March 2023

National Mission for Clean Ganga - NMCG

Format for submission of Monthly Progress Report (MPR) in the NGT Matter O.A. No. 673 of 2018 *(in compliance to NGT order dated 24.09.2020)*

NGT has disposed-off the said matter vide its Order dated 22nd February 2021

State of GOA

Overall status of the State:

I. Total Population: Urban Population & Rural Population separately.

Urban Population:- 4,82,355 (*Census 2011*)

II. Estimated Sewage Generation (MLD): **52.09 MLD** (*Urban area only*)

III. Details of Sewage Treatment Plant:

- Existing no. of STPs and Treatment Capacity (in MLD): **10 STPs' with 80.35 MLD capacity.**
- Capacity Utilization of existing STPs: **42.28 MLD**.
- MLD of sewage being treated through Alternate technology: In state of Goa, where sewer network is not available, Septic-tank- Soak-pit arrangement is adopted (*especially in most of village areas*). In addition, hotels and residential buildings (*with 50 rooms / flats & above*) have their own Treatment Plant (*as mandated under the TCP Act 2010*). Sulabh toilets (PWD) are provided for group of houses / community and Bio-toilets have been provided under Open Defecation Free (ODF) policy.
- Gap in Treatment Capacity in MLD: **Negligible**.
- No. of Operational STPs': **10 nos.**
- No. of Complying STPs': **10 nos.**
- No. of Non-complying STPs': **NIL**

Details of existing STP in the State

No.	Location	Existing STP Capacity	Capacity Being Utilized	Operational Status of STP	Compliance Status of STP
1.	Shirvodem, Navelim.	20 - MLD	**14.00 - MLD**	Operational	Complied-with
2.	Vasco	20 – MLD	**05.00 - MLD**	Operational	Complied-with
3.	Durbhat	01 – MLD	0.40 – MLD	Operational	Complied-with
4.	Goa Medical College (GMC)	1.35 MLD	0.50 – MLD	Operational	Complied-with

5.	Sancoale	01 – MLD	1.00 – MLD	Operational	Complied-with
6.	Sanquelim	0.8 – MLD	0.15 – MLD	Operational	Complied-with
7.	Tonca, Panaji	12.5 – MLD	**08.90 – MLD**	Operational	Complied-with
8.	Tonca, Panaji	15 – MLD	**04.83 – MLD**	Operational	Complied-with
9.	Shirvodem-Navelim	6.7 – MLD	**06.50 – MLD**	Operational	Complied-with
10.	Patto, Panaji	2.0 MLD	**1.00 MLD**	Operational and under trial-run	Complied-with
Total		**78.35 MLD**	**42.28 MLD** *Last-month, capacity being utilised was 40.61 MLD*		

Details of under construction STPs in the State

No.	Location	Capacity of the plant in MLD	Physical Progress (*in %*)	Status of I&D or House sewer connections	Completion Timeline
1	Kavlem, Ponda	15 –MLD	**100%** of civil works STP completed and Electrical / Mechanical works **99%** (no change *since last-month*) completed.	House Sewer-connection works started and work in in-progress.	**Completed and under trial-run.**
2	Colva	7.5 – MLD	**93%** *(no change since last-month)* of sewer-network is completed. STP trial-run completed and work of effluent disposal line is completed and yet to be commissioned.	-------	**May 2023**
3	Mapusa	5.4 – MLD	**98%** (*no change since last-month*)	House Sewer-connection works started and work is in-progress.	**May 2023**
4	Baga	5.6 – MLD	100% completed.	House Sewer-connection works started and work is in-progress.	**Completed**
5	Porvorim	20 - MLD	Work of ground stabilisation is in progress. Around **80%** (no change	------	**December 2025**

			since last-month) of the sewer-network is completed.		

