

# OFFICE OF THE MONITORING COMMITTEE

Constituted by the Hon'ble National Green Tribunal in Original Application no.916/2018 (earlier OA No.101 of 2014) OA No.606 of 2018

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To

The Registrar General,  
Hon'ble National Green Tribunal,  
New Delhi.

No. CMC/SB/2020/Spl.1

Dated: 5.6.2020

**Subject: 4<sup>th</sup> Report of the Monitoring Committee constituted by Hon'ble National Green Tribunal in OA No.916 of 2018 in the matter of Sobha Singh & Ors vs State of Punjab & Ors.**

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It is submitted that the Hon'ble National Green Tribunal in O.A No. 916 of 2018 in the matter of Sobha Singh & Others V/s State of Punjab & Ors has passed the detailed order dated 6.12.2019 uploaded on 12.12.2019 and Para No 22 of the said order is reproduced as under.

**Para no. 22:**

*"We consider it necessary to clarify the procedure for functioning of the Committee henceforth. The Committees may consider all relevant issues and give its reports preferably once in two months to this Tribunal with a copy to all the concerned Chief Secretaries and SPCBs/PCC. The concerned Chief 40 Secretaries/SPCBs/PCC may look into the said report and give their response to this Tribunal within two weeks thereafter. The response may include the action taken by the statutory bodies or other authorities. Since the Committee constituted by this Tribunal is a Fact Finding/Executing/ Monitoring Committee and has to give status report to this Tribunal, its functioning may not be viewed as giving final directions to the regulatory bodies. However, the State regulatory body may take into account the observations of the Committee in their functioning and act their own after considering the response of the alleged polluter. The Committee will be at liberty to point out to this Tribunal that action taken by the regulatory authority was not adequate. These observations are consistent with the Orders of this Tribunal dated 21.10.2019 in O.A. No. 670 of 2018 with regard to the procedure and functioning of a similar Committee in the State of UP. Dr. Babu Ram will act as Technical Expert to the Committee henceforth."*

In compliance of said order, the Monitoring Committee has prepared its 4<sup>th</sup> report and the same has been concurred by all the members of the Committee. Accordingly, 4<sup>th</sup> report of the Monitoring Committee is hereby submitted for kind consideration of the Hon'ble Tribunal.

The aforesaid report of the Monitoring Committee is submitted through [judicial-ngt@gov.in](mailto:judicial-ngt@gov.in)

**DA/as above**

Sd/-  
**(Justice Jasbir Singh)**  
Former Judge,  
Punjab & Haryana High Court  
now as Chairman  
Monitoring Committee

Endst No. CMC/SB/2020/ Spl.2

Dated: 5.6.2020

A copy of the above is forwarded to the Chief Secretary, Punjab for information and necessary action please.

**DA/as above**

Sd/-

**(Justice Jasbir Singh)**

Former Judge,  
Punjab & Haryana High Court  
now as Chairman  
Monitoring Committee

Endst No. CMC/SB/2020/ Spl.3

Dated: 5.6.2020

A copy of the above is forwarded to the Additional Chief Secretary, Department of Local Govt., Sector 35, Chandigarh for information and necessary action please.

**DA/as above**

Sd/-

**(Justice Jasbir Singh)**

Former Judge,  
Punjab & Haryana High Court  
now as Chairman  
Monitoring Committee

Endst No. CMC/SB/2020/ Spl.4

Dated: 5.6.2020

A copy of the above is forwarded to the Chief Executive Officer, Punjab Water Supply and Sewerage Board, Sector 27, Chandigarh for information and necessary action please.

**DA/as above**

Sd/-

**(Justice Jasbir Singh)**

Former Judge,  
Punjab & Haryana High Court  
now as Chairman  
Monitoring Committee

Endst No. CMC/SB/2020/ Spl.5

Dated: 5.6.2020

A copy of the above is forwarded to the Member Secretary, Punjab Pollution Control Board, Nabha Road, Patiala for information and necessary action please.

**DA/as above**

Sd/-

**(Justice Jasbir Singh)**

Former Judge,  
Punjab & Haryana High Court  
now as Chairman  
Monitoring Committee

**4<sup>th</sup> Report**  
**of the Monitoring Committee**  
**constituted by**

**Hon'ble National Green Tribunal**  
**in**

**OA No.916 of 2018**

**in the matter of**

**Sobha Singh & Ors**

**VS**

**State of Punjab & Ors**

**Submitted on:**

**5<sup>th</sup> June, 2020**

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## **4<sup>th</sup> Report of the Monitoring Committee Constituted by Hon'ble National Green Tribunal in OA No.916 of 2018 in the matter of Sobha Singh & Ors vs State of Punjab & Ors**

### **1.0 Background**

The Monitoring Committee constituted by Hon'ble National Green Tribunal in O.A No. 916 of 2018 in the matter of Sobha Singh & Others V/s State of Punjab & Ors submitted its 2<sup>nd</sup> report dated 29/10/2019 vide letter no. CMC/SB/2019/95 dated 31/10/2019. The Hon'ble Tribunal considered the report of the monitoring committee on 6/12/2019 and passed the detail orders, para No 22 of the said order is reproduced as under.

#### **Para no. 22:**

*"We consider it necessary to clarify the procedure for functioning of the Committee henceforth. The Committees may consider all relevant issues and give its reports preferably once in two months to this Tribunal with a copy to all the concerned Chief Secretaries and SPCBs/PCC. The concerned Chief 40 Secretaries/SPCBs/PCC may look into the said report and give their response to this Tribunal within two weeks thereafter. The response may include the action taken by the statutory bodies or other authorities. Since the Committee constituted by this Tribunal is a Fact Finding/Executing/ Monitoring Committee and has to give status report to this Tribunal, its functioning may not be viewed as giving final directions to the regulatory bodies. However, the State regulatory body may take into account the observations of the Committee in their functioning and act their own after considering the response of the alleged polluter. The Committee will be at liberty to point out to this Tribunal that action taken by the regulatory authority was not adequate. These observations are consistent with the Orders of this Tribunal dated 21.10.2019 in O.A. No. 670 of 2018 with regard to the procedure and functioning of a similar Committee in the State of UP. Dr. Babu Ram will act as Technical Expert to the Committee henceforth."*

#### **Further, the Hon'ble Tribunal in para no. 23 of the said orders has issued the following directions:**

*"Accordingly, following directions are issued: (i) Let the concerned authorities in the State of Punjab take steps in terms of observations and recommendations of the Committee particularly in the matter of setting up of requisite treatment plants in the State, compliance to standards by the existing STPs and fixing responsibility on officials for non-performance of duties, compliance to standards by CETP leather complex, inadequate inspections by officials of SPCB, slow pace with regard to 41 new/upgradation/rehabilitation of STPs, setting up of new CETPs textile and dyeing industrial cluster, setting up of new ETP for dairy waste, bridging of gap in terms of sewage quantity to be treated, interception of*

*the drains, maintaining flow/release of fresh water in Buddha Nallah and Holy Bein, dealing of Buddha Nalla utilization of treated waste water, treatment facilities for villages, laying down pretreatment standards, de-silting of drains, shifting of dyeing industries, organizing health check ups, preventing direct discharges into the drains, increased surveillance of polluting industries, training of the staff. If the timelines laid down in the order of this Tribunal dated 06.12.2019 in O.A. No. 673/2018 are crossed, compensation in terms of the directions in the said order will be payable. (ii) Local bodies in the catchment area may ensure that solid waste is not dumped into the rivers or the drains connected to the rivers. (iii) Future functioning of the Committee will be in terms of clarification as per para 22 above. (iv) Let the Chief Secretary, Punjab look into the matter as mentioned in Para 21 above and take further remedial action."*

## **2.0 3<sup>rd</sup> report of the Monitoring Committee Constituted by Hon'ble National Green Tribunal in compliance to directions issued as per para 22 mentioned above**

In compliance to the order dated 6.12.2019 uploaded on 12.12.2019 as mentioned in para 22 above, the Monitoring Committee submitted its 3<sup>rd</sup> report to the Hon'ble Tribunal on 31.01.2020. The said report was submitted based on the field visits made by the Monitoring Committee, meetings held with State level officers and Districts level Officers and the data collected from the concerned departments w.r.t control of pollution in river Sutlej and Beas. The report is under consideration of the Hon'ble National Green Tribunal.

## **3.0. 4<sup>th</sup> report of the Monitoring Committee in compliance of the directions in order dated 6.12.2019 uploaded on 12/12/2019 of Hon'ble Tribunal in OA No. 916 of 2018**

The Monitoring Committee held its meetings with the State Level Officers and District Level Officers of various districts of the State of Punjab. It has also visited the industries and other pollution sources located in the catchment area of river Sutlej and Beas and made its recommendations which were sent to the concerned officers to take further necessary action on the various activities to be carried out to control the pollution in river Sutlej. The monitoring committee has also collected the data w.r.t. water quality of river Sutlej, Beas and tributaries of river Sutlej namely Buddha Nallah, East Bein, Kala Singhian drain and Holy Bein, performance of existing sewage treatment plants, status of construction of new STPs, status of construction of STPs where work has not been started so far due to financial non-availability and / or land issue, upgradation and enhancement of capacity of existing STPs, gap in sewage treatment, utilization of treated sewage for irrigation,



status of irrigation schemes as on 31.03.2020 to utilize the treated sewage, treatment of sewage / sullage from rural areas.

Therefore, based on the discussions held with the State level officers, district level officers w.r.t. activities to be carried out to control pollution in river Sutlej and Beas, data collection on the activities as mentioned in aforesaid para, the monitoring committee has prepared its 4th report and the same is mentioned as under:

### **3.1 Report on visit to M/s Vardhman Yarns & Threads Ltd., Phagwara road, District Hoshiarpur by the Monitoring Committee on 27.1.2020.**

The Monitoring Committee has visited M/s Vardhman Yarns & Threads Ltd., Phagwara road, District Hoshiarpur on 27.01.2020 and the report is mentioned as under.

#### **The following were present during the visit:**

a) Members of the Monitoring Committee

<b>Sr. No.</b>	<b>Name and Designation in the Deptt.</b>	<b>Name &amp; Designation in the Committee</b>
1.	Justice Jasbir Singh, former Judge Punjab & Haryana High Court	Chairman
2.	Sh. S.C. Agrawal, IAS, former Chief Secretary, Punjab	Member
3.	Sant Balbir Singh Seechewal	Member
3.	Dr. Babu Ram, former Member Secretary, PPCB	Technical Expert

b) Officers of Punjab Pollution Control Board

1.	Sh. Manoharlal Chauhan, Environmental Engineer, Regional Office, Hoshiarpur
2.	Ms. Pooja Sharma, Assistant Environmental Engineer, Regional Office, Hoshiarpur
3.	Sh. Parmjeet Singh, Scientific Assistant, PPCB

### **3.1.1 Visit to the industry**

#### **Background**

M/s Vardhman Yarns & Threads Ltd., Phagwara road, District Hoshiarpur is a large scale Textile Dyeing unit. It has two units namely M/s Vardhman Yarns & Threads Ltd., (Unit 1), Phagwara Road, Hoshiarpur and M/s Vardhman Yarns & Threads Ltd. (Unit 1A), (Formerly known as M/s Mahavir Spinning & Yarns), Phagwara Road, Hoshiarpur and both these units exists in the same premises.

#### **3.1.1.1 About M/s Vardhman Yarns & Threads Ltd., Phagwara Road, Hoshiarpur**

#### **M/s Vardhman Yarns & Threads Ltd., (Unit 1)**

M/s Vardhman Yarns & Threads Ltd., (Unit 1) is manufacturing Cotton/Polyester Yarn @ 10 MTD, Core Spun Yarn @ 5 MTD, Sewing Thread @ 20 MTD by using Synthetic Fibre, Cotton Yarn, Polyester Yarn, Polyester Fibre, Raw Cotton, Dyes etc. The unit has been

granted consent to operate of the Board under the Provisions of the Water Act, 1974, and under Air Act, 1981, which are valid up to 31.03.2024. The industry is generating trade effluent @ 2800 KLD and domestic effluent @ 187 KLD. The industry has one rice husk fired Boiler of capacity 8.33 TPH with cyclone separator followed by Bag house as air pollution control device (APCD). The industry has one oil fired Boiler of capacity 6 TPH. The industry has one no. waste heat recovery boiler of capacity 1.5 TPH. It has 03 D.G. sets of capacity 5000 KVA, 18 KVA and 15 KVA, which have been provided with acoustic enclosure.

### **M/s Vardhman Yarns & Threads Ltd., (Unit 1A)**

M/s Vardhman Yarns & Threads Ltd. (Unit 1A), (Formerly known as M/s Mahavir Spinning & Yarns) is engaged in the manufacturing of Gassed Mercerised Yarn @ 3.5 MTD, Specialty Synthetic Thread @ 5 MTD by using Cotton Yarn, Dyes, Soda, Lubricant etc. as raw material and chemicals. The unit has been granted consent to operate of the Board under the Provisions of Water (Prevention & Control of Pollution) Act, 1974, and under the Air (Prevention & Control of Pollution) Act, 1981, which are valid up to 31.03.2022. The industry is generating trade effluent @ 900 KLD and domestic effluent @ 20 KLD. It has two boilers of capacity 8 TPH and 1.5 TPH with trima cyclone followed by bag house as APCD. It has 02 D.G. sets of capacity 5000 KVA and 100 KVA provided with canopy.

#### **3.1.1.2 About Effluent Treatment Plant (ETP)**

For both of the above units, a common ETP has been installed in Unit 1 of capacity 4000 KLD. The ETP consists of Equalization Tank, Oil & Grease Tank, Flocculator, Primary Clarifier, Aeration Tank, Secondary Clarifier, Multi Grade Filter, Activated Carbon Filter, Dewatering Machine and Sludge Drying Bed. At the outlet of ETP, the industry has provided online effluent monitoring system for the parameters DO and pH. The treated trade effluent is discharged into M.C. Sewer. The last sample of treated effluent was collected on 24.12.2019 and as per analysis report various parameters are conforming to the standards prescribed for dyeing industries. The Stack emission sample were also collected on 24.12.2019 and concentration of SPM was found within permissible limits.

#### **3.1.1.3 Collection of effluent samples**

In order to monitor the performance of effluent treatment plant, effluent samples from the various points were collected and these were sent to PPCB laboratory at Patiala for analysis. The analysis results as received from PPCB laboratory are annexed as per **Annexure-1.**

The analysis results are also mentioned as per **Table-1** given below:

**Table-1: Analysis results of the effluent samples**

Sr. No.	Parameters	ETP collection tanks / inlet	Primary clarifier (Outlet)	Aeration Tank	Secondary Clarifier (Outlet)	Final Outlet (ETP)
1.	pH	10.0	6.7	--	7.9	8.0
2.	*Colour P-CoUnits	--	--	--	--	80
3.	TSS, mg/l	145	89	--	40	10
4.	TDS, mg/l	3040	1604	--	2070	1540
5.	COD, mg/l	820	350	--	94	48
6.	BOD, mg/l	240	105	--	25	10
7.	Ammonical Nitrogen as N, mg/l	--	--	--	--	BDL
8.	Sulphide mg/l	--	--	--	--	BDL
9.	*Sodium Absorption Ratio	--	--	--	--	10
10.	Total Chromium mg/l	--	--	--	--	BDL
11.	Phenolic Compound mg/l	--	--	--	--	BDL
12.	*Oil & Grease mg/l	--	--	--	--	BDL
13.	Mixed Liquid Suspended Solids mg/l	--	--	1970	--	--

**Discussion on the analysis results, observations & Conclusion :**

The analysis results indicate that the value of pH, TSS, TDS, COD & BOD in the untreated effluent were found to be 10, 145 mg/l, 3040 mg/l, 820 mg/l and 240 mg/l, respectively, whereas, the values of these parameters at the outlet of the primary clarifier were found as 6.7, 89 mg/l, 1604 mg/l, 350 mg/l and 105 mg/l, respectively. The value of MLSS in aeration tank was observed as 1970 mg/l. The values of the parameters at the outlet of secondary clarifier were observed as pH : 7.9, TSS : 40 mg/l, TDS : 2070 mg/l, COD : 94 mg/l and BOD : 25 mg/l. The values of the parameters at the outlet of Effluent Treatment Plant were found as pH : 8.0, Colour : 80 (P-Co Units), TSS : 10 mg/l, TDS : 1540 mg/l, COD : 48 mg/l, BOD : 10 mg/l and SAR : 10. The parameters namely Ammonical nitrogen, sulphide, total chromium, Phenolic compounds and Oil & Grease were not detected in the treated effluent at the outlet of the effluent treatment plant. The overall treatment efficiency in terms of removal of TSS, COD & BOD was observed as 93.1%, 94.14% and 95.83%, respectively.

