GOVERNMENT OF ASSAM
ENVIRONMENT AND FOREST DEPARTMENT
DISPUR, GUWAHATI -6.

No. FRM.171/2018/Pt-II/746 Dated Dispur, the 9th October, 2020

From : Shri I. Kalita, ACS
Addl. Secretary to the Govt. of Assam
Environment and Forest Department.

To : The Secretary to the Govt. of India,
Ministry of Jal Shakti,
Department of Water Resources,
River Development & Ganga Rejuvenation,
Shram Shakti Bhawan , Rafi Marg, New Delhi-110001.

Sub : Submission of Monthly Progress Report (MPR) for the month of September, 2020 in compliance of orders in OA No.673/2018, News Items published in "The Hindu" authorized by Shri Jacob Koshy, titled "More river stretches are now critically polluted; CPCB".

Sir,

With reference to the subject cited above, I am directed to submit herewith the Monthly Progress Report (MPR) for the month of September, 2020 for the State of Assam in compliance of orders in OA No.673/2018, News Items published in "The Hindu" authorized by Shri Jacob Koshy, titled "More river stretches are now critically polluted; CPCB" for favour of your kind information and necessary action.

Yours faithfully,

Enclosure: As stated above.

Addl. Secretary to the Govt. of Assam
Environment and Forest Department.

Memo No. FRM.171/2018/Pt-II/746-A Dated Dispur, the 9th October, 2020

Copy to :-

1. The Chairman, Central Pollution Control Board, Parivesh Bhawan, C B D Cum Office Complex, East Arjun Nagar, Shahdara, Delhi-110032. (soft copy of MPR submitted via e-mail).
2. Shri Ruby Raju, National Mission for Clean Ganga, Ministry of Jal Shakti, Department of Water Resources, River Development and Ganga Rejuvenation , New Delhi-110002. (soft copy of MPR submitted via e-mail).

By order etc.,

Addl. Secretary to the Govt. of Assam
Environment and Forest Department

O/C

Monthly Progress Report for the month of September, 2020 in compliance with NGT Case O.A. No. 673/2018

Sl. No.	Activity to be monitored	Timeline in NGT Order	Water bodies	Name of Agency	Remarks
1	***Ensure 100% treatment of sewage at least in-situ remediation***	31.03.2020	Bharalu **(Priority –I)**	Guwahati Municipal Corporation(GMC) and Guwahati Metropolitan Development Authority(GMDA) under Guwahati Development Department(GDD) & PCBA	Report same as the MPR for the month of August,2020. In addition following progress have been made- **PCBA** will monitor and analyze all the parameters of water quality including COD and BOD of the following 6 drains falls in River Bharalu and submit monthly report accordingly. (i) Water from refinery locoshed area drain before confluence with Bharalu river at Jonali. (ii) Water from drain at Jonali before confluence with Bharalu river. (iii) Water from drain after confluence with Bharalui River at Jonali. (iv) water from drain before confluence with Bharalu river at Ulubari Mazar. (v) Water from Sarabbhati drain before confluence with Bharalu river at Sarabbhati. (vi) Water from Bishnupur drain after confluence with Bharalu river at Bishnupur.
			Borsola **(Priority –II)**	GMDA under GDD & PCBA	Report same as the MPR for the month of August,2020.In addition following steps have been taken- **PCBA** will monitor and analyze all the parameters of water quality including COD and BOD of the following drains- (i) Chandmari Drain (ii) Rehabari Drain **GMDA** has taken up a scheme for treatment of polluted water of **Borsola Beel** through Bioremediation and accordingly Govt. has accorded Administrative approval amounting to **Rs.181.00 Lakh** (Rupees One Crore Eighty One Lakhs) only for the scheme vide No. AA/72_2019-20(I)_209, dated:29/02/2020. The draft RFP document on Treatment of polluted

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			Borsola **(Priority –II)**	GMDA under GDD & PCBA	water of Borsola Beel through Bio-remediation is prepared has been sent to Pollution Control Board, Assam vide letter no. GMDA/DEV/16/2019/28, dated: 29/09/2020 to examine and for formal vetting of the RFP document. As per the Action Plan, GMDA has taken up a scheme for de-siltation and cleaning of Borsola Beel for an amount of **Rs.75.00 Lakh** (Rupees Seventy Five Lakhs) only and the physical progress of the work as on 29/09/2020 is **95%.** **New Schemes taken by GMDA for the FY 2020-21: -** De-siltation and cleaning of Borsola Beel in compliance with the Hon'ble NGT order amounting to **Rs.48.55 Lakh** (Rupees Forty Eight Lakhs Fifty Five Thousand) only has been accorded A/A vide No. AA/72_2020-21(I)325, dated: 19/08/2020 and accordingly preparation of tender document is under process.
			Silsako **(Priority-II)**	GMDA under GDD & PCBA	**PCBA** will monitor and analyze all the parameters of water quality including COD and BOD of the following drains and submit monthly report accordingly. (i) Chachal Drain (ii) Panjabari Drain GMDA has taken up a scheme on Bioremediation measures for Silsako Beel in compliance with the Hon'ble NGT order and accordingly Govt. has accorded Administrative approval amounting to **Rs.921.00 Lakh** (Rupees Nine Hundred Twenty One Lakhs) only for the scheme A/A vide No. AA/72_2020-21(I)_328, dated: 03/09/2020. The RFP will be floated after vetting of the RFP document by Pollution Control Board, Assam. **New Schemes taken by GMDA for the FY 2020-21: -** Cleaning of Silsako Beel in compliance with the Hon'ble NGT order amounting to **Rs.903.00 Lakh** (Rupees Nine Hundred Three Lakhs) only has been accorded A/A vide No. AA/72_2020-21(I)_324, dated: 19/08/2020 and the work will be initiated after completion of the ongoing scheme under Flood Free Guwahati.

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			Sarusola **(Priority-II)**	GMDA & PCBA	PCBA will monitor and analyze all the parameters of water quality including COD and BOD of the following drains and submit monthly report accordingly. (i) Drain near K.C. Commerce College (ii) Drain from Chatribari Area Govt. has accorded Administrative approval for the scheme Treatment of polluted water of **Sarusola Beel** in compliance with the Hon'ble NGT order amounting to **Rs.179.00 Lakh** (Rupees One Hundred Seventy Nine Lakhs) only vide No. AA/72_2020- 21(I)_329,dated:03/09/2020 and the RFP will be floated after vetting of the RFP document by Pollution Control Board, Assam. As per the Action Plan submitted by pollution Control Board, Assam, **GMDA** has taken up cleaning activities in Silsako Water-body through removal of water-hyacinths and floating garbage along with de-siltation of the water-body with the help of machineries. Govt. has accorded approval for the scheme for an amount of Rs.195.00 Lakhs and the physical progress of the work as on 29/08/2020 is **62%.** **<u>New Schemes taken by GMDA for the FY 2020-21: -</u>** Cleaning of Sarusola Beel in compliance with the Hon'ble NGT order amounting to **Rs.47.61 Lakh** (Rupees Forty Seven Lakhs Sixty One Thousand) only has been accorded A/A vide No. AA/72_2020-21(I)_327, dated: 03/09/2020 and accordingly initial work has been started to float the tender.
			Deepor Beel **(Priority-III)**	GMDA	Report same as the MPR submitted for the month of August,2020.
			(Priority-III) – Digboi	UDD	Report same as the MPR submitted for the month of August,2020
			(Priority-III) – Kamalpur, Panchnai	P & RD	Report same as the MPR submitted for the month of August,2020

Sl. No.	Activity to be monitored	Timeline in NGT Order	Water bodies	Name of Agency	Remarks
			(Priority-IV)- Kharsang ,Pagladia	P & RD Deptt.	Report same as the MPR submitted for the month of August,2020
			(Priority-V)- Baroi, Boginadi, Dikrong,Diplai, Dishang, Gabharu, Holudunga, Jia bharali, Killing,Kohora, Kulsi, Parashali, Puthimari,Ranga, Samaguri,Son Tenga Pukhuri		
1.1	***Commencement of setting up of STPs and connecting all the drains and other sources of generation of sewage to the STPs must be ensured***	31.03.2020	Bharalu	Guwahati Jal Board (GDD)	(i) To set up decentralized STPs, the Kamrup Metropolitan District Administration and Guwahati Metropolitan Drinking Water & Sewerage Board (GMDW&SB) had conducted joint survey and identified 14 candidate land parcels. The Revenue and Disaster Management Department in Govt. of Assam has accorded no objection for use of 10 parcels of land for setting up of STP by JICA. However, another two plots of lands falls under Schedule –II (Borsola Beel) of Guwahati Water Bodies (Preservation and Conservation) Act, 2008 and is under GMDA's ownership. GDD vide letter No.GDD.370/2008/767 dated 03.10.2020 has sought a proposal from GMDA to accord NOC for setting up of STPs by Guwahati Jal Board. (ii) The sensitization and awareness programme has been conducted jointly by Kamrup
			Silsako		

Sl. No.	Activity to be monitored	Timeline in NGT Order	Water bodies	Name of Agency	Remarks
			Borsola		Metropolitan District Administration and GMDW&SB across different areas adjacent to the 14 locations identified for setting up of STPs and it concluded successfully on 29/09/2020 with full cooperation of the public and without any opposition from any section of the public. The minutes of the meetings and consents of the public have been submitted to JICA by Guwahati Jal Board. (iii) For strengthening of PIU, engagement of different levels of manpower is under process by Guwahati Jal Board and the same will be completed as per the timeline given to JICA. (iv) Guwahati Jal Board would be shortly submitting request to Kamrup Metro District administration for the 02 (two) parcels of land left out.
			Bega, Borak, Kolong, Bhogdoi, Mora- Bharali.	UDD	In addition to the report in earlier MPR, August 2020 STPs has been proposed for the river stretches-Bega, Borak, Kolong, Bhogdoi, Mora- Bharali.
			(**Priority-III)-** Digboi,	UDD	Report same as the MPR submitted for the month of August,2020
			(**Priority-III)-** Kamalpur, Panchnai	P & RD Deptt.	Report same as the MPR submitted for the month of August,2020
			(Priority-IV)- Kharsang, Pagladia		
			(Priority-V)- Baroi, Boginadi, Dikrong,Diplai, Dishang, Gabharu,		