Details of proposed STPs in the State

No.	Location	Capacity of the STP proposed in MLD	Status of Project (*at DPR Stage/ Under Tendering/ Work to be Awarded*)	Likely Date of Completion
1.	Undir, Bandora	15 – MLD	STP work could not be started due to local issues. Around 65% *(no change since last-month)* of the sewer-network is completed.	16-months time-period required from start of work.
2.	Curti, Ponda	08- MLD	STP work could not be started due to local issues. Around 92% *(no change since last-month)* of the sewer-network is completed.	
3.	Curchorem	20 – MLD	Land for STP has been procured. **Around 30% of sewer-network is completed.**	

** Above data does not include any packaged treatment plants /sulabh-toilets and Bio-toilets*

IV. Details of Industrial Pollution:

- No. of industries in the State: 8,611
- No. of water polluting industries in the State: *Nil*
- Quantity of effluent generated from the industries in MLD:
- Quantity of Hazardous Sludge generated from the Industries in TPD:
- Number of industrial units having ETPs: 209
- Number of industrial units connected to CETP: *State does not have any CETP*
- Number and total capacity of ETPs (*details of existing/ under construction / proposed*)
- Compliance status of the ETPs: 208
- Number and total capacity of CETPs (details of existing/ under construction / proposed) *: State does not have any CETP*
- Status of compliance and operation of the CETPs : Not Applicable in view of above.

Town	No. of industries	Industrial discharge	Status of ETPs	Status of CETPs (*existing, under construction & proposed*)
Not Applicable				

V. Solid Waste Management:

- Total number of Urban Local Bodies and their Population: *As referred in MPR for the previous month.*

- Current Municipal Solid Waste Generation: **766 tons per day (TPD)** – *as per the waste characterization report, 2018.* Solid waste treatment plant with 250 tons per day capacity is fully operational at Saligao which caters to the waste being generated from coastal-stretch of North Goa district among other selective areas.

- Number, installed capacity and utilization of existing MSW processing facilities in TPD (*bifurcated by type of processing e.g.- Waste to Energy (Tonnage and Power Output*), Compost Plants (*Windrow, Vermi, decentralized pit composting*), biomethanation, MRF etc., *(related to 'centralised' solid waste sorting, baling and onward processing facilities operated by the Goa Waste Management Corporation (GWMC)* **Refer Annexure – A**.

- Action plan to bridge gap between Installed Capacity and Current Utilization of processing facilities (if Gap > 20%): **Refer Annexure – B** *(related to setting-up of common waste-treatment facilities including Hazardous / Biomedical / Construction and Debris / E-waste facilities).*

- No. and capacity of C&D waste processing plants in TPD (*existing, proposed and under construction*): State has proposed 500-TPD capacity C & D waste processing plant at Cudchirem in Bicholim, North Goa district.

- Total no. of wards, no. of wards having door-to-door collection service, no. of wards practicing segregation at source (*village Panchayat-level*): *As referred in Annexure F.*

- Details of MSW as well as other waste treatment facilities proposed and under construction (*no., capacity, and technology*): **Refer Annexure – B.**

- No. and area (*in acres*) of uncontrolled garbage dumpsites and Sanitary Landfills.: **N.A.**

- No. and area (*in acres*) of legacy waste within 1-km buffer of both sides of the rivers: **Nil.**

- Status of remediation of legacy SW-dumps : **refer Annexure G**.

- No. of drains falling into rivers and no. of drains having floating racks/screens installed to prevent solid waste from falling into the rivers: Nil.

Status of ULB wise Management of Solid Waste

ULB	Total MSW generation in TPD	Total MSW being processed in TPD	Existing MSW facilities	Utilization Capacity of the existing MSW facilities	Proposed MSW Facilities & Completion Timeline
As referred in MPR for the last-month.					

VI. Bio-medical Waste Management: ***As per Annual report***

- Total Bio-medical generation: 2,992 kgs. per day (*bio-medical waste*) / 17,179 kgs. per day (*sanitary waste*).

- No. of Hospitals and Health Care Facilities: **Refer Annexure – C.**

- Status of Treatment Facility / CBMWTF: Common Biomedical waste treatment facility is operational at Kundaim.