Further, it has been observed that the values of all the parameters namely pH, TSS, TDS, COD, BOD and SAR are within the prescribed limits. The values of Ammonical Nitrogen, Sulphide, Total Chromium, Phenolic compounds and Oil & Grease were not detected. Thus, the industry is achieving the prescribed parameters.

Sd/  
**(Dr. Babu Ram)**

sd/  
**(Sant Balbir Singh Seechewal)**

sd/  
**(S.C. Agrawal)**

Sd/  
**(Justice Jasbir Singh)**  
**Former Judge Punjab & Haryana**  
**High Court now as Chairman of**  
**Monitoring Committee**

### **3.2 Minutes of the 9<sup>th</sup> meeting of Hon'ble NGT Monitoring Committee the Chairmanship of Justice Jasbir Singh, Former Judge, Punjab & Haryana High Court, held on 14.02.2020 at 11.00 AM with the State Level Officers to review the progress on implementation of Action Plans for Clean Rivers Sutlej and Beas.**

The Monitoring Committee has held its 9<sup>th</sup> meeting with State level officers on 14.2.2020 and the various issues w.r.t control of pollution in River Sutlej and River Beas were discussed. The recommendations made/directions issued by the Monitoring Committee on the various issues are mentioned as under.

#### **3.2.1 Status of Water Quality of Polluted Stretches**

- Water quality of two rivers stretches of river Beas was found meeting the desired water quality (Class-B) of CPCB/NGT.
- As per CPCB, the water quality of Sutlej river was also monitored at their level for the month of October and December, 2019 for 4 parameter i.e. BOD, DO, TC & FC. It was informed that the samples for the month of December after confluence with Budha Nallah were found to be beyond prescribed water quality standards.

#### **3.2.2 Installation of Real Time Water Quality Monitoring Stations (RTWQMS)**

- PPCB informed that the sites for installation of RTWQMS have been earmarked and action is being taken for seeking the permission of the Irrigation Department for development of structures and telephone/internet connectivity.
- PCCB was directed to ensure the installation of 11 RTWQMS by 31.03.2020.

#### **3.2.3 Status of STP Monitoring**

The Monitoring Committee was informed that non-compliance of STPs has reduced from 46% & 68% in terms of number and capacity to 21% and 24%, respectively in January, 20 in comparison to April, 19 due to effective monitoring and improvement in operating practices of STPs.

#### **3.2.4 Action taken by PPCB against non-compliant STPS**

The Monitoring Committee directed PPCB to complete the action towards 36% of pending cases of non-compliant STPs since April, 2019 by 15.03.2020.

#### **3.2.5 Status of CETP monitoring**

PPCB was directed to present the status regarding issuance of notifications on PETP standards in the next meeting of the Committee.

### **3.2.6 Action taken by PPCB against non-compliant ETPs.**

The Monitoring Committee directed PPCB to complete the action against 33% of pending cases since April, 2019 by 15.03.2020.

### **3.2.7 Installation of OCEMs in existing ETPs having discharged of > 50 KLD**

PPCB was directed to prepare technical design and issue directions to industries to install OCEMs at designated locations as per the design for their effective monitoring within a period of 1 month.

### **3.2.8 Setting up of New/ Up-gradation/ Rehabilitation of STPs**

- The State level officers were apprised about the implementation of the directions issued by NGT vide order dated 06.12.2019 in O.A. No. 673/2018 especially w.r.t. 100% treatment of sewage, in-situ remediation of drains and commissioning of STPs.
- All the concerned departments were directed to adhere to timelines provided by NGT vide order dated 06.12.19 and submit their plant for in-situ remediation.
- PWSSB informed that a proposal amounting to Rs. 1267 crore for providing sewerage system and setting up of STPs has been submitted to Govt. of India for availing funds under National Mission of Clean Ganga(NMCG). The constraint of non availability funds with MCs for O & M of STPs was also highlighted by PWSSB.

### **3.2.9 Progress of CETPs for cluster of dyeing industries of Ludhiana**

#### **✓ 15 MLD CETP for Cluster of Bahaurke Road, Ludhiana**

PPCB informed that 11 industrial units have been connected with the dedicated convenient system of the CETPs and remaining units would be connected by 29.02.20.

#### **✓ 40 MLD CETP for Dyeing Cluster of Focal Point, Ludhiana**

The Monitoring Committee directed PPCB to ensure completion of CETP by 30.04.20.

#### **✓ 50 MLD CETP for the Dyeing Cluster of Tajpur Road and Rahon Road, Ludhiana**

The Monitoring Committee directed PPCB to ensure completion of CETP by 30.06.20.

### **3.2.10 Progress of setting up of ETPs/Biogas Plants for Dairy Waste**

PEDA informed the Monitoring Committee that Haibowal Biogas Plant for Dairy Waste would operate to its full capacity within 3 months.

### **3.2.11 setting up of treatment facilities in villages**

DRDP was directed by the Monitoring Committee to take up the matter with FD through Chief Secretary to release of pending grant of Rs. 50 Cr. to set up treatment facilities in remaining villages of Phase 1 by 31.03.20.

### **3.2.12 E-flow, Septage Management, IEC activities and setting up of biodiversity parks**

The Monitoring Committee directed as under:

- DWR directed to present the data of last one year on E. Flow of river Sutlej in the next meeting.
- MCJ and MCL to present status on identification of sites for setting up of biodiversity parks in the catchment area of river Sutlej in the next meeting as decided in 8<sup>th</sup> Meeting of Committee held on 23.12.19.
- PPCB directed to analyze the sludge of STPs located in industrial towns and present the same in the next meeting.
- The Committee directed PWSSB to provide a detailed note for requirement of funds for O&M of all the STPs for taking up the matter with concerned authorities in the Government as per the following details.
  - ✓ Total O & M funds to be paid to operator of STPs for the last one year.
  - ✓ Total O & M funds paid to operator of STPs during the last one year.
- In order to attenuate foul smell and maintain aesthetic view of the area, Municipal Corporation, Ludhiana shall make plantation along Budha Nallah on its both sides within Municipal Corporation limits. However, outside the Municipal Corporation limits, the necessary plantation along Budha nallah on its both sides shall be provided by Department of Rural Development and Panchayat within 3 months.

**3.3 Report on visit to pollution sources in Holy Bein (Kali Bein) and river Sutlej by the monitoring committee constituted by the Hon'ble National Green Tribunal in O.A No. 916 of 2018 in the matter of Sobha Singh Vs State of Punjab and Others on 22.02.2020.**

**The following were present during the visit:**

1. Sant Balbir Singh Seechewal, Member, Monitoring committee
2. Dr. Babu Ram, Former Member Secretary, PPCB, Technical Expert, Monitoring Committee

The monitoring committee has visited the following sites:

**3.3.1 Sultanpur drain carrying untreated sewage of Sultanpur town, partly by passing STP based on WSP technology**

During visit, it was observed that a lot of untreated sewage alongwith treated sewage of STPs based on WSP technology was being discharged into Sultanpur drain, which is further leading to Holy Bein. Photographs showing the discharge of untreated sewage and partly treated sewage into Sultanpur drain are mentioned as per plates 1 to 3



**Plate – 1**



**Plate - 2**

**Plates 1 & 2 :** Photographs showing untreated sewage of Sultanpur town by passing to STP alongwith partly treated sewage of STP being discharged into Sultanpur drain leading to Holy Bein



**Plate-3**

**Plates 3:** Photograph showing untreated sewage of Sultanpur town by passing to STP alongwith partly treated sewage of STP being discharged into Sultanpur drain leading to Holy Bein

While walking towards STP Sultanpur Lodhi based on WSP technology, the committee observed that the concrete/missionary chamber provided to divert the sewage through pipeline to STP was broken from the bottom and lot of untreated sewage was being discharged into Sultanpur drain and flowing backward due to depression at its upstream and Katcha barrier at its downstream and causing stagnation in the drain at upstream on the other side of the bridge. The photograph showing the discharge of partly treated sewage flowing into drain and discharge of untreated sewage from the breaking point of Masonry/concrete chamber into Sultanpur drain are mentioned as per plates 4 and 5, respectively.



**Plate 4:** Photograph showing the flow of partly treated sewage and untreated sewage into Sultanpur drain leading to Holy Bein (Kali Bein)



**Plate – 5**

**Plate 5 :** Photograph showing untreated sewage of Sultanpur town from breaking point of Masonry/ concrete chamber (installed for lifting the untreated sewage to STP) being discharged into Sultanpur drain flowing backward due to depression at upstream of Sultanpur drain

### **3.3.1.1 Observations and Recommendations**

#### **Observations**

The Monitoring Committee in number of times for the last one year during its visit to the area has observed that the flow of untreated sewage either through



breaking of pipeline or chamber (provided for diversion and lifting of untreated sewage into STP) into Sultanpur drain, which is further leading to Holy Bein has become regular practice and contaminating its water quality. Thus, the monitoring committee is of the view that Department of Local Government, MC Sultanpur Lodhi and PWSSB are not serious towards the treatment of sewage of the town through STP. Moreover, the Hon'ble NGT in its order dated 06.12.2016 (uploaded on 12.12.2016) in OA No. 916 of 2018 has directed to provide in situ bio remediation system in the drains by 31.3.2020 to ensure that no untreated sewage is flowing into drains.

### **Recommendations**

- a) Therefore, the monitoring committee recommend that the Chairman, PPCB shall initiate to issue directions under the provisions of the Water Act, 1974 to the Department of Local Government/M.C. Sultanpur Lodhi to make permanent arrangements to divert the untreated sewage into STP Sultanpur Lodhi within 7 days.
- b) An Environmental Compensation of suitable amount may be imposed on Department of Local Government / MC Sultanpur Lodhi for discharging untreated sewage into Sultanpur drain leading to Holy Bein and contaminating its water quality and damaging the environment.

### **3.3.2 Visit to East Bein, river Sutlej at upstream of Gidderpindi , railway bridge and seepage of river Sutlej**

The monitoring committee noted the water quality of East Bein falling into river Sutlej at Gidderpindi (District Jalandhar) and it was observed that the quality of water of East Bein was quite black containing organic and inorganic matter. The photograph showing water quality of East Bein is mentioned as per Plate 6



**Plate 6 : Photograph showing black colored effluent flowing into East Bein falling into river Sutlej**

The monitoring committee also visited the stretch of river Sutlej at upstream of Gidderpindi railway bridge and it was observed that the water quality of river Sutlej was slightly black in color, which indicates that water of river Sutlej at this point seems to contain high values of BOD, COD, TSS and inorganic parameters. In order to ascertain the water quality of river Sutlej at this location, water samples of river Sutlej and seepage were collected by AEE, Regional Office, PPCB, Jalandhar and the same have been sent to PPCB lab for analysis. The photographs showing slightly black coloured water flowing into river Sutlej and seepage are mentioned at Plates 7 to 9



**Plate 7:** Photograph showing slightly black colored water of river Sutlej at upstream of Gidderpindi railway bridge



**Plate 8:** Photograph showing the team collecting water sample of river Sutlej upstream of Gidderpindi railway bridge



**Plate 9: Photograph showing the team collecting water sample of seepage of river Sutlej occurred due to extraction of sand / silt of river Sutlej for construction of Dhusi band.**

### **3.3.2.1 Observations and Recommendations**

#### **Observations**

The monitoring committee has observed that the water quality of river Sutlej after the mixing of East Bein effluent has been deteriorated and it indicates that no efforts have been made to install all the STPs to treat the whole of the sewage of the towns falling in the catchment areas of East Bein and Kala singhia drain. Moreover, no steps have been taken to treat the dairy effluent.

#### **Recommendations**

The Monitoring Committee recommends that the matter regarding contaminated water flowing into East Bein and further leading to river Sutlej may be taken up in the next meeting at State level and the concerned departments be directed to bring the action taken report on the installation of STPs, treatment of dairy effluent and performance of ETPs of the industries falling in the catchment areas of East Bein, Kala singhia drain and Ghara drain. These Departments be directed to present their status report through photographs and PowerPoint presentation.

sd/  
**Dr. Babu Ram**

sd/  
**Sant Babir Singh Seechewal**

### **3.4 Visit to the pollution sources in District Moga falling in the catchment area of river Sutlej on 27.02.2020.**

The Monitoring Committee has held its meeting with Districts level Officers w.r.t management of solid waste of District Moga on 27.02.2020 and after detailed deliberation on the various issues w.r.t management of solid waste, the Monitoring Committee has made certain directions/recommendations, which have been conveyed separately to all the concerned officers while conveying the minutes of the meeting. During the meeting, the Monitoring Committee was apprised of the status of STPs of District Moga as under.

### 3.4.1 Status of Sewage Treatment Plants in District Moga

The Monitoring Committee was informed that there are 07 towns namely Moga, Baghapurana, Nihal Singh Wala, Dharamkot, Badhni Kalan, Kot Ise Khan and Fatehgarh Panjtoor exist in District Moga. Status of STPs for these towns is as under:

Sr. No	Name of Town	STP commissioned year	Status	Installed Capacity (MLD)	Actual utilization Capacity (MLD)	Technology	Agency	
1	4	3	4	5	6	7	8	
1	Moga	Jan-14	Operational	27	27	SBR	PWSSB	
2	Dharamkot	2018	Operational	4	3.0	SBR	PWSSB	
3	Bagha Purana	STP of capacity 3.4 MLD installed but not commissioned yet						DWSS
4	Nihal Singh wala	No Sewerage exist, funds not tied up						
5	Badhni Kalan	No Sewerage exist, funds not tied up						
6	Kot Ise Khan	No Sewerage exist, funds not tied up						
7	Fatehgarh Panchtoor	No Sewerage exist, funds not tied up						

### 3.4.2 Treatment of sewage / sullage of rural areas of District Moga

The Executive Engineer, Department of Rural Development & Panchayat informed that the 14 villages have been selected in phase-I for treatment of their sewage of these villages. The estimate cost of treatment of sewage of these villages was Rs. 4.64 Crore. However, no funds have been released by the Department. The village panchayats of the following villages have constructed two or three pond system with their own funds and in-convergence with MGNREGA :

- (i) Ransih Kalan, Block Nihal Singh Wala
- (ii) Chand Nawan, Block Moga-II
- (iii) Rode, Block Baghapurana
- (iv) Mado ke, Block Moga-I
- (v) Kokri Vehniwal, Block Kot Ise Khan
- (vi) Chotian Khurd, Block Moga-II

He further appraised that the pond system for these villages is in operation. The treated sewage of these villages is partly utilized for irrigation. One of the photograph shown during the presentation given by him is mentioned as under:



Photograph showing the four-pond system provided to treat sewage of village Chand Nawan

After detailed discussion, the Chairperson directed that the Principal Secretary, Govt. of Punjab, Department of Rural Development & Panchayat shall take up the matter with Finance Dept. of State of Punjab for early release of funds for installation of treatment system for the treatment of village discharges as presently, the sewage / sullage of various villages alongwith villages of Moga district is being discharged into drains leading to River Sutlej.