Sl. No.	Activity to be monitored	Timeline in NGT Order	Water bodies	Name of Agency	Remarks
			Holudunga, Jia bharali, Killing,Kohora, Kulsi, Parashali, Puthimari,Ranga, Samaguri,Son Tenga Pukhuri)		Report same as the MPR submitted for the month of August,2020
			Bega, Borak, Kolong, Bhogdoi, Mora- Bharali.	UDD	Polluted stretches of the river Mora Bharali is identified from Tezpur Town to Dhenukhana Pahar. The task of rejuvenation of this river stretch has been transferred from P & RD to UDD very recently.
2	***Timeline for completing all steps of action plans including completion of setting up of STPs and their commissioning***	31.03.2021		Guwahati Jal Board under GDD	1. No objection for transfer of 12 parcels of land by Guwahati Metropolitan Drinking Water & Sewerage Board (Guwahati Jal Board) for setting up of Guwahati Sewerage Project is being accorded by the Revenue Department in Govt. of Assam. 2. GDD have already completed 10 nos. of awareness meetings with the public. 3. Pollution Control Board has been requested to conduct baseline survey of 45 nalas/drains for COD/BOD levels to determine the pollution level of the water bodies. 4. The progress of engagement of contractual employees and deputation of eligible officers against higher posts under Guwahati Metropolitan Drinking Water & Sewerage Board and Project Implementation Unit is underway.
			(Priority-III)- Digboi,	UDD	Report same as the MPR submitted for the month of August,2020
			(Priority-III)- Kamalpur, Panchnai	P & RD Deptt.	Report same as the MPR submitted for the month of August,2020
			(Priority-IV)- Pagladia, Kharsang		

Sl. No.	Activity to be monitored	Timeline in NGT Order	Water bodies	Name of Agency	Remarks
			(Priority-V)- Baroi, Boginadi, Dikrong,Diplai, Dishang, Gabharu, Holudunga, Jia bharali, Killing,Kohora, Kulsi, Parashali, Puthimari,Ranga, Samaguri,Son Tenga Pukhuri) Bega, Borak, Kolong, Bhogdoi, Mora- Bharali.		Report same as the MPR submitted for the month of August,2020
				UDD	The Deputy Commissioners have been requested to allot land for setting up of STPs by UDD vide letter dated 06.08.2020.Finalization of tenders for execution of STP work is expected to be completed by 31.12.2020.
5	***Chief Secretaries may set up appropriate monitoring mechanism at State level*** • ***Specifying the accountability of nodal authorities not below the Secretary level***				Same as per report submitted in the MPR for the month of August,2020.

Sl. No.	Activity to be monitored	Timeline in NGT Order	Water bodies	Name of Agency	Remarks
	• ***Chief Secretaries may have an accountable person attached in their office for this purpose***	22.01.2020			Same as per report submitted in the MPR for the month of August,2020.
	• ***Monitoring at State level must take place***	Fortnightly commencing 21.12.2019			Same as per report submitted in the MPR for the month of August, 2020.
6	***Progress report may be furnished by the States/UTs to*** • ***Secretary, Ministry of Jal Shakti*** • ***Member Secretary, CPCB***	Monthly (Preferably before 20th of every month)			Progress Report for the month of August, 2020 was already submitted by the Environment & Forests Department to the Ministry of Jal Shakti, the CPCB and Shri Ruby Raju(Central Monitoring Committee).

Sl. No.	Activity to be monitored	Timeline in NGT Order	Water bodies	Name of Agency	Remarks
6.1	***Progress report may comprise of details along with completion timelines on:*** **i.** ***Identification of polluting sources including drains contributing to river pollution and actions as per NGT order on in-situ treatment.***			PCBA	There are seven non - complying industrial units located in the catchment of the polluted river stretches under **Priority I - IV** that do not have ETPs as mentioned in the Action Plan. These industrial units were issued closure notice by Pollution Control Board Assam. In this regard, four (04) Industrial units have installed ETP and one under process of ETP installation. One non - complying unit is already ensured closure by PCBA and steps are being taken to ensure closure by PCBA to the remaining one non - complying unit. **(Annexure A**). At present no industrial treatment gaps have been observed in the polluted stretches of **Bharalu River (Priority I), Silsako Beel (Priority 1), Deepar Beel (Priority III), Kamalpur Beel (Priority III) & Brahmaputra River (Priority IV).**
			(Priority-III)- Digboi,	UDD	Report same as the MPR submitted for the month of August,2020
			(Priority-III)- Kamalpur, Panchnai	P&RD Deptt.	Report same as the MPR submitted for the month of August,2020
			(Priority-IV)- Kharsang, Pagladia		

Sl. No.	Activity to be monitored	Timeline in NGT Order	Water bodies	Name of Agency		Remarks
			(Priority-V)- Baroi, Boginadi, Dikrong,Diplai, Dishang, Gabharu, Holudunga, Jia bharali, Killing,Kohora, Kulsi, Parashali, Puthimari,Ranga, Samaguri,Son Tenga Pukhuri)			Report same as the MPR submitted for the month of August,2020
				Mora Bharali	UDD	Report same as the MPR submitted for the month of August,2020
	ii. Status of STPs, I & D and sewage networks. Details of existing infrastructure, Gap Analysis, proposed along with completion timelines			GDD		The Detailed Project Report of JICA assisted Guwahati Sewerage Project of 2015 scope of work has been changed from Centralized STP to Decentralized STP, sanctioned for **Rs.1187.00 Lakh** (Rupees Eleven Crore Eighty Seven Lakh) only in 2015, will require to be revisited in view of considerable change in the scope of work to now include multi nodal technology like Fecal Sludge Management, newer technologies like Johkasou etc.
				UDD		The process of preparation of DPRs for STPs is under progress under Assam Urban Water Supply and Sewerage Board. The STPs have been proposed for the river stretchges of Bega, Barak, Kolong, Bhogdoi and Mora Bhoroli. The tender for preparation of DPR for the above mentioned river stretches have already been floated on 05/08/2020.
			Bega,			Land has been allotted and the consultant is in process of preparation of DPR

Sl. No.	Activity to be monitored	Timeline in NGT Order	Water bodies	Name of Agency	Remarks
			Mangaldai	UDD	
			Mora Bharalu Brahmaputra,Tezpur		Land has been allotted in principle. The consultant is in process of preparation of DPR
			Kolong Nagaon		Land has been earmarked by the LAC, but yet to be allotted by district administration.
			Bhogdoi Johat		Land has been allotted in principle. The consultant is in process of preparation of DPR
			Borak, Silchar		Land yet to be allotted buy district administration.
	iii. Status of existing CETP and ETP infrastructure, GAP Analysis, proposed along with completion timeline, No of industries and complying status.			PCBA	Status report on closure of industries to which closure notices were issued on the ground of not having ETPs are enclosed as **Annexure - A**.
			(Priority-III)- Digboi	UDD	Survey is going on.
			(Priority-V) – Dishang, Son	P & RD Deptt.	Report same as the MPR submitted for the month of August,2020
	iv. Status of Solid Waste Management and details of			GDD	(i) Disposal of municipal waste, bio-medical waste, plastic etc. in the river bodies are prohibited by the Guwahati Municipal Corporation. (ii) Two nos. of decentralized processing plants has already been set-up in the city namely Organic Waste Converter at Bhangagarh which is operational and biomethanation

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	processing facilities – Details of existing infrastructure, proposed along with completion timelines.				plant at Chatribari Beelpar which is being commissioned. (iii) However, a request has been made by GDD to the district administration, Kamrup Metro to allocate another 60 Bigha of land to GMC for this purpose from the Goat Research Centre. (iv) Proposal for installation of strainers to prohibit ingress of solid waste at 39 identified points along river Bharalu amounting to Rs.29.89 Lakh has been submitted to Govt. Tender has been floated for the same. (v) 50 TPD existing trommel plant for segregation of legacy waste at Boragaon will be functional within short time. (vi) One scheme for managing MSW by using bed composting method is under process. (vii) Implementation of vermin compost process is in progress for decomposition of MSW. (viii) GMC has undertaken Drum Composting System for MSW Management. Existing shed at Boragaon is in sufficient to implement to this scheme. Hence extension of shed area is required. GMC is undertaking process of the matter with Environment & Forest Department. (ix) The initial Action Plan for disposal of Solid Waste with 4 decentralized Solid Waste Management Plants at Tamulikuchi N.C. under Sonapur Revenue Circle, Odalbakra under Dispur Revenue Circle, Basistha under Dispur Revenue Circle and Chandrapur under Chadrapur Revenue Circle has been delayed due to unavoidable reasons including COVID 19 pandemic and complications in taking over the identified land and therefore cancelled. (x) For establishment of proposed Integrated Solid Waste Management Plant/waste to energy plant, a plot of land measuring 28 Bigha at Byrnihat, Sonapur Circle has already been allocated to GMC by Revenue Deptt. The D.C., Kamrup (M) will hand over the said plot of land to GMC immediately. Fund for setting up of Integrated Solid Waste Management Plant at Byarnihat, a concept paper for funding from DONER/JICA for an amount of Rs.287.00 Crore (Rupees Two Eighty Seven Crore) only has been submitted to T&D Department for their concurrence in this regard. (xi) For construction of approach road along with culverts to Byarnihat site will be funded from Central Finance Commission and GMC.

Sl. No.	Activity to be monitored	Timeline in NGT Order	Water bodies	Name of Agency	Remarks
				UDD	A total of 688 TPD is generated in the other Urban Local Bodies of Assam out of which 391 TPD are processed. There is a Gap of 43% i. 8 nos. of waste to compost plant is operational with total capacity of 274 TPD and 3 are under construction with total capacity of 130 tons. ii. 1 no. waste to energy plant with total capacity of 100 TPD is operational in Tezpur ULB. iii. Capacity of SWM decentralized plant of 238 TPD
			(Priority III)- Digboi	UDD	Report same as the MPR submitted for the month of August, 2020
			(Priority V) Killing	P&RD Deptt.	
			(Priority V)- Son		
	v. Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river			PCBA	Water quality of the polluted rivers and wetlands, major drain outfalls contributing to pollution and ground water of the catchment area of the polluted river stretches under **Priority I - IV** are analysed for the month of September, 2020 and enclosed(**Annexure B, C and D**). The data generated appears as follows: a) The data generated from the physical, chemical and bacteriological water quality parameters from the polluted rivers have not reflected any significant changes in the present month as compared to the previous month. The main contributor of pollution in the rivers is observed to be the domestic and commercial municipal sewages. The industrial wastes seem to have minimal impact as majority of the non - complying industrial wastes discharging units have installed ETPs and some have been closed down as per the direction issued by PCBA. As the process of discharging of untreated municipal sewages into the river is occurring on regular basis, the water

Sl. No.	Activity to be monitored	Timeline in NGT Order	Water bodies	Name of Agency	Remarks
					quality of the rivers indicated negligible changes. b) The municipal sewages originated from household other commercial establishments are discharging through the identified twenty (20) major drains / outfalls into the polluted rivers under **Priority I - IV** continuously. In - situ treatment by bioremediation in the major drains is yet to be done, hence no improvement in the water quality parameters of the drains are observed. c) The ground water quality of the catchment of the polluted river stretches are within the norms except for iron which remain as the only parameter observed slightly above the standard norms (0.30 mg /l) in the catchment area of **Bharalu, Borsola Beel & Silsako Beel (Priority I), Sorusala Beel (Priority II) and Deepar Beel (Priority III).**
			(Priority V)- Parashali, Son	P & RD Deptt.	Report same as the MPR submitted for the month of August,2020
	vi. Preventing dumping of waste and scientific waste management including bio-medical wastes, plastic wastes and decentralizing waste processing,			GDD	Same as report submitted in the MPR for August,2020. In addition, the following progress have been made. **<u>Legacy Waste Disposal –</u>** (i) GMC Commissioner has been requested to visit the three best practices Ahmedabad in Gujarat, Tirupati in Andhra Pradesh, Nawashahar in Punjab as per MoHUA Solid Waste Landfill Advisory for taking forward the project for removal of Legacy waste from West Boragaon Dumpsite of approximately 17 Lakhs M.T. On 05.10.2020, the team of GMC officials will visit Ahmedabad (Gujarat). (ii) Two nos. of decentralized processing plants has already been set-up in the city namely Organic Waste Converter at Bhangagarh which is operational and bio-methanation plant at Chatribari Beelpar which is being commissioned.