VII. Hazardous Waste Management:

- Total Hazardous Waste generation:
  (a) Incinerable waste : 39,379.80 TPA
  (b) Land-fillable waste : 3,385.21 TPA
  (c) Recyclable waste : 33,095,57 TPA
  Total : 77,056.58 TPA.

- No. of Industries generating Hazardous waste :**1,628 nos.**

- Treatment Capacity of all TSDFs :**16,846 metric tons per year.**

- Avg. Quantity of Hazardous waste reaching the TSDFs and Treated: **Currently, majority of the HW-generated is disposed through Inter-State movement by recycling / utilization / disposal at common secured landfill site / common incinerator / co-processing to neighbouring States under valid agreement**. Landfilable waste is being disposed-off (*since March 2021*) through a secured landfill site set-up in common HW facility at Pissurlem.

- Details of on-going or proposed TSDF :**The State has set-up Common Hazardous Waste Treatment Facility at Pissurlem Industrial Estate and phase-I is operational**. **While, Phase-II is 98% completed.**

VIII. Plastic Waste Management:

- Total Plastic Waste generation: **80.66 Tons per day (TPD)** – *as per the waste characterization report, 2018.*

- Treatment/ Measures adopted for reduction or management of plastic waste: Establishment of Common Material Recovery facility (MRF) as well as Baling facilities at Verna / Cacora and Bicholim (*03 nos.*).

IX. Details of Alternate Treatment Technology being adopted by the State/UT: **The State has set-up Plastic-to-Fuel plant at Pernem Municipal Council (*North Goa*).** However, currently, it is not operational.

X. Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment: **There is no industrial discharge within any of the polluted river-stretches.**

XI. Details of Nodal Officer appointed by Chief Secretary in the State/UT: **Secretary, Environment is a Nodal Officer to be assisted by Director, Department of Environment & Climate Change (DoE & CC), Goa.**

XII. Details of meetings carried under the Chairmanship Chief of Secretary in the State/UT: **The State, in compliance to the NGT Order in a matter of 606 of 2018 (*SWM-related matters &Ors.*,), has constituted the State Level Committee (SLC) under the Chairmanship of Chief Secretary who takes the review on regular-basis.** Last such review (*i.e. 23rd SLC-Goa meeting*) was taken in the month of April 2022. As per the latest NGT Order dated 31st May 2022, the State of Goa, through the Chief Secretary, appeared before the NGT, Principal Bench through VC on 02nd March 2023. NGT has noted that the State has established Goa Waste management Corporation (GWMC) and Sewerage Infrastructure Development Corporation of Goa Limited (SIDCGL) to cater to infrastructural issues relating to waste management and has accordingly, disposed-off the said matter (i.e. O.A. 606 of 2018) for the State of Goa vide its Order dated 2nd March 2023 with a suggestion to the Chief Secretary to consider organising a conference / interaction particularly with North-Eastern and Coastal States to share the experience on the subject matter of waste management challenges.

XIII. Latest water quality of polluted river, its tributaries of polluted river; **refer Annexure – D.**

XIV. Ground water regulation: (a) Ground Water Act, 2002 is enacted in the State of Goa, (b) Ground water extraction is being monitored, (c) It is mandatory to register all the ground water structures in the State, (d) Commercial ground water extraction is levied with water tax, (e) Goa is declared as 'Safe zone' under the Ground water development by the Central Ground Water Board (CGWB), (f) guidelines issued by the Central Ground Water Board (CGWB) is implements. **Compliance – 100%.**

XV. Good irrigation practices being adopted by the State: Water User Associations (WUAs') are formed to economise the use of water. - Expected level of compliance: 80%, **Actual compliance: 65% (***No change since September 2021***). Target – May 2023** (revised from August 2022 to May 2023).