### 3.4.3 Visit to Sewage Treatment Plant of capacity 27 MLD, Moga by the Monitoring Committee on 27.02.2020

The Monitoring Committee visited STP of capacity 27 MLD, which is based on SBR technology on 27.02.2020. During visit, the Monitoring Committee has made the following observations:

- (a) STP consisting of components namely collection tank, screen chamber, grit chamber, aeration chamber (4 nos.), chlorine contact tank and centrifugal system, was in operation. The photographs showing the filling and aeration in aeration chamber (SBR basin) and decanting process in other SBR basin are shown as under:



**Photographs showing the filling and aeration in aeration chamber (SBR basin) and decanting process in other SBR basin**

- (b) Centrifugal system was made operation on the day of visit only to show its functioning, whereas, it is malfunctioning and sludge in liquid form was being extracted and no de-watering of the sludge was being carried out. The photograph showing the malfunctioning of centrifugal system is mentioned



**Photographs showing malfunctioning of centrifugal system extracting sludge in liquid form without de-watering**



**Photographs showing malfunctioning of centrifugal system extracting sludge in liquid form without de-watering**

(c) The sludge in liquid form was found thrown in an open area adjoining to the STP, which indicated that the centrifugal system is lying defunct. The photographs showing the liquid sludge lying in the STP premises are mentioned as under:



**Photographs showing sludge in liquid form thrown at various locations within the premises of the STP**



**Photographs showing sludge in liquid form thrown at various locations within the premises of the STP**

(d) The sludge was also found thrown near the sludge collection tank meant for de-watering in the centrifugal system. The photographs showing the sludge found thrown near the sludge collection tank are mentioned as under



(e) During visit, the Monitoring Committee collected the effluent sample from the following points:

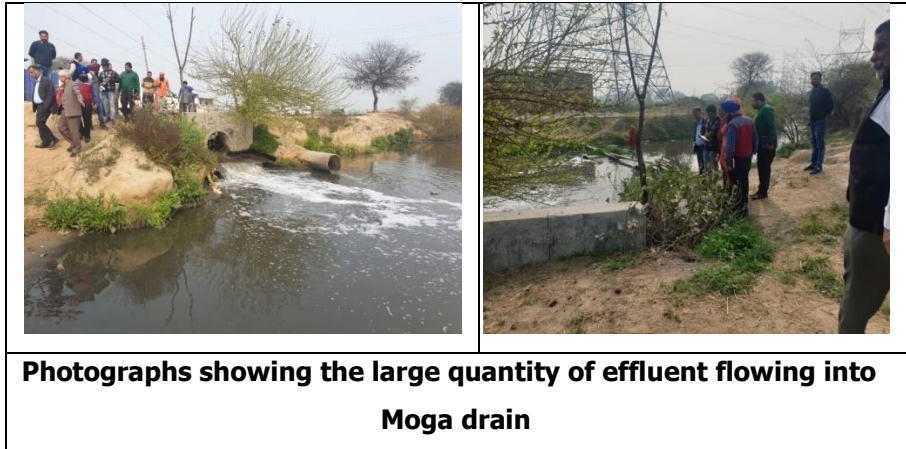
- (i) Inlet to STP
- (ii) Aeration chamber for MLSS / MLVSS
- (iii) Outlet of STP

These samples have been sent to PPCB laboratory at Patiala for analysis. The report based on the analysis results shall be submitted separately after the receipt of the analysis results.

(f) The Monitoring Committee also visited the discharge point of STP Moga into Moga drain backside Cambridge School along Moga-Kotkapura Road. At this point, two outlets were found falling into Moga drain. Officers of PWSSB informed that these outlets contain the same effluent in distribution form. In the drain, lot of effluent was found flowing, even at the upstream of these outlets. It was claimed that the sewage of some big villages of District Moga and Ludhiana is also discharged into the drain upstream of the discharge point. During visit, the effluent sample from the following points were also collected for analysis:

- (i) Moga drain upstream of outlets of the STP
- (ii) Moga drain downstream of outlets of the STP
- (iii) From outlet / discharge point of STP into Moga drain

The photographs showing the large quantity of effluent flowing into Moga drain are as under:



**Photographs showing the large quantity of effluent flowing into Moga drain**

These samples have been sent to PPCB laboratory at Patiala for analysis. The report based on the analysis results shall be submitted separately after the receipt of the analysis results.

#### **3.4.4 Visit to M/s Kathpal Dairies (Unit-II), Village Kokri Phoola Singh, District Moga**

The Monitoring Committee reached at the gate of M/s Kathpal Dairies (Unit-II), Village Kokri Phoola Singh, District Moga and it was observed that the security person were available at the gate but they did not open the gate and the same was locked from inside. The officers of PPCB tried to contact the owner of the industry telephonically but the owner did not pick up the phone. The Committee stayed in front of the gate of the industry for about 15 minutes but the gate was not opened by the security guard. These facts indicate that the industry has deliberately locked its gate to avoid the visit of the Committee. The photographs showing the members of the Monitoring Committee waiting for opening of the gate are shown as under:



**Photographs showing the members of the Monitoring Committee waiting for opening of the gate**

After about 15 minutes, the Monitoring Committee decided to go back without visiting the industry but while returning from the industry it was observed that the industry was discharging its effluent into nearby drain through pipeline, which indicates that the industry was in operation and it



has deliberately locked its door to avoid the visit of the Committee. The effluent sample from the discharge point of pipeline of the industry was also collected and the same has been sent to PPCB Laboratory, Patiala for analysis.

#### **3.4.4.1 Recommendations:**

The Monitoring Committee has made the following recommendations

- 1) Punjab Water Supply & Sewerage Board shall install and commission sewerage system and STP for the towns Nagar Panchayat Nihal Singh Wala, Nagar Panchayat Badhni Kalan, Nagar Panchayat Kot Ise Khan and Nagar Panchayat Fatehgarh Panjtoor by 31.03.2021. The Dept. Of Local Govt. shall provide necessary funds and adequate land area for installation of STPs including laying of sewerage system in the above said towns by 31.03.2020. In the meantime, ULBs shall provide in-situ bio remediation in the drains by 31.03.2020.
- 2) The Municipal Corporation Moga shall provide funds for regular operation & maintenance of 27 MLD STP Moga for the period 2019-2020 and 2020-21 by 15.03.2020.
- 3) Punjab Water Supply & Sewerage Board shall repair / improve the functioning of centrifugal system installed with 27 MLD STP, within 15 days.
- 4) The sludge in liquid form lying thrown within the premises of the STP shall be lifted within 15 days and the same shall be disposed off in scientific manner.
- 5) Punjab Water Supply & Sewerage Board shall remove the weed and wild grass grown within the STP premises within 10 days.
- 6) Municipal Corporation, Moga shall regulate the supply of tubewells to the residents of Moga town in such a way that per capita should not increase 150 LPD so that the capacity of existing STP may be sufficient to handle the wastewater discharge of the town.
- 7) All the ULBs of District Moga shall provide roof of adequate height on the compost pits constructed / to be constructed by 31.03.2020.
- 8) Punjab Pollution Control Board shall finalize the technology for installation of treatment facility to treat the sewage of the rural areas, within 15 days.
- 9) The Dept. of Rural Development & Panchayat shall provide treatment facility to treat the sewage of rural area by 30.06.2020.
- 10) The Chairman, Punjab Pollution Control Board shall issue the following directions under the provisions of the Water Act, 1974 :
  - To issue closure orders to the industry for deliberately locking its industry to avoid the visit of the Committee.



technology (MBBR) has been provided. The Monitoring Committee is of the view that PPCB and PSSSB shall jointly check the functioning of various components including aeration chamber of STP and accordingly PWSSB shall take necessary steps to further improve the performance of STP. During visit, effluent samples from the following points have also been collected.

- (i) Inlet to STP
- (ii) Outlet of STP

These effluent samples have been sent to PPCB, lab, Patiala for analysis and separate report shall be submitted accordingly.

While visiting the final outlet of the STP, it was observed that a big pond exists near final outlet which was found containing huge quantity of effluent. The Monitoring Committee was informed that in order to utilize the treated sewage, irrigation network has been laid and the treated sewage is utilized only during demand period but the effluent is accumulated in the existing pond during no demand period. Photograph showing the effluent accumulated in the pond is as per plate 3.



**Plates-3: Photograph showing final outlet of STP and effluent accumulated in the pond**

### **3.5.1 Recommendations**

The Monitoring Committee recommends that PWSSB in consultation with Municipal Councils Mansa shall explore various options available for utilization of treated sewage i.e. construction activity, road cleaning, vehicle washing, green belt, public toilets for flushing in 15 days and utilize the treated sewage according so that the pond may be emptied.

### **3.6 Visit to the hospital namely M/s Muktsar Medicity Hospital, Bathinda Road, Sri Muktsar Sahib by Monitoring Committee on 17.03.2020:**

The Monitoring Committee has held its meeting with Districts level Officers w.r.t management of solid waste of District Sri Mukatsar Sahib on 17.03.2020 and after detailed deliberation on the various issues w.r.t management of solid waste, the Monitoring Committee has made certain directions/recommendations, which have been conveyed separately to all the concerned officers while conveying the minutes of the meeting. After the meeting, the Monitoring Committee has visited the pollution source in the catchment area of river Sutlej as under.

The Monitoring Committee in the presence of Officers of Punjab Pollution Control Board ( Sh. Tajinder Kumar, Senior Environmental Engineer, Sh. Vijay Gupta, Environmental Engineer and Sh. Ravi Pal, Asstt. Environmental Engineer) visited the hospital namely M/s Muktsar Medicity Hospital, Bathinda Road, Sri Muktsar Sahib on 17.03.2020. During visit, the following observations were made:

#### **3.6.1 Observations**

1. For the treatment of hospital wastewater and sewage of the hospital, an effluent treatment plant consisting of Collection Tank → Oil & Grease trap → MBBR → Tube Settler → Multigrade Filter → Carbon Filter and Sludge Drying Beds have been provided.
2. During the visit, ETP cum STP was not in operation. The representative of the hospital claimed that ETP is operated in batch mode. The physical condition of the ETP indicated that it has not been operated for the last few days. No sludge was found in small sludge drying beds. However, the representative of the hospital claimed that treatment to infectious wastewater is done at site i.e at wash basin before its discharge into drainage system. The operational status of ETP was checked at site and it was found that the ETP was in operationable condition.
3. The Committee observed that normally the hospital waste water is infectious and toxic in nature and therefore it requires physico-chemical treatment before treating the wastewater in the biological system. Therefore, ETP requires upgradation/modification to achieve the prescribed standards.

#### **3.6.2 Recommendations:**

In view of the above, the Monitoring Committee has made the following recommendations:

1. Since from the physical appearance of ETP, it was observed by the Committee that ETP was not operated from the last few days and no sludge was found in sludge lying beds. Therefore, the Monitoring Committee recommends that Environmental compensation amounting to Rs.2 lakh may be imposed by PPCB. The Chairman, PPCB shall issue necessary directions to the Hospital authorities under the provision of the Water Act, 1974 and Bio Medical Waste Management Rules, 2016.

2. The hospital authorities shall upgrade/modify its effluent treatment plant by adding requisite components for treatment of infectious/toxic wastewater by 31.05.2020.
3. The hospital authorities shall provide sludge drying beds of adequate size by 30.04.2020 to ensure that the sludge is dried and lifted before the treatment of next batch of wastewater.
4. The hospital authorities shall provide electromagnetic flow meter (EMF) at inlet and outlet of effluent treatment plant by 30.04.2020.
5. The dried sludge, which is hazardous in nature, may be sent to TSDF, Nimbuan.
6. The Environmental Engineer, Regional Office, Bathinda shall monitor the performance of the ETP of the hospital by 15.05.2020. In case, the performance of ETP of the hospital is found unsatisfactory and not meeting with the prescribed parameters, as mentioned in the Bio Medical Waste (Management) Rules, 2016, Environmental Compensation of suitable amount may be imposed on the hospital authorities alongwith revocation of consent under Water Act, 1974 and authorization under Bio Medical Waste (Management) Rules, 2016.
7. The hospital authorities shall maintain proper record w.r.t day of operation of ETP, operational hours, quantity of chemicals/nutrient used during treatment, units of electricity consumed, name of the persons deployed for treatment, quantity of effluent treated and dispose off.

**Sd/  
(Dr. Babu Ram)**

**Sd/  
(S.C. Agrawal)  
Former Chief Secretary, Punjab  
Now as Senior Member, Monitoring Committee  
Constituted by Hon'ble NGT**

**3.7 The current status of performance of existing sewage treatment plants, construction of new sewage treatment plants, upgradation and capacity enhancement of existing sewage treatment plants, status of the towns where funds have not been tied up so far, gaps in quantity of sewage to be treated, utilization of treated sewage for irrigation, treatment of sewage of villages, water quality of drains / Nallahs/ rivers, environment flow, septage and fecal sludge management.**

The performance of existing sewage treatment plants, status of construction of new STPs, status of construction of STPs where work has not been started so far due to financial non-availability and / or land issue, upgradation and enhancement of capacity of existing STPs, gap in sewage treatment, treatment of sewage / sullage from rural areas, utilization of treated sewage for irrigation, status of irrigation schemes as on 31.03.2020 to utilize the treated sewage for irrigation are submitted as under:

### 3.7.1 River Sutlej

#### 3.7.1.1 Performance of existing sewage treatment plants (STPs)

Sr.no	Name of STP	Capacity (MLD)	October to December 2019 (Average)			January, 2020 to March, 2020			Improvement w.r.t parameters BOD, TSS and F.coli.
			Parameters			Parameters			
			BOD (mg/l)	TSS (mg/l)	F-Coli (MPN/100 ml)	BOD (mg/l)	TSS (mg/l)	F-Coli (MPN/100 ml)	
1	Goniana	3	35	39	1667	44	42	3200	Not meeting with BOD and F.Coli parameters
2	Malout*	3	63	61	26000	45	78	8167	Not meeting with the standards of BOD, TSS and F.Coli
3	Malout*	10	18	32	993	126	285	70613	Not within the standards for BOD, TSS and F.coli
4	Muktsar	8.7	156	208	117667	115	144	38667	Not meeting with the standards of BOD, TSS and F.Coli
5	Muktsar	5.7	127	159	133333	107	154	39333	Not meeting with the standards of BOD, TSS and F.Coli
6	Muktsar	3.5	0	0	0	0	0	0	No analysis done
7	Abohar	25	8	10	547	26	31	3377	BOD and TSS parameters within the prescribed norms
8	Dharamkot	4	11	12	690	11	10	727	BOD, TSS and F.coli parameters are meeting with norms
9	Makhu	4	13	14	693	11	11	590	BOD, TSS and F.coli parameters are meeting with norms
10	Moga	27	11	12	710	14	14	820	BOD, TSS and F.coli parameters are meeting with norms
11	Talwandi Bhai	4	12	14	700	13	10	797	BOD, TSS and F.coli parameters are meeting with norms
12	Zira	8	12	14	793	14	14	713	BOD, TSS and F.coli parameters are meeting with norms
13	Jalalabad	8	45	54	2500	61	53	6670	Not meeting with BOD and F.Coli parameters
14	Banga	3	10	18	613	10	13	683	BOD, TSS and F.coli parameters are within the norms
15	Hoshiarpur	30	18	26	593	36	173	715	BOD, TSS and F.coli parameters are within the norms norms
16	NawanShahar	6	9	16	523	13	14	593	BOD, TSS and F.coli parameters are within the norms

