286	254
8	Chloride	mg/l	65	27	20	54	27	28	23
9	COD	mg/l	13	12	11	13	12	10	12
10	TDS	mg/l	542	366	372	494	352	472	358
11	TSS	mg/l	5	4	2	2	4	2	2
12	Phosphate	mg/l	0.04	0.05	0.05	0.09	0.05	0.02	0.07
13	Boron(B)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14	Fluoride	mg/l	0.86	0.28	0.55	0.46	48	0.41	0.9
15	Colour	Hazen	5	<5	<5	5	<5	<5	<5

*** Water at all these locations is not allowed to be used for drinking purpose.**

4.2.11 Status of Irrigation schemes for STPs

As per the Action Plan submitted by MC, Chandigarh for utilization of treated sewage, 36 MGD wastewater is treated to the level of tertiary and out of which, 10 MGD treated wastewater is pumped back to the city for use in gardens, green belts, schools, colleges, institutions and houses. Further, there is proposal to utilize about 20 MGD treated wastewater in the green spaces of various Sectors, for washing of coaches, bus depots for cleaning purposes and industrial clusters.

4.2.12 Inspection of industries by District Level Special Task Force during the period March, 2020 to June, 2020 and the action taken against defaulting industries.

It has been reported that no inspections were conducted during March, 2020 to June, 2020 due to lockdown period (March and April, 2020) and non-operation of most of the industries due to COVID-19.

4.2.13 Status of installation of STPs for the villages as on 30.6.2020

It has been claimed that all the villages adjoining Chandigarh are already connected with the sewerage network of the city.

4.2.14 Status of Health check up camps organized during the month March, 2020 to July, 2020.

No health camp was organized during the month March, 2020 to July, 2020 due to COVID-19 situation.

4.2.15 Information, Education & Communication (IEC) activities (March, 2020 to July, 2020)

It has been informed that no IEC activities could be carried due to COVID- 19 situation

4.2.16 Environmental Flow

It has been claimed that river Ghaggar is flowing 7 km away from the Chandigarh city. Moreover, Sukhna Choe and N-Choe, are non-perennial drains and carry storm water during rainy season. As such, maintaining of environmental flow is not possible in case of Chandigarh area.

4.2.17 Septage and Faecal Sludge management

Chandigarh is fully covered with sewerage network and there are no septic tanks allowed in Chandigarh, resulting in no generation for septage and faecal sludge. As such, no Septage and Faecal Sludge management is required.

4.2.18 Watershed management

Chandigarh Forest Department has undertaken various soil and moisture conservation measures in order to arrest soil erosion and eventually checking the

flow of silt to Sukhna lake. More than 100 such check dams have been constructed in the Sukhna wild life sanctuary, the catchment of Sukhna lake.

4.2.19 In-situ bio remediation in the drains carrying untreated sewage and not connected to STPs.

Plant species viz. Pongamiapinnata, Terminalia arjuna and Syzygiumcumini have been planned to be planted along the Sukhna choe and N-choe. Along with this about 2000 Canna plants (wetland plants) are also to be planted along the Sukhna choe and N-choe by the end of August, 2020.

4.2.20 Conclusions and recommendations

1) In order to treat sewage of Chandigarh, 6 STPs [STP Diggian:135 MLD, STP 3BRD: 49.5MLD, STP Raipur Kalan 22.5 MLD, STP Raipur Khurd: 5.63 MLD, STP Dhanas:7.5 MLD and MaloyaSTP;22.5 MLD] are in operation. The performance study of these STPs monitored during April, 2020 to June, 2020 indicated as under:

   - The values of BOD and F.Coli varying between 40-87 mg/l and 7000-490000 MPN/100ml, respectively, which are higher than the prescribed limits, have been observed in case of STP Diggian, STP, 3 BRD, Raipur Kalan, Raipur Khurd and Dhanas.
   - STP Maloya is meeting with the prescribed limits.

   Therefore, there is need to upgrade all the 5 existing STPs except STP Maloya for which Municipal Corporation Chandigarh have invited tenders and work has been allotted.

2) Presently, 54 MGD wastewater is generated by the MC Chandigarh and the capacity of existing STPs is 53.9 MGD.

   - There is proposal to enhance the capacity of STP Raipur Khurd to 2 MGD, STP Raipur Kalan 1.25 MGD and Kishangarh 0.44 MGD, for which tender is being recalled.
   - STP of capacity 5 MLD at Raipur Kalan has been commissioned but yet to be commissioned.

   The Executing Committee recommends that new STP of Kishangarh (0.44 MGD = 2 MLD) and upgradation of Raipur Khurd STP from 1.25 MGD to 2 MGD= 9 MLD) should be installed by 31.3.2021 so that there shall be no gap in the treatment of sewage.

3) Since 5 existing STPs are not meeting with the parameters namely BOD and F.Coli parameters, therefore there is need to upgrade these 5 STPs to bring down the parameters within the norm. Accordingly, Municipal Corporation Chandigarh has allotted the work to the qualifying agency.

The Executing Committee recommends that Municipal Corporation Chandigarh shall upgrade all the existing 5 STPs [STP Diggian:135 MLD, STP 3BRD: 49.5MLD, STP Raipur Kalan 22.5 MLD, STP Raipur Khurd: 5.63 MLD and STP Dhanas:7.5 MLD] except STP Maloya by 31.03.2021.

4) The Water quality of river Ghaggar has been found deteriorated due to presence of high value of F. Coliform which can be controlled only after technological upgradation of the existing 5 STPs. Municipal Corporation Chandigarh has allotted the work of upgradation of STP **and these are likely to be completed by 31.03.2021.**

The Executing Committee expects that the water quality of river Ghaggar shall be improved after the upgradation of these STPs by Municipal Corporation Chandigarh.

5) There is proposal to install Real Time Water Quality Monitoring Stations at Sukhna Choe and N Choe for which tender is under process for N Choe. In Sukhna Choe, proper space and location is being identified.

The Executing Committee recommends that Real Time Water Quality Monitoring Stations in Sukhna Choe and N Choe should be installed and commissioned by 31.10.2020.

6) CPCC is carrying out the ground water quality of ground water sources located in the catchment area of river Ghaggar. It has been claimed by CPCC that ground water sources at these locations are not used for drinking purposes.

The Executing Committee recommends that though the ground water sources are not used for drinking purposes but even then if the ground water source is found contaminated, it may be sealed by CPCC along with erection of display board, mentioning that water is not fit for drinking purposes.

7) As per the Action Plan submitted by MC, Chandigarh for utilization of treated sewage, 36 MGD wastewater is treated to the level of tertiary and out of which, 10 MGD treated wastewater is pumped back to the city for use in gardens, green belts, schools, colleges, institutions and houses. Further, there is proposal to utilize about 20 MGD treated wastewater in the green spaces of various Sectors, for washing of coaches, bus depots for cleaning purposes and industrial clusters.

8) Regarding inspection of industries by CPCC and District Level Special task Force, it has been claimed that industries could not be inspected due to lockdown in the month of March and April and non-operation of the industries in the month of June to July, 2020.

It is recommended that CPCC and District Level Task Force shall continue to inspect the industries and check the operational status and performance of ETPs of the industries.

9) The Department of Health, has not organized any health checkup camps during March, 2020 to July, 2020 and due to Covid-19 situation. Therefore, the said department shall continue to organize health checkup camps soon after the improvement in the situation.

10) With regard to maintaining environmental flow in river Ghaggar, it has been reported that river Ghaggar is flowing 7 Kms away from Chandigarh city and Sukhna Choe and N Choe are non-perennial drains and carry storm water only. As such, maintaining of environmental flow is not possible in case of Chandigarh area.

The claim of UT Chandigarh is not justified because Sukhna Choe and N Choe also carry treated/untreated sewage of Chandigarh area, whenever, there is chocking in sewerage system or STPs are not in operation, as such, there is need to maintain environmental flow in Sukhna Choe and N Choe for which the concerned department of UT Chandigarh should prepare a scheme to maintain environment flow in these Choes and such schemes may be implemented by 31.12.2020.

11) For watershed management, Chandigarh Forest Department has undertaken various soil and moisture conservation measures in order to arrest soil erosion and checking the flow of silt in Sukhna Lake. More than 100 such check dams have been constructed in Sukhna Wild Life Sanctuary.

The Executing Committee recommends that Forest Department Chandigarh should construct check dams in the catchment area of Sukhna Choe and N Choe in a time bound manner.

12) Presently, all the 5 existing STPs are not meeting with the prescribed standards for the parameters, as such, the drains carrying untreated sewage/ partially treated sewage need to be bio remediated at the site. For this purpose, UT Chandigarh has planned to plant Terminalia arjuna and Syzygiumcumini along the Sukhna choe and N-choe. About 2000 Canna plants (wetland plants) shall also be planted along the Sukhna choe and N-choe by the end of August, 2020.

13) It has been observed that Sukhna Choe and N-Choe are natural choes and carry storm water of the Chandigarh, therefore, there is no need to provide real time water quality monitoring stations (RTWQMS). Moreover, there is regular flow in Sukhna Choe and N-Choe and there is quite possibility that the treated/ partially treated sewage of the STPs may also be discharged into these choes, as such, in-situ bioremediation technology should be installed in these choes at appropriate location by 31.12.2020.

4.3 State of Punjab

River Ghaggar after traversing through the State of Haryana follow its route to State of Punjab and again enters into Haryana and Punjab and ultimately passing through the State of Haryana, it is diverted into two canals originating from at Barrage and main river course enters into Rajasthan. The Map showing the river Ghaggar and drains carrying sewage of the towns located in the catchment area of river Ghaggar is as per figure 4 given below:

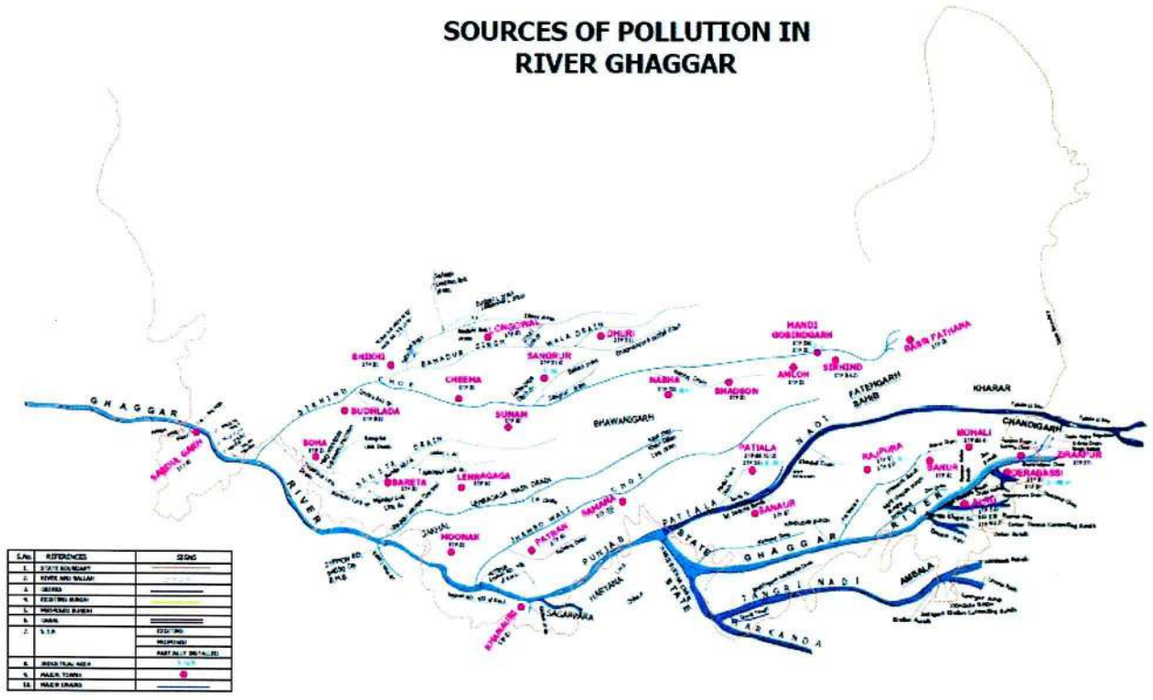

Fig 4: Map showing the drains falling into river Ghaggar and the towns located on the drains and status of STPs

4.3.1 Towns located on the drains joining to river Ghaggar (as mentioned in above map) and status of STPs

S No	Name of the Town	No of existing STPs	Existing capacity of STP	Capacity being utilized (MLD)	STP proposed , if any		In which drain/sub drain the wastewater of town is discharged
					No of STPs proposed	Capacity	
1	Banur	1	4	2.9	2	0.15	Banur Drain
						0.5	
2	Baretta	1	3	2.5	-	-	Baretta Drain
3	Bhikhi	1	3	2.75	-	-	Bahadur Singh Wala Drain
4	Budhlada	1	6.5	5	-	-	Sirhind Choe
5	Khanauri	1	3	2.06	-	-	Kaithal Drain
6	Lehragaga	1	4	1.8	-	-	Lehragaga drain

7	Mandi Gobindgarh	1	25	20	-	-	Sirhind Choe
8	Moonak	1	3	2.1	-	-	River Ghaggar
9	Mohali	1	45.4	24.35	-	-	Treated effluent
10	Patiala		46	46	1	15	
			10	9	-	-	
		3	13	6	-	-	Jacob drain
11	Patran	1	4.0	3.70	-	-	Jhambowali choe
12	Rajpura	2	7.0	4.5	-	-	
			10	8.5	-	-	Pachisdara drain
13	Samana	1	10.0	6.95	-	-	Jhambowali choe
14	Sardulgarh	1	4.0	2.69	-	-	River Ghaggar
15	Sunam	1	8.0	6.60	-	-	Sirhind Choe
16	Zirakpur	1	17.0	16.50	-	-	River Ghaggar
17	Bassi Pathana	-	-	2.53	2	3	
					-	0.2	Sirhind Choe
18	Boha	-	-	1.63	1	2	Sirhind Choe
19	Lalru	1	1.5	4.74	4	1	
					-	1.5	
					-	0.35	
					-	0.35	Jhambowali choe
20	Dera Bassi	1	4.0	5.77	2	2 2	Dera Bassi choe
21	Sirhind	-	-	7.54	3	5 4 2	Sirhind Choe
22	Amloh	-	-	2.28	1	3	Sirhind Choe
23	Cheema	-	-	1.50	1	2	Sirhind Choe
24	Dhuri	-	-			5	
		-	-	7.19	2	6	Sirhind Choe
25	Sangrur	-	-			11	
		-	-	11.32	2	4	Sirhind Choe
26	Nabha	-	-	7.81	1	12	Sirhind Choe
27	Longowal	-	-	3.26	1	5	Sirhind Choe
28	Sanaur	-	-	2.80	1	4	Patiala nadi
29	Bhadson	-	-	0.93	1	3	Sirhind Choe
30	Ghanaur	-	-	0.8	1	2	Miranpur Choe
	TOTAL		**221.4**	**234.00**	-	**96.05**	

The data indicate that in 30 towns located in the catchment area of River Ghaggar, 21 STPs of 221.4 MLD have been installed. The treated/ untreated sewage of towns is discharged into drains which further fall into River Ghaggar.

4.3.2 Compliance of the recommendations made by the Executing Committee in its 5th report submitted to the Hon'ble National Green Tribunal

As mentioned in aforesaid para, the Executing Committee has already submitted its four reports and 5th report was submitted on 16.4.2020, the compliance of which submitted by the State of Punjab is as under:

Sr. no.	Recommendation of the Executing Committee given in 5th report	Compliance
1	Punjab water Supply and Sewerage Board shall complete and commission	• 52% work of Boha STP work completed

	08 New STPs for 6 towns (Boha, Dhuri, Sangrur, Bassi Pathana, Sirhind and Patiala), whose work has been completed upto 10-41%, should be completed by 31.12.2020.	• 20% work of Dhuri STP work completed • 25% work of Sangrur STP work completed • 10% work of Bassi Pathana STP work completed • 14% & 10% work of Sirhind STP of 5MLD & 4MLD capacity, respectively, work completed • 75% work of Patiala STP work completed
2	Sewage treatment plants for 19 towns for which funds have been tied up should be completed and commissioned by 31.03.2021.	The PWSSB has given the timelines for completion and construction &commissioning of STP for 19 towns, which vary from 31.12.2021 to 31.12.2022.
3	Upgradation of existing sewage treatment plants for the towns namely Bareta (3 MLD), Bhikhi (3 MLD) and Sardulgarh (4 MLD), funds may be arranged by the Department of Local Government by 31.05.2020 and Punjab Water Supply and Sewerage Board shall ensure that these STPs should be upgraded by 31.03.2021.	As per timeline given by the PWSSB, these STPs will be upgraded by 31.12.2023.
4	GMADA shall upgrade its existing STP of capacity 45.5 MLD at Mohali by 31.03.2021.	Tender for upgradation of STP to new technology has been received by GMADA, which is under consideration. After allotment of work, following timeline shall be adhered to: 1.Completion of survey work at site- 4 days 2. Submission of feasibility report- 7 days 3. Submission of cost estimate- 10 days 4. Submission of tender document- 10 days 5. Construction & stabilization of STP after allotment of work- 18 months.
5	The authority of Military Engineering Services (MES) shall install and	STP for MES Patiala will be installed by 31.10.2021 as the work has been

	commission new STP's of capacity 6 MLD and 1 MLD for MES Patiala and MES Nabha, respectively, by 31.03.2021.	allotted STP for MES Nabha will be installed by 30.09.2021 as the work is at tendering stage.
6	The Executing Committee has observed that there is gap in Sewage Quantity to be treated is 86.26 MLD of 17 towns. It is recommended that the Department of Local Government shall make necessary arrangements for planning, designing and installation of new sewage treatment plants to treat the gap in sewage quantity by 31.03.2021.	The Status of remaining STPs to be installed and their timelines is given above.
7	Water Quality of river Ghaggar was monitored by Punjab Pollution Control Board during November-2019 to February-2020 and it has been observed that no significant improvement in water quality of river Ghaggar w.r.t. BOD and DO parameters and no improvement w.r.t Coliform Parameter has been observed at 12 locations out of 14 locations of river Ghaggar.	The Punjab Pollution Control Board is regularly monitoring the quality of river Ghaggar.
8	PPCB has carried out ground water sampling at 11 locations located in the vicinity of river Ghaggar after monsoon. The analysis results indicate that water of 1 tubewell is not potable and as such this tubewell is required to be capped. Also, the concentration of iron in 1 hand pump sample has been found much beyond the prescribed limits. Therefore, the Executing Committee recommends that these 02 ground water sources should be capped by PPCB by 07.04.2020 and display boards with caption "Water is not fit for drinking", may be erected at these sites.	1. The hand pump installed in front of the house of Sh. Nakshatra s/o Sh. Puran Singh, village Lachurukalan, Block Ghanaur, Dust Patiala has been sealed and a display board has been provided mentioning that the **water of the hand pump is not potable**. 2. A display board has been provided near the dugwell located in village Issapur Tehsil Dera Bassi, Distt SAS Nagar mentioning that **the water of the Dugwell is not potable**.
9	The Executing Committee has observed that in order to utilize the treated	The irrigation scheme for Khanauri town has been commissioned and the

	sewage of STP's of 2 towns, irrigation schemes are under progress and the work of the same has been completed upto 80%. The Executing Committee recommends that the irrigation schemes should be completed by 31.05.2020.	irrigation scheme for Rajpura town (7 MLD STP) is likely to be commissioned on 31.12.2020.
10	To utilize the treated sewage (51 MLD) of 4 towns (Mandi Gobindgarh, Patiala, Dhuri and Sangrur) for irrigation having command area of 1961 hectares, the Department of soil and water conservation shall take up the matter with the Department of Finance, Punjab for early release of funds and work of laying of irrigation network may be started by 01.05.2020 and the same shall be completed by 30.09.2020.	Release of fund for implementation of irrigation scheme for these towns is still pending at the Govt.level.
11	The funds for laying of irrigation network to utilize the treated sewage of 24 STPs of 20 towns for irrigation may be tied up by the State of Punjab 31.05.2020 and funds for irrigation network for these towns may be released by 31.08.2020, so that irrigation schemes may be completed by 31.03.2021 i.e. simultaneously along with the commissioning of STPs.	Funds not yet tied up.
12	The Executing Committee has observed that the treated sewage of 4 towns namely Budhlada: 6.5 MLD, Zirakpur: 17 MLD, SAS Nagar: 45.4 MLD and MC Dera Bassi: 4 MLD cannot be utilized for irrigation due to non-feasibility because of urbanized land and no command area available. Therefore, these urban local bodies may utilize their treated sewage for construction activities, gardening, vehicle cleaning, road cleaning and toilet flushing etc. The Department of Local Government shall issue necessary	Action in this regard is under process.

	directions in this regard.	
13	The Monitoring of Sewage Treatment Plants of the towns carried out by PPCB during the period December-2019 to February-2020 indicates that 7 STP's (Banur: 4 MLD, Zirakpur: 17 MLD, Dera Bassi: 4 MLD, Dera Bassi (PSIEC): 2 MLD, Sardulgarh: 3 MLD, Bhikhi: 3 MLD and Bareta: 3 MLD) are not achieving the standards w.r.t BOD and F.Coli parameters. Therefore, the Executing Committee recommends as under: The Executing Committee recommends that following departments shall take immediate action to improve the functioning of STPs. i) PWSSB shall improve the performance of STPs Banur (4MLD), Dera Bassi (4 MLD) and Zirakpur (17 MLD) by 30.04.2020. ii) PSIEC shall improve the functioning of 2 MLD STP for Dera Bassi by 30.04.2020 and utilize the treated sewage for irrigation by 31.05.2020. iii) STPs for the towns Sardulgarh (3MLD), Bhikhi (3 MLD) and Bareta (3MLD), which are based on WSP technology, should be upgraded by 31.03.2021.	i. STP of Banur was found compliant during the month of March and July, 2020. STP of Dera Bassi was found compliant during the month of March, June and July, 2020. STP of Zirakpur was found compliant during the month of July, 2020. ii. STP of Focal Point, Dera Bassi was found non-compliant in respect of F.Coli parameter. iii. The time of upgradation of these STPs is 31.12.2023 as per time schedule given by PWSSB.
14	It has been observed that no. inspections of the industries/ Pollution sources have been carried out by District Level Special Task Force. PPCB has inspected 23 industries during December-2019 to February-2020 and none of the industries was found non compliant. Therefore, PPCB and District Level Special Task force of Districts namely SAS Nagar, Patiala, Sangrur and Mansa shall continue to carry out inspections of	6, 0, 8,13,4 water polluting units located in the catchment area of river Ghaggar were visited during the period of March, April, May, June to July, 2020, respectively. All the units were found compliant.

	industries and other Pollution Sources and action against the defaulting industries/ Pollution sources be taken under the provisions of the Water Act, 1974.	
15	It has been reported by the Department of Rural Development and Panchayat that out of 87 villages taken in Phase-1 for installation of sewage treatment plants, treatment systems have been installed in 23 villages and in 5 villages, treatment plants are under construction. The Executing Committee recommends that the STPs of 5 villages should be completed by 30.06.2020. For the treatment of sewage of remaining 59 villages, funds amounting to Rs 50 crores have been sanctioned but the funds have not been released so far. The Department of Rural Development and Panchayat shall take up the matter with Department of Finance, Punjab for early release of funds.	Treatment system in 28 villages have been installed and treatment system in 14 villages are under construction. Total amount of Rs.50 Crores has been sanctioned under scheme RDO 28 for the renovation of ponds for the whole state. Out of this amount, 6.04 Cr has been released so far for the ponds under the catchment area of river Ghaggar. 14 nos of ponds are in progress with this amount and MGNREGA Scheme.
16	The data w.r.t. health check up camps organized in 4 districts(SAS Nagar, Patiala, Sangrur and Mansa) located in the catchment area of river Ghaggar during the period December-2019 to February-2020 indicate that out of total 3126 patients checked during these camps, 94 patients have been found suffering with water borne diseases. Therefore, the Executing Committee recommends that safe drinking water be supplied to the villages by the department of Water Supply and Sanitation, where the patients have been found suffered with water borne diseases by 30.06.2020.	Action in this regard is under process.
17	To create awareness among the public about water quality of river Ghaggar, water quality of ground water sources located along river Ghaggar, water borne diseases, utilization of treated sewage for irrigation and less consumption of water for domestic usage, more IEC activities may be carried	IEC activities could not be held due to restriction imposed by the State Govt. in light of ongoing pandemic COVID-19.

	out by PPCB, Department of Local Government and Department of Rural Development and Panchayat.	
18	In order to maintain Environmental Flow in river Ghaggar, Department of Soil and Water Conservation shall construct check dams/ storage ponds in the catchment area of river Ghaggar so as to regulate the flow in river Ghaggar for whole of the year to maintain environmental flow in the river.	In order to resolve the matter of E-Flow, in the 18th meeting of the Executing Committee held on 19.8.2020, it was decided to hold a separate meetings with Department of Water Resources, Department of Soil and Water Conservation, PPCB and other concerned departments within 3 weeks.
19	For septage and faecal sludge management, the Executing Committee recommends that PPCB shall take following actions a) To identify the source of generation of Septage and Faecal sludge from rural and urban area and the quantity of septage /Faecal sludge extracted per month by 31.05.2020. b) To prepare comprehensive plan to dispose off these materials in environmentally sound manner by 30.06.2020. c) To identify the nearby STPs where the regulated quantity of septage/ faecal sludge can be taken for treatment by 30.06.2020.	There are 2 towns namely Sanour and Bhadson in the catchment of river Ghaggar where the sewerage system is yet to be provided. The septage generated from Sanour is treated in the STP of Patiala and septage generated from Bhadson is treated in the STP of Mandi-Gobindgarh. Further, preparation of septage management regulations is under process.
20	For removal of solid waste from river Ghaggar and drains/nallahs falling into it, the Executing Committee recommends that PPCB, Department of Rural Development and Panchayat and Department of Water Resources (Drainage) shall jointly survey river Ghaggar and its tributaries and identify its stretches, where the solid waste is found dumped. The survey may be completed by 31.03.2020 and action to lift these solid waste from river Ghaggar and its tributaries be taken by the Department of Water Resources by 31.05.2020.	• The team of District SAS Nagar has identified 8 points in river Ghaggar and other major drains where the Solid Waste was found dumped but the waste is yet to be removed. • The team of District Patiala visited the stretch of river Ghaggar in the jurisdiction of district Patiala and no where dumping of solid waste was found. The team of District Mansa visited the stretch of river Ghaggar in the

		jurisdiction of district Mansa and no where dumping of solid waste was found.

4.3.3 Compliance of the directions/ recommendations made by the Executing Committee in its 17th meeting with State Level officers of State of Punjab on 19.6.2020

The Executing Committee held its 17th meeting with State Level officers of State of Punjab on 19.6.2020. The minutes of the meeting are annexed as per **Annexure-4.**

1) Comparison of water quality of River Ghaggar during the period December, 2019 to February, 2020 and March, 2020 to May, 2020.

The Executing Committee was apprised that PPCB has carried out water quality monitoring of river Ghaggar during the month Dec, 2019 to Feb, 2020 and March, 2020 to May, 2020 from the 14 locations and the data indicate that no improvement w.r.t BOD, DO and T.Coli parameters has been observed. However, some improvement w.r.t these parameters has been observed in river Ghaggar water at the locations: Rattanheri, before and after mixing Sagar Para drain with river Ghaggar, Khanouri, Moonak and Sardulgarh.

The Executing Committee observed that in the month of March, 2020 to April, 2020, there was complete lockdown in the State of Punjab, Haryana and Himachal Pradesh and all the activities relating to commercial and industrial were closed down but even then no improvement w.r.t water quality in river Ghaggar has been observed. It indicates that either the untreated sewage discharge through drains are directly falling into river Ghaggar or STPs of the State of Punjab were not functioning properly.

Therefore, the Chairman of the Executing Committee directed as under:

i) **The water quality of river Ghaggar at its entry into the territory of State of Punjab, at its exit from the territory of Punjab may be monitored.**

ii) **Water Quality of river Ghaggar may be monitored at the upstream, downstream and point source carrying treated/untreated sewage into river Ghaggar.**

iii) **Water Quality data of above points may be submitted to Executing Committee by 15.07.2020.**

iv) **Punjab Water Supply and Sewerage Board and other Government agencies responsible for operation and maintenance of STPs, located in the catchment area of river Ghaggar, shall ensure that STPs are always in operation and meet with the prescribed standards at all the times.**

v) **PWSSB shall ensure that OCEMS on all the STPs, located in the catchment area of river Ghaggar, have been installed and PPCB shall**

collect the online monitoring data from OCEMS of these STPs and the same may be submitted to the Executing Committee within 3 weeks.

2) Performance of existing Sewage treatment plants.

It was submitted that 13 primary and 29 secondary drains have been identified which contribute sewage/sullage into river Ghaggar. In order to treat the sewage of 30 towns, 46 STPs are required to be installed, out of which 21 STPs are in operation. The total wastewater generation from these 30 towns is 238.76 MLD, out of which 221.4 MLD sewage is treated in the existing 21 STPs. There is further proposal to construct additional STPs is 96.05 MLD. There is a gap of 68.6 MLD of sewage which has been covered under the proposed STPs to be installed for the towns located in the catchment area of river Ghaggar.

Punjab Pollution Control Board has carried out the performance of these 21 STPs in the month of Jan, 2020 to May, 2020 and as per the analysis results 16-18 STPs have been found complying with the standards and 3--5 STPs are not complying with the prescribed standards. The performance of these STPs has being carried out w.r.t parameters pH, BOD, TSS and F.Coli parameter.

After detailed discussion on the issue, it was directed by the Chairman of the Executing Committee that Punjab Water Supply Sewerage Board or other Govt agencies responsible for Operation of STPs shall ensure that adequate dosing of disinfectant is added at the final Collection tank of STP so that the treated sewage at the outlets of STPs always meet with the prescribed standards of F.Coli parameter. The others parameters like BOD and TSS can be brought within the prescribed norms by operating Sewage treatment plants effectively and efficiently.

3. Status of STPs under construction.

It was submitted that 8 STPs of capacity 25.5 MLD are under construction and these STPs have been completed with progress of completion as 12-48%. The Chairman of the Monitoring Committee observed that the progress made w.r.t construction of STPs is slow and as per the timelines fixed by Hon'ble National Green Tribunal, the commissioning date of STPs has been mentioned in 31.03.2021 and with this slow progress, it may not be possible to commission these STPs by 31.03.2021. Therefore, the Department of Local Government and PWSSB have to make extra efforts to ensure the completion of these STPs by 31.03.2021.

It was also reported that for 6 MLD capacity STP to be installed by MES authority at Patiala, work has been allotted and it is likely to be completed by 31.03.2021. Similarly, 1 MLD STP at Nabha, to be set up by MES authorities, tender process is to be completed by 30.09.2020 and it is likely to be completed by 30.09.2021. The Executing

Committee was of the view that the construction work of these STP should be accelerated to ensure that these are commissioned by 31.03.2021.

The Chairman of the Executing committee directed that PWSSB or any other Govt. agency, responsible for construction of new STPs, shall commission these STPs by 31.03.2021.

4. Status of STPs under planning and funds tied up.

The Executing Committee was apprised that 12 STPs of capacity 33.85 MLD for 9 towns are under planning and these are at tendering stage and the likely date of commissioning of these STPs has been mentioned between 31.12.2021 to 30.09.2022. The Executing Committee was of the view that the STPs, which are under planning and are at tendering stage, possibly cannot be completed by 31.03.2021 and the Executing agencies have to make extra ordinary efforts to complete and commission these STPs by 31.03.2021.

It was also submitted that in case of 5 towns, where STPs of capacity 21.7 MLD have been proposed to be installed, land issues are to be resolved. The Executing Committee was of the view that the matter regarding land issues may be discussed with the concerned Deputy Commissioner of the District and these land issues may be resolved immediately, so that STPs may be constructed timely.

The Chairman of the Executing Committee directed as under:

i. **New 12 STPs of capacity 33.85 MLD for 9 towns may be completed by 31.03.2021.**

ii. **PWSSB shall take up the matter with Deputy Commissioners of concerned Districts where the land issues are to be resolved for setting up of STP and shall ensure that these STPs are constructed and commissioned by 31.03.2021.**

5. Status of STPs which require technological up gradation and funds tied up/yet to be tied up.

It was informed that there is need to upgrade 3 STPs of towns Bareta: 3 MLD, Bhikhi: 3 MLD and Sardulgarh: 4 MLD as these STPs are based on WSP Technology, which is old one. Therefore, in order to upgrade these STPs, presently desilting of ponds has been carried out and dosing of disinfectant has been started into these STPs to bring down the F.Coli parameter within the norms. However, for up gradation of these STPs, there is proposal to install Nano bubble technology to enhance the treatment efficiency of the STPs. If need, solar energy based aerators shall also be installed to supply air in STP system to enhance the Oxygen level in the STP to increase the degradation efficiency to bring down the parameters within the norms.

The Chairman of the Executing Committee directed as under:

i. **Nano bubble Technology followed by solar energy based aerators shall be commissioned in 3 STPs namely Baretta, Bhikhi and Sardulgarh by 30.07.2020.**

ii. **Punjab Pollution Control Board shall carry out the performance of these STPs by 15.08.2020 and submit the analysis results to PWSSB and the Executing Committee.**

iii. **In case after the installation of Nano bubble technology followed by solar energy based aerators, the treatment efficiency of the STP is not enhanced to the level to bring down all the parameters within the norms, PWSSB shall upgrade these STPs with appropriate technology accordingly.**

6. Gaps in treatment of sewage of the towns located on river Ghaggar and their coverage under STPs which are under planning and funds tied up.

The Executing Committee was apprised that the 30 towns generate sewage 238.76 MLD and presently, the existing capacity of STPs is 221.4 MLD and the proposed capacity of STPs is 96.05 MLD and there is gap of 68.6 MLD of sewage to be treated.

It was observed by the Executing Committee as per the data submitted by PWSSB while preparing the 5th report of the Executing Committee, PWSSB reported that the total sewage generation is 261.32 MLD and the present capacity of STPs is 231.7 MLD and there is a gap of 68.6 MLD sewage to be treated. Therefore, there is need to reconcile the data in the presence of PPCB.