Sl. No.	Activity to be monitored	Timeline in NGT Order	Water bodies	Name of Agency	Remarks
	including waste generated from hotels, ashrams, etc				Disposal of municipal waste, plastic, biomedical waste etc. in the river bodies are prohibited.
				UDD	1. State has strengthen Door to Door collection system by covering 729 wards out of 912 wards in the ULBs Assam. 2. 506 nos of bulk waste generators have been identified and they are being directed to practice in situ waste management. 3. State has provided 15 nos of Organic Waste Converters (500KG/Day each) to major ULBs of Assam. 4. 144 nos of Material recovery Facilities have been established for effective sorting, channelizing and processing of recyclable 7non-recyclable fractions of plastic waste collected. 5. Adopted decentralized model for processing of wet waste to minimize environmental impacts entailed with its transportation.
	vii. Ground water regulations			Central Ground Water Authority	Same as per report submitted in the MPR for the month of August, 2020.
	vii. Adopting good irrigation practices			GDD	There is no scope for irrigation practices in respect of Bharalu river as it passes through the heart of the city which is very densely populated and devoid of agricultural land along its bank. Similar is the case of Bosola, Sorusola and Silsako Beel.
				Irrigation Department	Same as per report submitted in the MPR for the month of August, 2020.
	iii. Protection and management of Flood Plain Zones (FPZ)				Same as per report submitted in the MPR for the month of August, 2020.

Sl. No.	Activity to be monitored	Timeline in NGT Order	Water bodies	Name of Agency	Remarks
	ix. Rain Water Harvesting			Irrigation Department, Public Health Engineering Department & Soil Conservation Deptt.	Same as per report submitted in the MPR for the month of August, 2020. In addition, Soil Conservation Department has taken various schemes for Rainwater Harvesting. Report are placed at **Annexure E&F.**
	x. Maintaining minimum environment flow of river				Same as per report submitted in the MPR for the month of August, 2020.
	xi. Plantation on both sides of the river				Same as per report submitted in the MPR for the month of August, 2020. In addition, Soil Conservation Department has taken various schemes for Plantation on both sides of the river. Report are placed at **Annexure E.**
	xii. Setting up biodiversity parks on flood plains by removing encroachment				Same as per report submitted in the MPR for the month of August, 2020.
	xiii. Encroachment				Same as per report submitted in the MPR for the month of July, 2020. In addition the following steps have been taken- 1. The matter of encroachment in river Bharalu has been taken up by GMC with the D.C., Kamrup (M) and D.C., Kamrup(M) will sort out the matter very shortly. 2. The matter of closure of Basistha-Bahini River at Natun Bazar location through a diversion structure as reported by MoJS team has also been intimated to District Metro for sorting out the matter.

Monthly incremental progress report from Pollution Control Board Assamfor the month of September in compliance with NGT case O.A. No. 673/2018

Reply against 6.1 (i)

a) There are seven non-complying industrial units situated in the catchment of the polluted river stretches under **Priority I – IV** that do not have ETPs as mentioned in the Action Plan. These industrial units were issued closure notice by Pollution Control Board Assam. In this regard, four (04) Industrial units have installed ETP and one under process of ETP installation. One non-complying unit is already ensured closure by PCBA and steps are being taken to ensure closure by PCBA to the remaining one non-complying unit. **(Annexure A).** At present no industrial treatment gaps have been observed in the polluted stretches of **Bharalu River (Priority I), Silsako Beel (Priority I), Deepar Beel (Priority III), Kamalpur Beel (Priority III) & Brahmaputra River (Priority IV)**

Reply against 6.1 (iii)

a) Status report on closure of industries to which closure notices were issued on the ground of not having ETPs are enclosed as **Annexure-A**.

Reply against 6.1 (v)

Water Quality of the polluted rivers and wetlands, major drain outfalls contributing to pollution and ground water of the catchment area of the polluted river stretches under **Priority I - IV** are analysed for the month of September, 2020 and enclosed **(Annexure B, C and D)**. The data generated appears as follows:

a) The data generated from the physical, chemical and bacteriological water quality parameters from the polluted rivers have not reflected any significant changes in the present month as compared to the previous month. The main contributor of pollution in the rivers is observed to be the domestic and commercial municipal sewages. The industrial wastes seem to have minimal impact as majority of the non-complying industrial wastes discharging units have installed ETPs and some have been closed down as per the direction issued by PCBA. As the process of discharging of untreated municipal sewages into the river is occurring on regular basis, the water quality of the rivers indicated negligible changes.

b) The municipal sewages originated from household or other commercial establishments are discharging through the identified twenty (20) major drains/outfalls into the polluted rivers under **Priority I-IV** continuously. In-situ treatment by bioremediation in the major drains is yet to be done, hence no improvement in the water quality parameters of the drains are observed.

c) The ground water quality of the catchment of the polluted river stretches are within the norms except for iron which remain as the only parameter observed slightly above the standard norms (0.30 mg/l) in the catchment area of **Bharalu, Borsola Beel & Silsako Beel (Priority I), Sorusala Beel (Priority II) and Deepar Beel (Priority III).**

Annexure A

Status Report of non-complying Industrial units of the Bharalu river stretch (Priority I)

Name of Unit	Status
Rosa Restaurant, B.K. Kakati Road, Sarabhatti, Guwahati - 8	Installed ETP functional
Woodland Marriage Hall, Ulubari, Guwahati - 781007	Installed ETP functional
Haryana Charitable Trust, Harayana Bhawan, Narayan Nagar, Kumarpara, Guwahati-9	Closed and ensured

Status Report of non-complying Industrial units of the Borsola/Sorusala Wetland (Priority I &II)

Name of Unit	Status
Hotel Fame City, Paltanbazar, Guwahati-8	Installed ETP functional
Hotel Darbar, Paltanbazar, Guwahati-8	Closure notice issued. Steps are being taken to ensure closure
Hotel Geetanjali , Paltanbazar, Guwahati-8	ETP Installation under progress

Status Report of non-complying Industrial units of the Deepar beel Wetland (Priority III)

Name of Unit	Status
Ayurvedic College Hospital, Jalukbari, Guwahati	Installed ETP functional

Annexure B

Latest analysis report of Bharalu River Polluted Stretch – September, 2020

Parameter	Value
D.O. (mg/L)	Nil
pH	7.4
Cond(µS/cm)	570
BOD(mg/L)	38.4
COD(mg/L)	128.3
NO_3 -N (mg/L)	2.6
TSS (mg/L)	82
Turbidity (NTU)	10
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	92
Hardness (mg/L)	148
Calcium as $CaCO_3$(mg/L)	104
Magnesium as $CaCO_3$ (mg/L)	44
Chloride as Cl- (mg/L)	32
Sulphate as SO_4^{-2} (mg/L)	66.4
Phosphate as PO_4 (mg/L)	0.36
TKN (mg/L)	10.0
NH_4-N (mg/L)	3.4
Total Dissolved Solids (mg/L)	366
TFS (mg/L)	90
Fluoride (mg/l)	0.61
Boron (mg/l)	0.030
Na (mg/L)	54.4
K (mg/L)	13.4
Total Iron (mg/L)	0.48
Lead (mg/L)	0.014
Zinc (mg/L)	0.048
Copper (mg/L)	0.008
Total Chromium (mg/L)	BDL
Nickel (mg/L)	BDL
Cadmium (mg/L)	BDL
Mercury (mg/L)	BDL
Arsenic(mg/L)	0.01
Total Coliform (MPN/100ml)	5300
Faecal Coliform (MPN/100ml)	3500

Annexure B

Latest analysis report of Borsola Beel Polluted Stretch- September, 2020

Parameter	Value
D.O. (mg/L)	Nil
pH	7.5
Cond(µS/cm)	438
BOD(mg/L)	28.6
COD(mg/L)	92.6
NO_3 -N (mg/L)	2.2
TSS (mg/L)	62
Turbidity (NTU)	08
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	128
Hardness (mg/L)	156
Calcium as $CaCO_3$(mg/L)	106
Magnesium as $CaCO_3$ (mg/L)	50
Chloride as Cl- (mg/L)	22
Sulphate as SO_4^{-2} (mg/L)	33.2
Phosphate as PO_4 (mg/L)	1.4
TKN (mg/L)	9.6
NH_4-N (mg/L)	2.8
Total Dissolved Solids (mg/L)	282
TFS (mg/L)	70
Fluoride (mg/l)	0.64
Boron (mg/l)	0.022
Na (mg/L)	25.4
K (mg/L)	13.0
Total Iron (mg/L)	0.24
Lead (mg/L)	0.025
Zinc (mg/L)	0.044
Copper (mg/L)	0.004
Total Chromium (mg/L)	BDL
Nickel (mg/L)	0.016
Cadmium (mg/L)	0.004
Mercury (mg/L)	BDL
Arsenic(mg/L)	BDL
Total Coliform (MPN/100ml)	4400
Faecal Coliform (MPN/100ml)	2800