XVI. Rain Water Harvesting: Industries, through the Department of Industries, Trade & Commerce (DITC) are being encouraged to adopt to rainwater harvesting. Due to excessive rainfall (*i.e. 160 inches per year*) shortage of land and groundwater being in ample quantity. Not many takers. In addition, the Town and Country Planning (TCP) Department has made roof-top rainwater harvesting mandatory for multi-dwelling units as well as residential-cum-commercial complexes. - Expected level of compliance: 50%, **Actual compliance: 50%. Target – May 2023** (revised from December 2022 to May 20923).

XVII. Demarcation of Floodplain and removal of illegal encroachments - Expected level of compliance: 100%, **Actual compliance: 100%. (***Demarcation completed*).

XVIII. Maintaining minimum e-flow of river: Rivers are perennial. **There is no issue of e-flow in major rivers.**

XIX. Plantation activities along the rivers: *No change since last-month*.

XX. Development of Biodiversity Park: *No change since last-month*.

XXI. Reuse of Treated Water:*No change since last-month*.

XXII. Model River being adopted by the State& Action Proposed for achieving the bathing quality standards: River Sal and River Valvonti. Polluting drains joining the river have been identified, treated / filtered. De-weeding and desilting is being proposed including aeration of the stored water. Expected level of compliance 100 %. **Actual Compliance by Water Resources Department (WRD) - 100%.**

XXIII. Status of Preparation of Action Plan: All the action plans prepared for eleven polluted river-stretches have been approved by CPCB (*i.e. in case of priority criteria – III : 01 stretch – Sal river*) and RRC-Goa (*i.e. in case of priority criteria IV & V : remaining 10-stretches*). Accordingly, Action Plan Strategies (APSs'), *referred in these action plans*, are being regularly reviewed by the Secretary, Environment in the capacity as Chairman, RRC-Goa.

Further, the Action plans to address the coastal and marine pollution have already been submitted to the CPCB, New Delhi in September 2021. The CPCB, based on water-quality (*i.e. Biochemical Oxygen Demand – BOD*), of rivers for years 2019 and 2021, has compiled / revised the polluted river stretches in August 2022. Accordingly, State of Goa has reduced number of such stretches (i.e. 06 nos.) as compared to 11 nos. reported during 2016 – 17. The said draft-report is being perused and verified as per the CPCB's request prior to finalise the same.**Goa Sate Pollution Control Board (GSPCB) has responded to the CPCB informing about the mismatch in the water-quality data in the revised six polluted river-stretches (refer Annexure H).** CPCB is yet to respond to the same.

XXIV. Regulation of Mining Activities in the State/UT: It is being monitored as per Hon'ble Supreme Court Directives through the Department of Mines and Geology (DMG).

XXV. Action against identified polluters, law violators and officers responsible for failure for vigorous monitoring: Ground water and river waters are monitored under Goa Ground Water Act, 2002 and Goa Irrigation Act, 1973 respectively by Ground Water and Canal Officers respectively. : Expected level of compliance: 100%, **Actual compliance: 100%.**

Annexure A

Solid waste sorting, baling and onward processing facilities operated by the Goa Waste Management Corporation (GWMC).

	Total Solid Waste generation is 766 TPD	
		Total Waste Capacity
1	**Existing Capacity - Muncipal Councils / Corporation**	200
2	**Existing Village Panachayat Treatmet Facility**	35
3	**GWMC Saligao Facility (250 TPD +20%)**	300
4	**GWMC Cacora Facility (100 TPD + 25%)**	125
5	**Village Panchayat MRF, GWMC Baling Stations etc.,**	110
	Total Existing Capacity	**770**

Note: **Currently there are no Gaps between Solid waste management Facilities capacity and generation in State of Goa.**