After detailed deliberation, The Chairman of the Monitoring Committee directed as under:

i. **PWSSB and PPCB shall jointly reconcile the data w.r.t total sewage generation from the towns located in the catchment area of river Ghaggar, existing capacity of STPs, proposed capacity of STPs to be installed and no gap in sewage quantity to be treated.**

ii. **PWSSB shall ensure that whole of the gap in sewage quantity to be treated should be considered in the STPs which are under planning and these should be completed and commissioned by 31.3.2021.**

7. In-situ remediation technology to be provided in the drains carrying untreated sewage and not connected to STPs

It was submitted as under:

- As in-situ remediation in Sirhind Choe, PWSSB is constructing pond system followed by constructed wetland to treat 0.5 MLD sewage of Nagar Panchayat Bhadson which shall be completed by 30.06.2020.

- Nano bubble technology, as in-situ remediation system, is under construction in Bhulana drain leading to river Ghaggar. The said technology shall be completed by 15.07.2020.
- Construction work of in-situ remediation technology based on pond system to treat 0.216 m3/day wastewater at village Bijanpur, District Sangrur has been commissioned.

After detailed discussion on the issue, it was directed by the Chairman of the Executing Committee as under:

i. **Pilot plants based on ponds system followed by constructed wetland, Nano bubble technology and solar energy based aeration system to enhance the oxygen level in pond and treatment efficiency of STPs, being set up at various locations, shall be installed and commissioned by 15.07.2020.**

ii. **On successful commissioning of these in-situ remediation plants, the same shall be replicated by PPCB in the drains/nallahs carrying untreated sewage and falling into river Ghaggar.**

8. Status of irrigation schemes to utilize the treated sewage of STPs for irrigation.

It was submitted as under:

- Irrigation schemes for 9 towns, having command area 1283 hectares, have been commissioned.
- Irrigation schemes for the towns Khanouri: 3 MLD and Rajpura: 7 MLD having command area of 110 hectares and 140 hectares, respectively, are under construction and the same shall be commissioned by 30.06.2020 and 31.12.2020, respectively.
- In case of 4 towns [Mandi Gobindgarh: 25 MLD, Patiala: 10 MLD, Dhuri: 5 MLD and Sangrur: 11 MLD], irrigation schemes are under planning and the funds have been tied up and the work shall be started soon after the release of funds by State Government.

After detailed deliberation, the Chairman of the Executing Committee directed as under:

i. **Irrigation schemes for 2 towns [Khanouri: 3 MLD and Rajpura: 7 MLD having command area of 110 hectares and 140 hectares], which are under construction, may be commissioned by 31.03.2021.**

ii. **The Department of Soil and Water Conservation shall take up the matter with Department of Finance for early release of funds for the irrigation schemes to be constructed for 4 towns [Mandi Gobindgarh: 25 MLD, Patiala: 10 MLD, Dhuri: 5 MLD and Sangrur: 11 MLD]. These irrigation schemes may be completed by 31.03.2021.**

iii. **The Department of Soil and Water Conservation shall take up the matter with Department of Finance to make provisions of funds for installation of irrigation schemes to utilize treated sewage of 24 STPs in 20 towns having total sewage discharge of 132.7 MLD and the funds may be got released from finance department so that irrigation schemes for these 24 STPs in 20 towns may be completed by 31.03.2021 i.e. simultaneously along with the commissioning of the 24 STPs.**

9. Status of installation of STPs for the villages.

It was apprised that out of total 389 villages identified for discharging their sewage/sullage into river Ghaggar, 87 villages have been covered in phase-1 for installation of STPs. Presently, out of these 87 villages, treatment system has been constructed for treatment of sewage of 24 villages. The construction work of STPs in 17 villages is under progress and the same shall be commissioned by 30.09.2020.

It was directed by the Executing Committee as under:

i. **STPs for 17 villages, which are under construction, shall be completed by 30.09.2020.**
ii. **STPs for the remaining 46 villages, which have been covered under phase-1, shall be completed by 30.09.2020.**
iii. **STPs for 152 villages, which have been covered in Phase-II, shall be installed by 31.12.2020.**
iv. **STPs for the 150 villages, covered in phase-III, shall be installed by 31.03.2021.**

10. Inspection of industries/ STPs by PPCB and DLSTFs in the month of March, 2020 to May 2020 and action against the defaulters.

The Executing Committee was apprised that in the month of March, 2020 and May, 2020, 6 and 8 industries, respectively, have been inspected by PPCB and all these industries have been found compliant w.r.t effluent discharge norm. However, no industry has been inspected by DLSTF. While having discussion on the issue, it was pointed out by the Chairman of the Executing Committee that the number of inspection made by PPCB in the month of March, 2020 and May, 2020 is less and there is need to inspect more industries to ensure the operation of their ETPs effectively and efficiently.

After detailed discussion, it was directed by the Chairman of the Executing Committee as under:

i. **PPCB shall inspect the industries to monitor their effluent treatment plants as per the frequency of inspection fixed by Hon'ble NGT.**
ii. **Besides, the inspection of the industries as per the frequency fixed by Hon'ble NGT, surprise inspection of the industries may also be carried out to ensure that their ETPs remain in operation in odd hours also.**

iii. **While inspecting the industries either on the frequency-based inspection or surprise inspection, the readings of OCEMS, installed by the industries, may also be checked to cross check the online as well as manual data.**

iv. **PPCB shall make connectivity of OCEMS installed by the industries with their server and its link may be given to CPCB by 30.09.2020.**

v. **PPCB shall make arrangements to cover the OCEMS of the industries with suitable cover and it may be sealed by PPCB so as to avoid any tempering in the system.**

11. Ground Water quality of ground water sources located in the catchment area of river Ghaggar.

It was reported that Ground Water sampling at 11 locations was carried out in the month of January, 2020 and thereafter, no ground water sampling has been carried out.

The Chairman of the Executing Committee directed that PPCB shall carry out ground water sampling of ground water sources located in the catchment area of river Ghaggar before 25.06.2020 and the analysis results shall be conveyed to the Executing Committee.

12. Removal of solid waste from river Ghaggar and drains falling into it.

The Executing Committee was informed that solid waste from river Ghaggar falling in the jurisdiction of Mohali, Patiala, Sangrur and Mansa has been removed and no solid waste is lying dumped along river Ghaggar in these areas.

It was directed by the Chairman of the Executing Committee that joint team of PPCB, Department of Rural Development & Panchayat, Department of Drainage and PWSSB shall inspect the different stretches of river Ghaggar and ensure that no solid waste is lying dumped in river Ghaggar as well as on its both sides. The said inspection may be carried out before 15.07.2020.

13. Septage and Faecal Sludge management.

It was submitted that in order to manage septage and faecal sludge, PPCB has proposal to prepare a document with legal framework mentioning the duties and responsibilities of the concerned departments and registration of the vehicles to be deployed for collection and transportation of septage and faecal sludge.

After detailed deliberation, it was directed as under.

- **PPCB shall prepare document on Management of Septage and Faecal sludge with legal frame work within 15 days and after the approval of the said document by the department of Science, Technology and Environment, the same shall be circulated to Department of Local Govt., Department of**

Transport, Department of Rural Development and Panchayat and other concerned departments for their comments and suggestions and the said document shall be made ready by 31.10.2020.

- **PPCB and PWSSB shall jointly study the capacity and technology of STPs located in the catchment area of River Ghaggar and shall submit the report to the Executing Committee within 30 days.**
- **The work on management of septage and faecal sludge may be started by 1.11.2020**

14. Environmental flow.

PPCB submitted that since river Ghaggar is non perennial, as such, no environmental flow can be maintained in the river.

The Chairman of the Executing Committee directed that the department of Water Resource shall identify the suitable locations along river Ghaggar to construct storage ponds/tanks, barriers etc. so as to collect surface runoff during rainy season and regulated flow may be discharged into river Ghaggar so that environmental flow can be maintained in the river.

15. Watershed Management.

No steps have been taken by the department of Soil and Water Conservation regarding watershed management.

It was directed that Department of Soil and Water Conservation shall prepare the proposal for watershed management in the catchment area of river Ghaggar within 30 days.

16. Installation of real time water quality monitoring stations (RTWQMS) in River Ghaggar.

It was informed that 4 real time water quality monitoring stations have been proposed to be installed at the locations: Bhankarpur, d/s Patiala Nadi, d/s Sagarpara and Sardulgarh. Supply order has been replaced and the said monitoring systems shall be installed by 31.07.2020.

The Chairman of the Executing committee directed as under:

i. **4 real time water quality monitoring systems in river Ghaggar, for which, the order has been placed, shall be installed at the prescribed locations by 31.07.2020.**

ii. **Punjab pollution Control Board shall also install 2 more Real time water quality monitoring Stations, 1 at the point of entry of river Ghaggar in Punjab area and one at its exit point leaving Punjab area by 31.12.2020.**

17. Status of Health check camps organized during the months March, 2020 to May, 2020.

It was informed that due to lockdown and COVID-19 pandemic, no health checkup camps could be organized at Patiala, SAS Nagar and Mansa except organizing 4 camps in April, 2020 and 2 camps in May, 2020 in Sangrur area, wherein, 48 patients were checked.

The Chairman of the Executing Committee directed that the department of Health, State of Punjab shall continue to organize health checkup camps in the localities/ villages located in the catchment area of river Ghaggar as and when the prevailing conditions allow.

18. Information, education and communication (IEC) activities.

It was submitted that no IEC activities could be organized in any of the Districts namely Patiala, SAS Nagar, Sangrur and Mansa due to COVID-19, as the public gathering was not allowed for such activity.

The Chairman of the Executing Committee directed that the Department of Local Government and Punjab Pollution Control Board shall continue to organize IEC activities w.r.t control of pollution in river Ghaggar in the area along the catchment area of river Ghaggar, as and when prevailing conditions allow.

4.3.4 Compliance of directions given/recommendations made by the Executing Committee in its18th meeting held with State Level Officers of the State of Punjab on 19.8.2020

1) Water quality of river Ghaggar

PPCB submitted that water quality of river Ghaggar is monitored at 14 locations and water quality has been found improved w.r.t DO, BOD and F.Coli parameters at 12 locations. The Monitoring has also been carried out at the point sources and the results are awaited.

The Executing Committee informed that the monitoring carried out by HSPCB indicate that point sources (Jharmal Choe, Basouli Choe, Patiala Nadi, Pachis Dara drain, Dera Bassi drain, Moonak town outlet, Chambowali Choe and Sardulgarh town outlet), falling in Punjab area, contain high level of BOD ranging between 30- 56 mg/l. However, the value of F.Coli parameter has been found much higher (13000 MPN/100 ml– 56000 MPN/100ml).

After detailed discussion, the Chairman of the Executing Committee directed as under:

PPCB shall carry out monitoring of point sources falling into river Ghaggar within 15 days. The responsible agencies contributing high values of BOD may also be identified and these agencies be directed to take time bound action to bring down the values of organic parameters

within the norms. The responsible agencies for contributing high levels of parameters at Jharmal Nadi and Sardulgarh may also be identified and action may be taken as per the provisions of Water Act, 1974.

2) Status of laying of sewerage network in the towns and interception of sewage

It was submitted that more than 50% sewerage system has been laid in all the 30 towns except Bassi Pathana (42%), Bhadson (0%), Boha (0%), Lalru (23%) and Sanaur (0%).

The Chairman of the Executing Committee directed that sewerage system in all the towns shall be completed simultaneously along with the completion of STPs by 31.3.2021.

3) Performance of Existing STPs

It was apprised that all the 21 existing STPs are monitored on monthly basis and during the performance carried out in the month of July, 2020, 4 STPs were found non compliant and PPCB has taken action these defaulting STPs.

After detailed discussion, it was directed that PPCB shall again collect the treated sewage samples of the 4 non compliant STPs along with sampling of all the remaining STPs in the Month of September, 2020 and in case these 04 STPs are again found non compliant, legal action under the provisions of Water Act, 1974 may be taken.

4) STP under construction

The Executing Committee was informed that 10 STPs of capacity 42.5 MLD are under construction but the percentage of work done is very low (0-27%) except Boha town where 52% of construction work has been completed.

The Chairman of the Executing Committee directed that all the 10 STPs shall be completed by 30.6.2021.

5) STPs under planning

PWSSB submitted that out of 12 STPs for 8 towns of capacity of 34 MLD, which are under planning, 05 STPs are at tendering stage, 06 are at DNIT stage and for 01 STP, DPR is under preparation. It was further submitted that these STPs are of small capacity and Nano bubble technology shall be installed under the guidance of IIT Ropar and the department is quite hopeful that with the installation of said technology, the prescribed standards for parameters shall be achieved.

After discussion on the issue, it was directed that PWSSB shall compete 12 STPs of capacity 34 MLD for 08 towns by 30.6.2021 and shall achieve the prescribed standards for the parameters.

6) Status of STPs where land issues are to resolved

There are 05 STPs for 5 towns of capacity 21.7 MLD, where land issues are yet to be resolved for which concerned Deputy Commissioners are in the process of acquiring the land.

The Chairman of the Executing Committee directed that land for these STPs shall be arranged within 02 months and STPs shall be completed by 30.6.2021.

7) Status of STPs required technological up gradation and capacity enhancement

03 STPs based on old technology (WSP) have been proposed to be upgraded for which presently no funds have been tied up. However, the department has proposed to upgrade these STPs by providing Nano Bubble technologies along with other infrastructure under the guidance of IIT, Ropar and the said upgradation shall be made by 31.03.2021.

With regard to capacity enhancement of 46 MLD STP at Patiala to 61 MLD, presently 75% of enhancement work has been completed and the capacity is likely to be enhanced by 31.01.2021.

For 6 MLD STP for Patiala by MES Authority, work has been allotted, whereas for 1 MLD STP at Nabha, tender work has been started and shall be concluded by 30.09.2020.

After detailed discussion, the Chairman of the Executing Committee directed as under:

1) **PWSSB shall upgrade 3 old technology based existing STPs (Bareta: 3 MLD, Bhikhi: 3 MLD and Sardulgarh: 4 MLD) by 31.03.2021 and shall ensure that these STPs should meet with the prescribed standards.**
2) **PWSSB shall complete the enhancement work of STP Patiala of capacity 46 MLD to 61 MLD by 31.01.2021.**
3) **PPCB shall issue necessary directions to MES authorities to complete 6 MLD STP for Patiala and 1 MLD STP for Nabha by 31.03.2021.**

8) Gap in treatment of sewage

It was submitted that wastewater generation and capacity of STPs installed for 30 towns have been assessed and it has been observed that there is gap of 66.47 MLD, which is to be treated by providing STPs in different towns.

The Chairman of the Executing Committee directed that treatment of sewage to cover the gap shall be completed by 30.06.2021 and PWSSB or any other Executing Agency shall ensure that after 31.03.2021 there shall be no gap in sewage to be treated.

9) **Status of ETP, inspection, performance of ETPs and action against the violating industries**

It was informed that 48 industries [15 industries of 17 category, 30 Red category and 3 Orange categories] exist in catchment area of river Ghaggar, out of which 15 industries were visited and all these industries were found complaint w.r.t achievement of the standards.

It was directed by the Chairman of the Executing Committee that PPCB shall continue to make surprise inspection of the industries located in the catchment area of river Ghaggar and action against the violating industries may be taken under the provisions of the Water Act, 1974.

10) **Status of irrigation schemes to utilize the treated sewage of STPs**

The officers of Department of Soil and Water Conservation informed that in order to utilize the treated sewage for irrigation, 10 irrigation schemes have been commissioned, whereas, irrigation schemes for 24 towns have been prepared but the funds are yet to be tied up. In case of 4 towns, irrigation schemes are not feasible.

To utilize the treated sewage of STP of capacity 7 MLD for Rajpura town, irrigation scheme is under progress and shall be completed by 31.12.2020.

For 4 towns [Mandi Gobindgarh: 25 MLD, Patiala: 10 MLD, Dhuri: 5 MLD, Sangrur: 11 MLD] funds have been tied up under RIDF-25 scheme.

After detailed discussion on the issue, it was directed as under:

1) **Department of Soil and Water Conservation shall take up the matter with Department of Finance for arrangement of funds to lay irrigation network to utilize the treated sewage of 24 towns.**
2) **Irrigation schemes to utilize 7 MLD treated sewage of Rajpura town shall be completed 31.12.2020.**
3) **Department of Soil Conservation shall get release the funds to lay irrigation network to utilize the treated sewage of STPs of Mandi Gobindgarh: 25 MLD, Patiala: 10 MLD, Dhuri: 5 MLD and Sangrur: 11 MLD.**
4) **Department of Soil and Water Conservation shall ensure that irrigation schemes for 28 towns shall be completed by 31.03.2021.**

11) **Status of installation of STPs for the villages**

It was apprised that out of total 389 villages, 87 villages have been covered under phase-1 for treatment of sewage of the villages. However, out of these 87 villages, STPs have been completed in 24 villages and work is under progress in case of 14 villages.

After discussion on the issue, it was directed that treatment facilities to treat the sewage of 87 villages covered under phase-1 shall be

completed by 31.12.2020. STP for villages covered under Phase-II and Phase III shall also be completed by 31.03.2021.

12) Ground water quality in the vicinity of river Ghaggar

PPCB submitted that Ground Water Quality of ground water sources located in the catchment area of river Ghaggar has been analyzed for 7 sources, out of which total alkalinity has been found higher than the permissible limits in 1 ground water sample and value of TDS higher than the permissible limits of 2000 mg/l in another ground water sample.

After detailed discussion, the Chairman of the Executing Committee directed as under:

1) **PPCB shall increase the number of locations for collection of ground water samples in proportion to the length of the river Ghaggar in Punjab area and these ground water samples may be collected as per the frequency directed by the Hon'ble NGT.**
2) **PPCB shall seal the ground water sources of those points where parameters have been found higher than the permissible limits.**

13) Maintaining Environmental Flow

It was informed that PPCB has taken up the matter with Department of Water Resources and inability has been shown to maintain environmental flow in River Ghaggar, being non perennial water body.

After discussion on the issue, it was decided that the Executing Committee shall hold separate meetings with Department of Water Resource, Soil and Water Conservation, PPCB and other concerned departments within 3 weeks for which meeting date shall be conveyed shortly.

14) Management of Septage and Faecal Sludge

The Committee was informed that the State Government has constituted a technical committee for providing various technological options for treatment of wastewater of rural areas. The Committee has prepared draft policy covering guidelines for management of septage and fecal sludge.

After discussion on the issue, it was directed that PPCB shall supply the copy of the draft guidelines/policy framed by the Technical Committee within 10 days so that Committee may also examine the said policy in view of generation of septage and faecal sludge generated in the rural areas and other un-sewered areas.

15) In-Situ Bioremediation in the drains carrying untreated sewage and not connected to STPs

It was submitted as under:

i. PWSSB has installed in-situ remediation technologies consisting of Facultative Pond followed by constructed wetland system along with

plantation in Sirhind Choe to treat 0.5 MLD sewage of Nagar Panchayat Bhadson.

ii. PPCB has installed in-situ remediation technologies in Bhulana Drain carrying wastewater of 27 colonies near village Rewal. This technology consisting of 3 green bridges, Nano Bubble Aeration system, 2 Stage cascade aeration system and Phytoremediation. The analysis data of the in-situ remediation technology carried out by PPCB in the month of June and July indicated that there is reduction of BOD in the range of 12%-65%.

iii. PPCB shall again carry out the analysis of effluent samples at the inlet and outlet of the in-situ remediation technology set up in Bhulana Drain in the month of September-2020 to assess its effectiveness.

16) Installation of real time water quality monitoring stations (RTWQMS) in river Ghaggar

PPCB submitted that there is proposal to install 4 Real time Water Quality Monitoring Stations (RTWQMS) in river Ghaggar at the following locations.

- ✓ Bhankarpur near Dera Bassi
- ✓ Downstream Patiala nadi
- ✓ Downstream Sagarpara drain
- ✓ Sardulgarh

These RTWQMS shall be installed by 31.03.2020 and the Executing Committee noted the progress.

17) Watershed Management

No work has been done on this activity as informed by the Department of Soil and Water Conservation.

The Executing Committee decided that issue regarding watershed management shall be discussed in the meeting to be held within next 3 weeks on issue of Environmental flow, wherein, where in the Departments namely Water Resources, Soil and water Conservation, PWSSB and PPCB shall be present.

18) Status of Prosecution launched by PPCB

It was informed that no prosecution proceedings have been launched in the month of May, June and July-2020.

The Chairman of the Executing Committee directed that PPCB shall prepare the details of all the cases pending before various Hon'ble Courts at District Level and Hon'ble Punjab and Haryana High Court. The latest status of each case may be prepared and be submitted to the Executing Committee within15-days.

4.3.5 Latest progress w.r.t performance of existing STPs, installation of new STPs, gap in treatment of sewage of the towns, installation of ETPs by the industries, installation of CETP, utilization of treated sewage, water quality of drains/nallah, ground water quality etc.

4.3.5.1 Performance of existing Sewage treatment plants

Punjab Pollution Control Board is regularly monitoring the performance of 21 existing sewage treatment plant located in the catchment area of river Ghaggar. The performance w.r.t.paramerters BOD, TSS and F.Coli for the period March, 2020 to July, 2020 is mentioned as under:

Performance of existing Sewage treatment plants:

Sr. No	Name of the Town	Cap. of STP	Performance w.r.t. parameters BOD, TSS, and F. Coil															
			March, 2020			April, 2020	May, 2020			June, 2020			July, 2020					
			BOD (mg/l)	TSS (mg/l)	F.Coli (MPN/100 ml)		BOD (mg/l)	TSS (mg/l)	F.Coli (MPN/100 ml)	BOD (mg/l)	TSS (mg/l)	F.Coli (MPN/100 ml)	BOD (mg/l)	TSS (mg/l)	F.Coli (MPN/100 ml)			
1	Zirakpur	17	102	82	9400		Samples could not be collected due to lockdown			40	108	1400	6	8	360			
2	Mohali	45.4	36	24	920					15	18	1600	20	22	810			
3	Banur	4	16	62	680					-	-	-	18	16	910			
4	Lalru	1.5	32	17	780					9	9	600	12	11	680			
5	Dera Bassi	4	7	10	910					16	12	820	8	7	780			
6	Samana	10	9	7	680	Samples could not be collected due to lockdown	9	8	780	8	8	680	6	7	550			
7	Patran	4	7	8	560		8	9	610	9	8	680	19	17	910			
8	Rajpura	7	8	7	450		8	8	610	37	46	1700	9	9	610			
9		10	8	8	610		9	10	680	8	8	610	8	9	550			
10	Patiala	46	8	9	780		8	9	550	17	9	780	21	13	930			
11		10	6	8	610		7	8	600	9	8	600	13	9	610			
12		13	35	32	1200		56	32	7000	10	9	680	12	24	680			
13	Sunam	8 MLD	10	8	610		9	10	680	8	9	610	9	9	780			
14	Khanauri	3 KLD	6	8	450		6	9	610	7	9	690	8	9	680			
15	Lehragaga	4 KLD	8	9	600		6	9	600	9	10	450	7	8	680			
16	Moonak	3 MLD	7	9	550		10	9	780	9	9	560	7	9	610			
17	Sardulgarh	3.0	44	32	1100		42	54	3800	44	48	3300	48	67	3200			
18	Bhikhi	3.0	15	36	610		36	34	2200	38	57	2700	35	32	680			

															0
19	Budhlada	6.5	50	38	1700		22	23	1700	24	34	930	45	47	5800
20	Bareta	3.0	18	66	820		32	39	1300	43	56	6300	36	43	3900
21	Mandi Gobindgarh	25 MLD	8	9	550		7	8	360	7	11	610	6	6	450

The above data indicate that out of 21 STPs of 18 towns monitored during March, 2020 to July, 2020. STPs of 4 towns, 5 towns, 6 towns and 4 towns were found not meeting with the prescribed standards during the month of March, May, June and July, respectively.

4.3.5.2 Status of STPs under construction

Sr. no.	Name of the town	STP Capacity (MLD)	Target date of completion/commissioning	% work done	
				Earlier Status as on 29/02/2020 (% work done)	Status as on 31.07.2020 (% work done)
1.	Boha	2	31.03.2021	41%	52% work completed
2.	Dhuri	5	31.12.2021	20%	27% work completed
3.	Sangrur	4	31.12.2021	25%	30% work completed
4.	Bassi Pathana	3	31.12.2021	10%	14% work completed
5.	Sirhind	5	30.09.2021	14%	20% work completed
6.		4	31.12.2021	10%	12% work completed
7.		2	31.12.2021	Pond water Diversion in progress	Pond water diversion in progress.
8.	Nabha	12	31.03.2022	Tender received and are under process.	Work allotted
9.	Banur Bassilssay Khan	0.5	31.03.2022	Tender received and are under process.	5%
10.	Longowal	5	30.06.2022	Tender received and are under process.	Work allotted
11.	Patiala (MES)	6	31.10.2021	Tendering stage	Work allotted

The above data indicate that out of 11 STPs, construction work has been started in 7 STPs [Boha: 2 MLD (52%), Dhuri: 5 MLD (27%), Sangrur: 4 MLD (30%), Bassi Pathana: 3 MLD (14%), Sirhind: 5 MLD (20%), Sirhind: 4 MLD (12%) and Banur: 0.5 MLD (5%)]. In case of 3 STPs (Nabha: 12MLD,

Longowal: 5 MLD and Patiala (MES): 6 MLD, the work has been allotted.

Pond water diversion work of 2 MLD sewage in Sirhind town is in progress.

4.3.5.3 Status of STPs under planning and funds tied up

Sr. no	Name of the town	STP Capacity (MLD)	Target date of completion/commissioning	Earlier Status as on 29.2.2020	Status as on 31.07.2020 (% work done)
1.	Cheema	2	30.06.2022	Single Tender received & under process.	Tender received but kept pending as Nano bubble technology is being explored.
2.	Amloh	3	30.06.2022	Approval received & payment of same is under process.	Land finalized was cancelled due to dispute of owners. New land has been identified at village Bhaddal Thua and negotiation are under process.
3.	Dera Bassi (Mirpur)	2	30.04.2022	Tender received & under process.	Tender received and are under process.
4.	Dera Bassi (Issapur)	2	30.04.2022	Tender received & under process.	Tender received and are under process.
5.	Lalru (Dappar)	1	30.04.2022	Tender called &to be opened on 26.03.2020.	Tender received and are under process.
6.	Lalru (Mandi)	1.5	Land Issue	Court case by residents. Next date is 20.04.2020 for defence evidence.	Land issue. Court case filed by residents. Next date is 15.09.2020 for defence evidence.
7.	Ghanaur	2	30.06.2022	Tender received & under process.	Tender received and are under process.
8.	Dhuri	6	31.12.2021	Rates received are on higher side. DC Sangrur had convened meeting & in the meeting it was decided that process of compulsory acquisition of land be initiated.	Other stretch of land is being identified by the revenue department and it has been decided by DC to acquire land by compulsory acquisition Act.
9.	Sangrur	11	31.12.2022	Rates received are on higher side. DC Sangrur had convened meeting & in the meeting it was decided that process of compulsory acquisition of land be initiated.	Another stretch of land identified by the revenue department and negotiations of rates are under process and it has been decided by DC to acquire land by compulsory acquisition act.

10.	Bassi Pathana	0.2	31.12.2021	As decided in the meeting held with SDM on 24.10.19, process started to transfer Govt. land. DC has written to Khadi Board for transfer of land. Resolution for acquisition of land also passed in the house meeting, Bassi Pathana on 23.12.2019	Resolution of acquisition of land belonging to Khadi Board has been passed by MC. Khadi Board has been asked on 14.05.2020 to give consent for handing over the land. Meeting in this regard was held by the PWSSB with DC and SDM.
11.	Gholu Majra	0.35	31.12.2021	Tenders expected to be called by 30.04.2020.	DNIT being prepared and tenders will be called shortly.
12.	Lalru (Chaundheri & Samalheri)	0.35	31.12.2021	Tenders expected to be called by 30.04.2020.	DNIT being prepared and tenders will be called shortly.
13.	Lalru	0.15	31.12.2021	DNIT under preparation.	DNIT being prepared and tenders will be called shortly.
14.	Bhadson	3	31.03.2022	Tenders expected to be called by 30.04.2020.	DPR under preparation
15.	Sanaur	4	30.09.2022	Tenders expected to be called by 30.04.2020.	Tenders called
16.	Banur (fauji Colony)	0.15	30.09.2022	Tenders expected to be called by 30.04.2020.	DNIT being prepared.
17.	Zirakpur	17	30.09.2022	-	DNIT under preparation
18.	Nabha	1	30.09.2021	-	Tender action to be concluded by 30.9.2020
19.	Nabha (MES)	1	30.09.2021	Tendering stage	Tender auction to be concluded by 30.09.2020

The data indicate that out of 19 STPs, 7 STPs [Dera Bassi: 2 MLD, Dera Bassi: 2 MLD, Lalru: 1 MLD, Ghanaur: 2 MLD, Sanaur: 4 MLD, Nabha: 1 MLD, Nabha (MES): 1 MLD] are at tendering stage. In case of 5 STPs (Amloh: 3 MLD, Lalru Mandi: 1 ½ MLD, Dhuri : 6 MLD, Sangrur: 11 MLD, Bassi Pathana: 0.2 MLD), land issues are to be resolved. 5 STPs (Gholu Majra: 0.35 MLD, Lalru: 0.15 MLD, Lalru: 0.35, Banur: 0.15 MLD, Zirakpur: 17 MLD) are at DNIT stage. In case of 01 STP for Cheema town, where there is proposal to install STP of capacity 2 MLD, the Department is exploring the possibility for

providing nano bubble technology in the drain to treat sewerage in the town. 01 STP of capacity 3 MLD for Bhadson town is at DPR stage.

4.3.5.4 STPs which require technological upgradation/ capacity enhancement and funds tied up

Sr. No.	Name of the Town	Present capacity of STP (MLD)	Capacity to be upgraded technologically	Target date for completion/ commissioning	Earlier Status as on 29.2.2020	Status as on 31.07.2020
1.	Baretta	3	3	31.12.2023	No further progress	Funds tied up. DPR for providing STP based on SBR technology is being prepared.
2.	Bhikhi	3	3	31.12.2023	No further progress	Funds tied up. DPR for providing STP based on SBR technology is being prepared.
3.	Sardulgarh	4	4	31.12.2023	No further progress	Funds tied up. DPR for providing STP based on SBR technology is being prepared.
4.	Patiala (MC)	46	61	31.01.2021	30%	75%

3 STPs of (Bareta: 3 MLD, Bhikhi: : 3 MLD, Sardulgarh : 4 MLD) are based on old technology and these have been proposed for upgradation based on new technology. Funds for these 03 towns have been tied up and are at DPR stage. STP of capacity 46 MLD of Patiala town is being enhanced to 61 MLD and 75% progress has been achieved upto 31.7.2020.

4.3.5.5 Details of the towns for laying of sewerage system in the catchment area of river Ghaggar.

Sr. No.	Name of the Town	Target date	Length of sewer to be laid (In meters)	Progress as on 31.07.2020	Existing sewerage coverage
1.	Amloh	-	-	-	77%
2.	Banur	-	-	-	85%
3.	Baretta	-	-	-	89%
4.	Bassi Pathana	-	-	-	42%
5.	Bhadson	-	-	-	0%
6.	Bhikhi	-	-	-	90%
7.	Boha	-	-	-	85% (Not commissioned as STP under progress)
8.	Budhladha	-	-	-	51%
9.	Cheema	-	-	-	75%
10.	Dera Bassi (GMADA)	-	-	-	61%
11.	Dhuri	-	-	-	66%
12.	Ghanaur	-	-	-	95%
13.	Khanauri	-	-	-	100%
14.	Lalru (GMADA)	-	-	-	23%
15.	Lehragaga	-	-	-	100%
16.	Longowal	-	-	-	96%
17.	Mandi Gobindgarh	-	-	-	81%
18.	Moonak	-	-	-	100%
19.	Nabha	-	-	-	31%
20.	Patiala (M.C)	-	-	-	82%
21.	Patran	-	-	-	96%
22.	Rajpura	-	-	-	80%
23.	Samana	-	-	-	93%
24.	Sanaur	-	-	-	0%
25.	Sangrur	-	-	-	61%
26.	Sardulgarh	-	-	-	92%
27.	SAS Nagar (With DWSS)	-	-	-	100%
28.	Sirhind	-	-	-	55%
29.	Sunam	-	-	-	77%
30.	Zirakpur	-	-	-	96%

Sewage system in all the 30 towns is under progress. More than 50% sewerage network has been laid in 26 towns except 04 towns namely Bhadson, Lalru (GMADA), Nabha and Sanour where 0%, 23%, 31%, 0% progress has been achieved, respectively.

4.3.5.6 Details of the towns where sewerage system is yet to be laid in the catchment area of river Ghaggar.

Sr. No.	Name of the Town	Length of sewer to be laid (In KM)	Latest Progress, if any as on 31.07.2020
1	Bhadson	21.7	---
2	Sanaur	25	---

In the above 2 towns namely Bhadson and Sanaur, sewerage system of length 21.7 Kms and 25 Kms, respectively, is to be laid but presently no work w.r.t. sewerage network has been started so far.

4.3.5.7 Comparison of water quality of River Ghaggar in terms of average values of BOD, D.O and T.Coli, (December 2019 to February, 2020 and March to July, 2020).

Sr. No.	Sampling location	Average values of the parameters as monitored in the month of December 2019 to February,2020			Average values of the parameters as monitored in month of March to July, 2020			Improvement in the water quality of river Ghaggar w.r.t. to parameters
		DO (mg/l)	BOD (mg/l)	T. Coli (MPN/100 ml)	DO (mg/l)	BOD (mg/l)	T. Coli (MPN/100 ml)	
1	Ghaggar at Mubarikpur Rest House	6.4	8	17333	7	8	17600	No improvement
2	Ghaggar at Bhankarpur	4.6	32	24333	3	25	2600	Improvement of BOD
3	Ghaggar at Chattbir	4.0	20	25667	3	19	23800	Improvement of BOD & T-Coli
4	Ghaggar at U/s Jharmal Nadi	4.5	9	19333	4	13	25000	No improvement
5	Ghaggar at D/s Jharmal Nadi	2.7	20	24667	3	19	28600	Improvement of BOD & DO
6	Ghaggar at U/s Dhakanshu Nallah	3.4	15	16000	4	12	18200	Improvement of BOD & DO
7	Ghaggar at D/s Dhakanshu Nallah	3.0	19	26667	3	15	24000	Improvement of BOD & T-Coli
8	Ghaggar at Rattanheri	2.6	23	32667	3	20	25000	Improvement of BOD,DO& T-Coli
9	Ghaggar before mixing with Sagar Para drain (U/s Sagar Para Drain)	2.7	22	29000	3	19	25000	Improvement of BOD,DO& T-Coli

10	Ghaggar after mixing with Sagar Para drain (D/s Sagar Para Drain)	2.2	27	35333	2	24	29600	Improvement of BOD & T-Coli
11	Ghaggar at Khanauri	2.8	25	26667	3	15	24200	Improvement
12	Ghaggar at Moonak	3.0	25	32667	3	16	27200	Improvement of BOD & T-Coli
13	Ghaggar at U/s Sardulgarh	3.8	20	20000	5	12	19200	Improvement
14	Ghaggar at D/s Sardulgarh	3.1	24	24333	4	13	23200	Improvement

The above data indicate that there is improvement in water quality of river Ghaggar at Bhankharpur, Chattbir, downstream of Jharmal Nadi, upstream of Dhakansu Nallah, downstream of Dhakansu Nallah, Rattanheri, before mixing Sagarpara drain after mixing of Sagarpara drain, Khanauri, Moonak and at Sardulgarh. However, the State of Punjab and State of Haryana are to take adequate steps to control faecal coliform which is high at almost all the points.