Annexure B

Latest analysis report of Silsako Beel at Chachal - September, 2020

Parameter	Value
D.O. (mg/L)	Nil
pH	7.5
Cond(µS/cm)	524
BOD(mg/L)	15.0
COD(mg/L)	54.0
NO_3 -N (mg/L)	1.6
TSS (mg/L)	64
Turbidity (NTU)	06
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	60
Hardness (mg/L)	144
Calcium as $CaCO_3$(mg/L)	96
Magnesium as $CaCO_3$ (mg/L)	48
Chloride as Cl- (mg/L)	18
Sulphate as SO_4^{-2} (mg/L)	35.2
Phosphate as PO_4 (mg/L)	0.14
TKN (mg/L)	0.80
NH_4-N (mg/L)	0.24
Total Dissolved Solids (mg/L)	336
TFS (mg/L)	84
Fluoride (mg/l)	0.56
Boron (mg/l)	0.010
Na (mg/L)	66.0
K (mg/L)	17.2
Total Iron (mg/L)	0.276
Lead (mg/L)	0.027
Zinc (mg/L)	0.044
Copper (mg/L)	0.005
Total Chromium (mg/L)	BDL
Nickel (mg/L)	0.016
Cadmium (mg/L)	0.005
Mercury (mg/L)	BDL
Arsenic(mg/L)	BDL
Total Coliform (MPN/100ml)	3500
Faecal Coliform (MPN/100ml)	2800

Annexure B

Latest analysis report of Sorusala Beel near Paltan bazar - September, 2020

Parameter	Value
D.O. (mg/L)	Nil
pH	7.4
Cond(µS/cm)	486
BOD(mg/L)	27.2
COD(mg/L)	92.4
NO_3 -N (mg/L)	1.6
TSS (mg/L)	70
Turbidity (NTU)	08
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	150
Hardness (mg/L)	164
Calcium as $CaCO_3$(mg/L)	108
Magnesium as $CaCO_3$ (mg/L)	56
Chloride as Cl- (mg/L)	24
Sulphate as SO_4^{-2} (mg/L)	33.5
Phosphate as PO_4 (mg/L)	1.4
TKN (mg/L)	9.6
NH_4-N (mg/L)	2.6
Total Dissolved Solids (mg/L)	312
TFS (mg/L)	78
Fluoride (mg/l)	0.68
Boron (mg/l)	0.026
Na (mg/L)	32.4
K (mg/L)	13.2
Total Iron (mg/L)	0.34
Lead (mg/L)	0.022
Zinc (mg/L)	0.036
Copper (mg/L)	0.004
Total Chromium (mg/L)	BDL
Nickel (mg/L)	0.018
Cadmium (mg/L)	0.004
Mercury (mg/L)	BDL
Arsenic(mg/L)	BDL
Total Coliform (MPN/100ml)	4200
Faecal Coliform (MPN/100ml)	2300

Annexure B

Annexure B

Latest analysis report of Deepar Beel at two locations- September, 2020

Parameter	Deepor Beel near Dharapur Chariali	Deepor Beel near IASST, Boragaon
D.O. (mg/L)	7.6	7.8
pH	7.8	7.9
Cond(µS/cm)	226	232
BOD(mg/L)	3.5	3.7
COD(mg/L)	16.6	18.6
NO_3 -N (mg/L)	1.4	1.6
TSS (mg/L)	66	64
Turbidity (NTU)	06	06
p-Alkalinity (mg/L)	Nil	Nil
m-Alkalinity (mg/L)	84	94
Hardness (mg/L)	54	58
Calcium as $CaCO_3$(mg/L)	34	40
Magnesium as $CaCO_3$ (mg/L)	20	18
Chloride as Cl- (mg/L)	10	10
Sulphate as SO_4^{-2} (mg/L)	26.5	28.8
Phosphate as PO_4 (mg/L)	0.34	0.35
TKN (mg/L)	1.86	1.88
NH_4-N (mg/L)	0.60	0.64
Total Dissolved Solids (mg/L)	146	150
TFS (mg/L)	36	36
Fluoride (mg/l)	0.63	0.74
Boron (mg/l)	0.021	0.025
Na (mg/L)	25.5	26.9
K (mg/L)	6.6	7.6
Total Iron (mg/L)	0.34	0.38
Lead (mg/L)	BDL	BDL
Zinc (mg/L)	0.046	0.058
Copper (mg/L)	0.004	0.004
Total Chromium (mg/L)	BDL	BDL
Nickel (mg/L)	BDL	BDL
Cadmium (mg/L)	BDL	BDL
Mercury (mg/L)	BDL	BDL
Arsenic(mg/L)	BDL	BDL
Total Coliform (MPN/100ml)	1500	1400
Faecal Coliform (MPN/100ml)	360	360

Annexure B

Latest analysis report of Digboi river- September, 2020

Parameter	Value
D.O. (mg/L)	4.6
pH	7.4
Cond(µS/cm)	286
BOD(mg/L)	2.6
COD(mg/L)	12.6
NO_3 -N (mg/L)	1.4
TSS (mg/L)	54
Turbidity (NTU)	05
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	64
Hardness (mg/L)	96
Calcium as $CaCO_3$(mg/L)	62
Magnesium as $CaCO_3$ (mg/L)	34
Chloride as Cl- (mg/L)	10
Sulphate as SO_4^{-2} (mg/L)	24.2
Phosphate as PO_4 (mg/L)	0.10
TKN (mg/L)	0.96
NH_4-N (mg/L)	0.28
Total Dissolved Solids (mg/L)	184
TFS (mg/L)	46
Fluoride (mg/l)	0.22
Boron (mg/l)	0.018
Na (mg/L)	13.2
K (mg/L)	4.6
Total Iron (mg/L)	0.28
Lead (mg/L)	0.006
Zinc (mg/L)	0.044
Copper (mg/L)	0.004
Total Chromium (mg/L)	BDL
Nickel (mg/L)	BDL
Cadmium (mg/L)	BDL
Mercury (mg/L)	BDL
Arsenic(mg/L)	BDL
Total Coliform (MPN/100ml)	2100
Faecal Coliform (MPN/100ml)	730

Annexure B

Analysis report of Kamalpur beel at Kamalpur- September, 2020

Parameter	Value
D.O. (mg/L)	Nil
pH	7.4
Cond(µS/cm)	1140
BOD(mg/L)	28.4
COD(mg/L)	96.6
NO_3 -N (mg/L)	1.8
TSS (mg/L)	82
Turbidity (NTU)	08
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	290
Hardness (mg/L)	326
Calcium as $CaCO_3$(mg/L)	218
Magnesium as $CaCO_3$ (mg/L)	108
Chloride as Cl- (mg/L)	96
Sulphate as SO_4^{-2} (mg/L)	102.5
Phosphate as PO_4 (mg/L)	0.54
TKN (mg/L)	7.4
NH_4-N (mg/L)	2.6
Total Dissolved Solids (mg/L)	730
TFS (mg/L)	180
Fluoride (mg/l)	0.64
Boron (mg/l)	0.34
Na (mg/L)	88.2
K (mg/L)	22.4
Total Iron (mg/L)	0.26
Lead (mg/L)	0.005
Zinc (mg/L)	0.046
Copper (mg/L)	0.004
Total Chromium (mg/L)	BDL
Nickel (mg/L)	0.012
Cadmium (mg/L)	BDL
Mercury (mg/L)	BDL
Arsenic(mg/L)	0.005
Total Coliform (MPN/100ml)	3500
Faecal Coliform (MPN/100ml)	110

Annexure B

Latest analysis report of Polluted stretches of Brahmaputra river- September, 2020

Parameter	Bogibeel (Sep 2020)	Nimatighat (Sep 2020)	Dhenukhana pahar (Sep 2020)	Chandrapur (Sep 2020)	Kacharighat (Sep 2020)	Sualkuchi (Sep 2020)
D.O. (mg/L)	8.0	7.4	7.5	9.1	8.7	9.0
pH	7.4	7.5	7.6	7.6	7.7	7.9
Cond(µS/cm)	142	170	140	180	182	140
BOD(mg/L)	2.1	2.4	1.6	2.1	2.0	2.1
COD(mg/L)	7.4	7.6	6.4	7.2	7.0	7.2
NO_3 -N (mg/L)	0.8	1.0	0.6	1.2	1.2	1.6
TSS (mg/L)	60	48	82	54	56	66
Turbidity (NTU)	6	5	6	5	6	6
p-Alkalinity (mg/L)	Nil	Nil	Nil	Nil	Nil	Nil
m-Alkalinity (mg/L)	46	60	72	44	42	52
Hardness (mg/L)	52	56	46	68	66	46
Calcium as $CaCO_3$(mg/L)	36	34	30	44	52	32
Magnesium as $CaCO_3$ (mg/L)	16	22	16	24	14	14
Chloride as Cl- (mg/L)	6	8	10	10	8	8
Sulphate as SO_4^{-2} (mg/L)	18.6	18.0	16.0	16.4	17.6	15.8
Phosphate as PO_4 (mg/L)	0.21	0.08	0.22	0.06	0.08	0.07
TKN (mg/L)	0.74	0.81	0.92	0.92	0.85	0.86
NH_4-N (mg/L)	0.25	0.22	0.24	0.25	0.30	0.26
Total Dissolved Solids (mg/L)	92	108	92	118	118	92
TFS (mg/L)	24	26	22	30	30	22
Fluoride (mg/l)	0.24	0.24	0.22	0.24	0.22	0.26
Boron (mg/l)	0.011	0.011	0.008	0.009	0.006	0.010
Na (mg/L)	8.4	7.6	8.4	9.1	14.8	8.4
K (mg/L)	2.4	2.2	2.4	2.6	3.6	2.2
Total Iron (mg/L)	0.24	0.14	0.14	0.24	0.22	0.26
Lead (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Zinc (mg/L)	0.026	0.032	0.037	0.024	0.032	0.032
Copper (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Total Chromium (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Nickel (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL

Annexure B

Parameter	Bogibeel (Sep 2020)	Nimatighat (Sep 2020)	Dhenukhana pahar (Sep 2020)	Chandrapur (Sep 2020)	Kacharighat (Sep 2020)	Sualkuchi (Sep 2020)
Cadmium (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Mercury (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic(mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Total Coliform (MPN/100ml)	1100	910	3500	2000	2000	2000
Faecal Coliform (MPN/100ml)	720	300	1500	610	730	730