17	Jalandhar	100	25	35	2967	25	33	1343	Not meeting with F.Coli parameter
18	Jalandhar (Jaitewali)	25	10	19	580	12	18	777	BOD, TSS and F.coli parameters are within the norms
19	Jalandhar (Bambianwali)	10	7	15	733	13	15	933	BOD, TSS and F.coli parameters are within the norms
20	Jalandhar (Pholriwal, Gridhari Lal)	25	11	13	807	17	13	703	BOD, TSS and F.coli parameters are within the norms
21	Jalandhar (Pholriwal- Eco Chem)	25	11	12	793	11	9	653	BOD, TSS and F.coli parameters are within the norms
22	Jalandhar (Pir Dad)	50	28	38	910	38	80	1433	Not meeting with BOD and F.Coli parameters
23	Nakodar*	6	12	22	950	20	25	820	BOD, TSS and F.coli parameters are within the norms
24	Phagwara (North)	20	16	12	953	30	28	1317	Not meeting with F.Coli parameter
25	PhagwaraHadiba d	8	14	28	693	18	24	670	BOD, TSS and F.coli parameters are within the norms
26	PhagwaraPalahi Road	8	18	15	820	25	23	983	BOD, TSS and F.coli parameters are within the norms
27	Phillaur	2.6	33	51	3467	35	35	1640	Not meeting with BOD and F.Coli parameters
28	Phillaur (Tallan Road)	3	10	16	913	19	26	887	BOD, TSS and F.coli parameters are within the norms
29	Machhiwara	4	17	24	5735	#DIV/0!	#DIV/0!	#####	No data made available
30	Sahnewal	7	13	17	236	12	23	466	BOD, TSS and F.coli parameters are within the norms
31	Jagraon	16	29	42	9777	20	33	534073	Not meeting with F.Coli parameter.
32	Jagraon	12	12	16	917	18	23	4593	Not meeting with F.Coli parameter.
33	Ludhiana (Balloke)	152	50	56	215460	39	101	1101	Not meeting with BOD, TSS and F.Coli parametrs
34	Ludhiana (Balloke)	105	19	32	1595	22	97	860	BOD, TSS and F.coli parameters are within the prescribed norms
35	Ludhiana (Bhattian)	111	54	112	45567	70	145	1E+06	BOD ,TSS and F.coli not within the norms
36	Ludhiana (Bhattian)	50	20	20	351	22	29	915	BOD, TSS and F.coli parameters are within the prescribed norms

37	Ludhiana (Jamalpur)	48	133	163	65667	233	285	323333	Not meeting with BOD, TSS and F.Coli parametrs
38	Nangal	8	21	17	910	16	10	553	BOD, TSS and F.coli parameters are within the prescribed norms
39	Nangal*	6.7	12	15	933	21	22	638	BOD, TSS and F.coli parameters are within the prescribed norms
40	Badihaveli, Ropar	10	21	17	7507	9	9	703	BOD, TSS and F.coli parameters are within the prescribed norms
41	Anandpur Sahib	8	11	14	1363	16	16	817	BOD, TSS and F.coli parameters are within the prescribed norms
42	Kurali	5	23	12	4740	8	8	610	BOD, TSS and F.coli parameters are within the prescribed norms
43	Burari (Nangal)	5	9	11	663	8	8	593	BOD, TSS and F.coli parameters are within the prescribed norms
44	Sadabarat	2	9	12	695	7	9	713	BOD, TSS and F.coli parameters are within the prescribed norms
45	Rasoolpur (Ropar)	2.5	10	10	690	8	8	483	BOD, TSS and F.coli parameters are within the prescribed norms
46	East JalandharCantt-I	3	46	60	955	36	46	3783	Not meeting with BOD and F.Coli parameters
47	East JalandharCantt-II	3	0	0	0	45	75	2580	Not meeting with BOD and F.Coli parameters
48	East JalandharCantt-III	0.4	0	0	0	41	72	1690	Not meeting with BOD and F.Coli parametrs
49	West Jalandhar Cantt- I	1.5	40	49	1300	16	22	550	BOD, TSS and F.coli parameters are within the prescribed norms
50	West Jalandhar Cantt- II	1.5	28	41	1515	19	20	810	BOD, TSS and F.coli parameters are within the prescribed norms

**The above data indicate that out of 50 STPs, 31 STPs (62%) are complying with all the norms w.r.t BOD, TSS and F.Coli parameters. 06 STPs are not meeting with standards for BOD, TSS and F.Coli parameters, out of which STP Jamalpur, Ludhiana is lying defunct for Municipal Corporation, Ludhiana has been directed upgrade/rehabilitate the same by 31.03.2021. 07 STPS are not meeting BOD and F.Coli parameters. 04 STPs are not meeting with F.Coli parameter. No analysis carried out in the case of 02 STPs.**



### 3.7.1.2 Status of existing sewage treatment plants installed for the towns

Sr. No	Name of STP	Installed Capacity (MLD)
1.	Goniana	3
2.	Jalalabad	8
3.	Abohar	25
4.	Makhu	4
5.	Talwandi Bhai	4
6.	Zira	8
7.	Hoshiarpur	30
8.	Jalandhar	100
9.	Jalandhar (Pholriwal-I)	25
10.	Jalandhar (Pir Dad)	50
11.	Jalandhar	25
12.	Jalandhar (Jaitewali)	25
13.	Jalandhar (Bambianwali)	10
14.	Nakodar	6
15.	Phillaur (South)	2.6
16.	Phillaur (South)	3
17.	Phagwara (North)	20
18.	Phagwara (South)	8
19.	Phagwara (North)	8
20.	Jagraon	16
21.	Jagraon	12
22.	Ludhiana (Balloke)	152
23.	Ludhiana (Bhattian)	111
24.	Ludhiana (Jamalpur)	48 (Abandoned)
25.	Ludhiana (Bhattian)	50
26.	Ludhiana (Balloke)	105
27.	Machhiwara	4
28.	Sahneal	7
29.	Moga	27
30.	Dharamkot	4
31.	Bagha Purana (DWSS)	3.8
32.	Shri Mukatar Sahib (DWSS)	8.7
33.	Shri Mukatar Sahib (DWSS)	5.7
34.	Shri Mukatar Sahib (DWSS)	3.5
35.	Malout	3

36.	Malout	10
37.	Banga	3
38.	Nawanshahar	6
39.	Morinda (us)	5.5
40.	Nangal	8
41.	Nangal	5
42.	Anandpur Sahib (DWSS)	8
43.	Ropar	10
44.	Ropar	2.5
45.	Ropar	2
46.	Kurali (GMADA)	5
47.	Jaito (Under Stabilisation)	6
48.	Ferozepur (Under Stabilisation)	18
<b>Total</b>		<b>1014.3</b>

### 3.7.1.3 Status of STPs under construction

Sr. No	Name of the town	STP Capacity (MLD)	Target date of completion /commissioning	% Work done	
				Current Status as on 31.12.2019 (% work done)	Current Status as on 31.03.2019 (% work done)
1.	Guru Har Shai	4	31.12.2020	5	15
2.	Guru Har Shai	1	31.12.2020	7	12
3.	Kotkapura	8	30.06.2020	80	85
4.	Kotkapura	6	30.06.2020	79	84
5.	Gidderbaha	7	31.01.2020	Completed electric connection under progress	Under stabilization
<b>Total</b>		<b>26</b>			

**As per the data under construction, STP Kotkapura has been construction upto 85% and it should be commissioned by 31.08.2020 and STP Gidderbaha is under stabilization and the same should be commissioned by 30.06.2020. Remaining STPs of Guru Sahai of capacity 4 MLD and 1 MLD should be completed and commissioned by 31.12.2020.**

### 3.7.1.4 Status of STPs under planning and funds tied up

Sr. No	Name of the town	STP Capacity (MLD)	Target date of completion /commissioning	Current Status as on 31.12.2019	Current Status as on 31.03.2019
1.	Balachaur	4	03.11.2020	Tender called. To be opened on 23.01.2020	Tender called several times but not received. Now

					shall be re-called after lockdown
2.	Gharshankar	3	03.11.2020	Tender called. To be opened on 23.01.2020	Tender called several times but not received. Now shall be re-called after lockdown
3.	Maluka	1	31.12.2020	Revised DNIT under approval	Revised DNIT under approval
4.	Rahon	3	03.11.2020	Tender called. To be opened on 23.01.2020	Tender called several times but not received. Now shall be re-called after lockdown
5.	Faridkot	14	Land issue to be resolved	For STP land-Price fixation has been done on dated 29.06.2019 & approval of LGM received on 30.12.2019. Land required for approach to STP- compulsory Land acquisition being pursued by DC, Faridkot. Notification for SIA done by PSLG office on 29.08.2019. Payment done for SIA. SIA started.	For STP land-Price fixation has been done on dated 29.06.2019 & Approval of LGM received on 30.12.2019. Land required for approach to STP- Compulsory Land acquisition being pursued by DC, Faridkot. Notification for SIA done by PSLG office on 29.08.2019. Payment done for SIA. SIA started.
6.	Patti	8	Land issue to be resolved	Land acquisition process started. Advertisement given in 2 Nos. newspapers by Executive Officer, Patti on 9.7.2019. No application received. Advertisement to be given again.	Land acquisition process started. Advertisement given in 2 Nos. newspapers by Executive Officer, Patti on 9.7.2019. No application received. Advertisement to be given again.
7.	Jalandhar (Pholriwal-I)	50	31.12.2021	DPR under preparation. Funds tied up in AMRUT and Smart City Scheme, State share yet to be arranged.	Tender under process
8	Jalandhar (Pir Dad)	25	31.12.2021	DPR under preparation. Funds tied up in AMRUT and Smart City Scheme, State	DPR/DNIT under preparation

				share yet to be arranged.	
9	Ludhiana (Balloke)	50	31.12.2021	Tender called. To be opened on 23.01.2020	Tender called. To be opened on 16.04.2020. Now shall be re-called after lockdown
10	Raikot	7	30.10.2020	Tender called. To be opened on 22.01.2020	Tender called several times but not received. Now shall be re-called after lockdown
11	Ferozepur	1	Land issue	Land not available. Case for arrangement of funds for land has been set by MC, Ferozepur to DLG	Land identified. NOC for land is received from Ministry of Defense. Funds to be arranged by ULB for land as per AMRUT guidelines
12	Sir Mukatsar Sahib (DWSS)	10	-	Funds tied up in AMRUT. DNIT approval under process	
13	Nawanshahar	4	30.09.2022	-	DNIT under preparation
14	Kiratpur Sahib	2	30.09.2021	Revised DNIT under approval.	Revised DNIT under approval.
15	Bhagta Bhaika	3	30.06.2022	Sewerage system do not exist and funds not tied up. Case sent to Government of Punjab for arrangement of funds.	Sewerage system does not exist. DNIT under preparation
16	Bhai Roopa	4	30.06.2022	Sewerage system does not exist and funds not tied up. Case sent to Government of Punjab for arrangement of funds.	Sewerage system does not exist. DNIT under preparation
17	Kotha Guru	3	30.06.2022	Sewerage system does not exist and funds not tied up. Case sent to Government of Punjab for arrangement of funds.	Sewerage system does not exist. DNIT under preparation
18	Arniwala	2	30.06.2022	Funds not tied up. Case sent to Government of Punjab for arrangement of funds.	Funds not tied up. Funds are being arranged
19	Mallan Wala	3	30.06.2022	Sewerage system does	Sewerage system does not exist.

				not exist and funds not tied up. Case sent to Government of Punjab for arrangement of funds.	DNIT under preparation
20	Mamdot	3	30.06.2022	Sewerage system does not exist and funds not tied up. Case sent to Government of Punjab for arrangement of funds.	Sewerage system does not exist. DNIT under preparation
21	Mudki	3	30.06.2022	Sewerage system does not exist and funds not tied up. Case sent to Government of Punjab for arrangement of funds.	Sewerage system does not exist. DNIT under preparation
22	Mahilpur	2	30.06.2022	Sewerage system does not exist and funds not tied up. Case sent to Government of Punjab for arrangement of funds.	Sewerage system does not exist. DNIT under preparation
23	Nihal Singh Wala	3	30.06.2022	Sewerage system does not exist and funds not tied up. Case sent to Government of Punjab for arrangement of funds.	Sewerage system does not exist. DNIT under preparation
24	Barriwala	2	30.06.2022	Sewerage system does not exist and funds not tied up. Case sent to Government of Punjab for arrangement of funds.	Sewerage system does not exist. DNIT under preparation

**The above data indicate that 24 STPs are under planning and funds have been tied up in case of 23 STPs. In case of 13 STPs, DNIT are under preparation. In case of 06 STPs, tenders are under process. Land issues are involved in the cases of 03 STPs and funds have not been tied up in case of 01 town (Arniwala: 2 MLD).**

- **The Monitoring Committee recommends that these 24 STPs should be completed by 31.3.2021**

### **3.7.1.5 STPs which require technologically up-gradation and funds tied up**

<b>Sr. No</b>	<b>Name of the town</b>	<b>Present capacity of STP (MLD)</b>	<b>Capacity to be upgraded technologically</b>	<b>Target date for completion/ commissioning</b>	<b>Current status as on 31.12.2019</b>	<b>Current status as on 31.12.2019</b>
1	Jalandhar (1 STP)	100	100	No target date given	DPR under preparation. Funds tied up in AMRUT and Smart City Scheme, State share yet to be arranged.	DPR under preparation. Funds tied up in AMRUT and Smart City Scheme, State share yet to be arranged.
2	Ludhiana (5 no. STPs)	466	643	30 months after allotment.	Tender called. To be open on 23.01.2020	Tender called, to be opened on 16.04.2020. Now shall be re-called after lockdown
3	Phillaur	2.6	2.6	30.06.2022	-	Reply of Observation raised by tech. advisor sent.
4	Mallout	3	3	30.06.2022	-	DNIT under preparation
5	Goniana	3	3	30.06.2022	-	DNIT under preparation

- **For 100 MLD STP of Jalandhar town, DPR has been prepared and funds are available**
- **Tenders have been invited for upgradation of 466 MLD STPs of Ludhiana**
- **Proposal for upgradation of 2.6 MLD STP of Phillaur area is under consideration.**
- **DNIT for 3 MLD STP of Malout and 3 MLD STP for Goniana are under preparation.**

**The Monitoring Committee recommends that upgradation work of STPs of capacity 100 MLD of Jalandhar Town, 466 MLD STPs of Ludhiana area, 2.6 MLD STP of Phillaur town, 3 MLD STP of Malout and 3 MLD STP of Goniana should be upgraded by concerned Municipal Corporation Jalandhar & Ludhiana and by the department of Local Govt. by 31.03.2021.**

### 3.7.1.6 Gaps in treatment of sewage of the towns located on river Sutlej

Sr. No	Name of the Town	Total Discharge (MLD)	Present Capacity of STP (MLD)	Gap in sewage quantity to be treated (MLD)
1	Bhagta Bhaika	3	0	3
2	Bhai Roopa	4	0	4
3	Goniana	3	3	0
4	Kotha Guru	3	0	3
5	Maluka	1	0	1
6	Faridkot	14	0	14
7	Jaito	6	6	0
8	Kotkapura	14	8	0
			6	
9	Arinwala	2	0	2
10	Jalalabad	8	8	0
11	Abohar	25	25	0
12	Ferozepur	19	18	1
13	Guru Harshahai	5	4	0
			1	
14	Makhu	4	4	0
15	Mallan Wala	3	0	3
16	Mamdot	3	0	3
17	Mudki	3	0	3
18	Talwandi Bhai	4	4	0
19`	Zira	8	8	0
20	Hoshiarpur	30	30	0
21	Garhshankar	3	0	3
22	Mahilpur	2	0	2
23	Jalandhar	310	100	75
			25	
			50	
			25	
			25	
			10	
24	Nakodar	6	6	0
25	Phillaur (South)	5.6	2.6	0
			3	
26	Phagwara	36	20	0
			8	
			8	
27	Jagraon	28	16	0
			12	
28	Ludhiana	693	152	227
			111	
			48	
			50	
			105	
29	Machhiwara	4	4	0
30	Raikot	7	0	7
31	Sahnewal	7	7	0
32	Moga	27	27	0
33	Dharamkot	4	4	0
34	Bagha Purana	3.8	3.8	0
35	Nihal Singh Wala	3	0	3
36	Barriwala	2	0	2
37	Gidderbaha	7	7	0
38	Shri Mukatsar Sahib (DWSS)	27.9	8.7	10
			5.7	
			3.5	