Annexure B

1	**Integrated Solid Waste Management Facility- Bainguinim**	Capacity: Catering to:	250 TPD (+20%) Tiswadi & Ponda Talukas	• Revised RFQ approved and floated on 13/09/2022 & opened on 20/12/2022**.** • **Technical scrutiny has been completed and 3 bidders have been shortlisted. The bidders have been called for presentations before the Expert Committee in the month of May. Post the presentations and evaluation, successful bidders will be issued RFP's.** • A Civil Appeal No. 4983 of 2021 with interlocutory application no. 105533 of 2021 (application for stay) has been instituted in Hon'ble Supreme Court of India by Bainguinim Citizen Forum V/s GWMC & others. Hearing was on 17/11/2021 & 21/04/2022 and case has been admitted in Supreme Court.	**Proposed timeline to be decided post-verdict of Hon'ble Supreme Court case.**
2	**Solid Waste Management Facility – Verna (*250 TPD + 20%*)& 250 TPD Waste to Energy Facility**	Capacity Catering to	250 TPD (+20%) Mormugao &Salcete Talukas	• **Awaiting environmental clearance (EC).** • Pre-feasibility study for setting up of Waste to Energy completed by IVL Swedish Research Institute,Sweden and report submitted. **(No change)**	Upon grant of Environmental Clearance (EC), GWMC shall float tender for SWMF 250 TPD.
3	**Construction & Demolition Waste Management Facility – Bicholim**	Capacity: 500 TPD Land:44,478 sqm Catering to:	State of Goa	• Regarding tender for fencing and security-cabin at Bicholim, the tender has been finalized and work order will be issued post demarcation. • **Awaiting Demarcation from Dy. Collector- Bicholim.** • **Meanwhile GWMC has also initiated process for identifying an alternate land for C&D facility** **(No Change)** **Meantime, Collector North has identified an abandoned laterite quarry for backfilling with C&D waste and deposition has been started by various departments** **Collector North Goa has notified an abandoned laterite quarry in Tuem Village for deposition C&D waste for backfilling and subsequently deposition of waste by various agencies has already started.**	GWMC was to float tender for setting up C & D Waste Management Facility by December-2021 but due to delay in site clearance from Revenue Department and construction work towards the same has not commenced.

4	**Common Hazardous Waste Treatment Storage and Disposal Facility (*CHWTSD*)**	Capacity	25,000 TPA Secured Landfill (SLF) & 1.5 ton/hr incinerators	• Phase 1: Completed • **Phase 2: 98% completed *(No Change) (only administrative block office is remaining however plant is functional)****and*** **in meantime the operator has made alternate arrangements for storage and disposal of Phase 2 incinerable waste through their sister concern at Ranjangaon-Maharashtra.** • **Work towards Boiler, Incineration system (Phase II) is completed** • **Incinerator has been commissioned and its trail runs are in progress.** • **Application for consent to operate for incinerator made to GSPCB and awaiting consent for operations.**	TSDF commissioned on March 2021. **Incinerator commissioned and under trial operations**
5	**Design-Build and Operate an E-Waste Management (*Collection, Storage and Dismantling*)**	Capacity	**15 - TPD**	• Work Order is issued to the contractor dated 27/08/2021. • Since 27/08/2021, the operator has started collection of e-waste from ULBs/RLBs and the same is disposed scientifically to authorized recyclers. • **GIDC has sub-leased the plot to CAM Industrial Services.** • **Construction licence from GIDC received on 26/12/2022. Construction of retaining wall has been completed and excavation of main site has commenced**	Collection of e-waste has started from 27/08/2021. **Dismantling facility will be completed and commissioned by *April 2023***

Note: Facility at Sr. no. 1 & 2 are proposed to be constructed considering the future increase in waste generation and not for any present gap in MSW treatment.

Annexure C

Total Number of Hospitals & healthcare facilities:

- The State of Goa has 50 public healthcare facilities (*excluding veterinary & dispensaries*) with a total bed capacity of 3159.
- Total number of non-bedded facilities under public healthcare systems are 14 dispensaries.
- Goa has 102 facilities under the category of private healthcare with a total bed capacity of 2443.
- The total beds currently available under both public and private sector are 5602.
- Goa has one dental college under public healthcare and 251 dental clinics across the state under private health care system.
- The state also has 5 veterinary hospitals and 25 clinics under public facilities and 27 pet clinics under the category of private facilities.
- Apart from bedded facilities in private sector the state also has approximately 482 non bedded facilities (excluding dental clinics) that cater to consultations, observation, diagnostics and select treatment.