Annexure B

Latest analysis report of Kharsang river- September, 2020

Parameter	Value
D.O. (mg/L)	8.4
pH	7.1
Cond(µS/cm)	140
BOD(mg/L)	1.6
COD(mg/L)	6.5
NO_3 -N (mg/L)	1.4
TSS (mg/L)	74
Turbidity (NTU)	04
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	70
Hardness (mg/L)	50
Calcium as $CaCO_3$(mg/L)	32
Magnesium as $CaCO_3$ (mg/L)	18
Chloride as Cl- (mg/L)	08
Sulphate as SO_4^{-2} (mg/L)	18.0
Phosphate as PO_4 (mg/L)	0.08
TKN (mg/L)	0.66
NH_4-N (mg/L)	0.22
Total Dissolved Solids (mg/L)	92
TFS (mg/L)	22
Fluoride (mg/l)	0.21
Boron (mg/l)	0.014
Na (mg/L)	6.6
K (mg/L)	2.2
Total Iron (mg/L)	0.24
Lead (mg/L)	BDL
Zinc (mg/L)	0.034
Copper (mg/L)	BDL
Total Chromium (mg/L)	BDL
Nickel (mg/L)	BDL
Cadmium (mg/L)	BDL
Mercury (mg/L)	BDL
Arsenic(mg/L)	BDL
Total Coliform (MPN/100ml)	1500
Faecal Coliform (MPN/100ml)	730

Annexure B

Latest analysis report of Pagladia river- September, 2020

Parameter	Value
D.O. (mg/L)	7.3
pH	7.5
Cond(µS/cm)	178
BOD(mg/L)	1.5
COD(mg/L)	6.4
NO_3 -N (mg/L)	1.6
TSS (mg/L)	66
Turbidity (NTU)	04
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	76
Hardness (mg/L)	66
Calcium as $CaCO_3$(mg/L)	42
Magnesium as $CaCO_3$ (mg/L)	24
Chloride as Cl- (mg/L)	06
Sulphate as SO_4^{-2} (mg/L)	17.5
Phosphate as PO_4 (mg/L)	0.07
TKN (mg/L)	0.76
NH_4-N (mg/L)	0.24
Total Dissolved Solids (mg/L)	114
TFS (mg/L)	28
Fluoride (mg/l)	0.24
Boron (mg/l)	0.016
Na (mg/L)	7.4
K (mg/L)	2.3
Total Iron (mg/L)	0.16
Lead (mg/L)	BDL
Zinc (mg/L)	0.038
Copper (mg/L)	BDL
Total Chromium (mg/L)	BDL
Nickel (mg/L)	BDL
Cadmium (mg/L)	BDL
Mercury (mg/L)	BDL
Arsenic(mg/L)	BDL
Total Coliform (MPN/100ml)	1400
Faecal Coliform (MPN/100ml)	720

Annexure B

Latest analysis report of Panchnoi river- September, 2020

Parameter	Value
D.O. (mg/L)	6.1
pH	7.6
Cond(µS/cm)	84
BOD(mg/L)	1.3
COD(mg/L)	7.3
NO_3 -N (mg/L)	1.4
TSS (mg/L)	56
Turbidity (NTU)	03
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	46
Hardness (mg/L)	26
Calcium as $CaCO_3$(mg/L)	18
Magnesium as $CaCO_3$ (mg/L)	8
Chloride as Cl- (mg/L)	06
Sulphate as SO_4^{-2} (mg/L)	5.6
Phosphate as PO_4 (mg/L)	0.10
TKN (mg/L)	0.80
NH_4-N (mg/L)	0.26
Total Dissolved Solids (mg/L)	54
TFS (mg/L)	14
Fluoride (mg/l)	0.26
Boron (mg/l)	0.011
Na (mg/L)	5.4
K (mg/L)	2.2
Total Iron (mg/L)	0.22
Lead (mg/L)	BDL
Zinc (mg/L)	0.034
Copper (mg/L)	BDL
Total Chromium (mg/L)	BDL
Nickel (mg/L)	BDL
Cadmium (mg/L)	BDL
Mercury (mg/L)	BDL
Arsenic(mg/L)	BDL
Total Coliform (MPN/100ml)	2000
Faecal Coliform (MPN/100ml)	730

Annexure B

Annexure C

0Analysis report of the major drains contributing to pollution in the Borsola Beel for the month of September, 2020

Parameter	Drain 1 (Chandmari)	Drain 2 (Rehabari)
D.O. (mg/L)	Nil	Nil
pH	7.1	7.2
Cond(µS/cm)	498	462
BOD(mg/L)	41.8	45.7
COD(mg/L)	146.6	154.4
NO_3 -N (mg/L)	2.8	2.6
TSS (mg/L)	116	128
Turbidity (NTU)	09	10
p-Alkalinity (mg/L)	Nil	Nil
m-Alkalinity (mg/L)	212	208
Hardness (mg/L)	148	134
Calcium as $CaCO_3$(mg/L)	102	88
Magnesium as $CaCO_3$ (mg/L)	46	46
Chloride as Cl- (mg/L)	44	42
Sulphate as SO_4^{-2} (mg/L)	24.7	26.1
Phosphate as PO_4 (mg/L)	2.6	2.1
TKN (mg/L)	15.8	14.2
NH_4-N (mg/L)	5.2	4.6
Total Dissolved Solids (mg/L)	316	296
TFS (mg/L)	78	72
Fluoride (mg/l)	0.57	0.47
Boron (mg/l)	0.034	0.042
Na (mg/L)	31.7	24.9
K (mg/L)	12.9	13.7
Total Iron (mg/L)	0.52	0.58
Lead (mg/L)	0.031	0.027
Zinc (mg/L)	0.055	0.053
Copper (mg/L)	0.003	0.004
Total Chromium (mg/L)	BDL	BDL
Nickel (mg/L)	0.018	0.023
Cadmium (mg/L)	0.003	0.004
Mercury (mg/L)	BDL	BDL
Arsenic(mg/L)	BDL	BDL
Total Coliform (MPN/100ml)	9500	21000
Faecal Coliform (MPN/100ml)	2600	2900

Annexure C

Analysis report of the major drains contributing to pollution in the Silsako Beel for the month of September, 2020

Parameters	Drain 1 (Chachal drain)	Drain 2 (Panjabari drain)
D.O. (mg/L)	Nil	Nil
pH	7.1	7.4
Cond(µS/cm)	556	512
BOD(mg/L)	42.1	46.4
COD(mg/L)	146.4	158.8
NO_3 -N (mg/L)	2.6	2.3
TSS (mg/L)	106	118
Turbidity (NTU)	09	10
p-Alkalinity (mg/L)	Nil	Nil
m-Alkalinity (mg/L)	116	144
Hardness (mg/L)	166	138
Calcium as $CaCO_3$(mg/L)	102	96
Magnesium as $CaCO_3$ (mg/L)	64	42
Chloride as Cl- (mg/L)	40	42
Sulphate as SO_4^{-2} (mg/L)	36.4	39.2
Phosphate as PO_4 (mg/L)	1.7	1.5
TKN (mg/L)	11.2	11.8
NH_4-N (mg/L)	3.4	3.5
Total Dissolved Solids (mg/L)	354	326
TFS (mg/L)	88	82
Fluoride (mg/l)	0.42	0.49
Boron (mg/l)	0.053	0.037
Na (mg/L)	46.2	49.3
K (mg/L)	15.5	13.7
Total Iron (mg/L)	0.88	0.96
Lead (mg/L)	0.025	0.022
Zinc (mg/L)	0.057	0.045
Copper (mg/L)	0.004	0.004
Total Chromium (mg/L)	BDL	BDL
Nickel (mg/L)	0.026	0.021
Cadmium (mg/L)	0.003	0.004
Mercury (mg/L)	BDL	BDL
Arsenic(mg/L)	BDL	BDL
Total Coliform (MPN/100ml)	7500	9300
Faecal Coliform (MPN/100ml)	1400	2000

Annexure C

Water quality of the Mora Bharalu rivulet contributing to pollution in the Deepar Beel wetland - September 2020

Parameter	Value
D.O. (mg/L)	2.2
pH	7.4
Cond(µS/cm)	246
BOD(mg/L)	18.2
COD(mg/L)	62.2
NO_3 -N (mg/L)	2.5
TSS (mg/L)	68
Turbidity (NTU)	11
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	86
Hardness (mg/L)	78
Calcium as $CaCO_3$(mg/L)	50
Magnesium as $CaCO_3$ (mg/L)	28
Chloride as Cl- (mg/L)	14
Sulphate as SO_4^{-2} (mg/L)	17.2
Phosphate as PO_4 (mg/L)	0.28
TKN (mg/L)	1.48
NH_4-N (mg/L)	0.48
Total Dissolved Solids (mg/L)	158
TFS (mg/L)	38
Fluoride (mg/l)	0.32
Boron (mg/l)	0.023
Na (mg/L)	15.9
K (mg/L)	6.3
Total Iron (mg/L)	0.29
Lead (mg/L)	BDL
Zinc (mg/L)	0.048
Copper (mg/L)	0.004
Total Chromium (mg/L)	BDL
Nickel (mg/L)	0.003
Cadmium (mg/L)	BDL
Mercury (mg/L)	BDL
Arsenic(µg/L)	BDL
Total Coliform (MPN/100ml)	11000
Faecal Coliform (MPN/100ml)	2000

Annexure C

Analysis report of the major drains contributing to pollution in the Digboi river-September, 2020

Parameter	Drain 1 (Borbil No. 3)	Drain 2 (Borbil No.3)
D.O. (mg/L)	Nil	Nil
pH	7.3	7.2
Cond(µS/cm)	354	348
BOD(mg/L)	18.8	17.8
COD(mg/L)	46.4	50.6
NO_3 -N (mg/L)	2.5	2.6
TSS (mg/L)	68	62
Turbidity (NTU)	08	08
p-Alkalinity (mg/L)	Nil	Nil
m-Alkalinity (mg/L)	126	132
Hardness (mg/L)	128	112
Calcium as $CaCO_3$(mg/L)	90	80
Magnesium as $CaCO_3$ (mg/L)	38	32
Chloride as Cl- (mg/L)	14	18
Sulphate as SO_4^{-2} (mg/L)	32.3	25.5
Phosphate as PO_4 (mg/L)	0.58	0.62
TKN (mg/L)	10.9	12.2
NH_4-N (mg/L)	3.3	3.6
Total Dissolved Solids (mg/L)	226	222
TFS (mg/L)	56	54
Fluoride (mg/l)	0.39	0.42
Boron (mg/l)	0.038	0.041
Na (mg/L)	20.5	25.7
K (mg/L)	7.4	8.1
Total Iron (mg/L)	0.34	0.39
Lead (mg/L)	0.004	0.006
Zinc (mg/L)	0.052	0.049
Copper (mg/L)	0.004	0.005
Total Chromium (mg/L)	BDL	BDL
Nickel (mg/L)	BDL	BDL
Cadmium (mg/L)	BDL	BDL
Mercury (mg/L)	BDL	BDL
Arsenic(µg/L)	BDL	BDL
Total Coliform (MPN/100ml)	7500	9500
Faecal Coliform (MPN/100ml)	1400	2000