4.3.5.8 Ground Water Quality in the catchment area of river Ghaggar

07 samples of groundwater were collected in the month of June,2020 and the analysis results of same are given as under:

Sr.no	Point of sampling	Parameter within acceptable limits	Value of parameters found BDL	Parameters found beyond acceptable limits	Parameters found beyond permissible limits
1.	Hand Pump near Vill. Bhankharpur, SAS Nagar	pH,sulphate,fluoride,NO_3 as N and boron	TSS, COD, BOD, Ammonical Nitrogen, TKN, Turbidity and Phosphate	TDS, Total Hardness, Ca, Mg and Cl	-
2.	T/w Vill Chular Kalan, Sangrur	pH,sulphate,fluoride,NO_3 as N ,Ca ,Cl and boron	-Do-	TDS, Total Hardness & Mg	Total Alkalinity
3.	T/w Vill. Bhullan, Sangrur	pH,sulphate,fluoride,NO_3 as N ,Ca Mg,Cl and boron	-Do-	TDS & Total Alkalinity	-
4.	T/w Vill. Raipur, Mansa	pH,sulphate,fluoride,NO_3 as N,Ca,Mg and boron	-Do-	Total Hardness and Cl	TDS
5.	T/w Vill. Burj, Mansa	pH,sulphate,fluoride,NO_3 as N, Ca,Cl and boron	-Do-	TDS,Total Hardness and Mg	-
6.	T/w Vill Mafar, Mansa	pH,sulphate,fluoride,NO_3 as N, Ca,Cl and boron	-Do-	TDS, Total Hardness and Mg	-
7.	T/w Vill Jhanda Khurd, Mansa	pH,sulphate,fluoride,NO_3 as N, Ca,Cl and boron	-Do-	TDS, Total Hardness and Mg	-

Punjab Pollution Control Board has carried out groundwater sampling of groundwater sources at 7 locations in the catchment area of river Ghaggar. In 01 groundwater sample, total alkalinity and in 2nd groundwater sample TDS has been found higher than the permissible limits. Punjab Pollution Control Board should seal these groundwater sources and a display board mentioning that **"water is not fit for drinking"** should be erected at the site.

4.3.5.9 Status of Irrigation schemes for STPs

The status w.r.t utilization of treated sewage for irrigation is as under:

A. Towns/STPs where Irrigation Projects Commissioned as on 31.07.2020

S. no.	Town	Name of STP	Capacity (MLD)	Command Area (ha)
1	Banur	Banur	4	120
2	Baretta	Baretta	3	150
3	Bhikhi	Bhikhi	3	165
4	Samana	Samana	10	324
5	Sardulgarh	Sardulgarh	4	128
6	Sunam	Sunam	8	240
7	Lehragaga	Lehragaga	4	110
8	Moonak	Moonak	3	70
9	Patran	Patran	4	120
10	Khanauri	Khanauri	3	115

To utilize the treated sewage of 47 MLD of 10 towns, irrigation schemes have been commissioned.

B. Towns/STPs where Irrigation Projects Under Progress

S. No.	Town	Name of STP	Capacity (MLD)	Completion Date	Command Area (ha)	Earlier status as on 29.02.2020	Current Status as on 31.07.2020
1	Rajpura	Rajpura -II	7	31.12.2020	185	80% work completed	80% work completed

C. Towns/STPs where Irrigation Projects have been sanctioned

S. no.	Name of the Town	Name of STP	Capacity (MLD)	Command Area (ha)	Earlier Status as on 29.02.2020	Current status as on 31.07.2020
1	Mandi Gobindgarh	Mandi Gobindgarh	25	925	Proposal for release of funds (14.73 cr.) pending	Proposal for release of funds (14.73 cr.) pending
2	Patiala	Patiala- II	10	444		

3	Dhuri	Dhuri - I	5	185	with Government.	with Government.
4	Sangrur	Sangrur -II	11	407		

The above data indicate that irrigation projects to utilize treated sewage of 04 towns have been sanctioned but the funds have not been released so far.

D. Towns/STPs where funds not tied up for Irrigation Projects

Sr. No.	Name of the Town	Name of STP	Capacity (MLD)	Current status as on 31.07.2020
Commissioned STPs				
1	Rajpura	Rajpura -II	10	Funds Not Tied up
2	Lalru	Lalru	1.5	
3	Patiala	Patiala –I	46	
4		Patiala - III	13	
Under Progress STPs				
1	Boha	Boha	2	Funds Not Tied up
2	Cheema	Cheema	2	
3	Bhadson	Bhadson	3	
4	Nabha	Nabha	12	
5	Dhuri	Dhuri –II	6	
6	Sangrur	Sangrur - I	4	
7	Bassi Pathana	Bassi Pathana	3	
8	Longowal	Longowal	3	
9	Amloh	Amloh	3	
10	Dera Bassi	Dera Bassi -I	2	
11	Dera Bassi	Dera Bassi -II	2	
12	Lalru	Lalru (Mandi)	1.5	
13		Lalru (Dappar)	1	
14		Lalru (Gholu Majra)	0.35	
15		Lalru (chaundheri Samalheri)	0.35	
16	Sanour	Sanour	4	
17	Ghanaur	Ghanaur	2	
18	Sirhind	Sirhind - I	2	
19		Sirhind -II	4	
20		Sirhind -III	5	

04 STPs [Rajpura:10 MLD, Lalru:1.5 MLD, Patiala:46 MLD and Patiala:13 MLD] for 03 towns have been commissioned. 20 STPs for 14 towns are under progress and there are likely to be commissioned by 31.3.2020 and for utilization of treated sewage of these towns for irrigation, irrigation schemes have been prepared but the funds are yet to be tied up.

E. Towns/STPs where Irrigation Projects not feasible

S. no.	Name of the Town	Name of STP	Capacity (MLD)	Earlier status as on 29.02.2020	Current Status as on 31.07.2020
1	Budhlada	Budhlada	6.5	Farmers not willing to use water	Not feasible
2	Zirakpur	Zirakpur	17	Urbanized land, no irrigation command available. New STP being set up at other location, irrigation scheme proposed from that STP	Not feasible
3	SAS Nagar	SAS Nagar	45.4	Urbanized land, no irrigation command available.	Not feasible
4	MC Dera Bassi	MC Dera Bassi	4	Urbanized land, no irrigation command available.	Not feasible

- Irrigation schemes for 10 towns to utilize 47 MLD in command area of 1541 hectare have been commissioned.
- 01 irrigation scheme to utilize treated sewage of Rajpura Town (7 MLD) is under construction and 80% of work has been completed.
- For 04 towns namely Mandi Gobindgarh (25 MLD),Patiala(10 MLD), Dhuri (5 MLD) and Sangrur (11 MLD), irrigation projects have been sanctioned and funds are yet to be released by the State Government.
- For 23 STPs of 18 towns, irrigation projects have been prepared to utilize the treated sewage but the funds have not been tied up so far.
- In case of 4 towns (Budhladha: 6.5 MLD, Zirakpur : 17 MLD, SAS Nagar : 45.4 MLD, Dera Bassi : 4 MLD), irrigation schemes are not feasible due to urbanization of land and non-availability of irrigation command area near the towns.

4.3.5.10 Action taken against the operating agencies w.r.t non - compliance of STPs during the period March to June, 2020

Sr. No.	Month	Town	Technology	Reason for non-compliance	Action Taken
1	March, 2020	Zirakpur	17 MLD, SBR	Non achievement of discharge standard w.r.t. BOD and F.Coli parameter.	The competent authority of the Board vide letter no. 2610 dated 24/07/2020 has sought approval from the Government for imposition of environmental clearance to the concerned STP

					authorities.
2	March, 2020	Mohali	45.4 MLD, UASB	Non achievement of discharge standard w.r.t. BOD parameter.	The authorities responsible for operation of the STP were issued advisory by the competent authority of the Board vide letter no. 2204 dated 22/06/2020.
3	March, 2020	Lalru	1.5 MLD, SBR	Non achievement of discharge standard w.r.t. BOD parameter.	The authorities responsible for operation of the STP were issued advisory by the competent authority of the Board vide letter no. 2895 dated 11/08/2020.
4	June, 2020	Zirakpur	17 MLD, SBR	Non achievement of discharge standard w.r.t. BOD and F. Coli parameter.	The competent authority of the Board vide letter no. 2610 dated 24/07/2020 has sought approval from the Government for imposition of environmental clearance to the concerned STP authorities.
5	June, 2020	Mohali	45.4 MLD, UASB	Non achievement of discharge standard w.r.t. F. Coli. parameter.	Action is under process.
6	June, 2020	Banur	4 MLD, MBBR	The STP was surprisingly visited by the AEE of this office on 10.06.2020 and found not in operation.	An advisory letter has been issued to the PWSSB and MC, Banur to operate and maintain the STP regularly & efficiently so as to ensure to achieve the effluent standards, at all times.
7	March and May, 2020	PUDA	13 MLD, FAB	Not meeting with the effluent standards.	PUDA was issued notice under the Water (Prevention & Control of Pollution) Act, 1974 alongwith an opportunity of personal hearing on 07-07-2020. In the said hearing, it was decided that the PUDA shall maintain and operate the STP properly and effectively to achieve the prescribed standards. It was also decided to install CCTV camera and OCEMS within 1 month.
8	June, 2020	Rajpura	SBR, 7MLD	Not achieving the prescribed standards.	An advisory letter has been issued vide no 2900 dated 11-08-2020 to improve the functioning of the STP to achieve the prescribed standards.
9	May, June and July, 2020	Bhikhi	WSP	Non-compliance of prescribed standards.	Matter for taking action is under process.
10	March, May, June and July, 2020	Sardulgarh	WSP	Non-compliance of prescribed standards.	Matter for taking action is under process.
11	May, June and July, 2020	Bareta	WSP	Non-compliance of prescribed standards.	Matter for taking action is under process.
12	March, May, June and July, 2020	Budhlada	MBBR	Non-compliance of prescribed standards.	Matter for taking action is under process.

12 STPs of 12 towns (Zirakpur, Mohali, Lalru, Zirakpur, Mohali, Banur, PUDA, Rajpura, Bhikhi, Sardulgarh, Bareta and Budhladha) have found non-compliant w.r.t. achievement of the standard for the parameters. Accordingly, Punjab Pollution Control Board has taken action against operating agencies of these STPs under the provisions of the Water Act, 1974.

4.3.5.11 Inspection of industries by the Punjab Pollution Control Board and District Level Special Task Force during the period March, 2020 to June, 2020 and the action taken against defaulting industries.

- **Inspection by PPCB**

Month	No. of industries inspected	No. of non-complying industries	Action taken against the industry
March	6	Nil	Not required
April	Nil	Nil	Not required
May	8	Nil	Not required
June	13	Nil	Not required
July	4	Nil	Not required

- **Inspection by District Level Special Task Force**

Month	No. of industries inspected	No. of non-complying industries	Action taken against the industry
No water polluting industry was visited by Districted Level Task Force of SAS Nagar, Patiala, Sangrur and Mansa, during the period March to July, 2020.			

The above data indicate that Punjab Pollution Control Board has inspected 31 industries during March to July, 2020 and all these industries have been found complying. None of the industry has been inspected by District Level Special Task Force, during this period.

4.3.5.12 Status of installation of STPs for the villages as on 31.07.2020

Total no. of villages	Phase-I			Phase-II			Phase-III		
	No. of village covered	Funds required in Rs Crores	Timelines for completions	No. of village covered	Funds required in Rs Crores	Timelines for completions	No. of village covered	Funds required in Rs Crores	Timelines for completions
389	87	26.10	01.03.19 to 30.06.2020	152	45.6	01.03.2020 to 30.06.2021	150	45	01.03.2021 to 30.06.2022

Out of 87 villages covered under Phase-I for installation of treatment facilities, 28 villages have been provided with treatment facilities and these systems in 14 villages are under consideration.

4.3.5.13 Status of Health checkup camps organized during the month March, 2020 to June, 2020.

Name of the District	No. of Health camps organized	No. of patients checked	No. of patient found suffering from water borne diseases
Patiala	4	229	2
Sangrur	14	231	6
Mansa	3	115	Nil

The Department of Health has organize 21 Health Checkup camps from March, 2020 to June, 2020 and in these camps, 575 patients have been checked and out of these patients, 8 patients have been found suffering with water borne diseases.

4.3.5.14 Information, Education & Communication (IEC) activities (March, 2020 to June, 2020)

It has been informed that due to COVID-19 pandemic, no IEC activities could be held.

4.3.5.15 Environmental Flow

It has been reported that a meeting was held by the Member Secretary, Punjab Pollution Control Board with the Chief Engineer (Canal), Chief Engineer (Drainage) on 15.1.2020 regarding maintaining E-Flow in River Ghaggar. During discussion, Chief Engineer (Canal) informed that River Ghaggar is a non-perennial water body, as the State of Haryana has constructed Kaushalya Dam in River Saraswati due to which no fresh water is coming from Himachal Pradesh. In the meeting, it was decided that Deptt. of Water Sources shall take up matter with State of Himachal Pradesh and BBMB to explore the possibility of getting fresh water (snow / rain fed) to maintain E-Flow in River Ghaggar. No further action has been taken in the matter.

Accordingly, in 18th meeting of the Executing Committee held on 19.8.2020, it was decided to hold a separate meeting with Department of Water Resources, Department of Soil and Water Conservation, PPCB and other concerned departments within 3 weeks.

The issue shall be resolved after holding meeting with the concerned officers of the State of Punjab.

4.3.5.16 Septage and Faecal Sludge management

A Technical Committee has been constituted by the Govt. of Punjab for providing various Technological options for treatment of wastewater of rural areas. This committee has been entrusted the work of framing the guidelines for management of Septage and Faecal sludge. The committee is in the process of framing regulation for management of septage.

4.3.5.17 Watershed management

The Department of Soil and Water Conservation and Department of Water Resources are required to explore the possibility of providing Watershed Management in the catchment area of River Ghaggar. In order to resolve the issue, in the 18th meeting of the Executing Committee held on 19.8.2020, it was decided to hold a separate meeting with Department of Water Resources, Department of Soil and Water Conservation, PPCB and other concerned departments within 3 weeks.

The issue shall be resolved after holding meeting with the concerned officers of the State of Punjab.

4.3.5.18 In-situ bio remediation in the drains carrying untreated sewage and not connected to STPs.

A) In-situ remediation of drain carrying sewage of Bhadson town.

In-situ remediation of the drain carrying sewage of Bhadson town has been constructed by PWSSB to treat about 0.5 MLD of sewage of Nagar Panchayat, Bhadson, Distt. Patiala. The said in-situ remediation is consisting of facultative pond followed by free water constructed wetland system.

In-situ remediation is likely to be commissioned shortly, as only work for plantation of aquatic plants has been left.

B) In-situ remediation of Bhulana drain.

Bhulana drain carries wastewater of 27 colonies near Vill. Rawal and Vill. Rawal, District Kapurthala. In-situ remediation of Bhulana is based on bio-remediation followed by phyto remediation and supplemented by Nano Bubble Technology. Treatment system consists of 3 green bridges, Nano Bubble aeration system, 2 stage cascade aeration system, phyto remediation and cascade aeration. Remediation project of Bhulana drain was commissioned on 20.06.2020 and the Nano Bubble technology remained in operation till 08.07.2020. The treatment efficiency of this project is being ascertained. Photograph showing the insitu remediation technology installed in Bhulana drain as under:

Insitu remediation technology installed in Bhulana drain

4.3.6 Conclusions and recommendations

1. 30 towns have been identified, which are located in the catchment area of river Ghaggar. For these 30 towns, 48 STPs are required to be installed, out of which 21 STPs for 20 towns have been completed and commissioned. Punjab Pollution Control Board is carrying out the monitoring of all these STPs on monthly basis and the performance of these STPs monitored during March, 2020 to July, 2020 indicates that 4 towns in the month of March, 5 towns in the month of May, 6 towns in the month of June and 4 towns in the month of July were not found meeting with prescribed standards.

   Punjab Pollution Control Board should take legal action under the provisions of Water Act, 1974 against the operating agencies of these STPs. Non-compliance in these STPs observed by Punjab Pollution Control Board may be conveyed to the concerned operating agencies of STPs and these agencies may be directed to comply with the observations in time bound manner and operate the STPs efficiently so as to meet with the prescribed standards.

2. 11 STPs in 9 towns are under construction. Construction work has been started in 7 STPs [Boha: 2 MLD (52%), Dhuri: 5 MLD (27%), Sangrur: 4 MLD (30%), Bassi Pathana: 3 MLD (14%), Sirhind: 5 MLD (20%), Sirhind: 4 MLD (12%) and Banur: 0.5 MLD (5%)]. In case of 3 STPs (Nabha: 12MLD, Longowal: 5 MLD and Patiala (MES): 6 MLD, the work has been allotted. To treat sewage of 2 MLD of Sirhind town, diversion work of pond water is under progress.

   The Executing Committee recommends that the State of Punjab should accelerate the progress of construction of STPs so that these may be completed by 31.3.2021.

3. In 14 towns, there is proposal to install 19 STPs, out of which 7 STPs (Dera Bassi: 2 MLD, Dera Bassi: 2 MLD, Lalru: 1 MLD, Ghanaur: 2 MLD, Sanaur: 4 MLD, Nabha: 1 MLD, Nabha MES: 1 MLD) are at tender in stage. In case of 5 STPs (Amloh: 3 MLD, Lalru Mandi: 1 ½ MLD, Dhuri : 6 MLD, Sangrur: 11 MLD, Bassi Pathana: 0.2 MLD), land issues are to be resolved. 5 STPs (Gholu Majra: 0.35 MLD, Lalru: 0.15 MLD, Lalru: 0.35, Banur: 0.15 MLD, Zirakpur: 17 MLD) are at DNIT stage. In case of 01 STP of Cheema town, where there is proposal to install STP of capacity 2 MLD, the Department is exploring the possibility for providing nano bubble technology in the drain to treat sewerage in the town. 01 STP of capacity 3 MLD for Bhadson town, DPR is under preparation.

   It is recommended that the senior functionaries of the Department of Local Government should resolve the issue of land for the STPs so that the work of these STPs may be started timely and construction work of these STPs should be completed by 30.6.2021. The Department of Local Government/Punjab Water Supply & Sewerage Board should finalize the technology to be provided to treat the sewage of Cheema town within 15 days.

4. 3 STPs (Bareta: 3 MLD, Bhikhi: 3 MLD, Sardulgarh: 4 MLD) are based on old technology and these have been proposed to be upgraded based on new technology. Funds have been tied up and are at DPR stage. STP of capacity 46 MLD of Patiala town is being enhanced to 61 MLD and 75% progress has been achieved upto 31.7.2020.

   The Executing Committee recommends that old technology based 03 STPs should be upgraded based on new technology by 30.6.2021. The work of enhancement of STP of 46 MLD of Patiala town to 61 MLD should be completed by 31.12.2020.

5. In 30 towns, laying of sewerage network is in progress except Bhadson and Sanaur town where no sewerage network has been laid down so far. These towns may be provided with 100% sewerage network by 31.12.2020. Sewerage system in Bhadson (21.7 Kms) and Sanaur(25 Kms) town may also be laid and it should be laid simultaneously with the construction of STPs for these towns i.e. by 31.3.2021.

6. Wastewater generation and capacity of STP installed for 30 towns have been assessed and it has been observed that there is gap of 66.47 MLD, which is to be treated by providing STPs in different towns.

   The Executing Committee recommends that treatment of sewage to cover the gap of 66.47 MLD shall be completed by 30.06.2021 and PWSSB or any other Executing Agency shall ensure that after 31.03.2021 there shall be no gap in sewage to be treated.

7. Punjab Pollution Control Board is monitoring the water quality of river Ghaggar on monthly basis. The monitoring data for the month December, 2019 to February, 2020 and March 2020 to July 2020 indicate that there is improvement in water quality of river Ghaggar at Bhankharpur, Chattbir, downstream of Jharmal Nadi, upstream of Dhakansu Nallah, downstream of Dhakansu Nallah, Rattanheri, before mixing Sagarpara drain, after mixing of Sagarpara drain, Khanauri, Moonak and at Sardulgarh.

   The State of Punjab and State of Haryana should take adequate steps to upgrade STPs bring faecal coliform, which is high at almost all the points, within the norms by 31.3.2021.

8. Punjab Pollution Control Board has carried out groundwater sampling of ground water sources at 7 locations in the catchment area of river Ghaggar. Out of 2 groundwater samples, in 01 sample total alkalinity and in 2nd sample TDS has been found higher than the permissible limits. Punjab Pollution Control Board should seal these ground water sources and a display board mentioning that **"water is not fit for drinking"** should be erected at the site.

   Punjab Pollution Control Board has already been directed in 18th meeting of the Executing Committee held on 19.8.2020 to increase the number of ground water samples in proportion to the length of the river Ghaggar passing through State of Punjab and ground water samples should be collected as per the frequency already described.

9. Presently, 21 STPs are in operation. In order to divert the treated effluent entering into river Ghaggar and utilize the same for irrigation, the State of Punjab has prepared irrigation schemes to utilize the treated sewage. As per the data provided by the State, irrigation schemes for 10 towns to utilize 47 MLD in command area of 1541 hectare have been commissioned. 01 irrigation scheme to utilize treated sewage of Rajpura Town (7 MLD) is under construction and 80% of work has been completed. For 4 towns namely Mandi Gobindgarh (25 MLD), Patiala(10 MLD), Dhuri (5 MLD) and Sangrur (11 MLD), irrigation projects have been sanctioned and funds are yet to be released by the State Government.

   For 03 towns, 04 STPs have been commissioned. For 14 towns, 20 STPs are under progress. For these towns, irrigation projects have been prepared to utilize the treated sewage but the funds have not been tied up so far. In case of 4 towns (Budhladha: 6.5 MLD, Zirakpur : 17 MLD, SAS Nagar : 45.4 MLD, Dera Bassi : 4 MLD), irrigation schemes are not feasible due to urbanization of land and non-availability of irrigation command area near the towns.

   The Executing Committee recommends as under:

   - Punjab Pollution Control Board should verify commissioning of irrigation schemes of 10 towns to utilize 47 MLD treated sewage in command area of 1541 hectare within 1 month.

- Irrigation schemes for Rajpura town should be completed by 31.12.2020.
- The Department of Soil & Water Conservation shall pursue the matter with Department of Finance, State of Punjab to release the funds to utilize the treated sewage of 4 towns namely Mandi Gobindgarh (25 MLD), Patiala (10 MLD), Dhuri (5 MLD) and Sangrur (11 MLD) for irrigation.
- The State of Punjab should tie up the funds for laying of irrigation network to utilize the treated sewage of 24 STPs of 17 towns, out of which 4 STPs of 3 towns have been commissioned and work of 20 STPs of 14 towns is under progress. The irrigations schemes for these towns should also be completed simultaneously with the completion of sewage treatment plants of the towns i.e. by 31.3.2021.
- For 4 towns (Budhladha: 6.5 MLD, Zirakpur: 17 MLD, SAS Nagar: 45.4 MLD, Dera Bassi: 4 MLD), where the irrigation schemes are not feasible due to urbanization of land and non-availability of irrigation command area near the towns. The Department of Local Government should prepare action plan to utilize the treated sewage of these towns for construction activities, gardening, toilet flushing, washing of vehicles and nearby railway yards etc. by 31.10.2020.

10. Punjab Pollution Control Board is carrying out the monitoring of all the existing 21 STPs of the State on monthly basis. The monitoring data for the period March to June, 2020 indicate that 12 STPs of 12 towns (Zirakpur, Mohali, Lalru, Zirakpur, Mohali, Banur, PUDA, Rajpura, Bhikhi, Sardulgarh, Bareta and Budhladha) have been found non-compliant w.r.t. achievement of the standard for the parameters. Accordingly, Punjab Pollution Control Board has taken action against these STPs under the provisions of the Water Act, 1974.

The Executing Committee recommends as under:

Punjab Pollution Control Board should send the non-compliance of these 12 STPs to the concerned operating agency/responsible authority and get the compliance be made from these agencies in a time bound manner, so that these STPs may start functioning effectively and efficiently.

In case, the non-compliances are not removed, Punjab Pollution Control Board shall take legal action against concerned operating agencies.

11. Punjab Pollution Control Board has carried out the inspection of 31 industries during March, 2020 to July, 2020 and all these industries have been found compliant. However, none of the industry has been inspected by District Level Special Task Force of Distt. SAS Nagar, Patiala, Sangrur and Mansa during the period March to July, 2020.

Punjab Pollution Control Board should increase the surveillance of the industries in odd hours to check the operational status of ETPs of the industries and their performance. Similarly, District Level Special Task Force of the Districts in the catchment area of river Ghaggar should visit the industries on surprise basis from time to time.

12. There are 389 villages located in the catchment area of river Ghaggar and 87 villages have been covered under Phase-1 for installation of sewage treatment facilities in these villages. In Phase-2, 152 villages have been taken and in Phase-3, 150 villages have been covered for setting up of sewage treatment plant. Out of 87 villages covered under Phase-1, STPs in 28 villages have been installed and treatment systems in 14 villages are under construction.

The Executing Committee recommends as under:

i) **The department of Rural Development & Panchayats should take effective steps to get install sewage treatment plants in 87 villages, covered in Phase-1 by 31.12.2020.**

ii) **The treatment facilities for 152 villages covered under Phase-2 and 150 villages covered under Phase-3, should be installed by 31.3.2021.**

13. The Department of Health has organized the 21 Health Check up camps during the period March, 2020 to June, 2020 and in these camps, 575 patients have been checked and out of these patients, 8 patients have been found suffering with water borne diseases.

Punjab Pollution Control Board should identify the ground water sources where 8 patients have been found suffering with water borne diseases and the ground water samples of these sources may be analyzed and in case these are found contaminated, the same may be sealed and the department of Water Supply & Sanitation may be asked to supply safe drinking water to the inhabitants of these areas.

14. For maintaining environmental flow and watershed management in river Ghaggar, the Department of Irrigation should construct check dams water retaining structures to store the excess rain water during rainy season and the stored water may be released in a regulated manner in river Ghaggar, so that it may contribute dilution at downstream of river Ghaggar to restore aquatic life.

15. A Technical Committee has been constituted by the Govt. of Punjab for providing various technological options for treatment of wastewater of rural areas. This committee has been entrusted with the work of framing guidelines for management of Septage and Faecal sludge. The committee is in the process of framing regulation for management of septage.

The department of Science Technology & Environment may be directed to ask the Committee to frame policy/guidelines for

management of septage and faecal sludge by 30.9.2020 and action plan may be prepared for the management of the same by 30.11.2020 and shall start implementation of the same by 31.12.2020.

16. Presently, in-situ bio remediation technology has been provided in the drain carrying sewage of Bhadson town, which is consisting of facultative pond followed by free water constructed wet land system. The second system of In-situ bio remediation has been installed in Bholana drain to treat the sewage of villages and other colonies. The technology is based on bio remediation followed by phyto-remediation and supplemented by Nano bubble technology.

The Executing Committee recommends that such in-situ bio remediation technology should be installed in other drains, carrying untreated sewage and not connected to STPs by 31.10.2020.

4.4 State of Haryana

4.4.1 River Ghaggar in Haryana

River Ghaggar after its course in the State of Himachal Pradesh, enters into State of Haryana and then enters into State of Punjab near Mubarikpur and again enter into State of Haryana and ultimately, it diverges into 2 canals at Ottu Barriage and main river course enters into Rajasthan. The map showing river Ghaggar in the State of Haryana alongwith towns located in the catchment area of river Ghaggar is shown as per figure 5 given below:

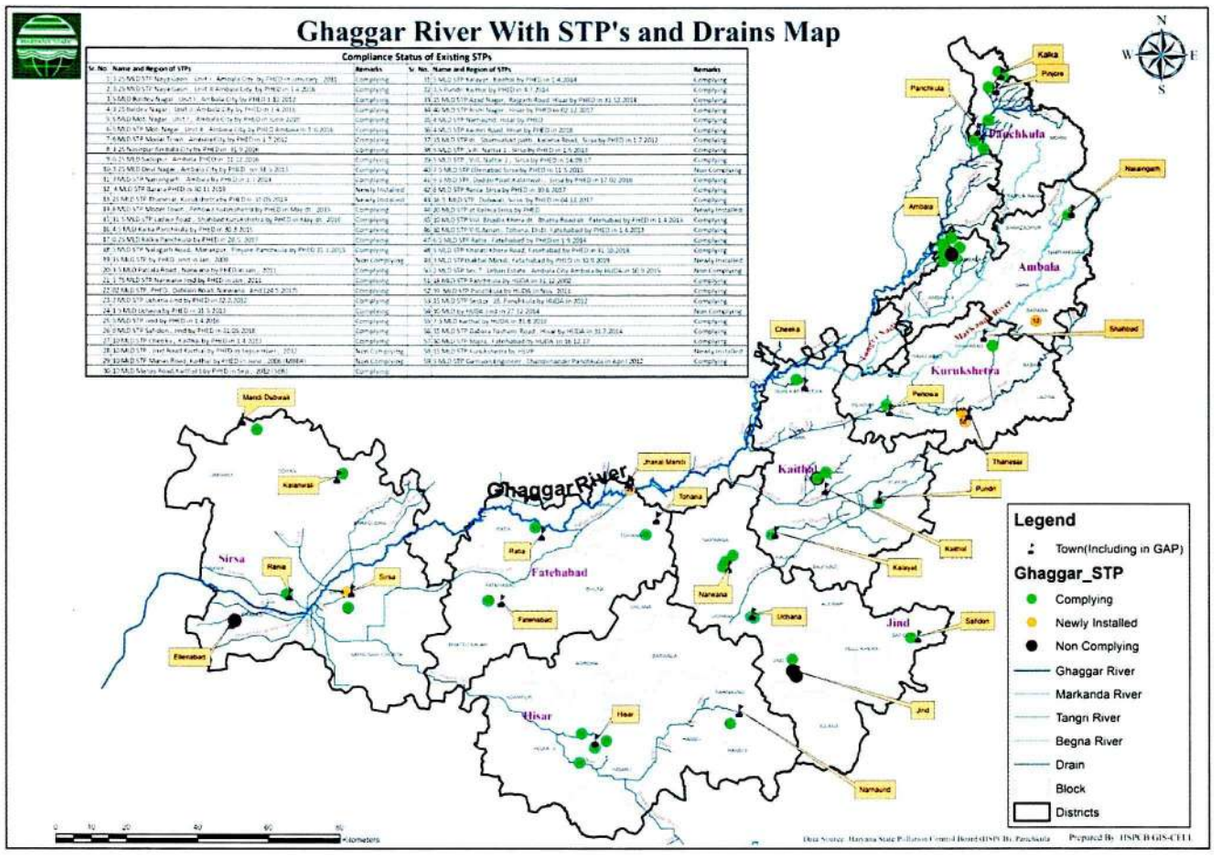

Fig 5: Map showing catchment area of river Ghaggar in the State of Haryana and towns located on river Ghaggar and status of sewage treatment plants

4.4.2 Compliance on the recommendations made by the Executing Committee in its 5th report submitted before Hon'ble National Green Tribunal

As mentioned in aforesaid para, the Executing Committee has already submitted its four reports and 5th report submitted on 16/4/2020, the compliance status of which, as submitted by State of Haryana is mentioned as under:

Sr. No	Recommendations of EC in their 5th report submitted before Hon'ble NGT	Action Taken Report of State of Haryana
1	Performance study of existing Sewage Treatment Plants carried out by HSPCB indicates that out of 61 STPs, 51 STPs were monitored w.r.t. BOD, TSS and F.Coli parameters. Out of these 51 STPs, 40 STPs were not found complying with the standards prescribed for F.Coli parameters. 51 STPs were	HSPCB has issued orders for fixing up the new standards for STPs as per directions of NGT vide letter dated 02.07.2020 and all STPs have to comply with the same and the Departments are directed by Chief

Sr. No	Recommendations of EC in their 5th report submitted before Hon'ble NGT	Action Taken Report of State of Haryana
	found meeting with the standards prescribed for BOD and TSS parameters. The Executing Committee recommends that Local body Department, HSVP and Public Health Engineering Department shall upgrade their existing 40 STPs to meet with the prescribed standards of F.coli parameters by 31.12.2020.	Secretary to submit action plan for each STP to achieve these stringent standards.
2	With regard to construction of new STPs, it has been reported that 6 STPs (Barara: 4 MLD, Jind: 7 MLD, Urban state, Thanesar: 15 MLD, Kurukshetra: 25 MLD, Sirsa: 20 MLD and Fatehabad: 3 MLD) have been commissioned but are under stabilization. The Executing Committee recommends that these STPs should be put into operation by 15.04.2020. **All these newly installed STPs are in operation. STP at Jind: 7 MLD, Thanesar: 15 MLD are under trial run and the other STPs at Kurukshetra: 25 MLD, Sirsa: 20 MLD and Fatehabad: 3 MLD are fully functional and meeting the prescribed limits. Further, it is submitted that Barara does not fall under the catchment area of river Ghaggar.** Poor progress has been made w.r.t. construction of 4 New STPs [Billa{0.75 MLD}:7%, Khuda Khurd Ambala{12 MLD}:5%,Babyal{10 MLD}:3% and Shahpur Machhonda{7.5 MLD}:2%. The Urban Local Bodies, HSVP and Public Health Engineering Department of State of Haryana shall take proactive steps to ensure that these STPs should be completed by 30.09.2020. The remaining STPs, whose progress is almost more than 74% except STP for Ambala (5 MLD), where progress has been achieved upto 30%, should also be completed and commissioned by 30.06.2020.	The work is in progress in 4 new STPs and the latest progress report is Billa{0.75 MLD}-50%, Khuda Khurd Ambala{12 MLD}:5%, Babyal{10 MLD}:16% Shahpur Machhonda{7.5 MLD}:6%. It is submitted that there was some land issues in Billa, Khuda Khurd, Babyal and Shahpur Machhonda due to which the work was got delayed but now all the works have been started and are in full swing. The STP at Billa is likely to be completed by 31.03.2020 and the STPs at Khuda Khurd, Babyal and Shahpur Machhonda are likely to be completed by 30.06.2021.The work is also in progress in 4 of the remaining STPs.
3	For technologically upgradation of STPs of State of Haryana, only 1 STP of Sector 20, Panchkula having capacity of 57 MLD has been considered for upgradation. However, the Executing Committee recommends that State of Haryana should make	New standards have been prescribed and upgradation of existing STPs shall be made accordingly.