39	Molout	13	3	0
			10	
40	Balachaur	4		4
41	Banga	3	3	0
42	Nawanshahar	10	6	4
43	Rahon	3	0	3
44	Kiratpur Sahib	2.0	0.0	2
45	Morinda	5.5	5.5	0
46	Nangal	13.0	8.0	0
			5.0	
47	Anandpur Sahib (DWSS)	8.0	8.0	0
48	Ropar	14.5	10.0	0
			2.5	
			2.0	
49	Kurali (GMADA)	5.0	5.0	0
50	Patti	8	0	8
	<b>Total</b>	<b>1427.3</b>	<b>1040.30</b>	<b>387</b>

**There is gap of 387 MLD, which is to be treated by providing New STPs. These STPs are under planning and funds have been made available except of Arniwala town STP of capacity 2 MLD. The details of these STPs The data w.r.t gap in treatment of sewage, as submitted by Punjab Water Supply and Sewerage Board, indicate have been mentioned at point No.3.7.1.4.**

- **The Monitoring Committee recommends that these 24 STPs to treat the gap of 387 MLD sewage should be completed by 31.3.2020**

### **3.7.1.7 Utilization of treated wastewater from STPs for irrigation**

#### **A) Towns/STPs where Irrigation Projects are commissioned**

<b>S. No.</b>	<b>Name of STP/Town</b>	<b>District</b>	<b>Capacity of STP (MLD)</b>	<b>Command Area (ha)</b>	<b>Date of Start of Project</b>	<b>Current Status as on 31.03.2020</b>
1	Phagwara-I	Kapurthala	28	550	01.03.2013	Completed
2	Phagwara-II	Kapurthala			01.02.2019	Completed
3	Phillaur-II	Jalandhar	3	105	01.04.2018	Completed
4	Nakodar	Jalandhar	6	180	1.11.2016	Completed
5	NikkuNangal (BBMB)	Rupnagar	8.5	120	19.10.2011	Completed
6	NayaNangal (NFL)	Rupnagar	5	200	25.12.2011	Completed
7	Sri Anandpur Sahib	Rupnagar	8.5	150	20.05.2010	Completed
8	Haveli Kalan, Ropar-I	Rupnagar	10	100	20.08.2013	Completed
9	Rasulpur, Ropar-II	Rupnagar	2.5	80	25.08.2013	Completed
10	Sadabarat, Ropar-III	Rupnagar	2	72	28.08.2013	Completed
11	Chamkaur Sahib	Rupnagar	1.7	99	03.06.2016	Completed
12	Bucho	Bathinda	3	135	18.07.2015	Completed
13	Goniana	Bathinda	3	102	25.05.2014	Completed
14	Kotfata	Bathinda	1.5	108	25.05.2014	Completed



15	Maur	Bathinda	5	150	05.05.2015	Completed
16	Dharamkot	Moga	4	45	25.11.2016	Completed
17	Jalalabad	Fazilka	8	200	30.10.2015	Completed
18	Fazilka	Fazilka	8	350	03.11.2014	Completed
19	Muktsar Sahib-I (Balamgarh Road)	Muktsar	8.5	480	11.05.2016	Completed
20	Muktsar Sahib-II (Sardarwala)	Muktsar	7.5	185	15.10.2016	Completed
21	Malout-I (Bhagwanpura)	Muktsar	3	80	29.05.2016	Completed
22	Machhiwada	Ludhiana	4	40	04.11.2016	Completed
23	Kurali	Mohali	4	130	31.03.2013	Completed

**The irrigation schemes to utilize treated sewage of 23 towns have been completed. These irrigation schemes shall cater 3543 hectares of land and treated sewage 134.8 MLD shall be utilized in these irrigation fields.**

**B) Towns/STPs where Irrigation Projects was under progress:**

-----Nil-----

**C. Towns/STPs where Irrigation Projects have been sanctioned**

S. No.	Name of STP/Town	District	Capacity (MLD)	Command Area (ha)	Earlier status as on 31.12.2019	Current Status as on 31.03.2020
<b>River Sutlej</b>						
1	MullanpurDhakha	Ludhiana	3	111	Sanctioned under RIDF-25, Funds not released yet	Mobilization advance released by NABARD. Proposal has been sent to Finance Department through Worthy A.C.S. (D) for release of funds to this department.
2	BambianWaliCantt	Jalandhar	10	370		
3	Jaitawali	Jalandhar	25	925		
4	Phillaur-I	Jalandhar	3	135		
5	Shahkot	Jalandhar	3	120		
6	Hoshiarpur	Hoshiarpur	10	370		
7	Jagraon-II	Ludhiana	16	592		
8	Moga	Moga	27	999		
9	BaghaPurana	Moga	4	148		
10	Abohar	Fazilka	25	925		
11	Malout-II	Muktsar	10	370		
12	TalwandiBhai	Ferozepur	4	148		
13	Zira	Ferozepur	8	296		
14	Muktsar Sahib-III	Muktsar	3.5	129.5		

**To utilize treated sewage of 24 STPs of capacity 151.5 MLD, irrigation projects have been sanctioned. These irrigation schemes shall cater command area of 5638.5 hectares of irrigation land. Funds for these irrigation schemes have been sanctioned but these have not been released so far. The department of Soil and Water Conservation shall take up the matter with the State Govt. for early release of funds.**

**D) Towns/STPs where Funds are not tied up for Irrigation Projects**

S. No.	Name of STP/Town	District	Capacity (MLD)	Current Status as on 31.03.2020
<b>River Sutlej</b>				
1	Sahnewal	Ludhiana	7	Funds are not tied up
2	Jagraon-I	Ludhiana	12	
3	Makhu	Ferozepur	4	
4	Nangal	Rupnagar	5	
5	East Jalandhar Cantt-I	Jalandhar	3	
6	East Jalandhar Cantt-II	Jalandhar	3	
7	East Jalandhar Cantt-III	Jalandhar	0.4	
8	West Jalandhar Cantt-I	Jalandhar	1.5	
9	West Jalandhar Cantt-II	Jalandhar	1.5	
10	Phagwara-III	Kapurthala	8	
11	Nawashahar	SBS Nagar	6	
12	Banga	SBS Nagar	3	
13	Balloke-II	Ludhiana	105	
14	Pholriwal-II	Jalandhar	10	
15	Pholriwal-III	Jalandhar	25	
16	Basti Peer Dad	Jalandhar	50	

**For 16 STPs of capacity 243.4 MLD, irrigation schemes have been prepared to utilize treated sewage of the towns for irrigation. However the funds have not been made available**

**E) Feasibility study of Irrigation Projects from STPs**

The feasibility study for reuse of treated wastewater of STPs of Ludhiana (466 MLD) for irrigation was carried out by the Department of Soil and Water Conservation, Punjab and the same was submitted to Monitoring Committee vide letter no. 18951/Technical dated 03.12.2019.

**The brief of feasibility study is as per following:**

S.No.	Name of STP/Town	District	Capacity (MLD)	Feasibility	Remarks
1	Pholriwal-I	Jalandhar	100	Not Feasible	Project not feasible as are farmers are reluctant to use treated water

2	Jamalpur	Ludhiana	48	Not Feasible	The STP is defunct and PWSSB has planned a new STP based on SBR technology
3	Bhattian-I	Ludhiana	111	Not Feasible	Presently the quality of treated water is not fit for irrigation.
4	Bhattian-II	Ludhiana	50	Not Feasible	Presently the quality of treated water is not fit for irrigation.
5	Baloke-I	Ludhiana	152	Feasible provided the problem of brown colour and foul smell of water is addressed	Tentative estimate of Rs. 141.43 cr has been prepared for utilization of treated water. Funds need to be tied up.
6	Baloke-II	Ludhiana	105		

**Since for utilization of treated sewage of Ludhiana (466 MLD) and Jalandhar (100 MLD), irrigation schemes have not been found feasible, therefore, the department of Soil and Water Conservation shall prepare irrigation schemes within 01 month so that huge quantity of treated sewage can be safely utilized for irrigation.**

### **3.7.1.8 Treatment of sewage of villages**

The Department of Rural Development and Panchayat has claimed that for treatment of sewage of villages, 75 villages have been selected in first phase. The status of these STPs is as under:

<b>Sr. No.</b>	<b>Name of District</b>	<b>Name of Block</b>	<b>Name of Village</b>	<b>Discharge in KLD</b>	<b>Estimated cost (in lakh)</b>
1	Moga	Dharamkot at Kot ise Khan	Indergarh	395	40.00
2	Moga	Dharamkot at Kot ise Khan	Kot Sadar Khan	259	37.46
3	Moga	Moga-2	Wadda Ghar	259	39.98
4	Moga	Moga-2	Gill	237	39.72
5	Moga	Moga-2	Daulatpur Niwan	332	19.94
6	Moga	Moga-1	Bugipura	450	31.74
7	Moga	Moga-1	Mehna	449	19.66
8	Moga	Moga-1	Kokri Kalan	829	39.86
9	Moga	Moga-2	Daroli Bhai	601	34.44
10	Moga	Dharamkot at kot ise khan	Sere Wala	45	36.63
11	Moga	Moga-2	Chottian Khurd	62	19.61
12	Moga	Moga-2	Thamanwala	95	19.76
13	Moga	Dharamkot at kot ise khan	Attari	95	39.73
14	Moga	Nihal Singh wala	Patto Jawahar Singh	97	27.90
15	Ludhiana	Ludhiana-2	Harian	325	68.54

16	Ludhiana	Ludhiana-2	Sidhupur	400	38.47
17	Ludhiana	Machiwara	Behlolpur	262	6.20
18	Ludhiana	Sudhar	Hissowal	217	27.94
19	Ludhiana	Sudhar	Raqba	305	20.91
20	Ludhiana	Sudhar	Jassowal	219	27.94
21	Ludhiana	Sudhar	Aitiana	305	21.52
22	Ludhiana	Sudhar	Chownkimaan	382	36.56
23	Ludhiana	Sudhar	Sohain	262	29.30
24	Ludhiana	Sudhar	Hans Kalan	487	28.58
25	Ludhiana	Sudhar	Halwara	276	106.38
26	Ludhiana	Sidhwan bet	Gureh	321	24.57
27	Ludhiana	Ludhiana-2	Bhaman Khurd	73	26.14
28	Ludhiana	Ludhiana-2	Marewal	32	19.08
29	Ludhiana	Ludhiana-2	Rajgarh	63	4.16
30	Ludhiana	Ludhiana-2	Kot Gangurai	229	37.80
31	Ludhiana	Ludhiana-2	Koom Kalan	274	32.90
32	Ludhiana	Sidhwan Bet	Talwandi Khurd	233	6.60
33	Ludhiana	dhar	Jangpur	274	31.80
34	Ludhiana	Sidwan Bet	Talwandi Kalan	289	26.15
35	Ludhiana	Dehlon	Gopalpur	250	21.40
36	Ludhiana	Ludhiana-1	Baranhara	146	29.76
37	Ludhiana	Ludhiana-1	Talwara	106	29.78
38	Ludhiana	Sidhwan Bet	Kotmana	110	6.60
39	Ludhiana	Ludhiana-2	Panjeta	176	35.45
40	Ludhiana	Sidhwan Bet	Sadarpura	141	19.12
41	Ludhiana	Sudhar	Haran	282	32.10
42	Ludhiana	Ludhiana-2	Khasi Kalan	108	25.78
43	Ludhiana	Ludhiana-2	Bhaman Kalan	114	33.58
44	Ludhiana	Sidhwan Bet	Malsihan Bhaike	94	19.09
45	Ludhiana	Sidhwan Bet	Gorsian Kadar Bakash	62	6.60
46	Jalandhar	Jalandhar East	Haraza	120	—
47	Jalandhar	Adampur	Raowali	147	—
48	Ferozpur	Zira	Zira New	70	15.17
49	Ferozpur	Ghall Khurd	Piareana	97	21.05
50	Ferozpur	Momdot	Ali ke Jhughia	68	16.56

51	Ferozpur	Zira	Talwandi Mange Khan	356	29.18
52	Ferozpur	Zira	Talwandi Jalle Khan	260	29.25
53	Ferozpur	Zira	Sukhe Wala	324	29.92
54	Ferozpur	Zira	Alipur	228	29.71
55	Ferozpur	Zira	Mansoor Deva	267	29.92
56	Ferozpur	Mamdot	Basti Labh Singh	25	41.56
57	Ferozpur	Mamdot	Murak Wala	45	50.90
58	Ferozpur	Mamdot	Shahed Jarnal Singh	70	
59	Ferozpur	Mamdot	Har Gobindpura	31	46.48
60	Ferozpur	Mamdot	Basti Jatta Singh	30	
61	Ferozpur	Mamdot	Dona Matter Hattar	81	33.05
62	Ferozpur	Guruhar Sahai	Sekhra	44	30.4
63	Ferozpur	Guruhar Sahai	Haddi Wala	90	41.90
64	Ferozpur	Jalalabad	Bare Wala	35	21.76
65	Ferozpur	Jalalabad	Chhota Tiwana	36	8.24
66	Ferozpur	Jalalabad	Basti Mohar Singh Wala	41	8.20
67	Ferozpur	Jalalabad	Jafra Dibbi Pura	44	8.19
68	Ferozpur	Jalalabad	Kottu Wala	33	8.22
69	Ferozpur	Jalalabad	Sh. Udham Singh Nagar	37	8.21
70	Ferozpur	Jalalabad	Chak Bhabra	38	8.37
71	Ferozpur	Jalalabad	Chak Bhamba Wattu	37	18.69
72	Hoshiarpur	Hoshiarpur-1	Khalwana	53	16.16
73	Hoshiarpur	Mahilpur	Dihana	57	—
74	Ropar	Ropar	Rattanpura	90	—
75	Ropar	Anandpur Sahib	Brahmpur Lower & Bhandhleri	193	—

### 3.7.1.9 Details of the villages where STPs have been completed

Out of 75 villages selected in Phase I for treatment of sewage, STPs in 4 villages have been completed, the detail of which is mentioned as under:

Sr.No.	Name District	of	Name Block	of	Name villages	of	Discahrge in KLD	Remarks
1.	Hoshiarpur		Mahilpur		Dihana		57	Completed

2	Ropar	Ropar	Rattanpura	90	Completed
3	Jalandhar	Jalandhar east	Hazara	120	Completed
4	Jalandhar	Adampur	Raowali	147	Completed

- **The department of Rural Development and Panchayat has selected 75 villages of the State to install STPs for the treatment of sewage of these villages. Out of these villages, STPs have been completed in 04 villages.**
- **The department of Rural Development and Panchayat shall take up the matter with the State Govt. to provide necessary funds for installation of STPs for the remaining 71 villages which have been taken under Phase-1 villages.**

**3.7.1.10 Status of CETPs for treatment of effluent of dyeing industries of Ludhiana, leather complex, Jalandhar and effluent of electroplating industries of Jalandhar**

<b>Sr. no.</b>	<b>Project</b>	<b>Target date of completion</b>	<b>Progress upto June, 2019</b>	<b>Current status as on 31.01.2020</b>
1	Setting up of 15 MLD CETP at Ludhiana	30.6.2019	80 %	100% and has made operational
2	Setting up of 40 MLD CETP at Ludhiana	31.8.2019	62 %	93 %
3	Setting up of 50 MLD CETP at Ludhiana	31.1.2020	20 %	67 %
4	Up-gradation up of 5 MLD CETP and setting up of 6 MLD at leather complex, Jalandhar	No time schedule mentioned	DPR under vetting with CLRI	-
5	Setting up of 0.15 MLD CETP for electroplating industries of Jalandhar	No time schedule mentioned	CETP work was started but due to public resistance, work has been stopped.	As reported by PPCB, local residents have got stay order against the construction of CETP and PPCB has filed application before the Hon'ble High Court to get vacate the stay order

**For commissioning and completion of CETPs for cluster of dyeing industries of Bahadurke Road, Tajpur Road & Rahon Road and Focal point, Ludhiana, Punjab Pollution Control Board shall take following action.**

- **PPCB shall follow up the matter with concerned departments of State of Punjab and MoEF&CC for early release of funds and restart the construction work of 40 MLD and 50 MLD CETPs and shall ensure to complete and commission these CETPs by 31.08.2020.**

- **15 MLD CETP for Bahadur Ke Road, dyeing industries cluster be stabilized within 45 days.**
- **For upgradation of 5 MLD existing CETP for leather tanning industries, PPCB shall take up the matter with Punjab Effluent Society and DPR shall be got prepared and upgradation is made timely so that CETP may meet with the prescribed norms industries**

### **3.7.1.11 Identification of new CETPs to treat the effluent from focal points of the State.**

- In order to treat the effluent generated from the electroplating / phosphating / surface coating units, common effluent treatment plant has been setup in phase – 8, Focal Point, Ludhiana.
- An SPV has been formed under the name & style of M/s Amritsar Textile Effluent Treatment (P) Ltd., for the installation of CETP for dyeing industries of New Focal Point, Amritsar. The PSIEC has not handed over the plot for the construction of CETP. The matter is pending with the MD, PSIEC.