Annexure C

Analysis report of the major drains contributing to pollution in the Kamalpur Beel – September, 2020

Parameter	value
D.O. (mg/L)	Nil
pH	6.7
Cond(µS/cm)	1246
BOD(mg/L)	43.8
COD(mg/L)	146.2
NO_3 -N (mg/L)	3.2
TSS (mg/L)	138
Turbidity (NTU)	08
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	252
Hardness (mg/L)	282
Calcium as $CaCO_3$(mg/L)	184
Magnesium as $CaCO_3$ (mg/L)	98
Chloride as Cl- (mg/L)	96
Sulphate as SO_4^{-2} (mg/L)	133.4
Phosphate as PO_4 (mg/L)	2.9
TKN (mg/L)	14.6
NH_4-N (mg/L)	4.8
Total Dissolved Solids (mg/L)	798
TFS (mg/L)	196
Fluoride (mg/l)	0.43
Boron (mg/l)	0.047
Na (mg/L)	152.3
K (mg/L)	52.6
Total Iron (mg/L)	0.67
Lead (mg/L)	0.008
Zinc (mg/L)	0.057
Copper (mg/L)	0.004
Total Chromium (mg/L)	BDL
Nickel (mg/L)	BDL
Cadmium (mg/L)	BDL
Mercury (mg/L)	BDL
Arsenic(mg/L)	BDL
Total Coliform (MPN/100ml)	29000
Faecal Coliform (MPN/100ml)	4400

Annexure C

Analysis report of the major drains contributing to pollution in the Sorusola Beel for the month of September, 2020

Parameter	Drain near KC Das Commerce college	Drain from Chatribari area
D.O. (mg/L)	Nil	Nil
pH	7.3	7.2
Cond(µS/cm)	418	392
BOD(mg/L)	42.8	40.6
COD(mg/L)	146.4	142.2
NO_3 -N (mg/L)	2.4	2.1
TSS (mg/L)	112	122
Turbidity (NTU)	08	09
p-Alkalinity (mg/L)	Nil	Nil
m-Alkalinity (mg/L)	176	162
Hardness (mg/L)	134	122
Calcium as $CaCO_3$(mg/L)	86	78
Magnesium as $CaCO_3$ (mg/L)	48	44
Chloride as Cl- (mg/L)	38	42
Sulphate as SO_4^{-2} (mg/L)	23.7	24.1
Phosphate as PO_4 (mg/L)	1.8	2.0
TKN (mg/L)	11.4	13.2
NH_4-N (mg/L)	3.6	4.1
Total Dissolved Solids (mg/L)	266	252
TFS (mg/L)	66	62
Fluoride (mg/l)	0.51	0.49
Boron (mg/l)	0.028	0.033
Na (mg/L)	21.3	23.5
K (mg/L)	9.5	9.7
Total Iron (mg/L)	0.47	0.49
Lead (mg/L)	0.031	0.037
Zinc (mg/L)	0.055	0.047
Copper (mg/L)	0.004	0.003
Total Chromium (mg/L)	BDL	BDL
Nickel (mg/L)	0.021	0.023
Cadmium (mg/L)	0.004	0.003
Mercury (mg/L)	BDL	BDL
Arsenic(mg/L)	BDL	BDL
Total Coliform (MPN/100ml)	29000	24000
Faecal Coliform (MPN/100ml)	4300	9300

Annexure C

Analysis report of the Mora Bharali river contributing to pollution in the Brahmaputra river at Dhenukhana Phar - September, 2020

Parameter	Value
D.O. (mg/L)	5.4
pH	7.1
Cond(µS/cm)	174
BOD(mg/L)	2.6
COD(mg/L)	9.8
NO_3 -N (mg/L)	1.4
TSS (mg/L)	62
Turbidity (NTU)	07
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	66
Hardness (mg/L)	60
Calcium as $CaCO_3$(mg/L)	40
Magnesium as $CaCO_3$ (mg/L)	20
Chloride as Cl- (mg/L)	08
Sulphate as SO_4^{-2} (mg/L)	14.2
Phosphate as PO_4 (mg/L)	0.12
TKN (mg/L)	1.24
NH_4-N (mg/L)	0.38
Total Dissolved Solids (mg/L)	112
TFS (mg/L)	26
Fluoride (mg/l)	0.33
Boron (mg/l)	0.021
Na (mg/L)	10.7
K (mg/L)	4.4
Total Iron (mg/L)	0.24
Lead (mg/L)	BDL
Zinc (mg/L)	0.044
Copper (mg/L)	0.003
Total Chromium (mg/L)	BDL
Nickel (mg/L)	BDL
Cadmium (mg/L)	BDL
Mercury (mg/L)	BDL
Arsenic(µg/L)	BDL
Total Coliform (MPN/100ml)	4300
Faecal Coliform (MPN/100ml)	1500

Annexure C

Analysis report of the major drains contributing to pollution in the Brahmaputra river at Kacharighat - September, 2020

Parameter	Water from drain near Sukleswar temple before confluence with Brahmaputra river	Water from drain at Fancy Bazar (behind MMCH) before confluence with Brahmaputra river
D.O. (mg/L)	1.4	1.3
pH	7.2	7.1
Cond(µS/cm)	248	322
BOD(mg/L)	16.6	17.6
COD(mg/L)	44.2	54.4
NO_3 -N (mg/L)	2.4	2.3
TSS (mg/L)	62	68
Turbidity (NTU)	08	09
p-Alkalinity (mg/L)	Nil	Nil
m-Alkalinity (mg/L)	114	116
Hardness (mg/L)	72	108
Calcium as $CaCO_3$(mg/L)	48	72
Magnesium as $CaCO_3$ (mg/L)	24	36
Chloride as Cl- (mg/L)	16	18
Sulphate as SO_4^{-2} (mg/L)	22.4	21.8
Phosphate as PO_4 (mg/L)	0.72	0.78
TKN (mg/L)	10.4	9.4
NH_4-N (mg/L)	3.4	3.1
Total Dissolved Solids (mg/L)	158	208
TFS (mg/L)	38	52
Fluoride (mg/l)	0.44	0.45
Boron (mg/l)	0.029	0.024
Na (mg/L)	19.5	24.8
K (mg/L)	6.4	9.1
Total Iron (mg/L)	0.38	0.41
Lead (mg/L)	0.007	0.008
Zinc (mg/L)	0.047	0.043
Copper (mg/L)	0.004	0.004
Total Chromium (mg/L)	BDL	BDL
Nickel (mg/L)	BDL	BDL
Cadmium (mg/L)	BDL	BDL
Mercury (mg/L)	BDL	BDL
Arsenic(µg/L)	BDL	BDL
Total Coliform (MPN/100ml)	2800	9500
Faecal Coliform (MPN/100ml)	1100	1400

Annexure C

Analysis report of the major drains contributing to pollution in the Pagladia river – September, 2020

Parameter	Bhugabeel at Ghograpar
D.O. (mg/L)	1.5
pH	6.8
Cond(µS/cm)	346
BOD(mg/L)	18.9
COD(mg/L)	54.8
NO_3 -N (mg/L)	2.4
TSS (mg/L)	64
Turbidity (NTU)	09
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	136
Hardness (mg/L)	126
Calcium as $CaCO_3$(mg/L)	84
Magnesium as $CaCO_3$ (mg/L)	42
Chloride as Cl- (mg/L)	16
Sulphate as SO_4^{-2} (mg/L)	28.2
Phosphate as PO_4 (mg/L)	0.63
TKN (mg/L)	11.8
NH_4-N (mg/L)	3.8
Total Dissolved Solids (mg/L)	220
TFS (mg/L)	54
Fluoride (mg/l)	0.42
Boron (mg/l)	0.036
Na (mg/L)	14.6
K (mg/L)	3.8
Total Iron (mg/L)	0.35
Lead (mg/L)	0.004
Zinc (mg/L)	0.047
Copper (mg/L)	0.004
Total Chromium (mg/L)	BDL
Nickel (mg/L)	BDL
Cadmium (mg/L)	BDL
Mercury (mg/L)	BDL
Arsenic(mg/L)	BDL
Total Coliform (MPN/100ml)	9300
Faecal Coliform (MPN/100ml)	1500

Annexure C

Analytical data of the drains outfalling in Bharalu River for the month of September, 2020

Source	D.O. (mg/L)	pH	Cond(µS/L)	BOD(mg/L)	COD(mg/L)	NO_3-N (mg/L)	TSS (mg/L)	Turbidity (NTU)	p-Alkalinity (mg/L)	m-Alkalinity (mg/L)	Total Hardness (mg/L)	Calcium as $CaCO_3$(mg/L)	Magnesium as $CaCO_3$ (mg/L)	Chloride as Cl^- (mg/L)	Sulphate as SO_4^{-2} (mg/L)	Phosphate as PO_4 (mg/L)	TKN (mg/L)	NH_4-N (mg/L)	Total Dissolved Solids (mg/L)	TFS (mg/L)	Fluoride (mg/l)	Boron (mg/l)	Na (mg/L)	K (mg/L)	T-Fe (mg/L)	Lead as Pb (mg/L)	Zinc as Zn (mg/L)	Copper as Cu (mg/L)	Chromium as Cr(T) (mg/L)	Nickel as Ni (mg/L)	Cadmium as Cd (mg/L)	Mercury as Hg (mg/L)	Arsenic as As (µg/L)	Total Coliform (MPN/100ML)	Faecal Coliform (MPN/100ML)
Water from refinery locoshed area drain before confluence with Bharalu river at Jonali	Nil	7.2	756	47.4	148.4	3.4	114	8	Nil	194	236	154	82	78	48.9	2.1	14.3	4.6	482	118	0.41	0.043	53.6	11.7	0.56	0.031	0.055	0.005	BDL	BDL	BDL	BDL	0.007	24000	9300
Water from drain at Jonali before confluence with Bharalu river.	Nil	7.1	534	53.6	158.8	3.8	128	9	Nil	276	140	90	50	68	36.5	2.3	13.4	4.1	344	86	0.49	0.037	48.9	17.2	0.53	0.025	0.057	0.005	BDL	BDL	BDL	BDL	0.006	46000	12000
Water from drain after confluence with Bharalui River at Jonali	Nil	7.1	672	56.8	166.4	3.2	114	10	Nil	228	212	136	76	62	32.7	1.9	12.6	3.8	432	106	0.47	0.025	52.8	15.1	0.63	0.033	0.063	0.007	BDL	BDL	BDL	BDL	0.007	21000	7500
water from drain before confluence with Bharalu river at Ulubari Mazar	Nil	7.3	758	53	152.4	3.3	126	9	Nil	284	238	162	76	88	38.4	1.6	12.8	4.3	486	120	0.48	0.027	51.8	13.9	0.42	0.026	0.058	0.006	BDL	BDL	BDL	BDL	0.008	9300	2100
Water from Sarabbhati drain before confluence with Bharalu river at Sarabbhati	Nil	7.4	542	53.7	150.8	2.5	122	11	Nil	162	132	84	48	62	34.3	2.6	11.4	3.4	344	84	0.54	0.031	46.4	17.3	0.58	0.024	0.061	0.006	BDL	BDL	BDL	BDL	0.004	24000	1500
Water from Bishnupur drain after confluence with Bharalu river at Bishnupur	Nil	7.5	498	51.9	148.2	2.7	122	7	Nil	174	136	96	40	48	25.9	1.4	10.2	3.2	318	78	0.41	0.021	42.6	12.5	0.37	0.026	0.058	0.004	BDL	BDL	BDL	BDL	0.005	110000	24000