Annexure D

DATA of 11 Polluted River Stretches for Major Rivers of March 2023

1.RIVER CHAPORA NEAR ALORNA FORT, PERNEM			
Sr.No.	**Parameters**	**Mar-23**	**Limit for class C rivers as per CPCB classification based on designated best use of rivers**
1	pH	7	6.0-9.0
2	Dissolved Oxygen (mg/l)	7.1	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	1700	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	330	-
Remarks: All parameters are within permissible limit for the month of March 23			

RIVER CHAPORA NEAR SIOLIM BRIDGE			
Sr.No.	**Parameters**	**Mar-23**	**Limit for SW II rivers as per CPCB classification based on designated best use of rivers**
1	pH	7.9	6.5-8.5
2	Turbidity(NTU)	4.09	30 NTU
3	Dissolved Oxygen (mg/l)	7	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	790	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	350	-
Remarks:Fecal Coliform is exceeding the permissible limit for the month of March 23			

2.RIVER TIRACOL AT KERI, PERNEM			
Sr.No.	**Parameters**	**Mar-23**	**Limit for SW II rivers as per CPCB classification based on designated best use of rivers**
1	pH	7.84	6.5-8.5

2	Turbidity(NTU)	3.12	30 NTU
3	Dissolved Oxygen (mg/l)	6.5	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	460	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	47	-
Remarks:Fecal Coliform is exceeding the permissible limit for the month of March 23			

3.RIVER SINQUERIM, CANDOLIM SIDE			
Sr.No.	**Parameters**	**Mar-23**	**Limit for SW II rivers as per CPCB classification based on designated best use of rivers**
1	pH	7.86	6.5-8.5
2	Turbidity(NTU)	2.05	30 NTU
3	Dissolved Oxygen (mg/l)	7.3	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	1300	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	240	-
Remarks:Fecal Coliform is exceeding the permissible limit for the month of March 23			

RIVER SINQUERIM, NEAR GANPATI TEMPLE			
Sr.No.	**Parameters**	**Mar-23**	**Limit for SW II rivers as per CPCB classification based on designated best use of rivers**
1	pH	7.94	6.5-8.5
2	Turbidity(NTU)	3.96	30 NTU
3	Dissolved Oxygen (mg/l)	7.1	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	1700	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	540	-
Remarks: Fecal Coliform is exceeding the permissible limit for the month of March 23			

4.RIVER ZUARI AT MADKAI JETTY			
Sr.No.	**Parameters**	**Mar-23**	**Limit for SW II rivers as per CPCB classification based on designated best use of rivers**
1	pH	7.12	6.5-8.5
2	Turbidity(NTU)	6.75	30 NTU
3	Dissolved Oxygen (mg/l)	4.7	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	1100	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	220	-
Remarks:Fecal Coliform is exceeding the permissible limit for the month of March 23			

RIVER ZUARI AT BORIM BRIDGE			
Sr.No.	**Parameters**	**Mar-23**	**Limit for SW II rivers as per CPCB classification based on designated best use of rivers**
1	pH	6.96	6.5-8.5
2	Turbidity(NTU)	3.61	30 NTU
3	Dissolved Oxygen (mg/l)	4.50	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	780	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	130	-
Remarks:Fecal Coliform is exceeding the permissible limit for the month of March 23			

5.RIVER ASSANORA AT ASSANORA			
Sr.No.	**Parameters**	**Mar-23**	**Limit for class C rivers as per CPCB classification based on designated best use of rivers**
1	pH	6.39	6.0-9.0
2	Dissolved Oxygen (mg/l)	6.3	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	1300	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	110	-
Remarks: All parameters are within permissible limit for the month of February 23.			