<table>
<tr><th>Sr. No</th><th>Recommendations of EC in their 5th report submitted before Hon'ble NGT</th><th>Action Taken Report of State of Haryana</th></tr>
<tr><td></td><td>comprehensive proposal to upgrade its STPs to achieve stringent parameters (BOD:10mg/l) including F.Coli parameters. The comprehensive proposal should be prepared by 30.06.2020 and work of upgradation of existing STPs should be completed by 31.03.2021.</td><td></td></tr>
<tr><td>4</td><td>State of Haryana through HSPCB has claimed that there is only gap of 0.7 MLD untreated sewage of Ambala area for which sewage treatment plants has been proposed to be installed, whereas the monitoring data of river Ghaggar water, carried out by HSPCB during December-2019 to February-2020, indicate that values of BOD and F.Coli parameters vary between 56-78 mg/l and 300000-486667MPN/100ml, which indicate that untreated sewage of some of the areas is entering into River Ghaggar.</td><td>Locations where untreated effluent are discharged into main drains joining river Ghaggar have been identified and Concerned Departments have been asked to prepare action plan for the same. The effluent should be diverted to existing STPs for its treatment; the work is underway in this regard.</td></tr>
<tr><td>5</td><td>For the treatment of sewage of villages, there is proposal to install STPs in 45 villages, the estimated cost of which is about Rs 718.50 crore. These STPs for treatment of sewage of villages should be completed by 31.12.2020.</td><td>The department of Rural Development & Panchayats has identified 45 villages in the catchment area of river Ghaggar, out of which work for STPs has been sanctioned for 36 villages and work of STPs in 31 villages has been started.</td></tr>
<tr><td>6</td><td>HSPCB shall continue to make surprise inspection of industries/polluting sources and action against the defaulting industries be taken under the provisions of the Water Act, 1974.</td><td>The inspection data is mentioned as under: -
<table>
<tr><th>Month</th><th>No. of industries inspected</th><th>No. of non-complying industries</th><th>Action taken against the industry</th></tr>
<tr><td>March</td><td>11</td><td>7</td><td>0</td></tr>
<tr><td>April</td><td colspan="3">0</td></tr>
<tr><td>May</td><td>36</td><td>8</td><td>0</td></tr>
<tr><td>June</td><td>57</td><td>17</td><td>0</td></tr>
<tr><td>July</td><td>78</td><td>27</td><td>0</td></tr>
</table></td></tr>
<tr><td>7</td><td>The data w.r.t. water quality of ground water sources located in the catchment area of river Ghaggar indicate that out of 76 Ground Water samples analyzed, 40 ground water samples have been found complying with the norms. 36 Ground Water Samples have been found</td><td>Ground water is being monitored by HSPCB at 79 locations in the catchment area of Ghaggar. As per latest reports, the Ground Water quality found to be non-complying at 41 locations (mostly</td></tr>
</table>

Sr. No	Recommendations of EC in their 5th report submitted before Hon'ble NGT	Action Taken Report of State of Haryana
	non-complying. Therefore, the Executing Committee recommends that HSPCB shall re-monitor ground water quality of those ground water samples which were found non-compliant atleast one time more before making any conclusion on the water quality monitoring report. In case, these ground water samples are again found non compliant, HSPCB may cap these ground water sources and potable and safe drinking water be supplied to the persons / inhabitants which depend upon these ground water sources by the Department of Public Health.	in TDS and Calcium) and rest of 38 locations are meeting the prescribed standards for drinking water purpose. The display boards have been erected at these sites mentioning that "Water is not fit for drinking", however, the sites will be capped, if again found non-compliant.
8	The data w.r.t. health check up camps organized during the months December-2019 to February-2020 and provided by HSPCB indicate that 52 Health Check up camps were organized during December-2019 to February-2020. In these health checks up camps, 3787 patients were examined, out of which 332 patients were found suffering with water borne diseases. Therefore, the Executing Committee recommends that affected inhabitants should be supplied safe drinking water by the Department of Public Health.	Public Health Engineering Department is supplying drinking water in urban and rural areas of the State. Drinking water is supplied through Canal Based water works, Tube wells Based water works and in some parts through springs. Boosting stations are installed to supply drinking water at requisite pressure. In order to ensure safe drinking water, disinfection is carried out at source in this way that there remains 0.2 ppm residual chlorine at the tail end areas. There are 43 laboratories in the PHED to check the quality of drinking water on daily basis. Chemical analysis of the underground water is carried out two times in a year i.e once before the monsoon season and another after the monsoon season. Bacteriological sample testing is carried out on daily basis. Out of these 43 labs, one lab is State Lab wherein heavy metals are also being tested in addition to the above said tests.
9	To create awareness among the public about water quality of river Ghaggar, water quality of ground water sources located along river Ghaggar, water borne diseases, utilization of treated sewage for irrigation and less consumption of water for domestic usage, more IEC activities may be carried out by HSPCB, Urban Local Bodies Department and Department of Rural	The IEC activities are being performed by Regional Officers of the Haryana State Pollution Control Board in the catchment area of River Ghaggar.

Sr. No	Recommendations of EC in their 5th report submitted before Hon'ble NGT	Action Taken Report of State of Haryana
	Development and Panchayat.	
10	In order to maintain Environment Flow in river Ghaggar, Department of Irrigation shall construct check dams/ storage ponds in the catchment area of river Ghaggar so as to regulate the flow in river Ghaggar for whole of the year to maintain environment flow in the river.	Progress regarding construction of Dams and Reservoirs: Feasibility Report has been submitted by WAPCOS for three dams namely Bhud Dam, Khetpurali Dam and Dudhgarh Dam on tributaries of river Tangri, which after examination was sent to Govt., wherein the proposal of only Bhud dam has been approved and other two have been kept pending. The action is being taken for required clearances such as Interstate, Environment, Forest etc. It is further brought out that Detailed Project Report (DPR) will now be prepared. These projects are for providing drinking and irrigation facilities to Barwala block of Panchkula district. The timelines for construction of these dams cannot be given as lot of interstate issues are involved and at present as decided by Ghaggar Standing Committee (GSC) of CWC in its 28th meeting held on 01.03.2019 decided that, CWPRS will carry out the Mathematical Model studies and after complete study any decision will be taken regarding construction of dams or other structures on Ghaggar or Tangri. Mathematical Model studies are likely to be completed by 31.10.2020 and after that GSC may take any decision. It is made clear that no E-flow is possible through these dams. As Tangri river is a tributary of river Ghaggar and some other dams namely Dangrana Dam and Diwanwala Dam to provide drinking and irrigation facilities for Morni Block, Pinjore Block of Panchkula Distt. etc. have already been

Sr. No	Recommendations of EC in their 5th report submitted before Hon'ble NGT	Action Taken Report of State of Haryana
		planned on Ghaggar river and are under discussion/deliberation in Ghaggar Standing Committee being Chaired by Member (RM) since 2006, Central Water Commission, who in its 28th meeting held on 01.03.2019 decided that discussion on these dam projects will be held after Mathematical Model studies of river Ghaggar/basin is carried out by CWPRS, Pune. CWPRS Pune has demanded Rs 40.00 lacs for carrying out the studies besides asking detailed information regarding Survey data, Hydraulic Data, Detail of Hydraulic Structures data, Sediment data and other miscellaneous data of river Ghaggar and its tributaries. Complete expenditure regarding cost of study and collecting data etc. will be borne by Punjab and Haryana in the ratio of 50:50. Both Punjab and Haryana had deposited their share amount with CWPRS Pune besides submitting data asked for. The study is likely to be completed by 31.10.2020. Further decision regarding construction of dams i.e. "increasing the storage capacity" on river Ghaggar as well its tributary river Tangri will depend upon discussions and deliberations in Ghaggar Standing Committee and decisions taken therein and thus no timelines can be fixed. It is pertinent to mention that these projects of Dangrana and Dewanwala Dams were posed to GSC during 2006 and one Chhamla dam later on.
11	With regard to management of septage and faecal sludge, the data submitted by HSPCB indicate that septage and faecal sludge of 13 towns with quantity of 5-300 KLD in the month of December-2019, 5-200 KLD in January-2020 and 5-200 KLD in the	Directions have been issued to all the MCs to ensure that the tankers deployed for collection and transportation of septage and faecal sludge to STPs should be properly covered and no tanker without GPS

Sr. No	Recommendations of EC in their 5th report submitted before Hon'ble NGT	Action Taken Report of State of Haryana
	month of Februaray-2020 was transported to the existing STPs through the tankers. However, the Executing Committee recommends as under: **a)** The tankers deployed for collection and transportation of septage and faecal sludge to STPs should be properly covered. **b)** All the tankers should be provided with GPS with its connectivity to HSPCB and urban local bodies Department so that movement of the trucks may be checked at any time. **c)** To identify the nearby STPs where the regulated quantity of septage/ faecal sludge can be taken for treatment by 30.06.2020.	should be allowed to operate in their areas. STPs have been designated in each ULB for disposal of Septage through tankers.
12	To utilize the treated sewage for irrigation, the Government of Haryana has prepared a consolidated project costing Rs. 1098.25 crore to utilize 1828 MLD of treated sewage out of total 2795.2 MLD of treated wastewater from 207 STPs (Ghaggar and Yamuna). 1828 MLD treated sewage shall be utilized for irrigation in command area 162000 hectares. The completion period of the project is 5 years which also depends upon the availability of funds. Out of these 207 STPs, 35 STPs have been chosen for Rs 500 crores MI projects under NABARD assisted Micro Irrigation Projects. The remaining funds of Rs 598.25 crore (Rs 1098.25 crores-Rs 500 crores) shall be made available under annual budget as the project stands approved by the State Government. The Executing Committee recommends that Urban Local Body Department, HSVP and Public Health Engineering Department shall supply the details along with capacity of STPs of the towns located in the catchment area of river Ghaggar, where STPs are in operation to the Department of Irrigation. The Department of Irrigation shall ensure that the treated sewage of the towns located on river Ghaggar should be covered under the consolidated project or separate schemes for utilization of treated sewage for irrigation may be prepared, constructed and commissioned by 31.03.2021.	• 15 irrigation projects to utilize the treated sewage of the towns costing Rs. 184.97 crore, which are part of Rs. 500 crore micro irrigation project under NABARD scheme, have been approved. • 35 STPs located in 21 districts to irrigate CCA of 23,359 hectare of land to utilize 338.85 MLD of treated sewage have also been covered under the project of Rs. 500 crore. • As per the latest directions from the State Government, the project is to be completed within 2 years.

4.4.3 Compliance of the recommendations made/ directions given by the Executing Committee in its 17th meeting with State Level Officers of State of Haryana held 26.5.2020.

The following items were taken up for discussion as under

1. Monitoring results of parameters monitored during March, 2020 and lockdown period.

a) Water quality of River Ghaggar at various points.

It was apprised that HSPCB has carried out the water quality monitoring of River Ghaggar at various points during March, 2020 and lockdown period. The values of BOD and TSS have been observed to be varying between 2.5 to 14 mg/l and 8 to 40 mg/l, respectively. However, in the course of its flow, these values have been found increased to 64- 96 mg/l and 60-170 mg/l, respectively, after entering of drains, choesandNadietc.into river Ghaggar.

The Chairman of the Executing Committee took the matter seriously and pointed that during lockdown period, all the industrial and commercial activities were not in operation and the performance of the existing STPS indicates that most of the STPs were found meeting with prescribed norms w.r.t BOD and TSS parameters except F. Coli. The values of BOD and TSS were found varying between 6-27 mg/l and 8- 79 mg/l. There is need to find out the reasons as to why the values of these parameters (BOD and TSS) have been exceeded in river Ghaggar water.

After deliberation, the Chairman of the Executing Committee directed as under;

- **HSPCB, Department of urban Local Bodies, HSVP and PHED shall jointly identify the drains/ nallahs/underground pipes carrying untreated sewage and falling into river Ghaggar. These drains/nallahs/conduit pipes should be connected to nearby STPs having adequate capacity or separate STPs may be installed to treat the sewage of these drains/ nallahs/underground pipes by 31.12.2020. HSPCB shall coordinate the matter.**
- **In-situ remediation technology be provided in these drains to treat the wastewater till the STPs are not completed and commissioned as directed by the Hon'ble NGT in its order dated 21.05.2020 in OA No. 593/2017 in the matter of Paryavaran Suraksha Samiti vs Union of India &Ors. It was further desired that Hon'ble NGT order dated 21.05.2020 be conveyed to all the concerned departments the State of Punjab, Haryana and Himachal Pradesh.**

b) Performance of existing STPs.

It was submitted that HSPCB has carried out the monitoring of STPs located in the catchment area of river Ghaggar and the data indicate that most of the STPs are meeting with the prescribed norms for the parameters BOD and TSS except F.coli. The

monitoring of STPs was conducted during the period November,2019 to February, 2020.

The detailed deliberation on the performance of STPs was made and it was directed by the Chairman of the Executing Committee that HSPCB shall carry out the performance the STPs for the months May, 2020 and June, 2020. The comparative statement shall be prepared based on the data for pre-lockdown period, lockdown period and the analysis study for the months May and June, 2020. The said comparative statement may be placed before the Executing Committee in its next meeting.

c) Groundwater quality of ground water sources located in the catchment area of River Ghaggar.

The Executing Committee was informed that HSPCB has conducted sampling of ground water sources located in the catchment area of River Ghaggar. The analysis results indicate that almost all the ground water samples were meeting with the prescribed norms except at few places where inorganic constituents like calcium and magnesium have been found higher than the prescribed limits and probably these may be due to geogenic reasons.

It was pointed out that some of the ground water samples have not been analyzed for heavy metals and none of the sample for F.Coli parameters. However, it was informed that F.Coli parameter has not been analyzed as the ground water sources are at deeper aquifer.

After detailed deliberation, it was directed by the Chairman of the Executing Committee that the water of groundwater sources, located in the catchment area of river Ghaggar, be analyzed for all the parameters including heavy metals and F.coli atleast on quarterly basis. For the other parameters, ground water quality of ground water sources may be analyzed as per the frequency already decided by the Executing Committee.

2. Compliance of the directions issued by the Executing Committee during its 16th meeting held on 24.02.2020.

<u>To submit the latest progress on the following activities.</u>

a) Commissioning of new 11 STPs of 49 MLD capacity.

It was informed that out of 11 STPs of capacity 49 MLD, the construction work of 7 STPS (Khagsere & Toka :0.5 MLD, Nangal & Alipur: 0.5 MLD, Khotali: 0.75 MLD, Kot:0.75 MLD, Sukhdarshanpur: 0.75 MLD, Dabra: 8 MLD and Bhuna; 8 MLD) has been completed varying between 60-98 %. These STPs shall be completed and commissioned within 3 months.

In the remaining 4 STPs (12 Cross Road Ambala:12 MLD, Billa:0.75 MLD, Ambala: 5 MLD and Khuda Khurd Ambala:12 MLD), poor progress (7-30 %)regarding construction STPs has been achieved.

After detailed deliberation, it was directed as under.

1. **7 STPS (Khagsere & Toka :0.5 MLD, Nangal & Alipur: 0.5 MLD, Khotali: 0.75 MLD, Kot:0.75 MLD, Sukhdarshanpur: 0.75 MLD, Dabra: 8 MLD and Bhuna; 8 MLD), which have been completed between 60-98 %, should be completed and commissioned by 31.7.2020.**
2. **4 STPs(12 Cross Road Ambala:12 MLD, Billa:0.75 MLD, Ambala: 5 MLD and Khuda Khurd Ambala:12 MLD) should be completed by 31.8.2020.**

b) Upgradation of 32 existing STPs of capacity 179.5 MLD.

The Committee was apprised that out of 32 existing STPs, there is proposal to upgrade 28 STPs and the status was submitted as under.

- For 9 STPs (Jind; 15 MLD, Cheeka: 10 MLD,Kaithal:10 MLD,Pundri:3.5 MLD, Ellanabad:7.5 MLD, Fatehbad:10 MLD, Ratia:6.5 MLD, Tohana:10 MLD and Sirsa: 15 MLD),having total capacity of 87.5 MLD, funds are available
  - ✓ Construction work of 6 STPs(Jind; 15 MLD, Cheeka: 10 MLD, Kaithal:10 MLD, Pundri:3.5 MLD, Ellanabad:7.5 MLD and Ratia:6.5 MLD) has been completed between 50-100%
  - ✓ Poor progress (10-45%) is there in the case of remaining 3 STPs (Fatehabad: 10 MLD, Tohana:10 MLD and Sirsa: 15 MLD)
- For the remaining 19 towns, where STPs are to be technologically upgraded, funds have not been tied up so for. It was informed that the State Government has been requested to provide funds for upgradation of 19 STPs. However, the necessary documents like DPR, DNIT and tender have been made ready for these 19 STPs.

The Chairman of the Executing Committee directed that the concerned department shall take up the matter with finance department of the State Govt. for early release of funds for upgradation of the 19 existing STPs as the Hon'ble NGT in its order dated 21.05.2020 has issued directions that STPs should be completed by 31.03.2021. Action taken report should be submitted to the Executing Committee in its next meeting.

c) HSPCB shall issue directions under the provisions of the Water Act, 1974 to all the operating agencies of STPs to make adequate arrangements for disinfection at all STPs to bring F.coli parameter within the norms by 31.03.2020.

It was informed by HSPCB that the Board is already prescribed the standards w.r.t. F. Coli parameter. However, the notification is yet to be issued by the State Government. It was informed that 15 days are required for issuance of the notification and thereafter, the prescribed standard for F.Coli parameters shall be conveyed to all the concerned

departments of the State and these departments shall be directed to make adequate arrangements for disinfection at all the STPs to bring F.Coli parameter within the norms.

After detailed deliberation, the Chairman of the Executing Committee directed as under:

- **The prescribed standard for F.Coli standards shall be notified by HSPCB within 15 days and necessary directions to comply with prescribed standard of F.Coli parameter be issued to all the concerned departments within 1 month.**
- **The executing agencies of State of Haryana like Department of Urban Local Bodies(ULB), Haryana Shehri Vikas Pradhikaran (HSVP) and Public Health Engineering Department (PHED) shall make adequate arrangements for disinfection at all the STPs to bring F.Coli parameter within the norms within next 3 months. The necessary directions in this regard shall be issued by HSPCB.**

d) Treatment facility to be provided in 45 villages by Development and Panchayats Department by 30.06.2020.

It was apprised that in phase-1, 45 villages have been covered which are required to install sewage treatment plants and the timeline for providing said treatment system was proposed as 31.12.2020 as per the action plan prepared by Development and Panchayats Department. The State Government has been requested to provide funds to start the construction of STPs for the villages. The work of STPs in 10 villages has already been started and for some villages, DPRs have been prepared and in some villages, work order has been issued. However, due to non-availability of funds, the work could not be started.

Ms. Urvashi Gulati, IAS (Retd), Member, Executing Committee informed that in villages, the construction of STPs can be started under MGNREGA scheme where the Centre Government has already allocated the funds for the State of Haryana.

After detailed deliberation, the Chairman of the Executing Committee directed as under.

- **The Principal Secretary, Development and Panchayats Department shall take up the matter with the finance department of State of Haryana for early release of funds under MNREGA scheme for installation of STPs for 45 villages.**
- **The construction work of STPs in 10 villages, where construction work has already been started, should be completed by 30.06.2020.**

e) The Department of Urban Local Bodies and Department of Rural Development and Panchayat shall ensure that no septage and faecal sludge is disposed of indiscriminately and the same shall be disposed of in nearby STPs having adequate capacity to treat the Septage and faecal sludge.

The Executing Committee was informed that HSPCB has issued necessary directions to Urban Local Body department and Panchayat department as under.

i. *To set up a proper monitoring mechanism for checking of the activities of illegal disposal of sewage through tankers and by the independent houses and condominiums.*

ii. *To take strict action against the violators and also impose the penalties/Environment Compensation as per the provisions.*

iii. *To register all the private tankers working under your jurisdiction and to ensure that all the tankers are equipped with the GPS.*

iv. *To start a campaign to identify the independent houses and condominiums and tankers disposing the untreated sewage in the drains.*

It was further informed that a project for treatment of septage and faecal sludge at Neelokheri (Karnal) is under construction and the same shall be commissioned within 1 month.

After detailed deliberation, the Chairman of the Executing Committee directed as under:

- **The department of Urban Local Bodies. Department of Panchayats and HSPCB shall jointly identify the nearby STPs which have adequate capacities and shall prepare a comprehensive proposal for treatment of septage and faecal sludge. In the said proposal, dedicated vehicles along with their registration with the departments and GPS should also be mentioned. The said proposal shall be placed before the Executing Committee in its next meeting.**
- **HSPCB, Urban Local Body department and Development and Panchayats Department shall jointly make surprise inspection to ensure that no Septage and faecal sludge is disposed of indiscriminately and action under the provisions of the Water Act, 1974 may be taken against the violators. HSPCB shall coordinate the matter.**

f) Laying of irrigation network to utilize the treated sewage of all the existing STPs by the Department of Irrigation.

The Executing Committee was informed that in order to utilize the treated sewage of STPs for irrigation, a consolidated project has been prepared (for the towns located on river Yamuna and Ghaggar) and the project shall take 5 years for its completion as they have a window of 15 days in a season and it occurs twice in a year. However, irrigation network to utilize the treated sewage of the towns namely Ratia, Tohana, Jakhal and Hisar has been laid.

After detailed deliberation, the Chairman of the Executing Committee directed as under:

- **Irrigation schemes to utilize the treated sewage of the towns namely Ratia, Tohana, Jakhal and Hisar for irrigation should be completed and commissioned by 30.06.2020.**
- **The department of Irrigation shall prepare separate project to utilize the treated sewage of the towns located in the catchment area of river Ghaggar within 1 month and project may be sent to State Govt. To provide funds for the same so that irrigation projects may also be completed simultaneously alongwith commissioning of STPs i.e. by 31.03.2021. The progress in this regard may be placed before the Executing Committee in its next meeting.**

g) The surveillance on effluent treatment plants of the industries and sewage treatment plants shall be increased by HSPCB for the effective operation of ETP/STPs. The action against the defaulting ETP/STPs may be taken under the provisions of Water Act, 1974.

It was apprised that HSPCB is making surprise inspection/checking on the industries and STPs to ensure the regular and effective functioning of ETPs of the industries and STPs of the Local bodies of the State. The action against the defaulting ETP/STPs is taken as per the provisions of Water Act, 1974.

After deliberation on the issue, the Chairman of the Executing Committee directed that officers of HSPCB shall make regular and surprise inspections on the industries and STPs of the local Bodies to ensure that their ETPs and STPs are operated regularly and effectively. The action against the defaulting industries and concerned department responsible for not operating the STP shall be taken timely and as per the provisions of the Water Act, 1974

h) HSPCB shall monitor the ground water quality of ground water sources along river Ghaggar and ensure that no contaminated ground water is allowed to be consumed by the nearby inhabitants. Wherever, the groundwater quality is found affected, display boards on such sources may be erected mentioning that "water is not fit for drinking".

It was apprised by HSPCB that regular monitoring of ground water sources is carried out in the catchment area of River Ghaggar and the contaminated sites have been closed and display Boards have been erected mentioning that "water is not fit for drinking".

The Chairman of the Executing Committee directed that HSPCB shall ensure that no contaminated ground water source remains unattended and these should be properly sealed and ensure the erection of display boards on these

sources and ensure that these are not used for drinking purposes by the inhabitants.

i) **All the STPs of Department of Urban development, HSVP or any other operating agency shall be installed with OCEMS and CCTV cameras by 31.01.2020.**

It was informed that out of 59 STPs, OCEMS and CCTV cameras have been installed on 56 STPs and 53 STPs have made their connectivity with HSPCB.

The Chairman of the Executing Committee directed as under.

- **The remaining 03 STPs should install OCEMS and CCTV cameras within 01 month and these should have their connectivity with HSPCB server within next 15 days.**
- **The remaining 03 STPs, which have not made their connectivity with HSPCB server, shall make the same within 15 days.**
- **STPs which have been commissioned recently shall be provided with OCEMS and CCTV cameras within 01 month and these should have their connectivity with HSPCB server within next 15 days.**

j) **More Health checkup camps may be organized on quarterly basis in the areas located on river Ghaggar. If any patient found affected due to water borne diseases, the same may be reported to the concerned Chief Medical Officer of the concerned district.**

The Monitoring Committee was informed that 52 health checkup camps were organized during the month of December, 2019 and March,2020. In these camps, 3787 patients were checked, out of which 332 patients were found suffering with water borne diseases. However, no health checkup camp could be organized in April, 2020 due to COViD-19 pandemic and lockdown in the State.

The Chairman of the Executing Committee directed as under.

- **The ground water sources of the villagers/inhabitants, which have been found suffered with water borne disease, should be identified by HSPCB and their ground water samples be analyzed for all the parameters including heavy metal and F. Coli parameter within 01 month and in case these ground water sources are found contaminated, these may be sealed and display boards be erected on the contaminated sites mentioning that ground water source is not fit for drinking purposes.**
- **The process of organizing health checkup camps should be continued soon after the prevailing conditions allow.**

k) All the minutes of the monthly meeting of DLSTF and quarterly meetings of SLSTF may be uploaded on the website of HSPCB.

The Executing Committee was informed that the minutes of all the meetings of DSTF and SLSTF are uploaded on the website of HSPCB and these can be viewed at any time.

After discussion, the Chairman of the Executing Committee directed that the HSPCB shall ensure that the minutes of all the meetings of DSTF and SLSTF are continuously uploaded on the website of HSPCB.

3. Progress regarding monitoring of water quality of River Ghaggar and drains by the Joint Committee consisting of members namely Sh. J.P.Singh, Environmental Engineer and Sh. S.S.Mathru, Environmental Engineer.

Sh. J.P. Singh, Senior Environmental Engineer, HSPCB informed that due to lockdown in the State and their involvement in protective activities of COVID-19 pandemic, the study could not be carried out. However, he desired that 15 days' time be given so that the detailed study be carried out by him alongwith Sh. S.S. Matharu, Environmental Engineer, PPCB. The report in this regard shall be submitted within 1 month.

The Chairman of the Executing Committee directed that a joint Committee consisting of members namely Sh. J.P. Singh, Senior Environmental Engineer, HSPCB and Sh. S.S. Matharu, Environmental Engineer, PPCB shall carry out detailed study w.r.t. monitoring of water quality of river Ghaggar and sources of pollution in river Ghaggar within next 15 days and report be submitted to the Executing Committee within 1 month.

4.4.4 Compliance of the directions given/ recommendations made by the Executing Committee in its 18th meeting held with State Level Officers of the State of Haryana on 19/8/2020

1. Water quality of River Ghaggar at various locations

It was reported that the water quality of river Ghaggar is being monitored at various locations and average value ranges between 3.5 to 110 mg/l. The Executing Committee observed that the water quality data provided by HSPCB indicate that the value of BOD before entering into State of Haryana is 4 mg/l and after meeting with the pollution sources like river Markanda, Cheeka drain, Sagarpara drain, Kaithal drain, discharge of sewage of Ratia town and Ellenabad, Sirsa, the value of BOD has been found ranging between 38 mg/l to 60 mg/l. As such, there is need to control these pollution sources so as to improve the water quality of river Ghaggar.

After detailed discussion on the issue, it was directed as under:

Haryana State Pollution Control Board shall identify the pollution sources entering into river Ghaggar which are contributing high value of BOD and

data may be prepared and the concerned department be directed to give priority to control the pollution sources contributing high value of BOD and Faecal Coliform. A report in this regard be submitted to the Executing Committee within 21 days

2. Sources of pollution in river Ghaggar and details of the drain carrying sewage/industrial effluent in river Ghaggar

The data provided by Haryana State Pollution Control Board was analyzed by the Executing Committee in the meeting and it was observed that out of 255 points identified as pollution sources entering into main drains and ultimately into river Ghaggar, 153 points relate to Development and Panchayat Department, 78 points to Urban Local Bodies, 5 points to HSVP, 5 points to PHED and remaining 14 points to other department.

The Executing Committee further observed that there is possibility that these points might have been covered under STP projects but still there is need to analyze the data w.r.t the points which have been connected to STPs and the points where no action has been taken to divert the points into sewerage system further leading to STPs.

After detailed discussion on the issue, it was directed that Haryana State Pollution Control Board shall analyze the data of 255 disposal points joining to main drains w.r.t following points:

i. **Details of the disposal points carrying treated sewage and quality of treated sewage.**
ii. **Details of disposal points carrying untreated sewage.**
iii. **Details of the points proposed to be connected to sewerage system and further to STPs.**

3. Status of laying of sewerage network in the town and interception of sewage.

It was informed that out of 27 towns located in the catchment area of river Ghaggar, sewerage network is fully completed in 20 towns and in the remaining 7 towns, 300 km sewerage line has been laid against the total length of sewer as 430 km. it has been claimed that the balance work of sewerage network shall be completed by 31.12.2020.

The Chairman of the Executing Committee directed that complete sewerage network of 430.472 km should be completed in all the remaining 7 towns by 31.12.2020.

4. Diversion/tapping of sewage from 92 locations

It was informed that 92 locations have been identified from which 183 MLD effluent is generated and in order to divert this effluent to nearby STPs, steps have been taken and accordingly 19.17 MLD effluent has been diverted from 12 locations, whereas, the

diversion works of 56.3 MLD effluent from 10 locations is under progress. Further, there is need to divert the remaining 107.53 MLD effluent from 70 locations.

The Executing Committee observed that since 107.53 MLD effluent is still to be diverted from 70 locations, as such, there is gap in treatment of the sewage of 107.53 MLD and the matter needs to be taken up with the concerned departments by Haryana State Pollution Control Board.

After detailed discussion on the issue, it was directed as under:

Haryana State Pollution Control Board shall issue necessary directions to PHED, ULB, HSVP, D&P and HSIIDC or any other concerned department to divert sewage from remaining 70 locations carrying 107.53 MLD effluent and ensure that 107.53 MLD effluent should also be treated in the nearby STPs or installing separate STPs by 30.6.2021.

5. Status of sewage treatment plant installed for treatment of the sewage of the towns located on river Ghaggar and their performance

The Executing Committee observed that out of total 59 STPs installed in the catchment area of river Ghaggar, the capacity of which is 514 MLD, 49 STPs belong to PHED, 9 to HSVP and 1 belongs to Garrison Engineer, MES. The performance study of these STPs, as submitted by Haryana State Pollution Control Board, indicate that all the STPs are meeting with BOD and TSS parameter except F.coli parameter.

The issue was discussed in detail and it was directed that all the concerned departments namely PHED, HSVP and Garrision Engineer, MES shall make adequate arrangement to provide appropriate technology to disinfect F.coliform and ensure that these STPs should also achieve the prescribed standard for F.coli parameter by 31.3.2021.

6. Status of sewage treatment plants which are under construction/ planning

It was submitted that out of total 19 STPs, which were under construction/planning, 6 STPs of capacity 74 MLD have been completed, whereas, the construction work of remaining of 13 STPs of capacity 66.5 MLD has been completed with progress varying between 45% to 98% except STPs at 12MLD STP at 12 cross road Ambala, 12 MLD STP at Khuda Khrud Ambala and 7.5 MLD STP at Shapur Machhonda, where insignificant progress i.e 8%, 5% and 2%, respectively, has been achieved.

The Chairman of the Executing Committee directed that all the remaining 10 STPs of capacity 35 MLD should be completed by 31.3.2021. Special efforts should be made to accelerate the construction work of 31.5 MLD STPs at 12 cross road Ambala, Khuda Khrud Ambala and Shapur Machhonda so that these STPs should be completed by 30.6.2021.

7. Status of sewage treatment plants which are under proposal

The Executing Committee was apprised that 10 STPs of capacity 51.5 MLD are under proposal, out of which 7 STPs of capacity 41.5 MLD belong to HSVP, 2 STPs of capacity 10 MLD belong to ULBs and 01 STP to PHED. The timelines for completion of these STPs have been mentioned between 31.12.2021 to 30.6.2025.

The Executing Committee observed that such a huge quantity of untreated discharge of 51.5 MLD should not be allowed to be discharged, as such, there is need to complete these STPs by 30.6.2021 and accordingly, the Executing Committee directed that 10 STPs of capacity 51.5 MLD should be completed by 30.6.2021.

8. Status of sewage treatment plants which require technologically upgradation

The data presented before the Executing Committee depicted that there are 8 STPs of capacity 77.5 MLD, which require technologically upgradation and the progress w.r.t upgradation of these STPs has been achieved between 20% - 85%.

The data further indicate that 18 STPs of capacity 69.5 MLD have also been proposed for upgradation but these STPs are at DPR stage and thus there is need to accelerate the processes to get complete upgradation of these STPs by 30.6.2021.

02 STPs (Kalka: 4.5 MLD and Ambala City: 6 MLD) have also been proposed for upgradation but the land is not available for upgradation of these STPs.

Based on the above data, the Executing Committee directed as under:

i) **8 STPs of capacity 77.5 MLD, where the upgradation work has been started, shall be installed and commissioned by 30.6.2021.**

ii) **18 STPs of capacity 69.5 MLD, which are at DPR stage should also be accelerated to ensure that these STPs may also be completed by 30.6.2021.**

iii) **2 STPs of capacity 10.5 MLD, where presently, no land is available for upgradation, alternate site may be identified within 2 months and upgradation work of 2 STPs should be completed by 30.6.2021 or otherwise, if the land is not available for these STPs, best suited technology may be used for upgradation of STPs at the existing locations so that these may be upgraded by 30.6.2021.**

9. Gap in treatment of sewage of the towns located on river Ghaggar

It was submitted as under;

The total sewage discharge of 27 towns located in the catchment area of river Ghaggar is 258 MLD, whereas, the present capacity of STPs in these 27 towns is 514 MLD. However, there is gap of 0.7 MLD in Ambala town only.