Annexure D

Latest analysis report of Groundwater from Shantipur area (Catchment area of Bharalu River and Borsola Wetland) - September 2020

Parameter	Value
pH	6.4
Cond(µS/cm)	192
BOD(mg/L)	1.6
COD(mg/L)	5.0
NO_3 -N (mg/L)	1.0
TSS (mg/L)	8
Turbidity (NTU)	3
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	82
Hardness (mg/L)	58
Calcium as $CaCO_3$(mg/L)	38
Magnesium as $CaCO_3$ (mg/L)	20
Chloride as Cl- (mg/L)	18
Sulphate as SO_4^{-2} (mg/L)	14.5
Phosphate as PO_4 (mg/L)	0.4
Total Dissolved Solids (mg/L)	124
TFS (mg/L)	30
Fluoride (mg/l)	0.54
Boron (mg/l)	0.022
Na (mg/L)	1.0
K (mg/L)	0.42
NH4-N (mg/L)	0.16
TKN (mg/L)	0.42
Total Iron (mg/L)	0.56
Lead (mg/L)	BDL
Zinc (mg/L)	0.134
Copper (mg/L)	0.002
Total Chromium (mg/L)	BDL
Nickel (mg/L)	BDL
Cadmium (mg/L)	BDL
Mercury (mg/L)	BDL
Arsenic(mg/L)	0.002
Total Coliform (MPN/100ml)	Nil
Faecal Coliform (MPN/100ml)	Nil

Annexure D

Latest analysis report of Groundwater quality of Satgaon area (catchment of Silsako Beel)-September 2020

Parameter	Value
pH	7.3
Cond(µS/cm)	306
BOD(mg/L)	1.5
COD(mg/L)	6.4
NO_3 -N (mg/L)	1.4
TSS (mg/L)	8
Turbidity (NTU)	3
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	114
Hardness (mg/L)	94
Calcium as $CaCO_3$(mg/L)	72
Magnesium as $CaCO_3$ (mg/L)	22
Chloride as Cl- (mg/L)	16
Sulphate as SO_4^{-2} (mg/L)	6.6
Phosphate as PO_4 (mg/L)	0.4
Total Dissolved Solids (mg/L)	196
TFS (mg/L)	50
Fluoride (mg/l)	0.10
Boron (mg/l)	0.010
Na (mg/L)	60.6
K (mg/L)	8.2
NH4-N (mg/L)	0.12
TKN (mg/L)	0.40
Total Iron (mg/L)	0.62
Lead (mg/L)	BDL
Zinc (mg/L)	0.332
Copper (mg/L)	0.006
Total Chromium (mg/L)	BDL
Nickel (mg/L)	BDL
Cadmium (mg/L)	BDL
Mercury (mg/L)	BDL
Arsenic(mg/L)	0.002
Total Coliform (MPN/100ml)	Nil
Faecal Coliform (MPN/100ml)	Nil

Annexure D

Latest analysis report of Groundwater from Shantipur area (Catchment area of SorusalaWetland)- September 2020

Parameter	Value
pH	6.4
Cond(µS/cm)	192
BOD(mg/L)	1.6
COD(mg/L)	5.0
NO_3 -N (mg/L)	1.0
TSS (mg/L)	8
Turbidity (NTU)	3
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	82
Hardness (mg/L)	58
Calcium as $CaCO_3$(mg/L)	38
Magnesium as $CaCO_3$ (mg/L)	20
Chloride as Cl- (mg/L)	18
Sulphate as SO_4^{-2} (mg/L)	14.5
Phosphate as PO_4 (mg/L)	0.4
Total Dissolved Solids (mg/L)	124
TFS (mg/L)	30
Fluoride (mg/l)	0.54
Boron (mg/l)	0.022
Na (mg/L)	1.0
K (mg/L)	0.42
NH4-N (mg/L)	0.16
TKN (mg/L)	0.42
Total Iron (mg/L)	0.56
Lead (mg/L)	BDL
Zinc (mg/L)	0.134
Copper (mg/L)	0.002
Total Chromium (mg/L)	BDL
Nickel (mg/L)	BDL
Cadmium (mg/L)	BDL
Mercury (mg/L)	BDL
Arsenic(mg/L)	0.002
Total Coliform (MPN/100ml)	Nil
Faecal Coliform (MPN/100ml)	Nil

Annexure D

Latest analysis report of Groundwater from MSW dumping site at Boragaon (Catchment of Deepar Beel) -September 2020

Parameter	Value
pH	7.0
Cond(µS/cm)	174
BOD(mg/L)	1.3
COD(mg/L)	4.8
NO_3 -N (mg/L)	2.6
TSS (mg/L)	6
Turbidity (NTU)	2
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	176
Hardness (mg/L)	56
Calcium as $CaCO_3$(mg/L)	38
Magnesium as $CaCO_3$ (mg/L)	18
Chloride as Cl- (mg/L)	8.0
Sulphate as SO_4^{-2} (mg/L)	8.8
Phosphate as PO_4 (mg/L)	0.04
Total Dissolved Solids (mg/L)	111
TFS (mg/L)	24
Fluoride (mg/l)	0.32
Boron (mg/l)	0.011
Na (mg/L)	21.4
K (mg/L)	5.0
NH4-N (mg/L)	0.14
TKN (mg/L)	0.42
Total Iron (mg/L)	1.6
Lead (mg/L)	BDL
Zinc (mg/L)	0.412
Copper (mg/L)	0.003
Total Chromium (mg/L)	BDL
Nickel (mg/L)	BDL
Cadmium (mg/L)	BDL
Mercury (mg/L)	BDL
Arsenic(mg/L)	BDL
Total Coliform (MPN/100ml)	Nil
Faecal Coliform (MPN/100ml)	Nil

Annexure D

Latest analysis report of Groundwater at Digboi (Catchment of Digboi River)-September 2020

Parameter	Value
pH	7.3
Cond(µS/cm)	352
BOD(mg/L)	1.6
COD(mg/L)	4.0
NO_3 -N (mg/L)	1.9
TSS (mg/L)	6
Turbidity (NTU)	2
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	128
Hardness (mg/L)	88
Calcium as $CaCO_3$(mg/L)	64
Magnesium as $CaCO_3$ (mg/L)	24
Chloride as Cl- (mg/L)	32
Sulphate as SO_4^{-2} (mg/L)	12.5
Phosphate as PO_4 (mg/L)	0.04
Total Dissolved Solids (mg/L)	225
TFS (mg/L)	56
Fluoride (mg/l)	0.22
Boron (mg/l)	0.010
Na (mg/L)	56.2
K (mg/L)	26.2
NH4-N (mg/L)	0.14
TKN (mg/L)	0.44
Total Iron (mg/L)	0.32
Lead (mg/L)	BDL
Zinc (mg/L)	0.040
Copper (mg/L)	0.004
Total Chromium (mg/L)	BDL
Nickel (mg/L)	BDL
Cadmium (mg/L)	BDL
Mercury (mg/L)	BDL
Arsenic(mg/L)	BDL
Total Coliform (MPN/100ml)	Nil
Faecal Coliform (MPN/100ml)	Nil

Annexure D

Latest groundwater quality of Kamalpur area (catchment of Kamalpur Beel) - September 2020

Parameter	Value
pH	7.0
Cond(µS/cm)	248
BOD(mg/L)	1.4
COD(mg/L)	5.0
NO_3 -N (mg/L)	1.6
TSS (mg/L)	6
Turbidity (NTU)	2
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	84
Hardness (mg/L)	72
Calcium as $CaCO_3$(mg/L)	48
Magnesium as $CaCO_3$ (mg/L)	24
Chloride as Cl- (mg/L)	16
Sulphate as SO_4^{-2} (mg/L)	22.0
Phosphate as PO_4 (mg/L)	0.04
Total Dissolved Solids (mg/L)	158
TFS (mg/L)	40
Fluoride (mg/l)	0.31
Boron (mg/l)	0.012
Na (mg/L)	27.6
K (mg/L)	6.4
NH4-N (mg/L)	0.16
TKN (mg/L)	0.54
Total Iron (mg/L)	0.20
Lead (mg/L)	BDL
Zinc (mg/L)	0.052
Copper (mg/L)	0.006
Total Chromium (mg/L)	BDL
Nickel (mg/L)	BDL
Cadmium (mg/L)	BDL
Mercury (mg/L)	BDL
Arsenic(mg/L)	BDL
Total Coliform (MPN/100ml)	Nil
Faecal Coliform (MPN/100ml)	Nil

Annexure D

Latest analysis report of Ground water of the catchment area of polluted stretch of River Brahmaputra - September 2020