### **3.7.1.12 Installation of ETPs/Biogas power plant for treatment of dairy wastewater**

#### **a. Dairy complex, Jamsheer, Jalandhar**

In Jalandhar, 1 dairy Complex located at Jamsheer dairy, generate about 5 MLD wastewater and cow dung. ETP of capacity 5 MLD has been proposed to be installed by MC Jalandhar. A bio-gas power plant of 1 MW capacity has also been proposed to be installed in the Jamsheer dairy complex.

**The Monitoring Committee recommends that Municipal Corporation, Jalandhar shall install biogas plant to manage the animal dung and ETP to treat the liquid effluent by 31.03.2021.**

#### **b. Dairy complex at Haibowal, Ludhiana**

It has been submitted that biogas power Plant of capacity 1 MW at Haibowal dairy complex has already been installed and the same is under renovation for installation of Bio CNG Plant, which requires import of the machinery and soon after the ease out of the Covid-19, pandemic, renovation work will be completed including operation of Bio CNG plant by 30.09.2020. With this upgradation, the consumption of animal dung will be increased to 235 TPD.

#### **c. Dairy complex at Tajpur Road**

For the management of dairy dung of Tajpur Road dairy complex, Ludhiana, the project shall be completed within 30 months from the date of demarcation of land

by GLADA. The PEDDA ensured to make efforts to complete the project expeditiously.

**The Monitoring Committee recommends as under.**

- **Biogas Power Plant at Haibowal dairy Complex shall be upgraded to BioCNG plant by 30.09.2020 and Biogas Plant at Tajpur Road dairy complex shall be installed by 31.03.2021.**
- **For the treatment of liquid effluent about 5 MLD from Tajpur Road dairy complex and 10 MLD from Haibowal dairy complex, the project has been covered under comprehensive proposal and after the opening of the tenders, priority shall be given to the installation of ETPs for these dairy complex.**

### 3.7.1.13 Desilting of Budha Nallah

The status is submitted as under:

Sr. no.	Activity to be carried out as per the recommendations of Monitoring Committee during its visit to Ludhiana on 1.5.2019	Action Taken report of department
1.	Department of water resources shall take immediate steps to desilt the Budha Nallah within city area within 2 months i.e. before monsoon.	The Monitoring Committee has asked Commissioner, Municipal Corporation, Ludhiana to start the work of desilting of Budha Nallah.

### 3.7.1.14 Water of river Sutlej

**Part A: With respect to parameters parameters DO, BOD, TSS and T.Coli/F.Coli.**

Sr.No.	Point of sample collection	DO mg/l		BOD mg/l		TSS mg/l	
		Oct 19 to Dec 19	Jan 20 to Mar 20	Oct 19 to Dec 19	Jan 20 to Mar 20	Oct 19 to Dec 19	Jan 20 to Mar 20
1	River Satluj, U/S Nangal	9.1	8.9	0.0	0.0	0	0.0
2	River Satluj D/S NFL	8.4	9.7	0.0	0.0	0	0.0
3	100m D/s PACL Nangal	8.4	9.7	0.0	0.4	6	0.0
4	River Satluj D/s Nangal	8.7	8.9	0.0	0.0	0	0.0
5	River Satluj at Kiratpur Sahib	8.4	8.9	0.0	0.0	8	3.0
6	Ropar Head-Works	8.7	8.3	0.0	0.5	8	3.0
7	River Satluj D/S of Rishab-Paper Mills	8.1	8.1	0.0	0.0	22	9.3
8	River Satluj U/S Buddha Nallah	8.3	8.4	0.8	2.5	36	44.0
9	Satluj at 100 mts D/s Budha Nallah confluence Ludhiana	3.1	3.3	14.7	21.7	118	89.3



10	Satluj at Boat Bridge, Dharamkot Nakodar Road	3.8	3.7	7.9	8.3	74	107.7
11	Satluj at D/s East Bein	4.9	3.6	6.0	8.1	59	65.5
12	Satluj at Harike	6.4	5.6	2.9	3.3	50	101.3
13	U/S Hussainiwala H/W Ferozepur	8.3	9.5	0.8	0.9	24	28.3
14	D/S Hussainiwala H/W Ferozepur	8.2	9.4	1.2	0.9	27	26.0

**Part B: With respect to parameters T.Coli and F.Coli**

Sr.No.	Point of sample collection	T.Coli MPN/100ml		F.Coli MPN/100ml	
		Oct 19 to Dec 19	Jan 20 to Mar 20	Oct 19 to Dec 19	Jan 20 to Mar 20
1	River Satluj, U/S Nangal	293	167	70	48
2	River Satluj D/S NFL	620	250	193	96
3	100m D/s PACL Nangal	693	290	227	79
4	River Satluj D/s Nangal	810	267	273	94
5	River Satluj at Kiratpur Sahib	787	530	237	177
6	Ropar Head-Works	1400	1447	523	320
7	River Satluj D/S of Rishab-Paper Mills	1833	1680	623	490
8	River Satluj U/S Buddha Nallah	4367	1680	1283	627
9	Satluj at 100 mts D/s Budha Nallah confluence Ludhiana	1249667	936667	602000	356667
10	Satluj at Boat Bridge, Dharamkot Nakodar Road	83667	161333	21667	49000
11	Satluj at D/s East Bein	63000	183333	16967	60667
12	Satluj at Harike	4867	4800	1430	953
13	U/S Hussainiwala H/W Ferozepur	740	733	264	184
14	D/S Hussainiwala H/W Ferozepur	903	723	327	217

The above data indicate that the values of BOD and F.Coli at 100 m downstream of confluence of Budha Nallah with river Sutlej have been found as 21.7 mg/l and 356667 MPN/100ml, respectively, and these values have been reduced to 3.3 mg/l and 953 MPN/100 ml in river Sutlej at Harike Headworks indicating the quality of water as class 'C' as per the water quality prescribed by CPCB.

**3.7.1.15 Comparison of water quality of Budha Nallah for the period March, 2020 and April 2020**

**Part A: with respect to parameters BOD, COD, TSS, T.Coli, F.Coli**

S.N.	Point of sample collection	BOD mg/l		COD mg/l		TSS mg/l		T.Coli MPN/100ml		F.Coli MPN/100ml	
		Mar-20	Apr-20	Mar-20	Apr-20	Mar-20	Apr-20	Mar-20	Apr-20	Mar-20	Apr-20
1	Downstream of STP Jamalpur from Buddha Nallah	118	230	348	680	-	-	38,00,000	84,00,000	17,00,000	31,00,000
2	Downstream of Tibba Road disposal from Buddha Nallah	123	270	360	828	-	-	84,00,000	5,40,00,000	31,00,000	1,10,00,000

3	Downstream of Chand Cinema disposal from Buddha Nallah	175	195	484	560	-	-	70,00,000	94,00,000	26,00,000	32,00,000
4	Downstream of STP Ballokefrom Buddha Nallah	158	205	452	592	-	-	84,00,000	94,00,000	25,00,000	22,00,000
5	Point source of Buddha Nallah at Walipur	120	190	344	608	-	-	32,00,000	1,20,00,000	17,00,000	38,00,000
6	Before meeting with river satluj	150	195	352	572	-	-	21,00,000	24,00,000	7,90,000	11,00,000

**Part B: With respect to parameters T.Cr, H.cr, Cu, Zn, Fe, Pb, Ni, Mn  
The data w.r.t quality of Budha Nallah monitored during March, 2020 and**

S.N.	Point of sample collection	T.Chrome mg/l		H.Chrome mg/l		Copper mg/l		Zinc mg/l		Iron mg/l		Lead mg/l		Nickel mg/l		Manganese mg/l	
		Mar-20	Apr-20	Mar-20	Apr-20	Mar-20	Apr-20	Mar-20	Apr-20	Mar-20	Apr-20	Mar-20	Apr-20	Mar-20	Apr-20	Mar-20	Apr-20
1	Downstream of STP Jamalpur from Buddha Nallah	BDL	BDL	BDL	BDL	-	-	1.75	0.31	7.1	1.3	BDL	BDL	BDL	BDL	0.14	0.19
2	Downstream of Tibba Road disposal from Buddha Nallah	0.61	BDL	BDL	BDL	-	-	1.72	0.53	28.6	3.1	BDL	BDL	0.13	BDL	0.48	0.28
3	Downstream of Chand Cinema disposal from Buddha Nallah	BDL	BDL	BDL	BDL	-	-	1.41	0.26	12.3	1.8	BDL	BDL	0.07	BDL	0.15	0.13
4	Downstream of STP Ballokefrom Buddha Nallah	0.32	BDL	BDL	BDL	-	-	1.31	0.39	25.1	2.5	BDL	BDL	0.17	BDL	0.61	0.14
5	Point source of Buddha Nallah at Walipur	BDL	BDL	BDL	BDL	-	-	0.63	0.75	10.8	6.7	BDL	BDL	BDL	BDL	0.17	0.19
6	Before meeting with river satluj	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**April, 2020 indicates that the values of BOD has been varying between 118-158 mg/l and 190- 270 mg/l, respectively. The values of F.Coli were found to varying between 1700000- 3100000 MPN/100 ml. The data further indicate that some outlets carrying untreated sewage are directly falling into Budha Nallah and some STPs are not functioning properly.**

**The Municipal Corporation, Ludhiana has prepared composite proposal to install new STPs, upgrade/rehabilitate the existing STPs with a estimated cost**

of Rs 1000 crore. The Monitoring Committee recommends that all the activities covered under composite proposal should be completed by 31.03.2021.

### 3.7.1.16 Comparison of water quality of East Bein for the months of Feb.20 and April, 2020

**Part (A) : With respect to parameters pH, COD, BOD, TSS, TDS and T.Coli**

S.No.	Point of sampling	pH		COD (mg/l)		BOD (mg/l)		TSS(mg/l)		TDS (mg/l)		T.Coli MPN/	
		Feb,20	April, 20	Feb,20	April, 20	Feb,20	April, 20	Feb,20	April, 20	Feb,20	April, 20	Feb,20	April, 20
1	East Bein at Phagwara D/s Kanganiwal Bridge	7.2	7.2	72	68	18	15	42	35	735	674	22000	26000
2	East Bein at Jalandhar U/s Peeru Shah Ki Dargah	7.1	7.4	220	188	64	52	102	90	665	692	43000	41000
3	East Bein at Jalandhar D/s Malsian bridge	7.2	7.1	240	232	70	75	88	104	684	666	94000	110000

### 3.7.1.17 Comparison of water quality of East Bein for the months of Feb.20 and April, 2020

**Part (B): With respect to parameters F.Coli, T.Cr, Ni, Zn, Fe and Pb**

S.No.	Point of sampling	F.Coli MPN/ 100ml		T.Cr (mg/l)		Ni (mg/l)		Zn (mg/l)		Fe (mg/l)		Pb (mg/l)	
		Feb,20	April, 20	Feb,20	April, 20	Feb,20	April, 20	Feb,20	April, 20	Feb,20	April, 20	Feb,20	April, 20
1	East Bein at Phagwara D/s Kanganiwal Bridge	9400	9300	-	BDL	-	BDL	-	0.11	-	0.56	-	BDL
2	East Bein at Jalandhar U/s Peeru Shah Ki Dargah	14000	9300	-	BDL	-	BDL	-	0.09	-	0.54	-	BDL
3	East Bein at Jalandhar D/s Malsian bridge	22000	21000	-	BDL	-	BDL	-	0.14	-	0.7	-	BDL

The Monitoring data of East Bein indicate that the values of BOD at its course at Phagwara have been found as 15-18 mg/l and these were found increased to 70-75 mg/l at its section at Malsian in Jalandhar. Similarly, the values of T. Coli have been increased to 110000 MPN/100 ml at Malsian against the values as observed at its course at Phagwara. The increase in the value of BOD and T.Coli is due to discharge of part of the untreated sewage of Jalandhar area.

### 3.7.1.18 Comparison of water quality of Kala Singhian Drain for the months of March, 20 and April, 2020

**Part (A): With respect to parameter COD, BOD, TSS, TDS and Fe**

Sr. No.	Point of sampling	pH		COD (mg/l)		BOD (mg/l)		TSS (mg/l)		TDS (mg/l)		Fe (mg/l)	
		March, 20	April, 20	March, 20	April, 20	March, 20	April, 20	March, 20	April, 20	March, 20	April, 20	March, 20	April, 20
1	Puli adjoining M/s H.B Industry Unit-II, Raowali, Pathankot Jalandhar Road	7.3	6.9	80	92	27	30	46	49	392	441	0.98	0.47
2	Puli at Athaula Gazipur Road near Karyana Store.	7	7.2	336	296	115	105	188	172	764	684	2.61	1.16
3	Puli at Billi-Khanpur Road.	7.1	7.1	256	272	90	94	162	150	672	662	2.26	1.4

### 3.7.1.19 Water quality of Kala Singhian drain for the months of March-2020 & April-2020.

**Part (B): With respect to parameters Zn, Ni, T.Cr, Pb, Cu, Mn**

Sr. No.	Point of sampling	Zn (mg/l)		Ni (mg/l)		T.Cr (mg/l)		Pb (mg/l)		Cu (mg/l)		Mn (mg/l)	
		March, 20	April, 20	March, 20	April, 20	March, 20	April, 20	March, 20	April, 20	March, 20	April, 20	March, 20	April, 20
1	Puli adjoining M/s H.B Industry Unit-II, Raowali, Pathankot Jalandhar Road	0.25	0.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.1	BDL

2	Puli at Athaula Gazipur Road near Karyana Store.	1.15	0.4	0.11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.12	BDL
3	Puli at Billi-Khanpur Road.	0.99	0.62	0.13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.11	BDL

**The water quality data of Kala Singhian drain indicates that the values of BOD have been increased to 105-188 mg/l at Athola Gazipur as compared to the values of BOD as 27-30 mg/l at its section at Pathankot- Jalandhar Road. The increase in the values is due to discharge of some untreated sewage into Kala singhian drain. PPCB should check the untreated discharges entering into the said drain and suitable directions be issued to the concerned agency for treatment of the same.**