The Executing Committee informed that as per the data provided by HSPCB, the untreated sewage of 107.53 MLD through 70 locations is being discharged into river Ghaggar, as such the discharge of 107.53 MLD should also covered under gap in sewage to be treated.

After discussion on the issue, it was directed by the Chairman of the Executing Committee that Haryana State Pollution Control Board shall reanalyze the data w.r.t gap in treatment of sewage in the towns as well as 107.53 MLD sewage through 70 locations being discharged untreated into river Ghaggar within 15 days and necessary direction be issued to the Executing agency (PHED/ULB/HSVP/D&B/other department) to connect the untreated discharge of these 70 locations with sewerage system leading to STPs or install new STPs of adequate capacity by 30.6.2021.

10. Status of installation of effluent treatment plant by the industries, inspection by State Pollution Control Board, performance of Effluent Treatment Plant, action against the violating industries and status of CETPs.

It was reported that all the 107 industries located in the catchment area of river Ghaggar have installed their individual ETPs to treat the industrial effluent of 4 MLD. Besides, 6.1 MLD capacity CETPs have also been provided. Based on the inspection and violations observed by Haryana State Pollution Control Board, 72 industries have been issued closure order, prosecution have been filed against 38 units and EC has been imposed on 13 units and amount of EC imposed and recovered from the violating industries was mentioned as Rs. 67.46 Lakh.

The Executing Committee directed as under:

i) **Haryana State Pollution Control Board shall continue to make surprise inspection/raids on the industries and action under the provision of Water Act, 1974 may be taken against the violating industries.**

ii) **Haryana State Pollution Control Board shall submit the details of the industries along with their category, type and quantum of effluent discharged by the industries joining to 4 CETPs installed in the catchment area of river Ghaggar.**

11. Implementation of irrigation scheme to utilize treated sewage for irrigation and the irrigation schemes which are under construction/planning.

The concerned departments of State of Haryana submitted as under:

- 15 irrigation projects to utilize the treated sewage of the towns costing Rs. 184.97 crore, which are part of Rs. 500 crore micro irrigation project under NABARD scheme, have been approved.
- 35 STPs located in 21 districts to irrigate CCA of 23,359 hectares of land to utilize 338.85 MLD of treated sewage have also been covered under the project of Rs. 500 crore.
- As per the latest directions from the State Government, the project is to be completed within 2 years.

After detailed discussion on the issue, the Chairman of the Executing Committee directed as under:

i) All the 15 irrigation project to utilize the treated sewage of STPs located in the catchment area of river Ghaggar should be completed by 31.3.2021.

ii) Out of total 207 STPs located in the catchment area of river Ghaggar and Yamuna, for which action plan has been approved by Government of Haryana in the month of January, 2020 for Rs 1098.25 crore to utilize 1828 MLD sewage, priority may be given to the remaining 44 STPs (59-15) of Ghaggar catchment area to utilize their treated sewage for irrigation.

12. Non point sources and control of pollution of these sources

It was submitted that there are complaints of illegal discharge through tankers and as decided at the highest level of the Government, special drive through District Level teams has been started and these committees have been asked to seize the vehicles carrying discharge of untreated sewage through tankers to discharge the same at unknown places.

The Executing Committee directed that District level teams consisting of officers from revenue department, irrigation, PHED, industries and police shall make surprise checks/raids on the tankers carrying illegal discharge and legal action may be taken against the defaulting persons/agencies.

13. Status of installation of sewage treatment plants for the villages

It was reported that the department of Rural Development & Panchayats has identified 45 villages in the catchment area of river Ghaggar, out of which work for STPs has been sanctioned for 36 villages and work of STPs in 31 villages has been started.

After detailed discussion on the issue, it was directed by the Chairman of the Executing Committee that STPs in all the 45 villages falling in the catchment area of river Ghaggar should be completed by 31.3.2021. The Development & Panchayat Department shall also study 153 points which have been

identified by the Department of Irrigation for discharge of their wastewater into river Ghaggar and in case discharge points carry untreated sewage, necessary plan for installation of treatment system for these points may be prepared and treatment facilities may be provided by 30.6.2021.

14. Ground water quality in the catchment area of river Ghaggar

The Executing Committee was apprised that Haryana State Pollution Control Board is monitoring the ground water quality of ground water sources located in the catchment area of river Ghaggar on quarterly basis at 72 locations. As per the latest report, the groundwater quality of 40 locations has not been found complying due to high values of TDS and calcium, whereas, the groundwater quality of 32 locations is meeting with the prescribed standards for drinking water. Accordingly, all these contaminated sites have been closed and display boards mentioning "**water is not fit for drinking**" have been erected.

After discussion on the issue, it was directed that Haryana State Pollution Control Board shall continue to monitor groundwater sources in the catchment area of river Ghaggar as per the frequency maintained by it and in case the contaminated sites are observed, the same shall be sealed by the Board and display board mentioning "water is not fit for drinking" may be erected at these sites.

15. Environmental flow

It was brought out that river Ghaggar is a non-perennial river and maintaining E-flow by keeping 15-20 % of lowest possible discharge in lean season is not possible. However, monthly flow of all the major drains joining river Ghaggar is measured regularly on monthly basis.

After discussion on the issue, it was directed that the Department of Irrigation shall provide check dam/water retaining structures to retain excess flow during rainy season and discharge the same in a regulated way during non-monsoon period to maintain eco system and aquatic life in the river.

16. Septage and faecal sludge management.

It was reported that 27 ULBs in Ghaggar river catchment area have notified their policy and septage and faecal sludge is disposed off at STPs through tanker system. As per the data supplied by the Department, septage/faecal sludge from 12 ULBs varying between 6-50 Kl is disposed of through tankers into STPs in the month of January,2020.

After detailed discussion on the issue, it was directed that Urban Local Bodies department, PHED, HSVP, D & P in consultation with Haryana State Pollution Control Board shall quantify the discharge of septage and faecal sludge to be disposed off at particular STPs keeping in view the capacity of

STPs and quantity of sewage being treated at the STPs so that disposal of such sludge may not hamper the functioning of STPs.

17. In-situ bio remediation in the drains carrying untreated sewage and not connecting to STPs

It was informed that the officers of Haryana State Pollution Control Board, Urban Local Bodies, HSVP, PHED and Panchayat Department have visited the sites of phyto remediation system in Punjab on 11.8.2020. Accordingly, it has been decided to start such In-situ bio remediation technology in drains carrying untreated sewage and not connected to STPs in the catchment area of river Ghaggar in the State of Haryana within 2 months.

After detailed discussion on the issue, it was directed that executing agencies like ULB department, HSVP, PHED and Panchayat Departments shall identify the drains carrying untreated sewage and not connected to STPs within 15 days and provide appropriate in-situ bio remediation technology in the drains by 31.10.2020.

18. Installation of Real Time Water Quality Monitoring Stations in river Ghaggar.

The Executing Committee was informed that Haryana State Pollution Control Board is in the process of fixing the specifications for Real Time Water Quality Monitoring Stations and these RTWQMS shall be installed by 31.12.2020.

It was directed that Haryana State Pollution Control Board shall take immediate action to install Real Time Water Quality Monitoring Stations by 31.12.2020 at appropriate locations.

19. Watershed Management

It was informed that map has been prepared for Watershed Management in catchment area of river Ghaggar by Department of Agriculture but it is to be implemented by the Department of Development & Panchayat.

After discussion on the issue, it was directed that the Department of Panchayat and Agriculture shall jointly take steps to provide Watershed Management in the catchment area of river Ghaggar and action taken report by submitted to the Executing Committee.

20. Status of prosecution launched by the Haryana State Pollution Control Board against the violators under the provisions of Water Act, 1974.

It was reported that 41 prosecutions have been sanctioned so far, out of which 32 prosecutions have been launched in the Hon'ble Courts. However, none of the case has been decided so far.

The Chairman of the Executing Committee took a serious view and directed that a separate meeting with officers of Haryana State Pollution Control Board, ADA, Presiding Officers may be held within 3 weeks for which the suitable date shall be conveyed later on. Haryana State Pollution Control Board shall coordinate the matter.

4.4.5 Latest progress w.r.t performance of existing STPs, installation of new STPs, gap in treatment of sewage of the towns, installation of ETPs by the industries, installation of CETP, utilization of treated sewage, water quality of drains/nallah, ground water quality etc.

4.4.5.1 Performance of existing STPs

27 towns are located in the catchment area of river Ghaggar and 59 STPs have been installed in these towns, the performance of which is mentioned as under: -

59 STPs of capacity 514 MLD have been installed, out of which 49 STPs of capacity 373.5 MLD by PHED, 9 STPs of capacity 131.5 MLD by HSVP and 1 STP of capacity 9 MLD by MES have been installed. Haryana State Pollution Control Board is monitoring the performance of all the STPs on monthly basis. The analysis results of the effluent samples collected from STPs during the month of December, 2019 to June, 2020 indicate that all the STPs are meeting with prescribed limits for BOD and TSS parameters, whereas, none of the STP is complying with faecal coliform parameter and the value of faecal coliform is much more than the permissible limits.

All the Executing bodies namely Public Health Engineering Department, Haryana Shehri Vikas Pradhikaran and MES authority should take immediate steps to upgrade all the 59 STPs of the towns located in the catchment area of river Ghaggar by 31.12.2020 so that water quality in the river Ghaggar may be improved w.r.t. F.Coli parameter.

4.4.5.2 Status of STPs under construction

Sr. No.	Name of the Town	Department.	Capacity (in MLD)	Timelines date	% Work Done	
					Earlier Status as on 29.2.2020	Status as on 30.06.2020
In progress						
1	12 Cross Road, Ambala	ULBD	12	30.06.2021	8%	15%
2	Khagesara&Toka	ULBD	0.5	30.12.2020	90%	95%
3	Nangal &Allipur	ULBD	0.5	30.12.2020	95%	95%
4	Khatoli	ULBD	0.75	31.03.2021	60%	60%
5	Kot	ULBD	0.75	30.08.2020	98%	98%
6	Sukhdarshanapur	ULBD	0.75	30.10.2020	75%	75%
7	Billa	ULBD	0.75	31.03.2021	7%	50%
8	Village Dabra	ULBD	8	31.12.2020	80%	82%

Sr. No.	Name of the Town	Department.	Capacity (in MLD)	Timelines date	% Work Done	
					Earlier Status as on 29.2.2020	Status as on 30.06.2020
9	Ambala	HSVP	5	30.06.2021	30%	85%
10	Khuda Khurd, Ambala	ULBD	12	30.06.2021	5%	5%
11	Bhuna	PHED	8	30.06.2020	74%	76%
12	Babyal	ULBD	10	30.06.2021	3%	16%
13	Shahpur Machhonda	ULBD	7.5	30.06.2021	2%	6%
14	Saketri-STP	ULBD	1.5	30.06.2021	There was a land issue. So work could not start.	Likely to be started within 15 days
15	Khanguwal-STP	ULBD	1	Dropped	-	This STP has been droppe d.
	Total		**68**			
Work completed						
1	Barara	PHED	4	30.11.2019	100%	100%
2	Jind	PHED	7	30.11.2019	100%	100%
3	Sec-6, Urban Estate, Thanesar	HSVP	15	31.03.2020	100%	100%
4	Kurukshetra	PHED	25	31.05.2019	100%	100%
5	Sirsa (Kelinia)	PHED	20	30.10.2019	100%	100%
6	Fatehabad(Jakhal Mandi)	PHED	3	31.12.2019	100%	100%
	Total		**74**			

The data indicate that 6 STPs of capacity 74 MLD have been completed. The construction work of 14 new STPs of capacity 67 MLD is under progress and 6-95% progress w.r.t. construction of these STPs has been achieved. 01 STP to be set up at Khanguwal has been dropped.

4.4.5.3 STPs under planning but funds yet to be tied up

Sr. No.	Name of the District	Name of the town/City	Deptt.	Capacity (MLD)	Earlier conveyed date of Start of construction and completion	Status as on 24.08.2020
1.	Ambala	Sector-32, Ambala Cantt.	HSVP	5	31.12.2021	Almost no discharge in this area due to very less habitation. This situation is unlikely to change for the next 6-7 years. Work is likely to be started in Year 2025. Sewage is not sufficient to reach the outfall. Sewer lines are got cleaned when need arises and sewage is lifted to the existing 2 MLD STP of HSVP in Ambala.
2.	Ambala	Naraingarh	HSVP	1	30.09.2022	Work is likely to be started in Year 2023. Sewage is not sufficient to reach the outfall. Sewer lines are got cleaned when need arises and sewage is lifted to the existing STP of PHED in Naraingarh.
3.	Panchkula	Pinjore	HSVP	8	30.04.2023	No discharge yet in this area due to no habitation. This situation is unlikely to change for the next 6-7 years. Work is likely to be started in Year 2025.
4.	Jind	Jind	HSVP	5	30.06.2023	This STP is not required at least for next 7-8 years, as the existing 10 MLD STP is sufficient to cater the sewage discharge of the HSVP area.
5.	Hisar	Hansi	HSVP	5	30.06.2025	Almost no discharge in this area due to very low habitation. Situation is unlikely to change during the next 4-5 years. Work is likely to be started in Year 2023. Present discharge, though very little, is being treated in existing STP of PHED. Sewage is not sufficient to reach the outfall.
6.	Hisar	Hisar	HSVP	10	31.03.2024	Almost no discharge from this area due to very low habitation. Situation is unlikely to change for the next 4-

Sr. No.	Name of the District	Name of the town/City	Deptt.	Capacity (MLD)	Earlier conveyed date of Start of construction and completion	Status as on 24.08.2020
						5 years. Work is likely to be started in Year 2023. Sewage is not sufficient to reach the outfall. Sewer lines are got cleaned when need arises and sewage is lifted to the existing 15 MLD STP of HSVP in Hisar.
7.	Hisar	Hisar	HSVP	5	30.06.2024	No discharge yet in this area due to no habitation. This situation is unlikely to change for the next 6-7 years. Work is likely to be started in Year 2025.
8.	Sirsa	Sirsa	HSVP	7.5	30.06.2023	Work of construction of 7.5 MLD capacity STP has been allotted and is in progress. Likely date of completion of work is 31.12.2021. At present, the sewage is being treated through in-situ bio-remediation.
			Total	**46.5**		

The data indicate that presently at 8 locations, mentioned in the table, there is almost no discharge is in the area due to less population and it will take 6-7 years to come with full population. However, the State of Haryana has prepared scheme for installation of STPs of capacity 46.5 MLD. These STPs are likely to be completed by 30.6.2023. The Executing Committee observed that some temporary arrangements should be made to divert the sewage of these areas to nearby STPs for its treatment or in-situ remediation in the drain carrying untreated sewage in a time bound manner.

4.4.5.4 STPs which require technologically upgradation and funds tied up

Sr. No	Name of the Town	Present capacity of STP (MLD)	Capacity to be upgraded technologically	Target date for completion/ commissioning	Earlier Status as on 29.2.2020	Status as on 30.6.2020
1	Jind	15	MBBR MBBR+TT	30.06.2021	80%	80%

2	Kaithal	10	MBBR MBBR+TT	30.06.2021	95%	95%
3	Pundri	3.5	MBBR MBBR+TT	30.06.2021	80%	85%
4	Ellanabad	7.5	MBBR MBBR+TT	30.12.2020	50%	65%
5	Fatehabad	10	MBBR MBBR+TT	30.06.2021	10%	25%
6	Ratia	6.5	MBBR MBBR+TT	30.12.2020	25%	25%
7	Tohana	10	MBBR MBBR+TT	30.06.2021	30%	30%
8	Sirsa	15	MBBR MBBR+TT	30.12.2020	45%	60%
	Total	**77.5**				

8 STPs of capacity 77.5 MLD are required to be technologically upgraded and funds for the same have been tied up. Upgradation work of these STPs has been completed to 25-95%. The likely date of commissioning of these STPs has been mentioned as 30.12.2020 and 30.6.2021.

4.4.5.5 STPs which require technologically upgradation and funds yet to be tied up.

Sr. No.	Name of town	Location	Technology	Capacity	Remarks
1	Ambala city	Nayagaon	MBBR	3	DPR Approved
2	Ambala city	Nayagaon	MBBR	3.25	DPR Approved
3	Ambala city	Moti Nagar	MBBR	5	DPR Approved
4	Ambala city	Moti Nagar	MBBR	5	DPR Approved
5	Ambala city	Devinagar	MBBR	3	DPR Approved
6	Ambala city	Nassirpur	MBBR	3.25	DPR Approved
7	Ambala city	Baldev Nagar	MBBR	5	DPR Approved

Sr. No.	Name of town	Location	Technology	Capacity	Remarks
8	Ambala city	Baldev Nagar	MBBR	3.25	DPR Approved
9	Naraingarh	Near Radha Swami Satsang Bhawan Naraingarh	MBBR	3	DPR Approved
10	Jind	Narwana road Jind	MBBR	5	DPR Approved
11	Narwana	Jind Patiala road	MBBR	3.5	DPR Approved
12	Narwana	Behind FCI Godown, Dharodi road	MBBR	3.75	DPR Approved
13	Narwana	Narwana road Jind	MBBR	2	DPR Approved
14	Uchana	Near railway line uchana road	Oxidation pond	2	DPR Approved
15	Uchana	Bangra road Uchana	MBBR	1.5	DPR Approved
16	Pehowa	Ambala road near saraswati road	MBBR	8	DPR Approved
17	Sirsa	Nattar	MBBR	5	DPR Approved
18	Sirsa	Narttar	MBBR	5	DPR Approved
19	Kalka	Kalka town	MBBR	4.5	Land not available for upgradation

Sr. No.	Name of town	Location	Technology	Capacity	Remarks
20	Ambala city	Model town	MBBR	6	Land not available for upgradation
	Total			**80**	

There are 20 STPs which are also required to be upgraded technologically but the funds have not been tied up so far. Out of these 20 STPs, 18 STPs are at DPR stage and in case of 2 STPs [Kalka: (4.5 MLD), Ambala city: (6 MLD)], land is not available for upgradation.

4.4.5.6 Details of the towns for laying of sewerage system in the catchment area of river Ghaggar.

Sr. No.	Name of town	Deptt.	Target date	Length to be laid in meters	Earlier Status as on 29.2.2020	Status as on 30.6.2020	%work done
1	Pinjore	PHED	31.12.2020	18500	10500	11000	59.5
2	Ambala City	ULBD	31.03.2021	24085	21958	23500	97.6
	Ambala Sadar	PHED ULBD	30.06.2021	162000	75000	160000	98.8
3	Naraingarh	PHED	31.12.2019	4570	2850	4500	98.5
4	Kaithal	PHED	25.10.2019	42430	21850	21850	51.5
		ULBD	31.12.2020	50166	22696	47715	95.1
5	Jakhal Mandi	PHED		46861	Tender allotted but work not started due to lockdown	0	0
6	Hisar	ULBD	31.03.2021	66860	0	41717	62.4
7	Mandi Dabwali	PHED	31.08.2020	15000	7800	8000	53.3
			Total	**430472**		**318282**	
Work Completed							
8	Kalawali	PHED	07.04.2020	2500	2500	Completed	---

Sr. No.	Name of town	Deptt.	Target date	Length to be laid in meters	Earlier Status as on 29.2.2020	Status as on 30.6.2020	%work done
9	Kalka	PHED				Completed	---
10	Panchkula	PHED				Completed	---
11	Shahbad	PHED	30.09.2019	6000	6000	Completed	---
12	Kurukshetra	PHED	31.10.2019	6884	6884	Completed	---
13	Pehowa	PHED	100%			Completed	---
14	Cheeka	PHED	31.05.2019	3700	3700	Completed	---
15	Pundri	PHED	31.05.2019	1700	1700	Completed	---
16	Kalayat	PHED				Completed	---
17	Jind	PHED	30.08.2019	9860	9860	Completed	---
18	Narwana	PHED	31.01.2020	3000	3000	Completed	---
19	Safidon	PHED	31.07.2019	4611	4611	Completed	---
20	Uchana	PHED	30.09.2019	2000	2000	Completed	---
21	Fatehabad	PHED	31.05.2019	1200	1200	Completed	---
22	Tohana	PHED	31.05.2020	2050	2050	Completed	---
23	Narnaund	PHED	31.03.2019	600	600	Completed	---
24	Ellenabad	PHED	31.05.2019	2375	2375	Completed	---
25	Rania	PHED	31.12.2019	2050	2050	Completed	---
26	Sirsa	PHED	30.04.2020	10400	10400	Completed	---
27	Ratia	PHED	31.03.2020	16850	16850	Completed	---

There are total 27 towns in catchment of River Ghaggar and laying of sewerage network has been completed in 20 towns. 430 Km of sewer line is being laid in 7 towns, out of which 318 Km sewerage line has been laid, so far. Progress w.r.t. laying of sewerage network in these 07 towns has been made to 51.5 to 98.8%. In Jhakhal Mandi sewerage network is yet to be laid.

4.4.5.7 Comparison of water quality of River Ghaggar in terms of average values of BOD, D.O and T.Coli, (December, 2019 to February, 2020 and March, 2020 to June, 2020).

Sr. No	Period	BOD mg/l	DO mg/l	Total Coliform (MPN/100ml)
Panchkula				
1	Ghaggar River at Haryana Himachal Border (Ghaggar River at Morni)			
	Dec-2019-Feb-2020	2.6	9.2	172000
	Mar-2020-June, 2020	2.73	7.66	175250
2	Ghaggar River, Near Burjkotia, Panchkula(Station Code- 1885)			
	Dec-2019-Feb-2020	5	9.2	278000
	Mar-2020-June, 2020	4.2	7.55	143500
3	Ghaggar river before meeting discharge of STP Sec-28 at Kakrali, Punjab.			
	Dec-2019-Feb-2020	5.3	7.5	172000
	Mar-2020-June, 2020	3.75	7.33	196250
4	Ghaggar river after meeting discharge of STP Sec-28 at Kakrali, Punjab.			
	Dec-2019-Feb-2020	10	8.4	-
	Mar-2020-June, 2020	3.5	6.5	230500
5	Ghaggar River before meeting Sukhna Choe at Vill- Bhankarpur, Punjab			
	Dec-2019-Feb-2020	7	-	-
	Mar-2020-June, 2020	27	-	-
6	Ghaggar River after meeting Sukhna Choe at Vill- Bhankarpur, Punjab			
	Dec-2019-Feb-2020	32	-	-
	Mar-2020-June, 2020	28	6.9	212000
7	Ghaggar River before meeting Dera Bassi Drain near Vill- Bhankarpur (Punjab) (Upstream)			
	Dec-2019-Feb-2020	4.5	-	177000
	Mar-2020-June, 2020	20	4	172000

Sr. No	Period	BOD mg/l	DO mg/l	Total Coliform (MPN/100ml)
8	Ghaggar River after meeting Dera Bassi near Vill- Bhankarpur (Punjab).			
	Dec-2019-Feb-2020	11.5	-	-
	Mar-2020-June, 2020	110	5	278000
9	Ghaggar River before meeting Basauli Choe at Vill- Tepla (Punjab)			
	Dec-2019-Feb-2020	5.4	-	-
	Mar-2020-June, 2020	11	6.4	172000
10	Ghaggar River after meeting Basauli Choe at Vill- Tepla (Punjab)			
	Dec-2019-Feb-2020	7.8	-	-
	Mar-2020-June, 2020	29	3.2	212000
11	Ghaggar river before meeting Jharmal Choe at Vill- Tiwana (Punjab)			
	Dec-2019-Feb-2020	5.3	-	-
	Mar-2020-June, 2020	17	6.9	175000
12	Ghaggar River after mixing Jharmal Choe, At- Vill- Tiwana, (Punjab)			
	Dec-2019-Feb-2020	11.5	-	-
	Mar-2020-June, 2020	43	2.5	22100
13	Ghaggar River before mixing Ghail drain at Samaspur (Ambala)			
	Dec-2019-Feb-2020	7	-	-
	Mar-2020-June, 2020	7.13	5.7	-
14	Ghaggar River after mixing Ghail Drain at Samaspur (Ambala)			
	Dec-2019-Feb-2020	7.3	-	345000
	Mar-2020-June, 2020	6.25	5.2	-
15	Ghaggar River before mixing Pachis Draha drain at Vill- Sarala Khurd (Patiala).			
	Dec-2019-Feb-2020	4.8	-	-
	Mar-2020-June, 2020	9	7.2	175000
16	Ghaggar River after mixing Pachis Draha drain at Sarala khurd (Patiala).			

Sr. No	Period	BOD mg/l	DO mg/l	Total Coliform (MPN/100ml)
	Dec-2019-Feb-2020	11	-	-
	Mar-2020-June, 2020	54	63.8	253000
Jind				
17	Ghaggar River before meeting river Markanda at Village Chiali. (Longitude $76^0$25.974' and Latitude $30^0$07.695')			
	Dec-2019-Feb-2020	71.3	2	436666.8
	Mar-2020-June, 2020	39.4	4.12	264200
18	Ghaggar River after mixing Markanda River at village Dhandota. (Longitude $76^0$22.571' and Latitude $30^0$05.410')			
	Dec-2019-Feb-2020	75.3	1.8	500000
	Mar-2020-June, 2020	51.4	4.46	229400
19	Ghaggar River before mixing, Patiala Nadi at Vill. Bhatia. (Longitude $76^0$14.696' and Latitude $30^0$04.717')			
	Dec-2019-Feb-2020	77.3	2.4	386666.8
	Mar-2020-June, 2020	45.6	4.82	270400
20	Ghaggar River after mixing of Patiala Nadi at Village Ratanheri. (Longitude $76^0$14.542' and Latitude $30^0$04.645')			
	Dec-2019-Feb-2020	65.3	2	543333.3
	Mar-2020-June, 2020	4704	4.62	306000
21	Ghaggar River before mixing Sagar Para Drain at Village Rasoli. (Longitude $76^0$10.173' and Latitude $29^0$54.305')			
	Dec-2019-Feb-2020	80	2.1	440000
	Mar-2020-June, 2020	44.4	3.8	199400
22	Ghaggar River after mixing of Sagar Para Drain at Village Rasoli. (Longitude $76^0$10.135' and Latitude $29^0$53.548')			
	Dec-2019-Feb-2020	62.3	2. 7	486666.8
	Mar-2020-June, 2020	48.8	3.94	333600

Sr. No	Period	BOD mg/l	DO mg/l	Total Coliform (MPN/100ml)
23	River Ghaggar before mixing Kaithal drain at Khanauri. (Longitude $75^0$00.061' and Latitude $29^0$50.754')			
	Dec-2019-Feb-2020	66	1.8	340000
	Mar-2020-June, 2020	27.50	6.1	250500
24	River Ghaggar before mixing point of Khanauri drain			
	Dec-2019-Feb-2020	61.3	8.7	420000
	Mar-2020-June, 2020	47.60	2.6	238800
25	River Ghaggar after mixing Kaithal Darin into River Ghaggar. (Longitude $76^0$06.663' and Latitude $29^0$50.723')			
	Dec-2019-Feb-2020	56	2.5	563333.3
	Mar-2020-June, 2020	45.20	585.16	297400
26	River Ghaggar before meeting discharge of Moonak Town. (Longitude $75^0$53.763' and Latitude $29^0$48.503')			
	Dec-2019-Feb-2020	53.8	2.9	270000
	Mar-2020-June, 2020	42.40	5.04	206400
27	River Ghaggar after meeting discharge of Moonak Town with River Ghaggar. (Longitude $75^0$53.702' and Latitude $29^0$48.515')			
	Dec-2019-Feb-2020	78	1.5	880000
	Mar-2020-June, 2020	39	5.36	281600
28	River Ghaggar before meeting Jhambuwali Choe at Village Chandu. (Longitude $75^0$00.100' and Latitude $29^0$49.736')			
	Dec-2019-Feb-2020	55.3	2.8	766666.8
	Mar-2020-June, 2020	34	5.64	175600
29	River Ghaggar after meeting Jhambuwali Choe at Village Chandu. (Longitude $75^0$59.989' and Latitude $29^0$49.717')			
	Dec-2019-Feb-2020	61.3	1.9	586666.8
	Mar-2020-June, 2020	41.40	458	201750

Sr. No	Period	BOD mg/l	DO mg/l	Total Coliform (MPN/100ml)
Hisar				
30	River Ghaggar before meeting discharge of Ratia.			
	Dec-2019-Feb-2020	58	1.95	405000
	Mar-2020-June, 2020	37.1	5	186500
31	River Ghaggar after meeting of discharge of Ratia.			
	Dec-2019-Feb-2020	61	1.55	365000
	Mar-2020-June, 2020	40.66	5.38	258400
32	River Ghaggar before meeting discharge of Sardulgarh town			
	Dec-2019-Feb-2020	67	1.95	365000
	Mar-2020-June, 2020	45.75	5.97	304750
33	River Ghaggar after meeting discharge of Sardulgarh town			
	Dec-2019-Feb-2020	62	3.25	300000
	Mar-2020-June, 2020	44.75	5.72	3525500
34	Ghaggar before Ottu weir			
	Dec-2019-Feb-2020	41	1.8	140000
	Mar-2020-June, 2020	29.33	5.8	300000
35	River Ghaggar before discharged of 7.5 MLD STP PHED, Ellenabad Sirsa			
	Dec-2019-Feb-2020	52	2.4333	260000
	Mar-2020-June, 2020	50.5	5.4	248000
36	River Ghaggar after discharged of 7.5 MLD STP PHED, Ellenabad Sirsa			
	Dec-2019-Feb-2020	62.3	2.4333	386666.7
	Mar-2020-June, 2020	45.2	3.98	320000

The data indicate that there is improvement w.r.t. BOD, DO, total Coliform parameter at almost all the locations in river Ghaggar but the value of T.Coli is still much higher than the permissible limits.

4.4.5.8 Installation of Real Time Water Quality Monitoring Stations.

Presently, no Real Time Water Quality Monitoring Station has been installed in river Ghaggar. However, it has been claimed by Haryana State Pollution Control Board that action is under process and specifications are being finalized.

4.4.5.9 Ground Water Quality in the catchment area of river Ghaggar

Haryana State Pollution Control Board is monitoring the ground water quality of ground water sources located in the catchment area of river Ghaggar on quarterly basis.

In District Kaithal, 15 groundwater samples have been analysed and all these ground water samples have been found non-complying with one or other parameter except 1 tubewell at village Kassan (Kaithal).

In the District Hisar, 5 groundwater samples have been collected, out of which 2 samples have been found complying with the norms.

In district Sirsa, 24 ground water samples have been collected, out of which 7 samples have been found non-complying.

In the District Fatehabad 18 ground water samples have been collected, out of which 14 ground water samples have been found non-complying.

4.4.5.10 Status of Irrigation schemes for STPs

a) Towns/STPs where Irrigation Projects Commissioned as on 30.6.2020

Sr. no.	Town	Name of STP	Capacity (MLD)	Command Area (ha)
1	Pehowa	STP Pehowa, Kurukshetra	1.47	76
2	Ladwa	STP Ladwa, Kurukshetra	1.22	63
3	Shahbad	STP Shahbad, Kurukshetra	3.00	151

In order to utilize the treated sewage of 3 towns [Pehowa:1.47 MLD, Ladwa: 1.22 MLD and Shahbad: 3 MLD], irrigation schemes have been commissioned to utilize the treated sewage in command area of 290 hectares.

b) Consolidated project for utilization of 1828 MLD treated wastewater from 207 STPs

A consolidated project estimate costing Rs. 1098.25 Cr. has been prepared for utilization of 1828 MLD (747 Cs) treated wastewater, out of total 2795.20 MLD from 207 STPs (Ghaggar and Yamuna), for irrigation of 1.62 lac hectares. The project estimate stands discussed in the Standing Technical Committee of the departments on 26.08.2019 and approved. The approval has been accorded by

Govt on 04.01.2020. The project is likely to be completed in 5 years' time which further depends upon the availability of funds but now the said period has been reduced to 2 years.. As far as quantity of treated sewage water is concerned which can be spared for irrigation with the quality parameters as finalized by Agriculture deptt.,the same will be provided by the department which owns the STPs, so as to enable Irrigation and Water Resources Department to formulate specific scheme for that much quantity.

c) Towns/ STPs where funds not tied up for Irrigation Projects

Out of total 207 STPs, 35 STPs in 21 Districts (140 MLD) have been chosen for 500 Cr MI project under NABARD assisted Micro Irrigation Project. NABARD project stands approved by the Govt. and Rs. 20 Crores as submitted in the action plan, will be available to be spent in the current year.

4.4.5.11 Action taken against the operating agencies w.r.t non-compliance of STPs during the period March to June, 2020

Town	Technology	Reason for non-compliance	Action Taken
6 MLD STP Dhani Garan, Barwala, Hisar	MBBR	Sample of effluent exceeding the prescribed Limit.	Environment Compensation of Rs. 3,24,99,600/- imposed and prosecution action initiated

4.4.5.12 Inspection of industries by District Level Special Task Force during the period March, 2020 to June, 2020 and the action taken against defaulting industries.

Month	No. of industries inspected	No. of non-complying industries	Action taken against the industry
NIL			

4.4.5.13 Status of installation of STPs for the villages as on 30.6.2020

Total no. of villages	Phase-I			Phase-II			Phase-III		
	No. of village covered	Funds required in Rs Crores	Timelines for completions	No. of village covered	Funds required in Rs Crores	Timelines for completions	No. of village covered	Funds required in Rs Crores	Timelines for completion
45	45	31.93	31.12.2020	NA					

4.4.5.14 Status of Health checkup camps organized during the month March, 2020 to June, 2020.

Name of the District	No. of Health camps organized	No. of patient checked	No. of patient found suffered from water borne diseases
Panchkula	1	124	0
Kaithal	47	1972	0
Sirsa	4	273	37
Fatehabad	3	158	30

4.4.5.15 Information, Education & Communication (IEC) activities (March, 2020 to June, 2020)

Sr. No.	Name of the Regional Office of PPCB	Date on which camp was organized for IEC activities	Activities performed
1	Panchkula region	Mar, 2020	Awareness program regarding Environment pollution and specially pollution in River Ghaggar was conducted in Burajkotian and Raipur Rani, Panchkula
2		Apr, 2020	Activity not performed due to Lockdown
3		May, 2020	Awareness program regarding Environment pollution and specially pollution in River Ghaggar was conducted in Burajkotian and Raipur Rani, Panchkula
4		June, 2020	Awareness program regarding Environment pollution and specially pollution in River Ghaggar was conducted in BEL Colony, Panchkula
5	Ambala & Kurukshetra	05.06.2020	Mass plantation campaign was organized in Vill. Bakhli, Pehowa. Painting, drawing and slogan writing competition was organized with the help of Education Department. Students take participation from their homes and submitted their paintings, drawings and slogans on Environment awareness through watsapp.