6.RIVER VALVANTI AT SANQUELIM			
Sr.No.	**Parameters**	**Mar-23**	**Limit for class C rivers as per CPCB classification based on designated best use of rivers**
1	pH	6.50	6.0-9.0
2	Dissolved Oxygen (mg/l)	8.1	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	2200	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	220	-
Remarks: All parameters are within permissible limit for the month of February 23.			

7.RIVER KHANDEPAR, OPA, PONDA			
Sr.No.	**Parameters**	**Mar-23**	**Limit for class C rivers as per CPCB classification based on designated best use of rivers**
1	pH	7.57	6.0-9.0
2	Dissolved Oxygen (mg/l)	7.1	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	490	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	94	-
Remarks: All parameters are within permissible limits for the month of March 23.			

RIVER KHANDEPAR, CODLI			
Sr.No.	**Parameters**	**Mar-23**	**Limit for class C rivers as per CPCB classification based on designated best use of rivers**
1	pH	7.67	6.0-9.0
2	Dissolved Oxygen (mg/l)	7.0	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	790	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	110	-
Remarks: All parameters are within permissible limits for the month March of 23			

8.RIVER BICHOLIM BARAZAN NAGAR, BICHOLIM			
Sr.No.	**Parameters**	**Mar-23**	**Limit for class C rivers as per CPCB classification based on designated best use of rivers**
1	pH	6.67	6.0-9.0
2	Dissolved Oxygen (mg/l)	5.3	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	4900	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	460	-
Remarks: permissible limits for the month of March 23			

9.RIVER MANDOVI AT TONCA MARCELA			
Sr.No.	**Parameters**	**Mar-23**	**Limit for class SW II rivers as per CPCB classification based on designated best use of rivers**
1	pH	7.42	6.5-8.5
2	Turbidity(NTU)	3.07	30 NTU
3	Dissolved Oxygen (mg/l)	5.70	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	490	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	79	-
Remarks:Fecal Coliform is exceeding the permissible limit for the month of March 23.			

10.RIVER TALPONA AT CANACONA			
Sr.No.	**Parameters**	**Mar-23**	**Limit for class C rivers as per CPCB classification based on designated best use of rivers**
1	pH	6.94	6.0-9.0
2	Dissolved Oxygen (mg/l)	7.3	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	1400	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	140	-

Remarks: All parameters are within permissible limits for the month of March 23

11.RIVER SAL AT KHAREBAND,MARGAO			
Sr.No.	**Parameters**	**Mar-23**	**Limit for class SW II rivers as per CPCB classification based on designated best use of rivers**
1	pH	6.48	6.5-8.5
2	Turbidity(NTU)	21.3	30 NTU
3	Dissolved Oxygen (mg/l)	BDL	4 mg/l or more
4	BOD (mg/l)	5.8	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	5800	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	840	-
Remarks:Fecal Coliform is exceeding the permissible limit for the month of March 23.			

RIVER SAL AT MOBOR			
Sr.No.	**Parameters**	**Mar-23**	**Limit for class SW II rivers as per CPCB classification based on designated best use of rivers**
1	pH	8.0	6.5-8.5
2	Turbidity(NTU)	13.69	30 NTU
3	Dissolved Oxygen (mg/l)	7.8	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	1700	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	140	
Remarks:Fecal Coliform is exceeding the permissible limit for the month of March 23.			

NOTE:
1)BDL- Below Detection Limit

Annexure E Remediation of Legacy waste-dumps

(as per the submission made by Goa Waste Management Corporation – GWMC as on 31st March 2023)