### **3.7.2 River Beas**

#### **3.7.2.1 Status of Sewage treatment Plants installed for the towns**

<b>Sr. No</b>	<b>Name of STP</b>	<b>Installed Capacity (MLD)</b>
1	Sri Hargobindpur	1
2	Dasuya	4
3	Mukerian	5
4	Sham Churasi	1
5	Tanda	4
6	Begowal	2.5
7	Bhulath	4
8	Kapurthala	25
9	Sultanpur Lodhi	2.6
10	Pathankot	27
<b>Total</b>		<b>76.1</b>

**Presently, sewage treatment plants of capacity 76.1 MLD for 10 towns, located in the catchment area of River Beas, have been installed.**

### 3.7.2.2 Performance of existing sewage treatment plants

Sr.no	Name of STP	Cap	October to December 2019 (Average)			January, 2020 to March, 2020		
			Parameters			Parameters		
			BOD mg/l	TSS mg/l	Faecal Coliform MPN/100ml	BOD mg/l	TSS mg/l	Faecal Coliform MPN/100ml
1.	Pathankot	27	91	119	13000	23	31	605
2.	Sri Hargobindpur	1	24	36	920	27	27	715
3.	Dasuya	4	27	42	813	28	25	780
4.	Mukerian	5	10	19	827	29	39	4467
5.	Sham Churasi	1	59	85	8750	54	63	7500
6.	Tanda	4	17	25	533	37	35	4533
7.	Talwara		8	20	657	9	22	697
8.	Begowal	2.5	11	14	653	10	17	863
9.	Bhulath	4	25	27	1060	15	19	897
10.	Kapurthala	25	43	63	2533			
11.	Sultanpur Lodhi	2.6	29	63	1040	21	29	973
12.	GE, Air Force STP 960 m3/day Pathankot	3	11	17	697	12	14	375
13.	GE, South Mammon STP Lal Tikku Khad Area (2.5 MLD)	2	6	13	573	14	17	405
14.	GE, West Pathankot	8	13	18	790	14	17	485
15.	GE, South Mammon Bhaskar Area	2	9	24	443	16	16	640

16.	GE, South Basanter  Line Area	2	7	5	563	19	18	505
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**Presently, sewage treatment plants of capacity 76.1 MLD for 10 towns, located in the catchment area of River Beas, have been installed by Punjab water Supply and sewerage Board and 5 STPs have been installed by MES authorities.**

**The performance study of STPS located in the catchment area of river Beas indicates as under.**

**Out of 16 STPs installed in the catchment area of river Beas, 12 STPS ( Pathankot: 27 MLD, Sri Hargobindpur:1 MLD, Dasuya: 4 MLD, BBMB Talwara: 4 MLD, Begowal: 2.5 MLD, Bhulath; 4 MLD, Sultanpur Lodhi: 2.6 MLD, MES: Pathankot: 3 MLD, MES Mamoon: 2 MLD, MES Pathankot: 8 MLD, MES Mamoon:2 MLD, MES Mamoon: 2 MLD) are meeting with the prescribed norms w.r.t parameters namely BOD, TSS and F.Coli. 3 STPs namely Mukerian: 5 MLD, Sham Churasi: 1 MLD, Tanda: 4 MLD are meeting with BOD and TSS parameters and notwith F.coli parameter. 01 STP ( Kapurthala : 25 MLD ) is not meeting with BOD and F.Coli parameters.**

### **3.7.2.3 Status of STPs under construction**

*Presently, no STP is under construction*

### **3.7.2.4 Status of STPs under planning and funds tied up**

<b>Sr. No</b>	<b>Name of the town</b>	<b>Capacity of STP</b>	<b>Likely date of completions</b>	<b>Earlier status as on 30.09.2019</b>	<b>Current status as on 31.03.2020</b>
1	Kartarpur	4	31.12.2020	Tender called and to be opened on 30.10.2019	Tender allotment in process
2	Dhilwan	2.5	Land issue	Case of land pending in DC Office at DRO level	Land acquired. DNIT under preparation
3	Kothi Pandita, Pathankot	2	31.12.2023	DNIT under preparation	DNIT prepared. Tenders to be floated after lockdown
4	Adarsh Nagar, Pathankot	1.2	31.12.2023	DNIT under preparation	DNIT prepared. Tenders to be floated after lockdown
5	Hariana	2	03.11.2020	Tender called and to be opened on 30.10.2019	Tender called several times but not received. Now

					shall be re-called after lockdown
6	Sultanpur Lodhi (2 No.)	1 + 4	30.09.2022	Land for 4 MLD is being identified. 1 MLD land available. Tender under process	Land for 4 MLD is being identified. 1 MLD land available. Tender under process
7	Talwara	4	Land issue	Funds not tied up case sent to Govt. of Punjab for arrangement of funds	Land issue
8	Sujanpur	5.5	30.06.2022	Funds not tied. Land issue. Case set to Govt. of Punjab for arrangement of funds	Land finalized. DNIT under preparation
9	Rawal & Colonies, Kapurthala	3	30.06.2021	Land purchased through PUDA. Funds for STPs to be given by MC.	Land purchased through PUDA & DPR under approval. Funds for STPs to be given by Rural Development Deptt. & JDA.
	<b>Total</b>	<b>29.2</b>			

The data w.r.t 9 STPs (to be installed in the catchment area of river Beas) which are under planning and funds have been tied up, indicates that 04 STPS are at DNIT stage, 03 STPS have been involved with land issue and 02 STPs are at tendering stage.

### 3.7.2.5 STPs which require technologically up-gradation 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 30.09.2019	Current status as on 31.03.2019
1	Kapurthala	25	25	No target date given	Funds not tied up case sent to Govt. of Punjab for arrangement of funds	Tender allotted, repair work in progress
	<b>Total</b>	<b>25</b>	<b>25</b>			

There is proposal to upgrade 25 MLD STP at Kapurthala but the funds have not been tied up. The department of Punjab water supply and Sewerage Board should take up the matter with the State Govt. for release of funds for upgradation of 25 MLD existing STP and upgradation work should be completed by 31.03.2021.



### 3.7.2.6 Gaps Analysis of sewage of the towns located on River Beas

Sr. No	Name of the Town	Total Discharge (MLD)	Present Capacity of STP (MLD)	Gap in sewage quantity to be treated (MLD)
1	Sri Hargobindpur	1	1	0
2	Dasuya	4	4	0
3	Hariana	2	0	2
4	Mukerian	5	5	0
5	Sham Churasi	1	1	0
6	Talwara	4	0	4
7	Tanda	4	4	0
8	Kartarpur	4	0	4
9	Begowal	2.5	2.5	0
10	Bhulath	4	4	0
11	Dhilwan	2.5	2.5	0
12	Kapurthala	28	25	3
13	Sultanpur Lodhi	5	2.6	2.4
14	Sujanpur	5.5	0	5.5
15	Pathankot	30.2	27	3.2
	<b>Total</b>	<b>102.7</b>	<b>76.1</b>	<b>26.6</b>

Presently, STPs of capacity 76.1 MLD have been installed and there is a gap of 26.6 MLD, which is required to be treated. There is proposal to treat the gap in treatment by providing STPs of capacity 29.2 MLD as mentioned above at point No. 2.7.2.4.

### 3.7.2.7 Utilization of Treated wastewater from STPs for Irrigation

#### A) Towns/STPs where Irrigation Projects are commissioned

S. No.	Name of STP/Town	District	Capacity of STP (MLD)	Command Area (ha)	Date of Start of Project	Current Status as on 31.03.2020
1	Sri Hargobindpur	Gurdaspur	1	96	13.06.2016	Completed
2	Nurmehal	Jalandhar	2.6	105	01.06.2016	Completed
3	Bholath	Kapurthala	4.8	260	01.03.2014	Completed
4	Kapurthala	Kapurthala	25	484	2015	Completed
5	SultanpurLodhi	Kapurthala	2.7	100	01.07.2016	Completed
6	Sham Chuarasi	Hoshiarpur	1	90	05.10.2016	Completed
7	Talwara	Hoshiarpur	8	70	18.03.2017	Completed
8	Mukerian	Hoshiarpur	5	100	16.06.2017	Completed

In order to utilize the treated sewage of STPs of 8 towns of capacity 50.1 MLD, irrigation schemes have been completed. Under these irrigation schemes 1305

hectares of land has been covered. Punjab Pollution Control Board shall check these irrigation schemes and ensure that these should be commissioned to utilize the treated sewage for irrigation.

**B) Towns/STPs where Irrigation Projects was under progress**

S. No.	Name of STP/Town	District	Capacity of STP (MLD)	Command Area (ha)	Date of Start of Project	Current Status as on 31.03.2020
1	Begowal	Kapurthala	2.6	66	01.05.2019	Completed

Irrigation scheme to utilize the treated sewage of STP of Begowal town has been completed. It should be commissioned by 30.06.2020 and the treated sewage should be utilized for irrigation purposes.

**C) Towns/STPs where Irrigation Projects are sanctioned:**

-----Nil-----

**D) Towns/STPs where Funds are not tied up for Irrigation Projects**

S. No.	Name of STP/Town	District	Capacity (MLD)	Current Status as on 31.03.2020
1	Pathankot	Pathankot	27	Funds are not tied up
2	Tanda	Hoshiarpur	4	
3	GE, Air Force	Gurdaspur	3	
4	GE, South	Gurdaspur	2	
5	GE, West	Gurdaspur	2	
6	GE, Mammon	Gurdaspur	2	
7	GE, North	Gurdaspur	2	

Irrigation schemes for 07 STPs of capacity 42 MLD have been prepared but the funds have not been tied up so far. The department of Soil and Soil Conservation should take up the matter with State Govt. for release of funds to utilize the treated sewage 7 STPs of capacity 42 MLD for irrigation.

**3.7.2.8 Water quality of River Beas for the months of March, 20 and April, 2020**

Sr. No.	Point of Sampling	DO (mg/l)		BOD (mg/l)		TSS		T.coli (MPN/100ml)		F.coli (MPN/100ml)	
		March, 20	April, 20	March, 20	April, 20	March, 20	April, 20	March, 20	April, 20	March, 20	April, 20
1	Beas at Talwara H/W	7.8	7.8	1.4	1.1	BDL	BDL	110	100	49	40
2	Beas at Mirthal Bridge Gurdaspur	8.1	7.7	1.5	1.1	12	10	94	92	46	45
3	U/S Pathankot	7.9	7.9	1.3	1	24	BDL	79	82	33	36

4	D/S Pathankot	7.1	7.4	1.5	1.3	32	12	280	210	110	92
5	Beas 1km D/S effluent discharge point at Mukerian	7.2	7.2	1.6	1.3	12	14	430	480	210	170
6	Beas Bridge at village Bheate Patan Tehsil Batala Distt. Gurdaspur	7.4	7.7	1.4	1.1	10	11	350	260	170	140
7	Beas at G.T. Road, under Bridge Near Kapurthala	8.2	7.8	1.5	1.3	12	15	280	260	140	82
8	U/s Goindwal	8.3	7.9	1.3	1.1	12	14	280	220	170	93
Quality of water	D/s Goindwal	8.1	7.7	1.3	1.1	14	16	350	270	210	110
10	Beas at Harike	8.2	8	1.2	1	11	12	280	320	140	110

**The water quality of River Beas monitored during March, 2020 and April, 2020 indicates that quality of water mostly remains class B as per the water quality criteria prescribed by CPCB. Thus, the water of river Beas is fit for drinking after imparting disinfection and irrigation purposes.**

### **3.7.2.9 Water quality of Holy Bein (Kali Bein) for the months of March, 2020 and April, 2020**

S.No	Point of Sampling	BOD (mg/l)		COD (mg/l)		TSS (mg/l)		T.Coli MPN/100ml		F.Coli MPN/100ml	
		March, 20	April, 20	March, 20	April, 20	March, 20	April, 20	March, 20	April, 20	March, 20	April, 20
1	Nanakpur Bridge	2.1	2.4	12	16	14	19	350	220	210	78
2	Bhagwanpura Bridge	8.2	8	36	40	30	40	430	630	280	210
3	Khera Dona Bridge	9	7	40	38	24	35	220	460	110	110
4	Ber Sahib Gurudwara Sultanpur Lodhi (Gurudwara side)	4	4.2	24	26	18	20	210	380	110	92
5	D/S at Village Alowal	3.8	5	24	28	25	25	6300	5800	1400	1100

- **The data w.r.t water quality of Holy Bein indicates that quality of water varies between class B to C, which indicates that water can be used for**

**drinking purposes by imparting conventional treatment followed by disinfection and irrigation purposes.**

- **The Department of Local Govt. and Punjab water Supply and Sewerage Board should take immediate steps to upgrade Existing 25 MLD STP Kapurthala and make arrangements to utilize the treated wastewater of STP Kapurthala for irrigation.**

### **3.8 Conclusions and Recommendations**

In view of data as discussed above, the Monitoring Committee has made the following conclusions and recommendations

#### **3.8.1 River Sutlej**

1. The State of Punjab should comply with the recommendations made by the Monitoring Committee during its 9<sup>th</sup> meeting held with State level officers on 14.2.2020.
2. Punjab Pollution Control Board is regularly carrying out the monitoring of sewage treatment plants of the towns located in the catchment area of river Sutlej. The performance data of 50 STPs installed in the catchment area of river Sutlej indicates that 31 STPs (62%) are complying with all the norms w.r.t BOD, TSS and F.Coli parameters. 06 STPs are not meeting with standards for BOD, TSS and F.Coli parameters, out of which STP Jamalpur, Ludhiana is lying defunct for which Municipal Corporation, Ludhiana has been directed upgrade/rehabilitate the same by 31.03.2021. 07 STPS are not meeting BOD and F.Coli parameters. 04 STPs are not meeting with F.Coli parameter. No analysis carried out in the case of 02 STPs. Therefore, the Monitoring Committee recommends as under:
  - ✓ Municipal Corporations/ Municipal Councils/ PWSSB or any other agency operating the STPs, should operate their STPs as per the operation and maintenance manual prepared by PWSSB.
  - ✓ These departments should impart trainings to the Supervisory staff.
  - ✓ In order to bring down the F. coli parameter within the norms, adequate dosing of disinfectant with proper disinfectant contact mechanism should be provided.
  - ✓ Concerted efforts may be made by all the concerned departments to bring down the non compliance of STPs to significantly low level.
  - ✓ OCEMS along with flow meters shall be installed at inflow, outflow and bye-pass of the STPs and record in this regard may be maintained by the STP operator.
  - ✓ OCEMS and CCTV cameras on all the STPs may be ensured to be installed by 31/05/2020, failing which environment compensation may be imposed by PPCB on the defaulting STPs.

3. The data w.r.t STPs which are under construction shows that STP Kotkapura has been constructed upto 85% and it should be commissioned by 31.08.2020 and STP Gidderbaha is under stabilization and the same should be commissioned by 30.06.2020. Remaining STPs of Guru Sahai of capacity 4 MLD and 1 MLD should be completed and by 31.3.2021.
4. 24 STPs of capacity 250 MLD, for which funds have been tied up, are under planning.
  - 6 STPs for the towns (Balachaur: 4 MLD, Garhshankar: 3 MLD, Rahon: 3 MLD, Jalandhar: 50 MLD, Ludhiana: 50 MLD, Raikot: 7 MLD) are at tendering stage.
  - 14 STPs (Maluka: 1MLD, Jalandhar: 25 MLD, Nawanshahr: 44 MLD, Kiratpur: 2 MLD, Bhagta Bhaika: 3 MLD, Bhai Roopa: 4 MLD, Kotha Guru: 3 MLD, Arniwala: 2 MLd, Mamdot: 3 MLD, Mudhki: 3 MLD, Mahilpur: 2 MLD, Nihal Singh wala, Bariwala: 2 MLD, Sri Mukatsar Sahib: 10 MLD) are at DNIT preparation stage.
  - In case of 3 STPs (Faridkot:14 MLD, Patti; 8 MLD, Ferozepur: 1 MLD: 1MLD, land issues are to be resolved.
  - In STP of 1 town namely Arriwala: 2 MLD, funds have not been tied up.