4.4.5.16 Environmental Flow

It was informed that Ghaggar river is non perennial river and discharge varies from zero to maximum during flood seasons. Around 15-20% of the lowest possible discharge in the lean season is required for maintaining E-flow. In the State of Haryana, it is not possible to maintain E-flow. However, the monthly

flow of all the major drains joining river Ghaggar is measured regularly on monthly basis.

4.4.5.17 Septage and Faecal Sludge management

27 ULBs in Ghaggar catchment have notified the policy and septage and faecal sludge is being managed in 13 STPs through tankers system. All the Municipal bodies, falling in the catchment of River Ghaggar, have adopted the septage management policy.

Further, for better implementation of septage management policy, Nodal Officers have been designated in each MC. In case of Municipal Corporations, Chief Sanitary Inspector, in case of Municipal Councils, Executive Officer and in case of Municipal Committee, Secretary will be the Nodal Officer for implementation of septage management policy and if during any inspection, it is found that there is illegal disposal of septage through tankers, action against the owner of the tanker as well as Nodal Officer shall be taken.

ULB Department is also in process of development of MIS Portal for online reporting of the month wise action taken by ULBs for management of septage and the MIS portal is likely to be started shortly.

4.4.5.18 Watershed management

The Panchayats, Agriculture and Rural Development Departments are to submit plan for Watershed Management. Map has been prepared for Watershed Management in catchment area of river Ghaggar by Agriculture Deptt. But the said department has been advised to prepare it with more details having latitude and longitude of project sites. The same is yet to be submitted by the Deptt. of Agriculture.

4.4.5.19 In-situ bio remediation in the drains carrying untreated sewage and not connected to STPs.

The Officers of HSPCB, ULBD, HSVP, PHED and Panchayat Department were deputed to visit the sites of phyto remediation in Punjab State on 11.08.2020 so that similar projects can be established/ commissioned in the State of Haryana. A workshop regarding in-situ phyto/bio-remediation was also convened by HSPCB on 17.08.2020.

It has been further submitted that as a pilot project, MC, Yamuna Nagar has allotted the work of phyto remediation of drain on 17.08.2020 and the work is likely to be started after monsoon. After satisfactory results of the project, the same shall be implemented in the other drains in the State.

4.4.6 Conclusions and recommendations

1. 27 towns are located in the catchment area of river Ghaggar and 59 STPs of capacity 514 MLD have been installed, out of which 49 STPs of capacity 373.5 MLD by Public Health Engineering Department, 9 STPs of capacity 131.5 MLD by HSVP and 1 STP of capacity 9 MLD by MES have been installed.
Haryana State Pollution Control Board is monitoring the performance of all the STPs on monthly basis. The analysis results of the effluent samples collected from STPs during the month of December, 2019 to June, 2020 indicate that all the STPs are meeting with prescribed limits for BOD and TSS parameters, whereas, none of the STP is complying with faecal coliform parameter and the value of faecal coliform is much higher than the permissible limits.

The Executing Committee recommends that all the concerned departments namely PHED, HSVP and Garrision Engineer, MES shall make adequate arrangement to provide appropriate technology/ upgrade the existing STPs with mechanism to disinfect F.Coliform and ensure that these STPs should also achieve the prescribed standard for F.coli parameter by 31.12.2020.

2. Out of 21 STPs, which are under construction/planning, 6 STPs of capacity 74 MLD have been completed. The construction work of 13 new STPs of capacity 65.5 MLD is under progress and progress varying between 5-98% has been achieved. The work of 01 STP of capacity 1.5 MLD shall be started within 15 days and whereas 01 STP of capacity 1 MLD to be installed at Khanguwal has been dropped.

The Executing Committee recommends that all the remaining 11 STPs of capacity 67 MLD should be completed by 31.3.2021. Special efforts should be made to accelerate the construction work of 03 STPs of capacity 31.5 MLD at 12 Cross Road Ambala, Khuda Khurd, Ambala and Shahpur Machhonda so that these STPs should be completed by 30.6.2021.

3. 10 STPs of capacity 51.5 MLD are under proposal, out of which 7 STPs of capacity 41.5 MLD belong to HSVP, 2 STPs of capacity 10 MLD belong to ULBs and 01 STP to PHED. The timelines for completion of these STPs have been mentioned between 31.12.2021 to 30.6.2025.

The Executing Committee observed that such a huge quantity of untreated discharge of 51.5 MLD should not be allowed to be discharged, as such, there is need to complete these STPs by 30.6.2021

and accordingly, the Executing Committee directed that 10 STPs of capacity 51.5 MLD should be completed by 30.6.2021.

4. The Executing Committee observed that as per data provided by Haryana State Pollution Control Board, 255 points have been identified as pollution sources entering into main drains and ultimately into river Ghaggar, out of which 153 points relate to Development and Panchayat Department, 78 points to Urban Local Bodies, 5 points to HSVP, 5 points to PHED and remaining 14 points to other department.

The Executing Committee further observed that there is possibility that these points might have been covered under STP projects but still there is need to analyze the data w.r.t the points which have been connected to STPs and the points where no action has been taken to divert the points into sewerage system further leading to STPs.

The Executing Committee recommends that Haryana State Pollution Control Board shall analyze the data of 255 disposal points joining to main drains w.r.t following points:

i. **Details of the disposal points carrying treated sewage and quality of treated sewage.**
ii. **Details of disposal points carrying untreated sewage.**
iii. **Details of the points proposed to be connected to sewerage system and further to STPs.**

5. 8 STPs of capacity 46.5 MLD in 7 towns have been planned to be constructed, where, presently either no discharge is there due to less population or discharge is not reaching to out fall and it is expected that 6-7 years will be taken to come with full population. These STPs are likely to be completed by 30.6.2024.

The Executing Committee observed that some temporary arrangements are required to be made to either divert the sewage of these areas to nearby STPs for its treatment or provide in-situ remediation in drains carrying untreated sewage.

6. 8 STPs of capacity 77.5 MLD are required to be technologically upgraded and funds for the same have been tied up. The progress varying between 25-95% has been made w.r.t. upgradation of these STPs. The likely date of commissioning of these STPs has been mentioned as 30.12.2020 and 30.6.2021.

The Executing Committee recommends that all the 8 STPs of capacity 77.5 MLD should be technologically upgraded by 31.12.2020.

7. There are 20 STPs which are also required to be technologically upgraded but the funds have not been tied up so far. Out of these 20 STPs, 18 STPs are at DPR stage and in case of 2 STPs [Kalka: (4.5 MLD), Ambala city: (6 MLD)], no land is available for upgradation.

The Executing Committee recommends that all 20 STPs should be technologically upgraded by 30.6.2021.

8. Out of 27 towns in catchment of River Ghaggar, sewerage network has been completed in 20 towns. 430 Km of sewer line is being laid in 7 towns, out of which 318 Km sewerage has been laid, so far. In these 7 towns, progress w.r.t laying of sewerage network has been achieved to 51.5-98.8%.

It is recommended that sewerage system in all the remaining 7 towns should be completed by 31.3.2021 or till the commissioning of STPs whichever is earlier.

9. With regard to gap in treatment of sewage of the towns located in the catchment area of river Ghaggar, it was observed that total sewage discharge of 27 towns of river Ghaggar is 258 MLD, whereas, the present capacity of STPs in these 27 towns is 514 MLD. However, there is gap of 0.7 MLD in Ambala town only. However, it has been observed by the Executing Committee that as per the data provided by HSPCB, the untreated sewage of 107.53 MLD through 70 locations is being discharged into river Ghaggar, as such, the discharge of 107.53 MLD should also covered under gap in sewage to be treated.

The Executing Committee recommends that Haryana State Pollution Control Board shall reanalyze the data w.r.t gap in treatment of sewage in the towns as well as 107.53 MLD sewage through 70 locations being discharged untreated into river Ghaggar within 15 days and necessary directions be issued to the Executing agency (PHED/ULB/HSVP/D&B/other department) to connect the untreated discharge of these 70 locations with sewerage system leading to STPs or install new STPs of adequate capacity by 30.6.2021.

10. The Haryana State Pollution Control Board is monitoring the water quality of river Ghaggar at various locations. The data indicate that the value of BOD at various locations has been found varying between 2.6-110 mg/l and though there is slight change in the value of total coliform and still it is much higher than the permissible limits, **as such, there is need to upgrade all the existing STPs located in the catchment area of river Ghaggar to control faecal coliform and the source of pollution which are directly entering into**

river Ghaggar contributing high value of faecal coliform may also be identified and these sources should be connected to nearby STPs.

11. Haryana State Pollution Control Board is in the process of fixing the specifications for Real Time Water Quality Monitoring Stations and these RTWQMS are likely to be installed by 31.12.2020.

It is recommended that Haryana State Pollution Control Board shall take immediate action to install Real Time Water Quality Monitoring Stations (RTWQMS)by 31.12.2020 at appropriate locations.

12. Haryana State Pollution Control Board is monitoring the ground water quality of ground water sources located in the catchment area of river Ghaggar on quarterly basis at 72 locations. As per the latest report, the groundwater quality of 40 locations has not been found complying due to high values of TDS and calcium, whereas, the groundwater quality of 32 locations is meeting with the prescribed standards for drinking water. Accordingly, all these contaminated sites have been closed and display boards mentioning "**water is not fit for drinking**" have been erected.

It is recommended that Haryana State Pollution Control Board shall continue to monitor groundwater sources in the catchment area of river Ghaggar as per the frequency maintained by it and in case the contaminated sites are observed, the same shall be sealed by the Board and display board mentioning "water is not fit for drinking" may be erected at these sites.

13. 15 irrigation projects to utilize the treated sewage of the towns costing Rs. 184.97 crore, which are part of Rs. 500 crore micro irrigation project under NABARD scheme, have been approved.

35 STPs located in 21 districts to irrigate CCA of 23,359 hectares of land to utilize 338.85 MLD of treated sewage have also been covered under the project of Rs. 500 crore.

As per the latest directions from the State Government, the project is to be completed within 2 years.

The Executing Committee recommended as under:

i) **All the 15 irrigation projects to utilize the treated sewage of STPs located in the catchment area of river Ghaggar should be completed by 31.3.2021.**

ii) **Out of total 207 STPs located in the catchment area of river Ghaggar and Yamuna, for which action plan has been approved by Government of Haryana in the month of January, 2020 for Rs**

1098.25 crore to utilize 1828 MLD sewage, priority may be given to the remaining 44 STPs (59-15) of Ghaggar catchment area to utilize their treated sewage for irrigation.

14. Haryana State Pollution Control Board has inspected 6 MLD STP at Barwala, Hisar during the period March to June 2020, whose analysis results have been found higher than the permissible limits, as such, environmental compensation of Rs. 3.25 crore has been imposed alongwith launching of prosecution against the agency.

No inspection of industries has been carried out by District Level Special Task Force during March, 2020 to June, 2020.

The Executing Committee recommends that HSPCB shall continue to monitor the existing STPs and industries located in river Ghaggar catchment area on monthly basis and action against the violators may be taken in a time bound manner. District Level Special Task Force shall also conduct surprise inspection of industries from time to time.

15. The Department of Rural Development & Panchayats has identified 45 villages in the catchment area of river Ghaggar, out of which work for STPs has been sanctioned for 36 villages and work of STPs in 31 villages has been started.

It is recommended that treatment facilities in all the 45 villages falling in the catchment area of river Ghaggar should be completed by 31.3.2021.

16. River Ghaggar is a non-perennial river and maintaining E-flow by keeping 15-20% of lowest possible discharge in lean season is not possible. However, monthly flow of all the major drains joining river Ghaggar is measured regularly on monthly basis.

It is recommended that the Department of Irrigation shall provide check dam/water retaining structures in the catchment area of river Ghaggar to retain excess flow of water during rainy season and discharge the same in a regulated way during non-monsoon period so as to maintain eco system and aquatic life in the river.

17. 27 ULBs in Ghaggar river catchment area have notified their policy and septage and faecal sludge is disposed of at STPs through tanker system. As per the data supplied by the Department, septage/faecal sludge from 12 ULBs varying between 6-50 Kl has been disposed of through tankers into STPs in the month of January-2020.

It is recommended that Urban Local Bodies department, PHED, HSVP, D & P in consultation with Haryana State Pollution Control Board shall quantify the discharge of septage and faecal sludge to be disposed of at particular STPs keeping in view the capacity of STPs and quantity of sewage being treated at the STPs so that disposal of such sludge may not hamper the functioning of STPs.

18. The officers of Haryana State Pollution Control Board, Urban Local Bodies, HSVP, PHED and Panchayat Department have visited the sites of phyto remediation system in Punjab area on 11.8.2020. Accordingly, it has been decided to start such in-situ bio remediation technology in drains carrying untreated sewage and not connected to STPs in the catchment area of river Ghaggar in the State of Haryana within 2 months.

It is recommended that executing agencies like ULB department, HSVP, PHED and Panchayat Departments shall identify the drains carrying untreated sewage and not connected to STPs within 15 days and provide appropriate in-situ bio remediation technology in the drains by 31.10.2020. Haryana State Pollution Control Board shall coordinate the matter immediately.

19. Plan has been prepared for Watershed Management in catchment area of river Ghaggar by the Department of Agriculture but it is to be implemented by the Department of Development & Panchayat.

It was recommended that the Department of Panchayat and Department of Agriculture shall jointly take steps to provide Watershed Management in the catchment area of river Ghaggar by 31.12.2020.

Sd/-	**Sd/-**	**Sd/-**
(Dr. Babu Ram)	**(Urvashi Gulati)**	**(Justice Pritam Pal)** **Former Judge,** **Punjab & Haryana High Court and now as Chairman of the Monitoring Committee**

Note: **The Chairman and Members of the Executing Committee have given their concurrence on the above report.**

7/9/2020

Annexure -1

Item No. 01 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Original Application No. 138/2016 (T_{NHRC})
(Case No.559/19/11/14)

(With Fifth Report dated 16.04.2020)

Stench Grips Mansa's Sacred Ghaggar River

Date of hearing: 15.06.2020

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SHEO KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Respondent(s): Mr. Rajkumar, Advocate for CPCB
Ms. Richa Kapoor, Advocate for Punjab PCB with Mr. Karunesh Garg, Member Secretary, PPCB
Mr. Rahul Khurana, Advocate for State of Haryana
Mr. Shubham Bhalla, Advocate for UT Chandigarh
Mr. Sanjay Kumar, Advocate for HP State PCB

ORDER

1. This order is being passed in continuation of order dated 20.01.2020 on the subject of effective steps for 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 in 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. The issue of control of pollution in all the said 351 river stretches is also being dealt with generally by this Tribunal in *O.A. No. 673/2018*. The present matter however involves a specific polluted river stretch.

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 was 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. The findings of the joint inspection report showed that values of various parameters such as BOD, TSS, Feacal 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 quality 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 was received and considered on 11.04.2019.

5. The Committee has given four reports dated 28.02.2019, 14.06.2019, 01.10.2019 and 8.1.2020 which were dealt with by this Tribunal vide earlier orders. The Fifth Report of the Committee dated 16.04.2020 has been filed which has been taken up for consideration today.

6. The Fifth Report is in pursuance of order dated 20.01.2020. In the said order, reference was also made to the four earlier reports noticing the gaps, sewage management, polluted level of water on account of several sources of pollution and recommendations with regard to the steps required to be taken to remedy the situation. It will be appropriate to refer to the observations in the said order:-

> *"7. Gap in report of sewage management, as per report dated 28.02.2019 of the Executing Committee, was found to be 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*

8. The Tribunal also considered the deteriorated water quality, status of STPs in Himachal Pradesh, Haryana, Punjab and UT Chandigarh and directed action to be taken by the Himachal Pradesh, Haryana, Punjab and UT Chandigarh to be monitored by the Chief Secretaries and required a further report from the Executing Committee with reference to the status on the ground after six months or as and when considered necessary by the Committee."

7. Thereafter, report dated 08.01.2020 was further dealt with in the light of the conclusions and recommendations of the Committee in respect of States of Punjab, Haryana and Himachal Pradesh and UT Chandigarh and following directions were issued:-

"11. The Tribunal also considered the deteriorated water quality, status of STPs in Himachal Pradesh, Haryana, Punjab and UT Chandigarh and directed action to be taken by the Himachal Pradesh, Haryana, Punjab and UT Chandigarh to be monitored by the Chief Secretaries and required a further report from the Executing Committee with reference to the status on the ground after six months or as and when considered necessary by the Committee.

12. ***The Committee may simultaneously give a copy of its report to the concerned Chief Secretaries and PCBs/PCC who may give their respective response to this Tribunal within two weeks thereafter. The response may particularly focus on existing STP being compliant with the norms with regard to faecal coliform, bridging of gap in terms of sewage generated and treated, secondary use of STP treated water, bridging of gap in terms of solid waste generated and treated, remediation of legacy waste sites etc.***

8. We may now refer to the Fifth Report of the Committee. Conclusion and recommendations are as follows:-

"4.2.5 Conclusions and Recommendations

In view of the discussion held with Distt. Level officers and District Level Special Task Forces of various districts of State of Punjab, Haryana, Himachal Pradesh and UT. Chandigarh and State Level Officers of these States and UT. Chandigarh, visits to pollution sources,

information collected from various departments w.r.t performance of existing STPs, installation of new STPs, upgradation of existing STPs, irrigation schemes to utilize the treated sewage for irrigation, installation of STPs in rural areas, status of health check up camps, water quality in river Ghaggar, water quality of the groundwater sources located in the vicinity of river Ghaggar, IEC activities and environmental flow etc, ***the Executing Committee has made the following conclusions and recommendations.***

4.2.5.1 State of Punjab

1) *Punjab water Supply and Sewerage Board shall complete and commission 08 New STPs for 6 towns (Boha, Dhuri, Sangrur, Bassi Pathana, Sirhind and Patiala), whose work has been completed upto 10-41%, should be completed by 31.12.2020.*

2) *Sewage treatment plants for 19 towns for which funds have been tied up should be completed and commissioned by 31.03.2021.*

3) *For upgradation of existing sewage treatment plants for the towns namely Bareta (3 MLD), Bhikhi (3 MLD) and Sardulgarh (4 MLD), funds may be arranged by the Department of Local Government by 31.05.2020 and Punjab Water Supply and Sewerage Board shall ensure that these STPs should be upgraded by 31.03.2021.*

4) *GMADA shall upgrade its existing STP of capacity 45.5 MLD at Mohali by 31.03.2021.*

5) *The authority of Military Engineering Services (MES) shall install and commission new STP's of capacity 6 MLD and 1 MLD for MES Patiala and MES Nabha, respectively, by 31.03.2021.*

6) ***The Executing Committee has observed that there is gap in Sewage Quantity to be treated is 86.26 MLD of 17 towns.*** *It is recommended that the Department of Local Government shall make necessary arrangements for planning, designing and installation of new sewage treatment plants to treat the gap in sewage quantity by 31.03.2021.*

7) *Water Quality of river Ghaggar has been monitored by Punjab pollution Control Board during November-2019 to February-2020 and* ***it has been observed that no significant improvement in water quality of river Ghaggar w.r.t. BOD and DO parameters and no improvement w.r.t Coliform Parameter has been observed at 12 locations out of 14 locations of river Ghaggar.***

8) *PPCB has carried out ground water sampling at 11 locations located in the vicinity of river Ghaggar after monsoon.* ***The analysis results indicate that water of 1 tubewell is not potable and as such this tubewell is required to be capped. Also, the concentration of iron in 1 handpump sample has been found much beyond the prescribed limits. Therefore, the Executing Committee recommends that these 02 ground water sources should be capped by PPCB by 07.04.2020 and display boards with caption "Water is not fit for drinking", may be erected at these sites.***

9) *The Executing Committee has observed that in order to utilize the treated sewage of STP's of 2 towns, irrigation schemes are under progress and the work of the same has been completed upto 80%. The Executing Committee recommends that the irrigation schemes should be completed by 31.05.2020.*

10) *To utilize the treated sewage (51 MLD) of 4 towns (Mandi Gobindgarh, Patiala, Dhuri and Sangrur) for irrigation having command area of 1961 hectares, the Department of soil and water conservation shall take up the matter with the Department of Finance, Punjab for early release of funds and work of laying of irrigation network may be started by 01.05.2020 and the same shall be completed by 30.09.2020.*

11) *The funds for laying of irrigation network to utilize the treated sewage of 24 STPs of 20 towns for irrigation may be tied up by the State of Punjab 31.05.2020 and funds for irrigation network for these towns may be released by 31.08.2020 so that irrigation schemes may be completed by 31.03.2021 i.e. simultaneously along with the commissioning of STPs.*

12) *The Executing Committee has observed that the treated sewage of 4 towns namely Budhlada: 6.5 MLD, Zirakpur: 17 MLD, SAS Nagar: 45.4 MLD and MC Derabassi: 4 MLD cannot be utilized for irrigation due to non feasibility because of urbanized land and no command area available. Therefore, these urban local bodies may utilize their treated sewage for construction activities, gardenings, vehicle cleaning, road cleaning and toilet flushing etc. The Department of Local Government shall issue necessary directions in this regard.*

13) *The Monitoring of Sewage Treatment Plants of the towns carried out by PPCB during the period December-2019 to February-2019 indicates that 7 STP's (Banur: 4 MLD, Zirakpur: 17 MLD, Dera Bassi: 4 MLD, Dera Bassi (PSIEC): 2 MLD, Sardulgarh: 3 MLD, Bhikhi: 3 MLD and Bareta: 3 MLD) are not achieving the standards w.r.t BOD and F.Coli parameters. Therefore, the Executing Committee recommends as under:*

The Executing Committee recommends that following departments shall take immediate action to improve the functioning of STPs.

i) *PWSSB shall improve the performance of STPs Banur (4MLD), Dera Bassi (4 MLD) and Zirakpur (17 MLD) by 30.04.2020.*

ii) *PSIEC shall improve the functioning of 2 MLD STP for Derabassi by 30.04.2020 and utilize the treated sewage for irrigation by 31.05.2020.*

iii) *STPs for the towns Sardulgarh (3MLD), Bhikhi (3 MLD) and Bareta (3MLD), which are based on WSP technology, should be upgraded by 31.03.2021.*

14) *It has been observed that no inspections of the industries/ Pollution sources have been carried out by District Level Special task Force. PPCB has inspected 23 industries during December-2019 to February-2020 and none of the industries was found non compliant. Therefore, PPCB and District Level Special Task force of Districts namely SAS Nagar, Patiala, Sangrur and Mansa shall continue to carry out inspections of industries and other Pollution Sources and action against the defaulting industries/ Pollution*

sources be taken under the provisions of the Water Act, 1974.

15) *It has been reported by the Department of Rural Development and Panchayat that out of 87 villages taken in Phase-1 for installation of sewage treatment plants, treatment systems have been installed in 23 villages and in 5 villages, treatment plants are under construction.*

The Executing Committee recommends that the STPs of 5 villages should be completed by 30.06.2020. For the treatment of sewage of remaining 59 villages, funds amounting to Rs 50 crores have been sanctioned but the funds have not been released so far. The Department of Rural Development and Panchayat shall take up the matter with Department of Finance, Punjab for early release of funds.

16) *The data w.r.t. health checkup camps organized in 4 districts (SAS Nagar, Patiala, Sangrur and Mansa) located in the catchment area of river Ghaggar during the period December-2019 to February-2019 indicate that out of total 3126 patients checked during these camps, 94 patients have been found suffered with water borne diseases.*

Therefore, the Executing Committee recommends that safe drinking water be supplied to the villages by the department of Water Supply and Sanitation, where the patients have been found suffered with water borne diseases by 30.06.2020.

17) *To create awareness among the public about water quality of river Ghaggar, water quality of ground water sources located along river Ghaggar, water borne diseases, utilization of treated sewage for irrigation and less consumption of water for domestic usage, more IEC activities may be carried out by PPCB, Department of Local Government and Department of Rural Development and Panchayat.*

18) ***In order to maintain Environment Flow in river Ghaggar, Department of Soil and Water Conservation shall construct check dams/ storage ponds in the catchment area of river Ghaggar so as to regulate the flow***

in river Ghaggar for whole of the year to maintain environment flow in the river.

19) ***For septage and faecal sludge management, the Executing Committee recommends that PPCB shall take following actions***

a) ***To identify the source of generation of Septage and Faecal sludge from rural and urban area and the quantity of septage /Faecal sludge extracted per month by 31.05.2020.***
b) ***To prepare comprehensive plan to dispose off these materials in environmently sound manner by 30.06.2020.***
c) ***To identify the nearby STPs where the regulated quantity of septage/ faecal sludge can be taken for treatment by 30.06.2020.***

20) ***For removal of solid waste from river Ghaggar and drains/nallahs falling into it, the Executing Committee recommends that PPCB, Department of Rural Development and Panchayat and Department of Water Resources (Drainage) shall jointly survey river Ghaggar and its tributaries and identify its stretches, where the solid waste is found dumped. The survey may be completed by 31.03.2020 and action to lift these solid waste from river Ghaggar and its tributaries be taken by the Department of Water Resources by 31.05.2020.***

4.2.5.2 U.T. Chandigarh

1) *The data w.r.t. performance of 6 existing sewage treatment plants (Raipur Khurd: 5.63 MLD, 3 BRD :49.5 MLD, Raipur Kalan: 22.5 MLD, Dhanas: 7.5 MLD, Maloya: 22.5 MLD and Diggian: 135 MLD) of U.T. Chandigarh, as monitored by CPCC during the period December-2019 to February-2020 indicate that* ***STPs: Raipur Kalan (22.5 MLD), Dhanas (7.5 MLD) and Diggian (135 MLD) are not meeting with the prescribed limits for BOD parameter. However, none of the STP's is meeting with F-coli parameter.***
2) *The sewage treatment plants of capacity 5 MLD, being installed at industrial area Phase III, Raipur Kalan, has been completed upto 90%, the said STP should be completed by 30.06.2020 2 MLD STP to treat the gap in sewage quantity of U.T. Chandigarh should be completed by 31.12.2020.*

3) *In order to meet with the stringent parameters, the Executing Committee recommends that 6 STP's (Raipur Khurd: 5.63 MLD, 3 BRD (49.5 MLD), Raipur Kalan: 22.5 MLD, Dhanas: 7.5 MLD, Maloya: 22.5 MLD and Diggian: 135 MLD) should be technologically upgraded by 31.03.2021.*

4) *CPCC shall continue to carry out inspection of industries located in the catchment area of river Ghaggar and action against the violating industries/polluting sources be taken as per the provisions of the Water Act 1974.*

5) *Municipal Corporation Chandigarh shall utilize the treated sewage of STPs for gardening, watering of parks and golf course and vehicle washing etc so as to control the discharge of treated sewage into choes/nallahs/drains further leading to river Ghaggar.*

6) *The data provided by CPCC, as mentioned at point 4.2.2.8, indicate that there is no improvement in river Ghaggar water w.r.t. BOD and F.Coli parameters. Therefore, the Executing Committee recommends that Municipal corporation Chandigarh should upgrade its existing STPs to meet with the stringent standards for BOD, F.Coli and other parameters by 31.03.2021.*

4.2.5.3 ***State of Himachal Pradesh***

1) *The Executing Committee recommends that the Executing agency of the sewage treatment plants of State of Himachal Pradesh shall ensure that 2 STPs each of capacity 1 MLD to treat the sewage of Parwanoo area, 1 STP of capacity 1.15 MLD to treat the sewage of Trilokpur (Kala Amb area) and 1 CETP cum STP of capacity 5 MLD to treat the industrial and domestic wastewater of Kala Amb area should be completed and commissioned by 31.12.2020.*

2) *Sewage treatment plants for 4 villages of Kala Amb area, District Sirmour should be completed by 31.12.2020.*

3) *HPPCB shall identify more villages, which are located in the catchment area of Sukhna Nallah, Jattanwala Nallah and river Markanda and prepare comprehensive plan for treatment of sewage of these villages by 31.05.2020.*

4) *HPPCB shall continue to make surprise inspection of industries located in the catchment area of Sukhna Nallah, Jattanwala Nallah and Markanda*

river further leading to river Ghaggar and action against the defaulting industries be taken as per the provisions of the Water Act, 1974.

5) *Water Quality of Sukhna Nallah in terms of BOD, DO and T.Coli, as monitored by HPPCB, during December-2019 to Februaray-2020 indicate that there is improvement of in water Quality of Sukhna Nallah in terms of said parameters.*

6) *Monitoring of Water Quality of river Markanda was carried out by HPPCB during December-2019 to February-2020 and its analysis results indicate that water qualtity of River Markanda downstream of Jattanwala Nallah has been degraded in terms of BOD and F-coli parameter because in Jattanwala Nallah,* ***the values of BOD and F-coli have been found varied between 37.3-54.6 mg/l and 58333-74400 MPN/100 ml. The Executing Committee recommends that HPPSB shall identify the sources countributing high value of BOD and F-coli by 7.04.2020 and shall take action against the defaulting industries/ agencies by 15.05.2020.***

7) *The data w.r.t. health check up camps organized by Department of Health during December-2019 to February-2020 indicate that out of 410 patients checked in District Solan, 47 patients were found suffered with water borne diseases. Similarly, in district Sirmour, 432 patients were checked out of which 9 patients were found affected with water borne diseases.*

Therefore, the Executing Committee recommends that in catchment area of river Markanda and Sukhna Nallah, where the ***patients have been found suffered with water borne diseases, should be provided with potabale and safe drinking water supply to the residents by the Department of public Health.***

8) *HPPCB shall continue to create public awareness about water quality of river Markanda, Jattanwala Nallah and Sukhna Nallah, Ground water quality of water sources located in the catchment area of Sukhna Nallah, Jattanwala Nallah and river Markanda and status of health check up camps organized by Department of Health.*

9) *In order to maintain environmental flow in river Markanda and Sukhna Nallah, the Department of irrigation shall explore the possibility of providing*

check dams/ storage ponds in the vicinity of river Markanda and Sukhna Nallah by 30.04.2020 so as to discharge the regulated flow in the Nallah/River to maintain E-Flow.

10) For septage and Faecal Slugde Management, HPPCB shall taken up the matter with DDPOs of Districts Solan and District Sirmour w.r.t. improvement in the performance of Septic Tanks and degradation of sepatage and faecal sludge so that there is no illegal disposal of septage and faecal sludge into any nallah/river. HSPPCB shall make surprise inspections in the catchment area of Sukhna Nallah, Jattanwala Nallah and river Markanada and ensure that there is no illegal disposal of sepatage and faecal sludge from septic tanks into said Nallahs/rivers.

4.2.5.4 State of Haryana

1) *Performance study of existing Sewage Treatment Plants carried out by HSPCB indicates that out of 61 STPs, 51 STPs were monitored w.r.t. BOD, TSS and F.Coli parameters. Out of these 51 STPs,* ***40 STPs were not found complying with the standards prescribed for F.Coli parameters. 51 STPs were found meeting with the standards prescribed for BOD and TSS parameters.***

The Executing Committee recommends that Local body Department, HSVP and Public Health Engineering Department shall upgrade their existing 40 STPs to meet with the prescribed standards of F.coli parameters by 31.12.2020.

2) With regard to construction of new STPs, it has been reported that 6 STPs (Baretta: 4 MLD, Jind: 7 MLD, Urban state, Thanesar: 15 MLD, Kurukshetra: 25 MLD, Sirsa: 20 MLD and Fatehbad: 3 MLD) have been commissioned but are under stabilization. The Executing Committee recommends that these STPs should be put into operation by 15.04.2020.

Poor progress has been made w.r.t. construction of 4 New STPs [Billa{0.75 MLD}:7%, Khuda Khurd Ambala{12 MLD}:5%,Babyal{10 MLD}:3% and Shahpur Machhonda {7.5 MLD}:2%. *The Urban Local Bodies, HSVP and Public Health Engineering Department of State of Haryana shall take proactive steps to ensure that these STPs should be completed by 30.09.2020. The remaining STPs,*

whose progress is almost more than 74% except STP for Ambala (5 MLD), where progress has been achieved upto 30%, should also be completed and commissioned by 30.06.2020.

4) *For technologically upgaradation of STPs of State of Haryana, only 1 STP of Sector 20, panchkula having capacity of 57 MLD has been considered for upgradation. However, the Executing Committee recommends that State of Haryana should make comprehensive proposal to upgrade its STPs to achieve stringent parameters (BOD:10mg/l) including F.Coli parameters. The comprehensive proposal should be prepared by 30.06.2020 and work of upgradation of existing STPs should be completed by 31.03.2021.*

5) *State of Haryana through HSPCB has claimed that there is only gap of 15.8 MLD untreated sewage of Ambala area for which sewage treatment plants has been proposed to be installed,* ***whereas the monitoring data of river Ghaggar water, carried out by HSPCB during December-2019 to February-2019, indicate that values of BOD and F.Coli parameters vary between 56-78 mg/l and 300000-486667 MPN/100ml, which indicate that untreated sewage of some of the areas is entering into River Ghaggar.***

Therefore, the Executing Committee recommends that the Department of Irrigation and HSPCB shall jointly identify the drains carrying untreated sewage into river Ghaggar and quantity of sewage flowing into these drains should be measured and necessary directions be issued to the concerned departments of State of Haryana to prepare DPR for installation of STPs and ensure that STPs for gap in sewage quantity should be installed by 31.03.2021 so that water quality of river Ghaggar may be improved.