Parameter	Bogibeel gaon (catchment of River Brahmaputra at Bogibeel)	Kumar gaon (catchment of River Brahmaputra at Nimatighat)	Tezpur (catchment of River Brahmaputra at Dhenukhana Pahar)	Chandrapur (catchment of River Brahmaputra at Chandrapur)	Fancy Bazar (catchment of River Brahmaputra at Kachari Ghat)	Sualkuchi (catchment of River Brahmaputra at Sualkuchi)
pH	7.0	7.0	7.1	7.2	7.3	7.4
Cond(µS/cm)	90	236	92	282	144	146
BOD(mg/L)	1.2	1.3	1.4	1.3	1.4	1.3
COD(mg/L)	4.4	4.2	4.4	4.5	5.0	5.1
NO_3 -N (mg/L)	2.0	3.0	2.0	2.0	2.0	2.4
TSS (mg/L)	6	6	8	6	6	6
Turbidity (NTU)	2	2	3	2	2	2
p-Alkalinity (mg/L)	Nil	Nil	Nil	Nil	Nil	Nil
m-Alkalinity (mg/L)	82	126	92	118	92	94
Hardness (mg/L)	30	72	26	84	44	36
Calcium as $CaCO_3$(mg/L)	22	48	16	62	30	26
Magnesium as $CaCO_3$ (mg/L)	8	24	10	22	14	10
Chloride as Cl- (mg/L)	6	18	10	18	10	10
Sulphate as SO_4^{-2} (mg/L)	3.2	22.4	4.4	7.0	7.2	7.4
Phosphate as PO_4 (mg/L)	0.05	0.04	0.03	0.06	0.07	0.08
Total Dissolved Solids (mg/L)	58	152	60	180	92	94
TFS (mg/L)	14	38	14	46	22	24
Fluoride (mg/l)	0.31	0.42	0.32	0.52	0.36	0.32
Boron (mg/l)	0.008	0.006	0.010	0.006	0.024	0.024

Annexure D

Parameter	Bogibeel gaon (catchment of River Brahmaputra at Bogibeel)	Kumar gaon (catchment of River Brahmaputra at Nimatighat)	Tezpur (catchment of River Brahmaputra at Dhenukhana Pahar)	Chandrapur (catchment of River Brahmaputra at Chandrapur)	Fancy Bazar (catchment of River Brahmaputra at Kachari Ghat)	Sualkuchi (catchment of River Brahmaputra at Sualkuchi)
Na (mg/L)	9.4	10.0	10.4	49.0	12.6	12.2
K (mg/L)	2.2	3.4	3.0	10.6	5.0	5.2
NH4-N (mg/L)	0.14	0.14	0.16	0.16	0.18	0.20
TKN (mg/L)	0.46	0.50	0.44	0.52	0.46	0.42
Total Iron (mg/L)	0.24	0.24	0.26	0.24	0.26	0.25
Lead (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Zinc (mg/L)	0.052	0.040	0.052	0.046	0.040	0.042
Copper (mg/L)	0.002	0.003	0.003	0.004	0.004	0.002
Total Chromium (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Nickel (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Cadmium (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Mercury (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic(µg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Total Coliform (MPN/100ml)	Nil	Nil	Nil	Nil	Nil	Nil
Faecal Coliform (MPN/100ml)	Nil	Nil	Nil	Nil	Nil	Nil

Annexure D

Latest analysis report of Groundwater at Kharsang (Catchment of Kharsang River)-September 2020

Parameter	Value
pH	6.6
Cond(µS/cm)	226
BOD(mg/L)	1.6
COD(mg/L)	4.8
NO_3 -N (mg/L)	1.0
TSS (mg/L)	6
Turbidity (NTU)	2
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	114
Hardness (mg/L)	54
Calcium as $CaCO_3$(mg/L)	36
Magnesium as $CaCO_3$ (mg/L)	18
Chloride as Cl- (mg/L)	14
Sulphate as SO_4^{-2} (mg/L)	9.0
Phosphate as PO_4 (mg/L)	0.04
Total Dissolved Solids (mg/L)	145
TFS (mg/L)	36
Fluoride (mg/l)	0.21
Boron (mg/l)	0.010
Na (mg/L)	16.0
K (mg/L)	8.6
NH4-N (mg/L)	0.16
TKN (mg/L)	0.40
Total Iron (mg/L)	0.22
Lead (mg/L)	BDL
Zinc (mg/L)	0.080
Copper (mg/L)	0.006
Total Chromium (mg/L)	BDL
Nickel (mg/L)	BDL
Cadmium (mg/L)	BDL
Mercury (mg/L)	BDL
Arsenic(mg/L)	BDL
Total Coliform (MPN/100ml)	Nil
Faecal Coliform (MPN/100ml)	Nil

Annexure D

Latest analysis report of Groundwater at Nalbari (Catchment of Pagladia river) - September 2020

Parameter	Value
pH	6.8
Cond(µS/cm)	284
BOD(mg/L)	1.3
COD(mg/L)	4.4
NO_3 -N (mg/L)	1.6
TSS (mg/L)	6
Turbidity (NTU)	2
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	66
Hardness (mg/L)	100
Calcium as $CaCO_3$(mg/L)	78
Magnesium as $CaCO_3$ (mg/L)	22
Chloride as Cl- (mg/L)	10
Sulphate as SO_4^{-2} (mg/L)	18.0
Phosphate as PO_4 (mg/L)	0.05
Total Dissolved Solids (mg/L)	182
TFS (mg/L)	46
Fluoride (mg/l)	0.32
Boron (mg/l)	0.011
Na (mg/L)	22.0
K (mg/L)	6.2
NH4-N (mg/L)	0.16
TKN (mg/L)	0.42
Total Iron (mg/L)	0.21
Lead (mg/L)	BDL
Zinc (mg/L)	0.038
Copper (mg/L)	BDL
Total Chromium (mg/L)	BDL
Nickel (mg/L)	BDL
Cadmium (mg/L)	BDL
Mercury (mg/L)	BDL
Arsenic(mg/L)	BDL
Total Coliform (MPN/100ml)	Nil
Faecal Coliform (MPN/100ml)	Nil

Annexure D

Latest analysis report of Groundwater at Garubandha Khankhata, Mazbat (Catchment of Panchnoi River) – September 2020

Parameter	Value
pH	6.8
Cond(µS/cm)	124
BOD(mg/L)	1.2
COD(mg/L)	4.0
NO_3 -N (mg/L)	1.4
TSS (mg/L)	6
Turbidity (NTU)	2
p-Alkalinity (mg/L)	Nil
m-Alkalinity (mg/L)	54
Hardness (mg/L)	46
Calcium as $CaCO_3$(mg/L)	30
Magnesium as $CaCO_3$ (mg/L)	16
Chloride as Cl- (mg/L)	4
Sulphate as SO_4^{-2} (mg/L)	5.8
Phosphate as PO_4 (mg/L)	0.04
Total Dissolved Solids (mg/L)	80
TFS (mg/L)	20
Fluoride (mg/l)	0.32
Boron (mg/l)	0.011
Na (mg/L)	6.4
K (mg/L)	2.2
NH4-N (mg/L)	0.14
TKN (mg/L)	0.52
Total Iron (mg/L)	0.24
Lead (mg/L)	BDL
Zinc (mg/L)	0.030
Copper (mg/L)	BDL
Total Chromium (mg/L)	BDL
Nickel (mg/L)	BDL
Cadmium (mg/L)	BDL
Mercury (mg/L)	BDL
Arsenic(mg/L)	BDL
Total Coliform (MPN/100ml)	Nil
Faecal Coliform (MPN/100ml)	Nil

Annexure – E

MONTHLY PROGRESS REPORT ON NGT IN THE MATTER OF OA No. 673/2018, Dated 06/12/2019

Sl No.	Activity to be monitored	Progress upto 20-7-2020		Progress during 20/07/2020 to 20/08/2020		Total	
		Nos.	Financial Achievement (Rs. In lakh)	Nos.	Financial Achievement (Rs. In lakh)	Nos.	Financial Achievement (Rs. In lakh)
1	*Rain Water Harvesting	811	1974.486	0	0	811	1974.486
2	Plantation on both side of the river	30000	90	0	0	30000	90

*NB: Rain Water harvesting structures include item of works like RCC checkdams, Farm Ponds, Graded bunds, contour bunds etc.

Annexure – F

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Action Taken Report

Assam receives annual average rainfall of about 2000 mm. Most of it are received during the month of April to September. On the contrary, during the period from December to March there is scarcity of rainfall leading to depletion of ground water table and draught like situation.

Therefore, the department of Soil Conservation Assam is taking up measures for augmenting ground water recharge through different Soil and water conservation activities like Gully Control Project, Farm Pond, Water harvesting structure, Wetland development, different types of bunds using the fund from Govt. of Assam and Centrally Sponsored Scheme of PMKSY (Watershed Development Component), RIDF etc.

The activities which are implemented during 2018-19, 2019-20 and proposed for 2020-21 are mentioned below:-

Soil and Water Conservation Measures Implemented under SOPD during 2018-19 & 2019-20							
Sl.No.	Name of Activity	2018-19		2019-20		Output Generated	Annexures
		Nos.	Financial Achievement (Rs. In lakh)	Nos.	Financial Achievement (Rs. In lakh)		
1	Water Conservation/ Water Harvesting Structures(Check Dams,Farm ponds,Percolation Tanks, Earthen bunds etc.)	607	1869.630	811	1974.486	15376.464 ha Agricultural Land Developed	I & II
2	Preservation of Natural Water Bodies	3	174.000	32	808.0198	1964.0396 ha Wetland Developed for agricultural use.	I
TOTAL		610	2043.630	843	2782.506	17340.504 ha	

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Annexure-I

State Own Priority Development Scheme During 2018-19 & 2019-20

Sl.No.	Name of Activity	2018-19			2019-20		
		Nos.	Financial Achievement (Rs. In lakh)	Output Generated	Nos.	Financial Achievement (Rs. In lakh)	Output Generated
1	Water Conservation/ Water Harvesting Structures	31	346.000	1384 ha Agricultural Land Developed	226	1334.626	5338.504 ha Agricultural Land Developed
2	Preservation of Natural Water Bodies	3	174.000	348 ha Wetland Developed for agricultural use.	32	808.0198	1616.04 ha Wetland Developed for agricultural use.
TOTAL		34	520.000		258	2142.646	

Annexure-II

Watershed Development Component (PMKSY)

Sl.No.	Name of Activity	2018-19		2019-20		Total Output Generated
		Physical (Nos.)	Financial (In Lakh)	Physical (In Nos.)	Financial (In Lakh)	
1	Farm Ponds	289	699.68	344	418.02	8653.96 ha of Agricultural Land developed.
2	Check dams	144	734.77	173	215.94	
3	Nallah Bunds	86	37.87	0	0	
4	Percolation Tank	57	51.31	68	5.9	
Total		576	1523.63	585	639.86	

Annexure-III

Projected inputs under State Own Priority Development Scheme During 2020-21

Sl.No.	Name of Activity	Nos.	Financial Achievement (Rs. In lakh)	Expected Output
1	Water Conservation/ Water Harvesting Structures	197	4777.264	19109.06 ha Agricultural Land to be Developed
2	Preservation of Natural Water Bodies	26	753.556	1507.11 ha Wetland to be Developed for agricultural use
TOTAL		223	5530.820	

Director of Soil Conservation, Assam