**The Monitoring Committee recommends that the Department of Local Government and Punjab Water Supply and Sewerage Board and department of Water Supply and Sanitation should ensure the completion of these STPs by 31.3.2021**

5. For upgradation of 100 MLD STP of Jalandhar town, DPR has been prepared and funds have been tied up in AMRUT and Smart city scheme. In case of Ludhiana, there is proposal to upgrade technologically all the 5 STPs of capacity 466 MLD. For these STPs, tenders have been invited and funds have been tied up in AMRUT and Smart city scheme. For upgradation of 3 STPs (Phillaur: 2.6 MLD, Mallout: 3 MLD, Goniana: 3 MLD), DNIT is under preparation.

**The Monitoring Committee recommends that upgradation work of STPs of capacity 100 MLD of Jalandhar Town, 466 MLD STPs of Ludhiana area, 2.6 MLD STP of Phillaur town, 3 MLD STP of Malout and 3 MLD STP of Goniana should be completed by the concerned Municipal Corporations Jalandhar and Ludhiana and by the department of Local Govt. by 31.03.2021.**

6. In order to utilize the treated sewage for irrigation, the irrigation schemes to utilize treated sewage of 23 towns have been completed. These irrigation schemes cater 3543 hectares of land and treated sewage 134.8 MLD shall be utilized in these irrigation fields.

**Punjab Pollution Control Board shall check the status of these irrigation schemes to assure as to whether these have been commissioned or not**

7. To utilize treated sewage of 24 STPs of capacity 151.5 MLD for irrigation, irrigation projects have been sanctioned. These irrigation schemes shall cater command area of 5638.5 hectares of irrigation land. Funds for these irrigation schemes have been sanctioned but these have not been released so far.

**The department of Soil and Water Conservation shall take up the matter with the State Govt. for early release of funds.**

8. For 16 STPs of capacity 243.4 MLD, irrigation schemes have been prepared to utilize treated sewage of the towns for irrigation. However, the funds have not been made available. The department of Soil and Water Conservation shall take up the matter with the State Govt. for release of funds for these 16 STPs.

**The department of irrigation has claimed that for utilization of treated sewage of Ludhiana (466 MLD) and Jalandhar (100 MLD), irrigation schemes have not been found feasible. Therefore, the Monitoring Committee recommends that department of Soil and Water Conservation shall prepare irrigation schemes within 01 month so that huge quantity of treated sewage can be safely utilized for irrigation.**

9. The department of Rural Development and Panchayat has selected 75 villages of the State in the first phase to install STPs for the treatment of sewage of these villages. Out of these villages, STPs have been completed in 04 villages. **The Monitoring Committee recommends that the department of Rural Development and Panchayat shall take up the matter with the State Govt. to provide necessary funds for installation of STPs for the remaining 71 villages which have been taken under Phase-1 villages.**

10. For commissioning and completion of CETPs for cluster of dyeing industries of Bahadurke Road, Tajpur Road & Rahon Road and Focal point, Ludhiana, Punjab Pollution Control Board shall take following action.

- PPCB shall follow up the matter with concerned departments of State of Punjab and MoEF&CC for early release of funds and restart the construction work of 40 MLD and 50 MLD CETPs and shall ensure to complete and commission these CETPs by 31.08.2020.
- 15 MLD CETP for Bahadur Ke Road, dyeing industries cluster be stabilized within 45 days.
- With regard to upgradation of existing ETP of capacity 5 MLD installed at Leather Complex Jalandhar, which was not achieving the prescribed standards, it was informed to the Monitoring Committee during its meeting with the officers of Jalandhar on 29.05.2020 that a proposal for upgradation of existing CETP was prepared with an estimated cost of Rs 27.25 crore along with a proposal to construct mixing tank for

dilution of treated effluent of CETP mixing with treated wastewater of STP Peer Dad. The proposal of upgradation of CETP was approved by Government of India with DPIIT contribution as 70% of the project cost. However, e-Tender is yet to be published.

- **The Chairman of the Monitoring Committee directed that the tender for upgradation of CETP for leather complex, Jalandhar shall be floated by 10.06.2020 and the construction work of dilution tank shall be completed within 2 months. Upgradation work of 5 MLD existing CETP should be completed by 31.03.2021.**

11. The Monitoring Committee held its meeting with District level officers of District Jalandhar on 29.5.2020, wherein, it was informed that for installation of ETP to treat the dairy effluent of Jamsheer dairy complex, draft DPR has been prepared and the same is at finalization stage. For the management of the cow dung, design statement is being prepared by the contractor.

**It has been directed by the Monitoring Committee that DPR of both the projects shall be finalized within 15 days and work for construction of ETP and biogas plant shall be started within 6 months and shall be completed and commissioned by 31.3.2021**

12. For the management of cow dung at Haibowal dairy complex, biogas power Plant of capacity 1 MW has already been installed and the same is under renovation for installation of Bio CNG Plant, which requires import of the machinery and soon after the ease out of the Covid-19, pandemic, renovation work will be completed including operation of Bio CNG plant by 30.09.2020. With this upgradation, the consumption of animal dung will be increased to 235 TPD. Municipal Corporation, Ludhiana has claimed that for the management of dairy dung of Tajpur Road dairy complex, Ludhiana, the project shall be completed within 30 months from the date of demarcation of land by GLADA. The PEDDA assured to make efforts to complete the project expeditiously. The Monitoring Committee recommends as under.

- **Biogas Power Plant at Haibowal dairy Complex shall be upgraded to Bio CNG plant by 30.09.2020 and Biogas Plant at Tajpur Road dairy complex shall be installed by 31.03.2021.**
- **For the treatment of liquid effluent about 5 MLD from Tajpur Road dairy complex and 10 MLD from Haibowal dairy complex, the project has been covered under comprehensive proposal and after the opening of the tenders, priority shall be given to the installation of ETPs for these dairy complex.**

13. For desilting of Budha Nallah and Kala Singhian drain, the Monitoring Committee has asked Commissioner, Municipal Corporation, Ludhiana and Jalandhar to divert the funds to the department of Irrigation within 10 days and on receipt of funds, irrigation department shall allot the work preferably within next 6 weeks.

14. The monitoring data of river Sutlej indicate that the values of BOD and F.Coli at 100 m downstream of confluence of Budha Nallah with river Sutlej have been found as 21.7 mg/l and 356667 MPN/100ml, respectively, and these values have been reduced to 3.3 mg/l and 953 MPN/100 ml in river Sutlej at Harike Head works indicating the quality of water as class 'C' as per the water quality prescribed by CPCB.
15. The quality of Budha Nallah water monitored during March, 2020 and April, 2020 indicates that the values of BOD have been found varying between 118-158mg/l and 190- 270 mg/l, respectively. The values of F.Coli were found to varying between 1700000- 3100000 MPN/100 ml. The data further indicate that some outlets carrying untreated sewage are directly falling into Budha Nallah and some STPs are not functioning properly.
16. The Municipal Corporation, Ludhiana has prepared composite proposal to install new STPs, upgradation/rehabilitation work of existing STPs with an estimated cost of Rs 1000 Crore. The Monitoring Committee recommends that all the activities covered under composite proposal should be completed by 31.03.2021.
17. The Monitoring data of East Bein indicate that the values of BOD at its course at Phagwara have been found as 15-18 mg/l and these were found increased to 70-75 mg/l at its section at Malsian in Jalandhar. Similarly, the values of T. Coli have been increased to 110000 MPN/100 ml at Malsian against the values as observed at its course at Phagwara. The increase in the value of BOD and T.Coli is due to discharge of part of the untreated sewage of Jalandhar area into East Bein leading to river Sutlej.
18. The water quality data of Kala Singhian drain indicates that the values of BOD have been increased to 105-188 mg/l at Athola Gazipur as compared to the values of BOD as 27-30 mg/l at its section at Pathankot- Jalandhar Road. The increase in the values is due to discharge of some untreated sewage into Kala singhian drain. PPCB should check the untreated discharges entering into the said drain and suitable directions be issued to the concerned agency for treatment of the same.
19. The Municipal Corporation Ludhiana should plug all the 16 outlets carrying untreated domestic sewage of Ludhiana City and directly falling into Budha Nallah and divert the same to nearby STPs soon after the completion of new STPs of capacity 227 MLD. These outlets should be closed by 30.6.2020.
20. PPCB shall install Real Time Water Quality Monitoring System (RTWQMS) at the appropriate locations by 30.06.2020.
21. Punjab Pollution Control Board shall carry out the comprehensive study and water audit of Common Effluent Treatment Plant (CETP) based on Zero liquid discharge technology installed at Focal Point Ludhiana, for small scale electroplating industries of Ludhiana and other areas and shall submit the report to the Chairman,



- Punjab Pollution control Board for action in the matter under intimation to the Committee. PPCB shall also submit the compliance report w.r.t recommendations made by the Monitoring Committee during its visit to Ludhiana area on 16.08.2019.
22. Punjab Pollution Control Board shall conduct surprise inspection of large scale electroplating industries of Ludhiana to ensure that zero liquid discharge technology effluent treatment plants, installed by these industries, are operated at all the times and effluent from these industries should not be allowed to discharge into sewerage system further leading to Budha Nallah. The permeate from zero liquid discharge technology ETPs should be recycled back into the processes of the industries. The toxic sludge from the ZLD system should be disposed off to TSDF, Nimbuan.
  23. PPCB shall notify pretreatment standards for CETP at the earliest as directed by the Hon'ble NGT vide its order dated 28.2.2019.
  24. In order to maintain Environment flow in river Sutlej, the Monitoring Committee recommends that the following directions be given to the various departments of State of Punjab.
    - Department of Water Resources and Department of Soil & Water conservation shall identify the area / stretches in the catchment area of river Sutlej for providing check dams / storage tanks for storage of run off / storm water during rainy days and the stored water may be released in regulated way so as to maintain the quality of drains/Nallah/river water at down streams.
    - The Municipal Councils / Corporations / Department of Local Govt. shall install STPs to achieve the stringent parameters i.e. BOD: 10 mg/l, so that the resultant value of BOD after mixing with the river water may be nearly 3 mg/l.
    - The industries be directed to achieve the stringent parameters i.e. BOD: 10 mg/l. The industries discharging wastewater, having toxic constituents, may not be allowed to discharge their effluent into drains/Nallah/rivers / water bodies. These industries may be directed to achieve Zero Liquid Discharge technology.
  25. With regard to release of fresh water from Sirhind Canal into Budha Nallah, it was informed to the Monitoring committee in the meeting held with District level officers of District Ludhiana that DPR of the project shall be submitted by 30.06.2020, tendering processes shall be completed by 15.08.2020 and work shall allotted to the Contractor by September, 2020, work shall be started by October, 2020 and project shall be completed by April, 2021. **The Monitoring Committee directed that the Department of Water Resources shall ensure that the project regarding release of fresh water from Sirhind Canal into Budha Nallah shall be completed by 31.03.2021.**

26. For management of Septage and Faecal sludge, the Monitoring Committee recommends that the Deptt. of Rural Development & Panchayat and Department of Local Govt. shall jointly constitute committees to identify the sources of generation of septage and faecal sludge from rural and urban areas and these departments shall prepare a comprehensive plan to dispose of these materials in an environmentally sound manner in a time bound manner.
27. The Department of Local Govt., Municipal Corporation Moga, Municipal Councils falling under the District Moga, Punjab Water Supply and sewerage Board, department of Rural Development and Panchyat and Punjab Pollution control Board shall comply with the recommendations made by the Monitoring Committee during its visit to pollution sources of Moga area on 27.02.2020.
28. Punjab Water Supply and sewerage Board, Municipal Council Moga and Punjab Pollution Control Board shall comply with the recommendations made by the Monitoring Committee during its visit to STP Mansa on 11.3.2020.
29. Punjab Pollution Control Board and Authorities of Mukatsar Medicity Hospital, Bathinda Road, Sri Mukatsar Sahib shall comply with the recommendation made by the Monitoring Committee during its visit to the said hospital of Sri Mukatsar on 17.3.2020.

### **3.8.2 River Beas**

- 1 Presently, in the catchment area of river Beas 16 STPs of capacity 97.1 MLD have been installed. Out of these 16 STPs, 10 sewage treatment plants (STPs) of capacity 76.1 MLD have been installed by Punjab Water Supply and Sewerage Board, 5 STPs of capacity 17 MLD have been installed by MES authority and 01 STP of capacity 4 MLD by BBMB authority Talwara.
- 2 The performance study of STPs located in the catchment area of river Beas indicates as under.
  - Out of 16 STPs installed in the catchment area of river Beas, 12 STPs (Pathankot: 27 MLD, Sri Hargobindpur:1 MLD, Dasuya: 4 MLD, BBMB Talwara: 4 MLD, Begowal: 2.5 MLD, Bhulath; 4 MLD, Sultanpur Lodhi: 2.6 MLD, MES: Pathankot: 3 MLD, MES Mamoon: 2 MLD, MES Pathankot: 8 MLD, MES Mamoon:2 MLD, MES Mamoon: 2 MLD) are meeting with the prescribed norms w.r.t parameters namely BOD, TSS and F.Coli.
  - 3 STPs namely Mukerian: 5 MLD, Sham Churasi: 1 MLD, Tanda: 4 MLD are meeting with BOD and TSS parameters and not with F.coli parameter.
  - 01 STP (Kapurthala: 25 MLD) is not meeting with BOD and F.Coli parameters.
3. In order to treat 26.6 MLD sewage, which is a gap in treatment capacity, 9 STPs of capacity 29.2 MLD have been proposed to be installed and funds have been tied

up. Out of these 9 STPs, 04 STPS are at DNIT stage, 03 STPS have been involved with land issue and 02 STPs are at tendering stage. **The Monitoring Committee recommends that the department of Local Govt. and Punjab Water Supply and sewerage Board should make arrangements to provide STPs of capacity 29.2 MLD by 31.3.2021 and till then in-situ remediation technology may be provided in the drains which are carrying untreated sewage.**

4. There is proposal to upgrade 25 MLD STP at Kapurthala but the funds have not been tied up. **The department of Punjab water supply and Sewerage Board should take up the matter with the State Govt. for release of funds for upgradation of 25 MLD existing STP and ensure to complete the upgradation work by 31.03.2021.**

5. In order to utilize the treated sewage of STPs of 8 towns of capacity 50.1 MLD for irrigation, irrigation schemes have been completed. Under these irrigation schemes 1305 hectares of land has been covered. **The Monitoring Committee recommends that Punjab Pollution Control Board shall check these irrigation schemes and ensure that these should be commissioned to utilize the treated sewage for irrigation.**

6. The irrigation scheme to utilize the treated sewage (2.5 MLD) of STP of Begowal town has been completed. It should be commissioned by 30.06.2020 and the treated sewage should be utilized for irrigation purposes.

7. Irrigation schemes for 07 STPs of capacity 42 MLD have been prepared but the funds have not been tied up so far. **The department of Soil and Soil Conservation should take up the matter with State Govt. for release of funds to utilize the treated sewage 7 STPs of capacity 42 MLD for irrigation.**

8. The water quality of River Beas monitored during March, 2020 and April, 2020 indicates that quality of water mostly remains as class B as per the water quality criteria prescribed by CPCB. Thus, the water of river Beas is fit for drinking after imparting disinfection and irrigation purposes.

9. The data with regard to water quality of Holy Bein indicates that quality of water varies between class B to C, which indicates that water can be used for drinking purposes by imparting conventional treatment followed by disinfection and irrigation purposes and it can be used for irrigation.

10. To maintain the Environment flow and to restore the quality of river Beas, the following recommendations are made:

- i. Department of Water Resources and Department of Soil & Water conservation shall identify the areas / stretches in the catchment area of river Beas for providing check dams / storage tanks for storage of run off /