6) *For the treatment of sewage of villages, there is proposal to install STPs in 45 villages, the estimated cost of which is about Rs 718.50 crore. These STPs for treatment of sewage of villages should be completed by 31.12.2020.*

7) *HSPCB shall continue to make surprise inspection of industries/polluting sources and action against the defaulting industries be taken under the provisions of the Water Act, 1974.*

8) ***The data w.r.t. water quality of ground water sources located in the catchment area of river Ghaggar indicate that out of 76 Ground Water samples analyzed, 40 ground water samples have been found complying with the norms. 36 Ground Water Samples have been found non complying.*** *Therefore, the Executing Committee recommends that HSPCB shall re-monitor ground water quality of those ground water samples which were found non compliant atleast one time more before making any conclusion on the water quality monitoring report.* ***In case, these ground water samples are again found non compliant, HSPCB may cap these ground water sources and potable and safe drinking water be supplied to the persons / inhabitants which depend upon these ground water sources by the Department of Public Health.***

9) *The data w.r.t. health check up camps organized during the months December-2019 to February-2020 and provided by HSPCB indicate that 52 Health Check up camps were organized during December-2019 to February-2020. In these health checks up camps, 3787 patients were examined, out of which* ***332 patients were found suffered with water borne diseases****. Therefore, the Executing Committee recommends that affected inhabitants should be supplied safe drinking water by the Department of Public Health.*

10) *To create awareness among the public about water quality of river Ghaggar, water quality of ground water sources located along river Ghaggar, water borne diseases, utilization of treated sewage for irrigation and less consumption of water for domestic usage, more IEC activities may be carried out by HSPCB, Urban Local Bodies Department and Department of Rural Development and Panchayat.*

11) *In order to maintain Environment Flow in river Ghaggar, Department of Irrigation shall construct check dams/ storage ponds in the catchment area of river Ghaggar so as to regulate the flow in river Ghaggar for whole of the year to maintain environment flow in the river.*

12) *With regard to management of septage and faecal sludge, the data submitted by HSPCB indicate that septage and faecal sludge of 13 towns with*

quantity of 5-300 KLD in the month of December-2019, 5-200 KLD in January-2020 and 5-200 KLD in the month of Februaray-2020 was transported to the existing STPs through the tankers. However, the Executing Committee recommends as under:

a) ***The tankers deployed for collection and transportation of sepatage and faecal sludge to STPs should be properly covered.***
b) ***All the tankers should be provided with GPS with its connectivity to HSPCB and urban local bodies Department so that movement of the trucks may be checked at any time.***
c) *To identify the nearby STPs where the regulated quantity of septage/ faecal sludge can be taken for treatment by 30.06.2020.*

13) *To utilize the treated sewage for irrigation, the Government of Haryana has prepared a consolidated project costing Rs. 1098.25 crore to utilize 1828 MLD of treated sewage out of total 2795.2 MLD of treated wastewater from 207 STPs (Ghaggar and Yamuna). 1828 MLD treated sewage shall be utilized for irrigation in command area 162000 hectares. The completion period of the project is 5 years which also depends upon the availability of funds.*

Out of these 207 STPs, 35 STPs have been chosen for Rs 500 crores MI projects under NABARD assisted Micro Irrigation Projects. The remaining funds of Rs 598.25 crore (Rs 1098.25 crores-Rs 500 crores) shall be made available under annual budget as the project stands approved by the State Government.

The Executing Committee recommends that Urban Local Body Department, HSVP and Public Health Engineering Department shall supply the details along with capacity of STPs of the towns located in the catchment area of river Ghaggar, where STPs are in operation to the Department of Irrigation. The Department of Irrigation shall ensure that the treated sewage of the towns located on river Ghaggar should be covered under the consolidated project or separate schemes for utilization of treated sewage for irrigation may be prepared, constructed and commissioned by 31.03.2021."

9. We regretfully note flagrant violation of mandate of the Water (Prevention and Control Pollution) Act, 1974 and the Waste Management Rules framed under the Environment (Protection) Act, 1986 as well as repeated directions given by the Hon'ble Supreme Court and this Tribunal. There is repeated failure by the concerned States and its authorities in performing their constitutional obligation in ensuring that no pollution is discharged into the rivers or drains connected thereto. The timeline fixed by the Hon'ble Supreme Court in its judgement in *Paryavaran Suraksha case, (2017) 5 SCC 326* to ensure treatment of sewage and effluent is by 31.03.2018 which has expired since long.

10. It may be appropriate to note the directions of the Hon'ble Supreme Court:-

> "***7.*** *Having effectuated the directions recorded in the foregoing paragraphs, the next step would be, to set up common effluent treatment plants.* ***We are informed, that for the aforesaid purpose, the financial contribution of the Central Government is to the extent of 50%, that of the State Government concerned (including the Union Territory concerned) is 25%. The balance 25%, is to be arranged by way of loans from banks****. The above loans, are to be repaid, by the industrial areas, and/or industrial clusters.* ***We are also informed that the setting up of a common effluent treatment plant, would ordinarily take approximately two years (in cases where the process has yet to be commenced). The reason for the above prolonged period, for setting up "common effluent treatment plants", according to the learned counsel, is not only financial, but also, the requirement of land acquisition, for the same****.*
>
> ***10. Given the responsibility vested in municipalities under Article 243-W of the Constitution, as also, in Item 6 of Schedule XII, wherein the aforesaid obligation, pointedly extends to "public health,***

sanitation conservancy and solid waste management", we are of the view that the onus to operate the existing common effluent treatment plants, rests on municipalities (and/or local bodies). Given the aforesaid responsibility, the municipalities (and/or local bodies) concerned, cannot be permitted to shy away from discharging this onerous duty. In case there are further financial constraints, the remedy lies in Articles 243-X and 243-Y of the Constitution. It will be open to the municipalities (and/or local bodies) concerned, to evolve norms to recover funds, for the purpose of generating finances to install and run all the "common effluent treatment plants", within the purview of the provisions referred to hereinabove. Needless to mention that such norms as may be evolved for generating financial resources, may include all or any of the commercial, industrial and domestic beneficiaries, of the facility. The process of evolving the above norms, shall be supervised by the State Government (Union Territory) concerned, through the Secretaries, Urban Development and Local Bodies, respectively (depending on the location of the respective common effluent treatment plant). The norms for generating funds for setting up and/or operating the "common effluent treatment plant" shall be finalised, on or before 31-3-2017, so as to be implemented with effect from the next financial year. In case, such norms are not in place, before the commencement of the next financial year, the State Governments (or the Union Territories) concerned, shall cater to the financial requirements, of running the "common effluent treatment plants", which are presently dysfunctional, from their own financial resources.

11. *Just in the manner suggested hereinabove, for the purpose of setting up of "common effluent treatment plants", the State Governments concerned (including, the Union Territories concerned) will prioritise such cities, towns and villages, which discharge* ***industrial pollutants and sewer, directly into rivers and water bodies.***

12. *We are of the view that in the manner suggested above,* ***the malady of sewer treatment, should also be dealt with simultaneously.*** *We, therefore, hereby direct that "sewage treatment plants" shall also be set up and made functional, within the timelines and the format, expressed hereinabove.*

13. ***We are of the view that mere directions are inconsequential, unless a rigid implementation mechanism is laid down.*** *We, therefore, hereby*

provide that the directions pertaining to continuation of industrial activity only when there is in place a functional "primary effluent treatment plants", and the setting up of functional "common effluent treatment plants" within the timelines, expressed above, shall be of the Member Secretaries of the Pollution Control Boards concerned. ***The Secretary of the Department of Environment, of the State Government concerned (and the Union Territory concerned), shall be answerable in case of default. The Secretaries to the Government concerned shall be responsible for monitoring the progress and issuing necessary directions to the Pollution Control Board concerned, as may be required, for the implementation of the above directions.*** *They shall be also responsible for collecting and maintaining records of data, in respect of the directions contained in this order. The said data shall be furnished to the Central Ground Water Authority, which shall evaluate the data and shall furnish the same to the Bench of the jurisdictional* ***National Green Tribunal.***

14. *To supervise complaints of non-implementation of the instant directions, the Benches concerned of the National Green Tribunal, will maintain running and numbered case files, by dividing the jurisdictional area into units. The abovementioned case files will be listed periodically.* ***The Pollution Control Board concerned is also hereby directed to initiate such civil or criminal action, as may be permissible in law, against all or any of the defaulters."***

(emphasis supplied)

11. As already noted, this Tribunal has dealt with the matter in O.A. No. 593 of 2017, *Paryavaran Suraksha Samiti & Anr. Vs. UOI & Ors.*, for monitoring the situation in pursuance to the directions of the Hon'ble Supreme Court and noted the disappointment for failure in this regard by almost all the States and Union Territories. Vide order dated 21.05.2020, this Tribunal observed as follows:-

> ***"****8. Before proceeding further, we may also note further order of this Tribunal dated 06.12.2019 in O.A. No. 673/2018 directing as follows:*
>
> ***"XII. Directions:***

47. *We now sum up our directions as follows:*

i. ***100% treatment of sewage may be ensured as directed by this Tribunal vide order dated 28.08.2019 in O.A. No. 593/2017 by 31.03.2020 atleast to the extent of in-situ remediation and before the said date, commencement of setting up of STPs and the work of connecting all the drains and other sources of generation of sewage to the STPs must be ensured. If this is not done, the local bodies and the concerned departments of the States/UTs will be liable to pay compensation as already directed vide order dated 22.08.2019 in the case of river Ganga i.e. Rs. 5 lakhs per month per drain, for default in in-situ remediation and Rs. 5 lakhs per STP for default in commencement of setting up of the STP.***

ii. ***Timeline for completing all steps of action plans including completion of setting up STPs and their commissioning till 31.03.2021 in terms of order dated 08.04.2019 in the present case will remain as already directed. In default, compensation will be liable to be paid at the scale laid down in the order of this Tribunal dated 22.08.2019 in the case of river Ganga i.e. Rs. 10 lakhs per month per STP.***

iii. *We further direct that an institutional mechanism be evolved for ensuring compliance of above directions. For this purpose, monitoring may be done by the Chief Secretaries of all the States/UTs at State level and at National level by the Secretary, Ministry of Jal Shakti with the assistance of NMCG and CPCB.*

iv. ***For above purpose, a meeting at central level must be held with the Chief Secretaries of all the States/UTs atleast once in a month (option of video conferencing facility is open) to take stock of the progress and to plan further action. NMCG will be the nodal agency for compliance who may take assistance of CPCB and may give its quarterly report to this Tribunal commencing 01.04.2020.***

v. *The Chief Secretaries may set up appropriate monitoring mechanism at State level specifying accountability of nodal authorities not below the Secretary level and ensuring appropriate adverse entries in the ACRs of erring officers. Monitoring at*

State level must take place on fortnightly basis and record of progress maintained. The Chief Secretaries may have an accountable person attached in his office for this purpose.

vi. *Monthly progress report may be furnished by the States/UTs to Secretary, Ministry of Jal Shakti with a copy to CPCB. Any default must be visited with serious consequences at every level, including initiation of prosecution, disciplinary action and entries in ACRs of the erring officers.*

vii. As already mentioned, procedures for DPRs/tender process needs to be shortened and if found viable business model developed at central/state level.

viii. Wherever work is awarded to any contractor, performance guarantee must be taken in above terms.

ix. *CPCB may finalize its recommendations for action plans relating to P-III and P-IV as has been done for P-I and P-II on or before 31.03.2020. This will not be a ground to delay the execution of the action plans prepared by the States which may start forthwith, if not already started.*

x. *The action plan prepared by the Delhi Government which is to be approved by the CPCB has to follow the action points delineated in the order of this Tribunal dated 11.09.2019 in O.A. No. 06/2012.*

xi. *Since the report of the CPCB has focused only on BOD and FC without other parameters for analysis such as pH, COD, DO and other recalcitrant toxic pollutants having tendency of bio magnification, a survey may now be conducted with reference to all the said parameters by involving the SPCB/PCCs within three months. Monitoring gaps be identified and upgraded so to cover upstream and downstream locations of major discharges to the river. CPCB may file a report on the subject before the next date by e-mail at judicial-ngt@gov.in.*

xii. *Rivers which have been identified as clean may be maintained."*

(emphasis supplied)

13. The above report shows that some steps have been initiated against non-compliant ETPs/CETPs/STPs while further steps need to be taken. With regard to industries not having ETP or not connected to CETP, pending construction of CETPs as mentioned in the above report, the State PCBs/PCCs may ensure that

there is no discharge of any untreated pollutants by the industries and such polluting activities must be stopped and compensation recovered for the non-compliance, if any, apart from any other legal action in accordance with law. As regards non-compliant STPs, further action may be completed by the State PCBs/PCCs and it may be ensured that there is 100% treatment of sewage and till STPs are set up, atleast in-situ remediation takes place. However, on account of Corona pandemic which has affected several on-going activities, the timeline of levy of compensation in terms of order dated 28.08.2019 in O.A. No. 593/2017 read with order dated 06.12.2019 in O.A. No. 673/2018, of 01.04.2020 may be read as 01.07.2020 and 01.04.2021 may be read as 01.07.2021. Further reports may be taken by the CPCB from all the State PCBs/PCCs as per the system evolved by the CPCB from time to time.

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.

27. The CPCB may furnish its report by 15.09.2020 giving the status of furnishing of action plans and their execution as on 31.08.2020 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."

12. The Tribunal has also been monitoring the situation in O.A. No. 606/2018 wherein the Chief Secretaries of the all the States/ UTs have appeared in person before this Tribunal and directions have been issued to comply with the mandate of law. In O.A. No. 673 of 2018, the issue of polluted river stretches is being dealt with, as

already noted above. Further, in O.A. No. 148 of 2016, *Mahesh Chandra Saxena Vs. South Delhi Municipal Corporation & Ors.*, the issue of utilization of treated water is being dealt with and the last order was passed by this Tribunal on 21.05.2020. In O.A. No. 325/2015, *Lt. Col. Sarvadaman Singh Oberoi Vs. Union of India & Ors.*, the issue of restoration of water bodies has been dealt with and the last order passed by this Tribunal is of 01.06.202020. It will be appropriate that the States/UTs take further prompt action in the matter and hold erring officers responsible and accountable. The Chief Secretaries of the States/UTs may monitor the situation with the assistance of Environment Cells directly under them as per observations in the orders of the Hon'ble Supreme Court, referred to in the orders of this Tribunal in O.A. No. 606/2018.

13. The States have not filed their response even though the report of the Committee was made available in pursuance of direction in paragraph 12 of order dated 20.01.2020 quoted above.

14. We note the presence of learned counsel for the States of Punjab, Haryana, Himachal Pradesh and UT Chandigarh who have nothing meaningful to expain the persistent defaults. Learned counsel for the State of Himachal Pradesh submitted that he is not able to get complete instructions on account of the lock down. Learned counsel for the UT Chandigarh states that certain further steps have been taken in the matter of plugging of the outlets and upgradation of STPs but the steps for use of treated water and action in terms of recommendations of the Committee are yet to be taken. Learned counsel for the State of Punjab and the Member Secretary State PCB stated that there is some progress but we find

the progress to be highly inadequate and unsatisfactory. Learned counsel for the State of Haryana states that the State of Haryana is not even aware of the standards of fecal coliform and has yet to lay down the standards. We are surprised at this statement. The standard of fecal coliform has been dealt with by this Tribunal vide order dated 30.04.2019 in O.A. No. 1069 of 2018, *Nitin Shankar Deshpande Vs. UOI & Ors.* The Tribunal noted the standards proposed in the draft Notification dated 24.11.2015 by the MoEF&CC and held that dilution of the standards by Notification in October, 2017 was against the recommendation of the Expert Committee referred to therein. Such relaxed standards led to deterioration of water quality, adversely affecting the environment and public health. The Tribunal observed as follows:-

> *"13. We find that there is no justification for diluted standards for areas other than Mega and Metropolitan Cities. The water quality standards are required to be same for the population of major cities or other cities. No justification has been shown for different standards for persons living in cities other than Mega and Metropolitan Cities. Major population of this country will be affected by diluted standards and only persons in Mega and Metropolitan Cities will have comparatively better standards without any valid reason or distinction. We may note that filters, UV filters etc. are facilities mainly available in major cities and not in smaller cities or villages where the standards are proposed to be diluted.*
>
> *14. Accordingly, we accept the report of the Expert Committee with the modification that the standards recommended for Mega and Metropolitan Cities will also apply to rest of the country. We also direct that the standards will apply not only for new STPs but also for existing/under construction STPs without any delay and giving of seven years time stands disapproved.*
>
> *MoEF & CC may issue an appropriate Notification in the matter within one month from today."*

The norms are <100 MPN(Most Probable Number)/100 ml

15. In view of the above, we direct that the directions already issued by this Tribunal in O.A. No. 673/2018, 606/2018, 148/2016, O.A. No. 325/2015 and 593/2017 and the recommendations of the Committee may be complied with. The Compliance Status may be verified by the Executing Committee and the next report may be furnished by 30.09.2020 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. Simultaneously copy of the report be furnished to the Chief Secretaries/ PCBs and PCCs of the States of Punjab, Haryana, Himachal Pradesh and UT Chandigarh who may give their response within two weeks thereafter.

List for further consideration on 28.10.2020.

Adarsh Kumar Goel, CP

Sheo Kumar Singh, JM

Dr. Nagin Nanda, EM

June 15, 2020
O.A. No. 138/2016 (T_{NHRC})
A

Annexure -2

Minutes of 17th meeting with State level Officers of State of Himachal Pradesh held under the Chairmanship of Justice Pritam Pal, former Judge Punjab and Haryana High court and now as Chairman of the Executive Committee, constituted by Hon'ble National Green Tribunal in OA No.138 of 2016 and 139 of 2016 on 4.06.2020 at 11 AM through *video conferencing* w.r.t control of pollution in River Ghaggar in Himachal Area

The following were present in the meeting

A) Members of the Executive Committee

Sr. No.	Name and Designation in the Deptt.	Name & Designation in the Committee
1.	Justice Pritam Pal, former Judge Punjab & Haryana High Court	Chairman
2.	Ms. Urvashi Gulati IAS, former Chief Secretary, Haryana	Member
3.	Dr. Babu Ram, former Member Secretary, PPCB	Technical Expert

B) The list of the officers of State of Himachal are as per Annexure-1

The agenda of the meeting was taken up for discussion as under.

1. **Comparison of water quality of Sukhna Nallah, Jattanwala Nallah, Markanda River during the period December, 2019 to February, 2020 and March, 2020 to May, 2020.**

   The Executive Committee was informed that HPPCB has carried out water quality monitoring of Sukhna nallah, Jattan wala Nallah and river Markanda and the analysis results for the period December, 2019 to February, 2020 and March, 2020 to May, 2020 have been compared. The comparison study indicates that there is improvement in the quality of water in these Nallahs/rivers.

   The Chairman of the Executive Committee was of the view that though improvement w.r.t parameters DO, BOD and F.Coli has been observed in Sukhna nallah, Jattan wala Nallah and river Markanda but the values of F.Coli in Jattan wala Nallah and its downstream are much higher than the permissible limits of 1000 MPN/100 ml.

   After detailed deliberation in the matter, it was directed by the Chairman of the Executive Committee that STPs of Parwanoo and Kala Amb area should be completed timely as per the time schedule fixed by Hon'ble National Green Tribunal so that water quality in Sukhna nallah, Jattan wala Nallah and river Markanda may be improved.

2. **Status of STPs under construction.**

   It was informed as under.

   - In Parwanoo town, the construction work of 02 STPs of capacity 1 MLD each has been awarded and pipes have been procured. These STPs shall

be completed by 30.6.2021.

- The work of 1 MLD STP to be installed at Tirlokpur, Kala Amb area has been awarded and pipes have been procured. The STP shall be completed by 30.6.2021.

- To start the construction work of CETP cum STP of capacity 5 MLD, tendering process has been started and the same shall be completed by 30.6.2021.

After deliberation in the matter, it was directed by the Chairman of the Executive Committee that 02 STPs each of capacity 1 MLD for Parwanoo area, 1 MLD STP to be installed at village Tirlokpur, Kala Amb area and 01 CETP cum STP of capacity 5 MLD at Kala Amb should be installed and commissioned by 31.3.2021.

3. **Gaps in treatment of sewage of the towns located on river Ghaggar.**

It was apprised that there is a gap of 2 MLD sewage to be treated in Parwanoo area and 1.146 MLD in Kala Amb area. There is proposal to install 02 STPs each of capacity 1 MLD at Parwanoo and 1 MLD STP at Tirlokpur, Kala Amb area and 01 CETP cum STP of capacity 5 MLD at Kala Amb. With the installation of these STPs and CETP, there shall be no gap in quantity of sewage to be treated.

The Chairman of the Executive Committee directed that all the concerned departments of State of Himachal Pradesh shall ensure that all the STPs and CETP in Parwanoo and Kala Amb area should be completed and commissioned by 31.3.2021.

4. **Status of Irrigation Schemes for STPs.**

It was informed to the Executive Committee that it is not feasible to utilize the treated sewage for irrigation due to topography of Himachal area.

The Chairman of the Executive Committee directed that the department of Irrigation and Public Health shall prepare the scheme/proposal to utilize the treated sewage for construction activities, horticulture/plantation purposes, industrial activities, toilet flushing and submit the same before the Executive Committee in its next meeting.

5. **Status of installation of STPs for the villages.**

The officers of HPPCB informed that as earlier informed that 02 STPs each of capacity 1 MLD, 01 STP of capacity 1 MLD and 01 CETP cum STP of capacity 5

MLD shall be constructed at Parwanoo, Tirlokpur and Kala Amb area and all the villages, adjoining to these towns, shall be connected to these STPs and CETP. **After detailed discussion, it was directed by the Chairman of the Executive Committee that after of installation of STPs and CETP cum STP at Parwanoo and Kala Amb area, the discharge of the adjoining villages to these towns should be connected these STPs and CETP cum STP.**

6. Inspection of industries/ STPs by HPPCB and DLSTF in the month of March, 2020 to May 2020 and action against the defaulters.

The Executive Committee was informed that HPPCB has inspected 49 industries and effluent samples of 20 industries were collected. Out of these 49 industries, 06 industries have been found violating the norms and Legal action against these industries has been taken as per the provisions of Water Act, 1974.

After discussion, it was directed by the Executive Committee that HPPCB shall make surprise inspection of the industries and ensure that their ETPs are functioning effectively and efficiently and are meeting with the norms. Action against the defaulting industries shall be taken as per the provisions of the Water Act, 1974.

7. Ground Water quality of ground water sources in the catchment area of river Ghaggar.

It was apprised that ground water samples of ground water sources located in the catchment area of river Ghaggar have been analysed and no contamination has been observed in any of the ground water source.

The Chairman of the Executive Committee directed that HPPCB shall send the analysis results of ground water samples collected from the catchment area of river Ghaggar so as to assess the concentration of parameters in these samples. The comparative statement of these ground water analysis results may also be prepared and shall be placed before the Executive Committee in its next meeting.

8. Septage and Faecal Sludge management.

It was submitted that presently no such problem of disposal of septage and faecal sludge has been observed. However, necessary directions have been issued to MC Parwanoo and BDO Dharm Pur to ensure the scientific management of septage and faecal sludge.

The Chairman of the Executive Committee directed that a committee consisting of the officers of HPPCB, Department of local Govt. and

Department of Rural Development and Panchyat shall make surprise inspection in the area along catchment area of river Ghaggar and ensure that there is no indiscriminate disposal of septage and faecal sludge in the area.

9. Environmental flow.

HPPCB informed that in order to monitor the water quality of river Markanda, real time water quality monitoring stations have been installed.

The Executive Committee directed that there is need to construct pond system, check dams and water retaining structures in the catchment area of river Ghaggar so that water in Markanda and kaushyalya rivers may be regulated and environmental flow may be maintained. The same may be provided by the Department of Irrigation and Public Health (IPH).

10. Water shed Management.

It was informed as under.

- IPH department has proposed 3 low height dams and 3 rain water harvesting structures in the catchment area of river Markanda.
- 27 check dams in Sukhna Nallah in Parwanoo area have been provided.
- Forest department has planted 2200 trees in Sukhna catchmrnt area and 1600 trees in Makanda river catchment area.

After detailed deliberation, it was directed by the Committee that more check dams/ low height dams should be provided by IPH department in Sukhna and Markanda catchment area. The forest department shall plant atleast 3000 plants each along Sukhna Nallah and Markanda river.

11. Installation of real time water quality monitoring stations (RTWQMS) in Kaushlaya and Markanda rivers.

It was submitted that Real Water quality Monitoring Stations (RTWQMS) have been installed in river Kaushalaya and river Markanda to monitor the flow and parameters of water quality. These RTWQMS have their connectivity with HPPCB server and the results are being displayed.

It was also informed that HPPCB is carrying out monthly monitoring of Rivers Kaushlaya and Markanda and the analysis results indicate that the water quality of these river is class B as per the water quality criteria prescribed by CPCB.

The Chairman of the Executive Committee directed that the analysis results along with flow measurements readings of RTWQMS and manual monitoring data w.r.t various parameters should be submitted

on quarterly basis. The comparison statement of analysis results carried out through these two methods should also be submitted.

12. Status of Health checks camps.

It was informed that due to lockdown period due to COVID-19 pandemic, no health check up camp could be organized.

The Chairman of the Executive Committee directed that process of holding camps in the catchment area of Sukhna Nallah and Markanda River may be continued as and when the present circumstances allow.

13. Insitu remediation of drains/Nallahs carrying untreated sewage.

It was informed that root zone phyto- remediation technology at Samptel Nallah has been proposed to be installed. One site has been finalized for which tenders have been floated and the same are likely to be opened on 14.06.2020. Similarly, at Kala Amb area, 2 sites for pyto -remediation have been finalized.

The Chairman of the Executive Committee directed that insitu remediation technology should be installed in the drains carrying untreated sewage and not connected to STPs as per the directions of Hon'ble National Green Tribunal.

sd/
Dr. Babu Ram

sd/
Ms. Urvashi Gulati

sd/
Justice Pritam Pal,
Former Judge,
Punjab and Haryana High Court
and now as Chairman of the Executive Committee

Annexure -3

Minutes of 17th meeting with the officers of U.T., Chandigarh held under the Chairmanship of Justice Pritam Pal, Former Judge of Punjab and Haryana High Court and now as Chairman of the Executive Committee (constituted by Hon'ble NGT in OA No. 138/139 of 2016 in the matter of Stench Grips Mansa's Ghaggar River and Yogendera Kumar w.r.t. control of pollution in river Ghaggar on 12.6.2020 at 11:00 A.M (through video conferencing).

The following were present during meeting:

a) **Members of the Monitoring Committee**

Sr. No.	Name and Designation in the Deptt.	Name & Designation in the Committee
1.	Justice Pritam Pal, Former Judge, Punjab and Haryana High Court	Chairman
2.	Ms. Urvashi Gulati, IAS, former Chief Secretary, Haryana	Member
3.	Dr.Babu Ram, former Member Secretary, PPCB	Technical Expert

The list of the other officers, present in the meeting, is as per Annexure-1

The Chairman of the Executive Committee informed that the Hon'ble National Green Tribunal, in various cases connected to the matter, has passed the detailed orders which are briefly mentioned as under:

1) Hon'ble National Green Tribunal vide order dated 10.01.2020 in OA No.606 of 2018 in the matter of compliance of Solid Waste Management Rules, 2016 in Para No.36 has directed that most of the statutory timelines have expired and directions of Hon'ble Supreme Court and the Tribunal to comply Solid Waste Management rules, 2016 remain unexecuted and accordingly, compensation scale is laid down for continued failure after 31.03.2020. The compliance of the rules requires taking of several steps mentioned in Rule 22 (S. No.1 to 10). Any such continued failure will result into liability of every Local Body to pay compensation at the rate of Rs. 10 lakh per month per Local Body for population of above 10 lakh, Rs. 5 Lakh per month per Local Body for population between 5 lakh and 10 lakh and Rs. 1 lakh per other Local Bodies from 1.04.2020 till compliance. If the Local Body is unable to bear financial burden, the liability will of the State Govt. with liberty to take remedial action against erring Local bodies. Apart from compensation, adverse entries must be made in the ACRs of the CEO of the said Local Bodies and other senior functionaries in Department of Urban Development etc. who are responsible for compliance of order of this Tribunal. The Hon'ble Tribunal has also directed in para No 31 (ii) that the date of commencement of setting up of STPs is 31.3.2020, failing which compensation amounting to Rs 5 lakh/month/STP by the concerned local bodies/States in terms of order dated 28.8.2019 in OA No. 593/2017 and 6.12.2019 in OA No. 673/2018 w.e.f 1.4.2020 shall be imposed.
2) The Hon'ble National Green Tribunal in its order dated 6.12.2019 in OA No. 673 of 2018 (mentioned in order dated 6.12.2019 uploaded on 12.12.2019 in OA No. 916 of 2018) had issued direction that 100% treatment of sewage may be ensured as directed by the

Tribunal vide order dated 28.08.2019 in O.A No. 593/2017 by 31.03.2020 at least to the extent of in-situ remediation and before the said date, commencement of setting up of STPs and the work of connecting all the drains and other sources of generation of sewage to the STPs must be ensured. If this is not done, the local bodies and the concerned departments of States/UT's will be liable to pay compensation as directed vide order dated 22.08.2019 in case of river Ganga i.e. Rs. 5 lakh per month per drain for default in in-situ remediation and Rs. 5 lakh per STP for default in commencement of setting up of the STP. The timeline for completing all steps of action plans including completion of setting up STPs and their commissioning till 31.03.2021 in terms of order dated 08.04.2019 in the present case will remain as already directed.

3) The Hon'ble Tribunal vide its order dated 21.05.2020 in OA No. 593 of 2017 at Para 8 [47(i) &ii)] has directed as under.

   i. 100% treatment of sewage may be ensured as directed by this Tribunal vide order dated 28.08.2019 in O.A. No. 593/2017 by 31.03.2020 at least to the extent of in-situ remediation and before the said date, commencement of setting up of STPs and the work of connecting all the drains and other sources of generation of sewage to the STPs must be ensured. If this is not done, the local bodies and the concerned departments of the States/UTs will be liable to pay compensation as already directed vide order dated 22.08.2019 in the case of river Ganga i.e. Rs. 5 lakhs per month per drain, for default in in-situ remediation and Rs. 5 lakhs per STP for default in commencement of setting up of the STP

   ii. Timeline for completing all steps of action plans including completion of setting up STPs and their commissioning till 31.03.2021 in terms of order dated 08.04.2019 in the present case will remain as already directed. In default, compensation will be liable to be paid at the scale laid down in the order of this Tribunal dated 22.08.2019 in the case of river Ganga i.e. Rs. 10 lakhs per month per STP.

   Further, in para 13 of order dated 21.05.2020 in OA No. 593 of 2017, the Hon'ble Tribunal has directed that as regards non-compliant STPs, further action may be completed by the State PCBs/PCCs and it may be ensured that there is 100% treatment of sewage and till STPs are set up, at least in-situ remediation takes place. However, on account of Corona pandemic which has affected several on-going activities, the timeline of levy of compensation in terms of order dated 28.08.2019 in O.A. No. 593/2017 read with order dated 06.12.2019 in O.A. No. 673/2018, of 01.04.2020 may be read as 01.07.2020 and 01.04.2021 may be read as 01.07.2021. Further reports may be taken by the CPCB from all the State PCBs/PCCs as per the system evolved by the CPCB from time to time.

4) The Chairman of the Executive Committee also apprised about order dated 1.6.2020 in OA No. 325 of 2015 in the matter of Lt. Col. Sarvadaman Singh Oberoi vs Union of India & Ors, wherein, the Hon'ble Tribunal has directed in para No.6 that harvesting surplus water during excessive rains from any areas of catchment needs to be optimized by enhancing the capacity of the existing ponds/water bodies, creation of water harvesting

structures in the sub-watersheds to the extent possible, apart from setting up of additional water bodies/water harvesting structures wherever viable, utilizing available funds including under MGNREGA and involving the community at large at every level. Gram Panchayats can certainly play a significant role in the matter. Once adequate capacity enhancement of water bodies takes place, excess flood/rain water can be channelized by using appropriate water harvesting techniques. This action needs to be coordinated by the District Magistrates in coordination with the Department of Irrigation and Flood Control or other concerned Departments such as Department of Rural Development/Urban Development/Local Bodies/Forests/Revenue etc. The District Magistrate may as far as possible hold a meeting of all the stakeholders for the purpose as per the District Environment Plan or Watershed Plan within one month from today. The District Magistrates may also ensure that as far as possible at least one pond/water body must be restored in every village, apart from creation of any new pond/water body.

Thereafter, agenda of the meeting was taken up for discussion as under:

1. Comparison of water quality of Sukhna Choe, N-Choe and River Ghaggar for the period December, 2019 to February, 2020 and March, 2020 to May, 2020.

The Executive Committee was informed that Chandigarh Pollution Control Committee (CPCC) has carried out the monitoring of water quality of Sukhna Choe, N-Choe and River Ghaggar during December, 2019 to February, 2020 and April-May, 2020 for the parameters BOD, TSS and F.Coli parameters. The concentration of BOD, TSS and F.Coli in the month of May, 2020 has been observed as 192 mg/l, 255 mg/l, and 2,40,000 MPN/100ml, respectively. These values in the water quality of N-Choe for the month May, 2020 were observed as 110 mg/l, 45 mg/l and 11,00,000 MPN/100ml, respectively.

The Executive Committee observed that CPCC has reported that all the outlets falling into Sukhna Choe and N-Choe have been plugged but the values of BOD, TSS and F.Coli in the water of Sukhna Choe and N-Choe are exorbitantly high, which indicate that untreated sewage of some of the outlets is falling into Sukhna Choe and N-Choe. The water quality of river Ghaggar monitored during December, 2019 to February, 2020 and April-May, 2020 indicates the values of BOD, TSS and F.Coli were observed as 24 mg/l, 485 Mg/l and 200 MPN/100 ml.

However, CPCC claimed that water quality in Sukhna Choe and N-Choe as monitored by CPCC during the month of June, 2020 has been found improved because STP Diggian, which has big capacity, is working effectively.

The Chairman of the Executive Committee took a serious view about poor quality of water of Sukhna Choe and N-Choe which also indicates that some of the outlets in the Sukhna Choe and N-Choe are still operating and these have not closed. Furthermore, no standards have been prescribed by CPCC for F.Coli parameter inspite of repeated directions by the Executive Committee. Therefore, CPCC has violated the directions of the Executive Committee.

After detailed deliberation, the Chairman of the Executive Committee directed that a joint Committee consisting of officers of CPCC and Municipal Corporation, Chandigarh and other concerned officers shall make joint visit along Sukhna Choe

and N-Choe and shall submit their detailed report regarding quantity and quality of the sewage being discharged through the outlets into Sukhna Choe and N- Choe by 7.7.2020. CPCC shall also send the analysis results of the water quality of Sukhna Choe and N-Choe monitored during the month of June, 2020 by 19.6.2020.

2. Performance of existing sewage treatment plants.

It was informed that CPCC has carried out the performance of existing STPs of Municipal Corporation, Chandigarh. The monitoring of these STPs carried out in the month of May, 2020 indicates that out of these 6 STPs, 3 STPs (Maloya, 3 BRD and Diggian) are meeting with the prescribed standards w.r.t. BOD parameter. However, none of the STPs is meeting with the prescribed standards of F.Coli parameter.

After detailed discussion, the Chairman of the Executive Committee directed that M.C., Chandigarh shall upgrade their STPs by 31.3.2021 so that all the STPs should meet with the prescribed standard of BOD, TSS, F.Coli and other parameters.

3. Status of STPs under construction.

It was apprised that the total discharge of sewage of Chandigarh is 243 MLD and 6 STPs of capacity 242.3 MLD are in operation and there is a gap of only 0.7 MLD for which STP of capacity 2 MLD has been proposed to be set up in Kishangarh area. As such, there shall be no gap of treatment of sewage.