Sr. No.	Name of the Local Body	Location of dump	Agency/Contractor	Volume remediated till date	Qty of RDF Disposed(m3)	Qty of Inert/Compost Disposed(m3)	Status of Work
1	Corporation of the City of Panaji	Campal-Attachment Point No. 290	CAM INDUSTRIAL SERVICES	5305.00	3168.00	2070.00	**Completed** Start date -March 20/ Completed date-Feb 21
2	Corporation of the City of Panaji	Behind SBI, EDC, Patto-attachment Point No. 287	CAM INDUSTRIAL SERVICES	2606.00	308.00	2239.00	**Completed** Start Date- March 21/Completed date-June 21
3	Corporation of the City of Panaji	Near Divja Circle, Panaji- Attachment Point No. 288	CAM INDUSTRIAL SERVICES	569.00	89.00	424.00	**Completed** Start date-May 21/completed date -June 21
4	Margao Municipal Council	Sonsoddo dump site, Margao	HINDUSTAN WASTE TREATMENT PVT. LTD.	approx. 160000.00 (final survey pending for quantity)	27856.00	68580.00	**Remediation completed,** Remediation start date-Dec 19/ Completed date-March 23
5	Mormugao Municipal Council	Headland Sada dump site, Mormugao	CAM INDUSTRIAL SERVICES	96530.00	29756.00	47213.00	**Remediation Completed** Start date-Feb 20/Completed date- June 2020 RDF disposal in progress

6	Mapusa Municipal Council	Assagao Dump site, Mapusa	SAURASHTRA ENVIRO PVT. LTD.	155333.00	83807.00	40280.00	**Completed** Start date-Feb 20/completion date- June 2022
7	Cuncolim Municipal Council	Dumpsite at Cuncolim IDC	CAM INDUSTRIAL SERVICES	4834.00	ongoing	2340.00	**Remediation Completed** Start date-Feb 22/completed date-May 2022 RDF disposal in progress
8	Canacona Municipal Council	Dumpsite at Garbage Treatment Plant at DumaneShristhal	CAM INDUSTRIAL SERVICES	500.00	-	-	**Work in progress.** Start date March-22
9	Corporation of the City of Panaji	Curca- Attachment Point No. 289	CAM INDUSTRIAL SERVICES	150.00 (ongoing)	-	-	**Work in progress** Start date 07/03/2023
10	Bicholim Municipal Council	Adjacent to the garbage Treatment Plant, Lakherem in Sy. No.109/0.	CAM INDUSTRIAL SERVICES	1800.00 (ongoing)	ongoing	420.00	**Remediation Completed** RDF disposal is pending
11	Pernem Municipal Council	At garbage Treatment Plant of Pernem Municipal Council	CAM INDUSTRIAL SERVICES	317.48	ongoing	119.00	**Remediation Completed** Start date-Dec 22/completed date- Dec 2022

Verification of the water-quality data w.r.t. Biochemical Oxygen Demand (BOD) – max. value recorded during 2019 / 2021 as referred in CPCB's Draft report (August 2022) to the data recorded / maintained by the Goa-PCB

		Max. BOD in mg/l recorded in 2019 / 2021 (CPCB's prescribed limit – 3 mg/ml)			
	STATION	**As per Board Record**	**As referred in CPCB'S draft report – August 2022**	**Priority-class, as referred in the CPCB's draft**	**Goa-PCB's Remarks for consideration and correction in the CPCB's draft compilation – August 2022**
	Kalna river (*along Chandel*)	4	4	V	No change
	Khandepar river (*at U/S of Opa water works*)	2.8 *(complies with prescribed norms)*	4.2	V	As the reported value (*i.e. – 2.8*) is as within the CPCB's prescribed limit, **this stretch needs to be delisted.**
	Mandovi river (*along Amona*)	3.7	3.7	V	No change
	Mapusa river (*along Karaswada*)	5.0	5.0	V	No change
	Sal river (*Khanebad to Assolna*)	6.0	6.0	V	No change
	Zuari river (*Panchwadi to Madkai*)	5.0	6.4	IV	As the reported value (*i.e. – 5.0*) falls within priority criteria – V, **this stretch needs to recategorised as Priority class – V.**

* *Priority IV – monitoring locations having BOD between 6.0 – 10.0 mg / L*
Priority V - monitoring locations having BOD between 3.0 – 6.0 mg / L