The Executive Committee noted the status and directed that new STP of capacity 2 MLD, proposed to set up in Kishangarh area, should be installed and commissioned by 31.3.2021.

4. Status of upgradation of existing STPs.

The Executive Committee was apprised that for upgradation of following STPs, the last date of submission of bid is 19.6.2020.

i) STP of Diggian.
ii) STP of Raipur Kalan.
iii) STP of Raipur Khurd.
iv) STP of 3 BRD
v) STP Dhanas.

After detailed deliberation, the Chairman of the Executive Committee directed that all the 5 existing STPs (Diggian, Raipur Kalan, Raipur Khurd, 3 BRD and Dhanas) shall be upgraded/rehabilitated by 31.3.2021. It shall be ensured that these STPs should also be upgraded to bring down the F.Coli parameter within the prescribed norms.

5. Status of closing of outlets into Sukhna Choe and N- Choe.

The status of closing of outlets into Sukhna Choe and N-Choe was submitted as under:-

i) SukhnaChoe

S.N	Location of outlet	Latest Status
1	Kishangarh Outlet	No sewage water is flowing in the Choe

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2	Outlet of Village Kishangarh inside Forest Nursery	No sewage water is flowing in the Choe
3	Outlet of Shastrinagar	No sewage water is flowing in the Choe
4	First Outlet of BapuDham near bridge on the road connecting IT Park with Sector 26, Chd.	No sewage water is flowing in the Choe
5	Second outlet of BapuDham Colony (Madrasi Colony)	No sewage water is flowing in the Choe.
6	Outlet from back of Gaushala, Ind. Area, Ph-I	No sewage water is flowing in the Choe.
7	Outlet near CTU workshop Industrial Area, Phase-I, Chd. (Inside Forest Area)	No sewage water is flowing in the Choe
8	Indl. Area, Phase - I, Colony No. 4.	No sewage water is flowing in the Choe
9	Pump House operated by Municipal Corporation behind Central Poultry Development Organization, Indl. Area, Phase - I, Chandigarh	No sewage water is flowing in the Choe
10	Outlet of Village Hallomajra	No sewage water is flowing in the Choe

ii) N-Choe

S. N	**Location of outlet**	**Latest status**
1	Bougainvillea Garden	No sewage water is flowing in the Choe
2	Leisure valley	No sewage water is flowing in the Choe
3	Near red cross (Madhya Marg)	No sewage water is flowing in the Choe
4	Sec 23 near B.D Hospital (Neuro Psychiatry)	No sewage water is flowing in the Choe
5	Bal Bhawan side	No sewage water is flowing in the Choe
6	MCM DAV	No sewage water is flowing in the Choe
7	01 outlet in Beant Memorial	No sewage water is flowing in the Choe
8.	Bridge point near Beant memorial	No sewage water is flowing in the Choe
9.	Sector 52 (starting)	No sewage water is flowing in the Choe
10.	Sector 52 (End)	No sewage water is flowing in the Choe
11	Sector 36 starting point near CFSL	No sewage water is flowing in the Choe

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12	Sector 10 Points	No sewage water is flowing in the Choe
13	Rose Garden	No sewage water is flowing in the Choe
14	Shanti Kunj Garden	No sewage water is flowing in the Choe
15	Sector 23 Traffic Park	No sewage water is flowing in the Choe
16	Sector 23 End Point	No sewage water is flowing in the Choe
17	Attawa	No sewage water is flowing in the Choe
18	Sector 53 point near furniture market	No sewage water is flowing in the Choe
19	Sector 53 point in Gardens of springs	The sewage water is coming from Mohali

A detailed discussion in the matter was held and the Executive Committee took a serious view about poor water quality of Sukhna Choe and N-Choe monitored during December, 2019 to February, 2020 and April-May, 2020 w.r.t. BOD, TSS and F.Coli parameters. Had all the outlets falling into Sukhna Choe and N-Choe been closed then the water quality of these choes should have been improved. These facts indicate that some of the outlets are still falling into Sukhna Choe and N-Choe and it needs re-verification.

The Chairman of the Executive Committee directed as under.

i) Joint Committee as constituted in para 1 shall also make joint survey of Sukhna Choe and N-Choe and check as to whether the outlets into Sukhna Choe and N-Choe have been closed. The report shall be submitted by 7.7.2020.

ii) The Municipal Corporation, Chandigarh shall install in-situ remediation technology in Sukhna Choe and N-Choe to improve the quality of wastewater flowing into these Choes immediately.

6. Status of Irrigation Schemes for utilization of treated sewage of STPs/ utilization of treated sewage for other usage.

It was informed that in order to utilize the treated sewage for irrigation, no adjoining agriculture fields near Chandigarh are available, thus, presently, the treated sewage is being utilized for watering of various gardens/parks, golf course. The Tertiary Treated wastewater is supplied to the houses having area more than 1 Kanal for the maintenance of lawns in the houses. It was assured that after the upgradation of the existing STPs, the maximum quantity of treated sewage shall be utilized for useful purposes.

The Chairman of the Executive Committee directed that the Municipal Corporation, Chandigarh shall make arrangements to utilize the treated sewage for construction activities and other allied usage wherever possible and shall ensure that maximum quantity of treated sewage of Chandigarh area is utilized for various activities.

7. Inspection of industries/ STPs by CPCC and DLSTF in the month of March, 2020 to May 2020 and action against the defaulters.

The Executive Committee was informed that 4 industries have been inspected in the month of March, 2020 and directions have been issued to these industries for their closure. However, due to lockdown in Chandigarh area, no industry could be visited in the month of April and May, 2020.

It was directed by the Executive Committee that CPCC shall continue to make surprise inspections of the industries to ensure that their effluent treatment plants are always in operation. The effluent samples of the effluent treatment plants at their inlets and outlets may also be collected during surprise inspection. Legal action under the provisions of the Water Act, 1974 may be taken by CPCC against the industries which are found violating the norms.

8. Ground Water quality of ground water sources in the catchment area of river Ghaggar.

It was submitted that ground water quality of ground water sources located in catchment area of river Ghaggar was analysed by CPCC. The analysis results indicate that all the parameters are within the prescribed standards except total alkalinity, calcium, magnesium and TDS. The reasons for high values of these parameters were mentioned as geogenic. It was also informed that the ground water of these ground water sources is not utilized for drinking purposes because water supply for domestic uses has been made available in Chandigarh area.

The Executive Committee noted the view point of CPCC and directed that the water of ground water sources located in the catchment area of river Ghaggar, should not be allowed to utilize for drinking purposes, wherever the ground water quality is found contaminated and display boards, mentioning that water is not fit for drinking purposes, may be erected at the contaminated ground water sources.

9. Septage and Faecal Sludge management.

It was apprised that Chandigarh city is fully covered with sewerage network and no septic tanks have been allowed in Chandigarh, as such, there is no generation of Septage and faecal sludge.

The Executive Committee noted the view point of CPCC.

10. Environmental flow.

It was submitted that river Ghaggar is flowing far away from Chandigarh area. Sukhna Choe and N-Choe are non-perennial drains and carry storm water during rainy season. It was claimed that environmental flow cannot be maintained in case of Chandigarh area.

The members of the Executive Committee were of the view that environmental flow in Sukhna Choe and N-Choe can be maintained by constructing storage tanks and barriers along catchment area of these choes so that surface run off can be collected/retained and may be discharged in a regulated way in Sukhna Choe and N-Choe so that environmental flow can be maintained in these choes.

It was directed that CPCC and Municipal Corporation, Chandigarh shall explore the possibility of providing storage tanks and barriers along th

catchment area of Sukhna Choe and N-Choe so as to maintain environment flow into these Choes and report be submitted by 15.7.2020.

11. Water shed Management.

It was apprised that water shed management in Chandigarh is not possible.

The Chairman of the Executive Committee directed that the department of Forest, M.C., Chandigarh and CPCC shall jointly visit the area and submit the plan regarding water shed management in the area by 15.7.2020.

12. Status of installation of real time water quality monitoring stations (RTWQMS) in Sukhna Choe/ N-Choe or river Ghaggar.

It has been claimed by CPCC that Sukhna Choe and N-Choe are natural choes and carry storm water of the Chandigarh; therefore, there is no need to provide real time water quality monitoring stations (RTWQMS) in these Choes.

The members of the Executive Committee were of the view that since there is regular flow in Sukhna Choe and N-Choe and there is quite possibility that the treated sewage of the STPs may also be discharged into these choes. As such, there is need to provide real time water quality monitoring stations (RTWQMS) in these choes.

The Chairman of the Executive Committee directed that a proposal regarding installation of real time water quality monitoring stations (RTWQMS) in Sukhna Choe and N-Choe may be submitted to the Executive Committee by 15.7.2020 and these real time water quality monitoring stations (RTWQMS) shall be installed in Sukhna Choe and N-Choe by 30.9.2020.

13. Status of Health check up camps.

It was informed that due to lockdown in Chandigarh area during this COVID 19 pandemic, all the Health staff was on duty for the safeguard of the society, as such, the health checkup camps in the areas located in the catchment area of river Ghaggar could not be organized.

The Chairman of the Executive Committee directed that the Department of Health shall continue to organize Health Check up camps as and when the prevailing conditions allow.

Sd/-	Sd/-	Sd/-
Dr. Babu Ram	Ms. Urvashi Gulati	Justice Pritam Pal Former Judge, Punjab and Haryana High Court, Now as Chairman of the Monitoring Committee

Note: The Members of the Executive Committee have given their concurrence on the minutes of the meeting.

Annexure -4

Minutes of 17th meeting with the officers of State of Punjab held under the Chairmanship of Justice Pritam Pal, Former Judge of Punjab and Haryana High Court and now as Chairman of the Executing Committee (constituted by Hon'ble NGT in OA No. 138/139 of 2016 in the matter of Stench Grips Mansa's Sacred Ghaggar River and Yogendera Kumar w.r.t. control of pollution in river Ghaggar in Punjab Area on 19.6.2020 at 11:00 A.M (through video conferencing).

The following were present during meeting:

a) **Members of the Executing Committee**

Sr. No.	Name and Designation in the Deptt.	Name & Designation in the Committee
1.	Justice Pritam Pal, Former Judge, Punjab and Haryana High Court	Chairman
2.	Ms. Urvashi Gulati, IAS, former Chief Secretary, Haryana	Member
3.	Sh.J.Chandra Babu, Additional Director, Central pollution Control Board, New Delhi.	Member
4.	Dr.Babu Ram, former Member Secretary, PPCB	Technical Expert

The list of the other officers, present in the meeting, is as per Annexure-1

The Chairman of the Executing Committee informed that the Hon'ble National Green Tribunal, in various cases connected to the matter, has passed the detailed orders, which are briefly mentioned as under:

1) Hon'ble National Green Tribunal vide order dated 10.01.2020 in OA No.606 of 2018 in the matter of compliance of Solid Waste Management Rules, 2016 in Para No.36 has directed that most of the statutory timelines have expired and directions of Hon'ble Supreme Court and the Tribunal to comply Solid Waste Management rules, 2016 remain unexecuted and accordingly, compensation scale is laid down for continued failure after 31.03.2020. The compliance of the rules requires taking of several steps mentioned in Rule 22 (S. No.1 to 10). Any such continued failure will result into liability of every Local Body to pay compensation at the rate of Rs. 10 lakh per month per Local Body for population of above 10 lakh, Rs. 5 Lakh per month per Local Body for population between 5 lakh and 10 lakh and Rs. 1 lakh per other Local Bodies from 1.04.2020 till compliance. If the Local Body is unable to bear financial burden, the liability will of the State Govt. with liberty to take remedial action against erring Local bodies. Apart from compensation, adverse entries must be made in the ACRs of the CEO of the said Local Bodies and other senior functionaries in Department of Urban Development etc. who are responsible for compliance of order of this Tribunal. The Hon'ble Tribunal has also directed in para No 31 (ii) that the date of commencement of setting up of STPs is 31.3.2020, failing which compensation amounting to Rs 5 lakh/month/STP by the concerned local bodies/States in terms of order dated 28.8.2019 in OA No. 593/2017 and 6.12.2019 in OA No. 673/2018 w.e.f 1.4.2020 shall be imposed.

2) The Hon'ble National Green Tribunal in its order dated 6.12.2019 in OA No. 673 of 2018 (mentioned in order dated 6.12.2019 uploaded on 12.12.2019 in OA No. 916 of 2018) had issued direction that 100% treatment of sewage may be ensured as directed by the Tribunal vide order dated 28.08.2019 in O.A No. 593/2017 by 31.03.2020 at least to the extent of in-situ remediation and before the said date, commencement of setting up of STPs and the work of connecting all the drains and other sources of generation of sewage to the STPs must be ensured. If this is not done, the local bodies and the concerned departments of States/UT's will be liable to pay compensation as directed vide order dated 22.08.2019 in case of river Ganga i.e. Rs. 5 lakh per month per drain for default in in-situ remediation and Rs. 5 lakh per STP for default in commencement of setting up of the STP. The timeline for completing all steps of action plans including completion of setting up STPs and their commissioning till 31.03.2021 in terms of order dated 08.04.2019 in the present case will remain as already directed.

3) The Hon'ble Tribunal vide its order dated 21.05.2020 in OA No. 593 of 2017 at Para 8 [47(i) &ii)] has directed as under.

   i. 100% treatment of sewage may be ensured as directed by this Tribunal vide order dated 28.08.2019 in O.A. No. 593/2017 by 31.03.2020 at least to the extent of in-situ remediation and before the said date, commencement of setting up of STPs and the work of connecting all the drains and other sources of generation of sewage to the STPs must be ensured. If this is not done, the local bodies and the concerned departments of the States/UTs will be liable to pay compensation as already directed vide order dated 22.08.2019 in the case of river Ganga i.e. Rs. 5 lakhs per month per drain, for default in in-situ remediation and Rs. 5 lakhs per STP for default in commencement of setting up of the STP

   ii. Timeline for completing all steps of action plans including completion of setting up STPs and their commissioning till 31.03.2021 in terms of order dated 08.04.2019 in the present case will remain as already directed. In default, compensation will be liable to be paid at the scale laid down in the order of this Tribunal dated 22.08.2019 in the case of river Ganga i.e. Rs. 10 lakhs per month per STP.

   Further, in para 13 of order dated 21.05.2020 in OA No. 593 of 2017, the Hon'ble Tribunal has directed that as regards non-compliant STPs, further action may be completed by the State PCBs/PCCs and it may be ensured that there is 100% treatment of sewage and till STPs are set up, at least in-situ remediation takes place. However, on account of Corona pandemic which has affected several on-going activities, the timeline of levy of compensation in terms of order dated 28.08.2019 in O.A. No. 593/2017 read with order dated 06.12.2019 in O.A. No. 673/2018, of 01.04.2020 may be read as 01.07.2020 and 01.04.2021 may be read as 01.07.2021. Further reports may be taken by the CPCB from all the State PCBs/PCCs as per the system evolved by the CPCB from time to time.

4) The Chairman of the Executive Committee also apprised about order dated 1.6.2020 in OA No. 325 of 2015 in the matter of Lt. Col. Sarvadaman Singh Oberoi vs Union of India &Ors, wherein, the Hon'ble Tribunal has directed in para No.6 that harvesting surplus

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water during excessive rains from any areas of catchment needs to be optimized by enhancing the capacity of the existing ponds/water bodies, creation of water harvesting structures in the sub-watersheds to the extent possible, apart from setting up of additional water bodies/water harvesting structures wherever viable, utilizing available funds including under MGNREGA and involving the community at large at every level. Gram Panchayats can certainly play a significant role in the matter. Once adequate capacity enhancement of water bodies takes place, excess flood/rain water can be channelized by using appropriate water harvesting techniques. This action needs to be coordinated by the District Magistrates in coordination with the Department of Irrigation and Flood Control or other concerned Departments such as Department of Rural Development/Urban Development/Local Bodies/Forests/Revenue etc. The District Magistrate may as far as possible hold a meeting of all the stakeholders for the purpose as per the District Environment Plan or Watershed Plan within one month from today. The District Magistrates may also ensure that as far as possible at least one pond/water body must be restored in every village, apart from creation of any new pond/water body.

5) The Hon,ble National Green Tribunal in OA No 138 of 2016 and 139 of 2016 in the matter of Stench Grips Mansa's Sacred Ghaggar River and Yogendera Kumar has considered the 5th report of the Executing Committee on 15.5.2020 and passed the detailed order,the concluding Para No.15 of the said order is reproduced as under:

In view of the above, we direct that the directions already issued bythis Tribunal in O.A. No. 673/2018, 606/2018, 148/2016, O.A.No. 325/2015 and 593/2017 and the recommendations of theCommittee may be complied with. The Compliance Status may beverified by the Executing Committee and the next report may befurnished by 30.09.2020 by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR SupportPDF and not in the form of Image PDF. Simultaneously copy of thereport be furnished to the Chief Secretaries/ PCBs and PCCs of theStates of Punjab, Haryana, Himachal Pradesh and UT Chandigarhwho may give their response within two weeks thereafter.

The case has been listed for further consideration on 28.10.2020.

Thus, it has become imperative that the directions of the Hon'ble Tribunal are complied with by all the concerned departments in toto.

Thereafter, agenda of the meeting was taken up for discussion as under:

1) Comparison of water quality of River Ghaggar during the period December, 2019 to February, 2020 and March, 2020 to May, 2020.

The Executing Committee was apprised that PPCB has carried out water quality monitoring of river Ghaggar during the month Dec, 2019 to Feb, 2020 and March, 2020 to May, 2020 from the 14 locations and the data indicate that no improvement w.r.t BOD, DO and T.Coli parameters has been observed. However, some improvement w.r.t these parameters has been observed in river Ghaggar water at the locations: Rattanheri, before and after mixing Sagar Para drain with river Ghaggar, Khanouri, Moonak andSardulgarh.

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The Executing Committee observed that in part of month of March, 2020 to April, 2020 there was complete lockdown in the State of Punjab, Haryana and Himachal Pradesh and all the activities relating to commercial and industrial were closed down but even then no improvement w.r.t water quality in river Ghaggar has been observed. It indicates that either the untreated sewage discharge through drains are directly falling into river Ghaggar or STPs of the State of Punjab were not functioning properly.

Therefore, the Chairman of the Executing Committee directed as under:

i) **The water quality of river Ghaggar at its entry into the Territory of State of Punjab, at its exit from the Territory of Punjab may be monitored.**

ii) **Water Quality of river Ghaggar may be monitored at the upstream, downstream and point source carrying treated/untreated sewage into river Ghaggar.**

iii) **Water Quality data of above points may be submitted to Executing Committee by 15.07.2020.**

iv) **Punjab Water Supply and Sewerage Board and other Government agencies responsible for operation and maintenance of STPs,located in the catchment area of river Ghaggar,shall ensure that STPs are always in operation and meet with the prescribed standards at all the times.**

v) **PWSSB shall ensure that OCEMS on all the STPs located in the catchment area of river Ghaggar have been installed and PPCB shall collect the online monitoring data from OCEMS of these STPs and the same may submitted to the Executing Committee within 3 weeks.**

2) Performance of existing Sewage treatment plants.

It was submitted that 13 primary and 29 secondary drains have been identified which contributesewage/sullage into river Ghaggar. In order to treat the sewage of 30 towns, 46 STPs are required to be installed, out of which 21 STPs are in operation. The total wastewater generation from these 30 towns is 238.76 MLD, out of which 170.16 MLD sewage is treated in the existing 21 STPs. There is further proposal to construct additional STPs is 93.95 MLD.There is a gap of 68.6 MLD of sewage' which has been covered under the proposed STPs to be installed for the towns located in the catchment area of river Ghaggar.

Punjab Pollution Control Board has carried out the performance of these 21 STPs in the month of Jan, 2020 to May, 2020 and as per the analysis results 16-18 STPs have been found complying with the standards and 3--5 STPs are not complying with the prescribed standards. The performance of these STPs has being carried out w.r.t parameters pH, BOD, TSS and F.Coli parameter.

After detailed discussion on the issue, it was directed by the Chairman of the Executing Committee that Punjab Water Supply Sewerage Board or other Govt agencies responsible for Operation of STPs shall ensure that adequate dosing of disinfectant is added at the final Collection tank of STP so that the treated sewage at the outlets of STPs always meet with the prescribed standards of F.Coli parameter. The others parameters like BOD and TSS can be brought within the prescribed norms by operating Sewage treatment plants effectively and efficiently.

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3. Status of STPs under construction.

It was submitted that 8 STPs of capacity 25.5 MLD are under construction and these STPs have been completed with progress of completion as 12-48%. The Chairman of the Monitoring Committee observed that the progress made w.r.t construction of STPs is slow and as per the timelines fixed by Hon'ble National Green Tribunal, the commissioning date of STPs has been mentioned in 31.03.20121 and with this slow progress, it may not be possible to commission these STPs by 31.03.2021. Therefore, the Department of Local Government and PWSSB have to make extra efforts to ensure the completion of these STPs by 31.03.2021.

It was also reported that for 6 MLD capacity STP to be installed by MES authority at Patiala, work has been allotted and it is likely to be completed by 31.03.2021. Similarly, 1 MLD STP at Nabha, to be set up by MES authorities, tender process is to be completed by 30.09.2020 and it is likely to be completed by 30.09.2021. The Executing Committee was of the view that the construction work of these STP should be accelerated to ensure that these are commissioned by 31.03.2021.

The Chairman of the Executing committee directed that PWSSB or any other Govt agency, responsible for construction of new STPs, shall commission these STPs by 31.03.2021.

4. Status of STPs under planning and funds tied up.

The Executing Committee was apprised that12STPs of capacity 33.85MLD for 9 towns are under planning and these are at tendering stage and the likely date of commissioning of these STPs has been mentioned between 31.12.2021 to 30.09.2022. The Executing Committee was of the view that the STPs, which are under planning and are at tendering stage, possibly cannot be completed by 31.03.2021 and the Executing agencies have to make extra ordinary efforts to complete and commission these STPs by 31.03.2021.

It was also submitted that in case of 5 towns, where STPs of capacity 21.7 MLD have been proposed to be installed, land issues are to be resolved. The Executing Committee was of the view that the matter regarding land issues may be discussed with the concerned Deputy Commissioner of the District and these land issues may be resolved immediately so that STPs may be constructed timely.

The Chairman of the Executing Committee directed as under:

i. **New 12 STPs of capacity 33.85 MLD for 9 towns may be completed by 31.03.2021.**
ii. **PWSSB shall take up the matter with Deputy Commissioner of concerned District where the land issues are to be resolved for setting up of STP and shall ensure that these STPs are constructed and commissioned by 31.03.2021.**

5. Status of STPs which require technologically up gradation and funds tied up/yet to be tied up.

It was informed that there is need to upgrade 3 STPs of towns Bareta: 3 MLD, Bhikhi: 3 MLD and Sardulgarh: 4 MLD as these STPs are based on WSP Technology, which is old one. Therefore, in order to upgrade these STPs, presently desilting of ponds has been carried out and dosing of disinfectant has been started into these STPsto bring down the

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F.Coli parameter within the norms. However, for up gradation of these STPs, there is proposal to install Nano bubble technology to enhance the treatment efficiency of the STPs. If need,solar energy based aerators shall also be installed to supply air in STP system to enhance the Oxygen level in the STP to increase the degradation efficiency to bring down the parameters within the norms.

The Chairman of The Executing Committee directed as under:

i. **Nanobubble Technology followed by solar energy based aerators shall be commissioned in 3 STPs namely Baretta, Bhikhi and Sardulgarh by 30.07.2020.**

ii. **Punjab Pollution Control Board shall carry out the performance of these STPs by 15.08.2020 and submit the analysis results to PWSSB and the Executing Committee.**

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iii. **In case after the installation of Nanobubble technology followed by solar energy based aerators, the treatment efficiency of the STP is not enhanced to the level to bring down all the parameters within the norms, PWSSB shall upgrade these STPs with appropriate technology accordingly.**

6. Gaps in treatment of sewage of the towns located on river Ghaggar and their coverage under STPs which are under planning and funds tied up.

The Executing Committee was apprised that the 30 towns generate sewage 238.76 MLD and presently, the existing capacity of STPs is 231.4 MLD and the proposed capacity of STPs is 93.95 MLD and there is gap of 68.6 MLD of sewage to be treated.

It was observed by the Executing Committee as per the data submitted by PWSSB while preparing the 5th report of the Executing Committee, PWSSB reported that the total sewage generation is 261.32 MLD and the present capacity of STPs is 231.7 MLD and there is a gap of 68.6 MLD sewage to be treated. Therefore, there is need to reconcile the data in the presence of PPCB.

After detailed deliberation, The Chairman of the Monitoring Committee directed as under:

i. **PWSSB and PPCB shall jointly reconcile the data w.r.t total sewage generation from the towns located in the catchment area of river Ghaggar, existing capacity of STPs, proposed capacity of STPs to be installed and no gap in sewage quantity to be treated.**

ii. **PWSSB shall ensure that whole of the gap in sewage quantity to be treated should be considered in the STPs which are under planning and these should be completed and commissioned by 31.3.2021.**

7. In-situ remediation technology to be provided in the drains carrying untreated sewage and not connected to STPs

It was submitted as under:

- As in-situremediation in Sirhind Choe, PWSSB is constructing pond system followed by constructed wetland to treat 0.5 MLD sewage of Nagar Panchayat Bhadson which shall be completed by 30.06.2020.

- Nano bubble technology, as in-situ remediation system,is under construction in Bhulana drain leading to river Ghaggar. The said technology shall be completed by 15.07.2020.
- Construction work of in-situ remediation technology based on pond system to treat 0.216 m3/day wastewater at village Bijanpur, District Sangrur has been commissioned.

After detailed discussion on the issue, it was directed by the Chairman of the Executing Committee as under:

i. **Pilot plants based on ponds system followed by constructed wetland, Nanobubble technology and solar energy basedaeration system to enhance the oxygen level in pond and treatment efficiency of STPs, being set up at various locations, shall be installed and commissioned by 15.07.2020.**

ii. **On successful commissioning of these in-situ remediation plants, the same shall be replicated by PPCB in the drains/nallahs carrying untreated sewage and falling into river Ghaggar.**

8. Status of irrigation schemes to utilize the treated sewage of STPs for irrigation.

It was submitted as under:

- Irrigation schemes for 9 towns, having command area 1283 hectares, have been commissioned.
- Irrigation schemes for the towns Khanouri: 3 MLD and Rajpura: 7 MLD having command area of 110 hectares and 140 hectares,respectively, are under construction and the same shall be commissioned by 30.06.2020 and 31.12.2020, respectively.
- In case of 4 towns [Mandi Gobindgarh: 25 MLD, Patiala: 10 MLD, Dhuri: 5 MLD and Sangrur: 11 MLD], irrigation schemes are under planning and the funds have been tied up and the work shall be started soon after the release of funds by State Government.

After detailed deliberation, the Chairman of the Executing Committee directed as under:

i. **Irrigation schemes for 2 towns [Khanouri: 3 MLD and Rajpura: 7 MLD having command area of 110 hectares and 140 hectares], which are under construction,mayl be commissioned by 31.03.2021.**

ii. **The Department of Soil and Water Conservation shall take up the matter with Department of Finance for early release of funds for the irrigation schemes to be constructed for 4 towns [Mandi Gobindgarh: 25 MLD, Patiala: 10 MLD, Dhuri: 5 MLD and Sangrur: 11 MLD]. These irrigation schemes may be completed by 31.03.2021.**

iii. **The Department of Soil and Water Conservation shall take up the matter with Department of Finance to make provisions of funds for installation of irrigation schemes to utilize treated sewage of 24 STPs in 20 towns having total sewage discharge of 132.7 MLD and the funds may be got released from finance department so that irrigation schemes for these 24 STPs in 20 towns may be completed by 31.03.2021 i.e. simultaneously along with the commissioning of the 24 STPs.**

9. Status of installation of STPs for the villages.

It was apprised that out of total 389 villages identified for discharging their sewage /sullage into river Ghaggar, 87 villages have been covered in phase-1 for installation of

STPs. Presently, out of these 87 villages, treatment system has been constructed for treatment of sewage of 24 villages. The construction work of STPs in 17 villages is under progress and the same shall be commissioned by 30.09.2020.

It was directed by the Executing Committee as under:

i. **STPs for 17 villages, which are under construction, shall be completed by 30.09.2020**
ii. **STPs for the remaining 46 villages, which have been covered under phase-1, shall be completed by 30.09.2020.**
iii. **STPs for 152 villages, which have been covered in Phase-II, shall be installed by 31.12.2020.**
iv. **STPs for the 150 villages, covered in phase-III, shall be installed by 31.03.2021.**

10. Inspection of industries/ STPs by PPCB and DLSTFs in the month of March, 2020 to May 2020 and action against the defaulters.

The Executing Committee was apprised that in the month of March, 2020 and May, 2020, 6 and 8 industries, respectively, have been inspected by PPCB and all these industries have been found compliant w.r.t effluent discharge norm. However, no industry has been inspected by DLSTF. While having discussion on the issue, it was pointed out by the Chairman of the Executing Committee that the number of inspection made by PPCB in the month of March, 2020 and May, 2020 is less and there is need to inspect more industries to ensure the operation of their ETPs effectively and efficiently.

After detailed discussion, it was directed by the Chairman of the Executing Committee as under:

i. **PPCB shall inspect the industries to monitor their effluent treatment plants as per the frequency of inspection fixed by Hon'ble NGT.**
ii. **Besides, the inspection of the industries as per the frequency fixed by Hon'ble NGT, surprise inspection of the industries may also be carried out to ensure that their ETPs remain in operation in odd hours also.**
iii. **While inspecting the industries either on the frequency-based inspection or surprise inspection, the readings of OCEMS, installed by the industries, may also be checked to cross check the online as well as manual data.**
iv. **PPCB shall make connectivity of OCEMS installed by the industries with their server and its link may be given to CPCB by 30.09.2020.**
v. **PPCB shall make arrangements to cover the OCEMS of the industries with suitable cover and it may be sealed by PPCB so as to avoid any tempering in the system.**

11. Ground Water quality of ground water sources located in the catchment area of river Ghaggar.

It was reported that Ground Water sampling at 11 locations was carried out in the month of January, 2020 and thereafter, no ground water sampling has been carried out.

The Chairman of the Executing Committee directed that PPCB shall carry out ground water sampling of ground water sources located in the catchment

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area of river Ghaggar before 25.06.2020 and the analysis results shall be conveyed to the Executing Committee.

12. Removal of solid waste from river Ghaggar and drains falling into it.

The Executing Committee was informed that solid waste from river Ghaggar falling in the jurisdiction of Mohali, Patiala,Sangrur and Mansa has been removed and no solid waste is lying dumped along river Ghaggar in these areas.

It was directed by the Chairman of the Executing Committee that joint team of PPCB, Department of Rural Development & Panchayat, Department of Drainage and PWSSB shall inspect the different stretches of river Ghaggar and ensure that no solid waste is lying dumped in river Ghaggar as well as on its both sides. The said inspection may be carried out before 15.07.2020.

13. Septage and Faecal Sludge management.

It was submitted that in order to manageseptage and faecal sludge, PPCB has proposal to prepare a document with legal framework mentioning the duties and responsibilities of the concerned departments and registration of the vehicles to be deployed for collection and transportation of septage and faecal sludge.

After detailed deliberation, it was directed as under.

- **PPCB shall prepare document on Management of Septage and Faecal sludge with legal frame work within 15 days and after the approval of the said document by the department of Science, Technology and Environment, the same shall be circulated to Department of Local Govt., Department of Transport, Department of Rural Development and Panchayat and other concerned departments for their comments and suggestions and the said document shall be made ready by 31.10.2020.**
- **PPCB and PWSSB shall jointly study the capacity and technologyof STPs located in the catchment area of River Ghaggar and shall submit the report to the Executing Committee within 30 days.**
- **The work on management of septage and faecal sludge may be started by 1.11.2020**

14. Environmental flow.

PPCB submitted that since river Ghaggar is non perennial, as such, no environmental flow can be maintained in the river.

The Chairman of the Executive Committee directed that the department of Water Resource shall identify the suitable locations along river Ghaggar to construct storage ponds/tanks, barriers etc. so as to collect surface runoff during rainy season and regulated flow may be discharged into river Ghaggar so that environment flow can be maintained in the river.

15. Water shed Management.

No steps have been taken by the department of Soil and Water Conservation regarding water shed management.

It was directed that Department of Soil and Water Conservation shall prepare the proposal for water shed management in the catchment area of river Ghaggarwithin 30 days.

16. Installation of real time water quality monitoring stations (RTWQMS) in River Ghaggar.

It was informed that 4 real time water quality monitoring stations have been proposed to be installed at the locations: Bhankarpur, d/s Patiala Nadi, d/s Sagarpara and Sardulgarh. Supply order has been replaced and the said monitoring systems shall be installed by 31.07.2020.

The Chairman of the Executing committee directed as under:

i. **4 real time water quality monitoring systems inriver Ghaggar, for which, the order has been placed, shall be installed at the prescribed locations by 31.07.2020.**
ii. **Punjab pollution Control Board shall also install 2 more Real time water quality monitoring Station, 1 at the point of entry of river Ghaggar in Punjab area and one at its exit point leaving Punjab area shall also be installed by 31.12.2020.**

17. Status of Health check camps organized during the months March, 2020 to May, 2020.

It was informed that due to lockdown and Covid-19 pandemic, no health checkup camps could be organized at Patiala, SAS Nagar and Mansa except organizing 4 camps in April, 2020 and 2 camps in May, 2020 in Sangrur area, wherein, 48 patients were checked.

The Chairman of the Executing Committee directed that the department of Health, State of Punjab shall continue to organize health checkup camps in the localities/ villages located in the catchment area of river Ghaggar as and when the prevailing conditions allow.

18. Information, education and communication (IEC) activities.

It was submitted that no IEC activities could be organized in any of the Districts namely Patiala, SAS Nagar, Sangrur and Mansa due to Covid-19 as the public gathering was not allowed for such activity.

The Chairman of the Executing Committee directed that the department of Local Government and Punjab Pollution Control Board shall continue to organize IEC activities w.r.t control of pollution in river Ghaggar in the area along the catchment area of river Ghaggar as and when prevailing conditions allow.

Babu Ram 28/8/2020

Dr. Babu Ram,
Technical Expert,
Executing Committee

The minutes of the meeting have been approved by the Chairman of the Executing Committee

Sd/
Justice Pritam Pal,
Former Judge Punjab & Haryana High Court
now as Chairman of Executing Committee

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