

# 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 22<sup>nd</sup> February 2021

## State of GOA

### Overall status of the State:

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

Urban Population:- 9,37,788 and Rural Population:-5,20,757. (Census 2011)

II. Estimated Sewage Generation (MLD): **112.53 MLD** (Urban area only)

### III. Details of Sewage Treatment Plant:

- Existing no. of STPs and Treatment Capacity (in MLD): **09 STPs' with 78.35 MLD capacity**
- Capacity Utilization of existing STPs: **29.15 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. Many 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 in the State.
- Gap in Treatment Capacity in MLD: **Negligible.**
- No. of Operational STPs': **09 nos.**
- No. of Complying STPs': **09 nos.**
- No. of Non-complying STPs': **NIL**

### Details of each 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	<b>11 - MLD</b>	Operational	Complied-with
2.	Vasco	20 – MLD	<b>7.5 – MLD</b>	Operational	Complied-with
3.	Durbhat	01 – MLD	0.4 – MLD	Operational	Complied-with
4.	Goa Medical	1.35 MLD	0.5 – MLD	Operational	Complied-with

	College (GMC)				
5.	Sancoale	01 – MLD	01 – MLD	Operational	Complied-with
6.	Sanquelim	0.8 – MLD	0.15 – MLD	Operational	Complied-with
7.	Tonca, Panaji	12.5 – MLD	10 – MLD	Operational	Complied-with
8.	Tonca, Panaji	15 – MLD	02 – MLD	Operational	Complied-with
9.	Shirvodem-Navelim	6.7 – MLD	<b>1.6 – MLD</b>	Operational	Complied-with
<b>Total</b>		<b>78.35 MLD</b>	<b>34.15 MLD</b>		

**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	<b>96% (+1% change since last-month)</b> of civil works STP completed and <b>Electrical / Mechanical works 48% (+5% change since last-month) completed.</b> Around <b>93% (+1% change since last-month)</b> of the sewer-network is completed.	House connections will start 03-months before completion date.	December 2021
2	Colva	7.5 – MLD	<b>80% (+2% change since last-month)</b> of sewer-network is completed. STP is ready for trial-run and electrical connection obtained and work of effluent disposal line is in-progress.		
3	Patto, Panaji	02 – MLD	<b>75% (+2% change since last-month)</b> completed physical progress.	100% completed	
4	Mapusa	5.4 – MLD	<b>91% (+1% change since last-month)</b> progress	House connections will start 03-months before completion	
5	Baga	5.6 – MLD	97% <b>(No change)</b>		

			<i>since last-month)</i> progress	date.	
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### 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% <i>(no change since last-month)</i> of the sewer-network is completed.	16-months time-period required from star of work.
2.	Curti, Ponda	08- MLD	STP work could not be started due to local issues. Around 92% <i>(no change since last-month)</i> of the sewer-network is completed.	
3.	Porvorim	20 – MLD	STP work could not be started due to local issues. Around 80% <i>(no change since last-month)</i> of the 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: 207
- 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 ( <i>existing, under construction &amp; proposed</i> )
Not Applicable				

#### **V. Solid Waste Management:**

- Total number of Urban Local Bodies and their Population: *As referred in MPR for the month ending December 2020.*

- Current Municipal Solid Waste Generation: **766 tons per day (TPD)** – as per the waste characterization report, 2018.
- 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., **Refer Annexure - A.**
- Action plan to bridge gap between Installed Capacity and Current Utilization of processing facilities (if Gap > 20%): **Refer Annexure – B.**
- 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: As referred in MPR for the month ending November 2020.
- Details of MSW 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.**
- 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 month ending-November 2020.					

**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: **Refer Annexure – B.**

**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 neighboring States under valid agreement.**
- Details of on-going or proposed TSDF : **The State has initiated the process to set-up Common Hazardous Waste Treatment Facility at Pissurlem Industrial Estate.**

#### **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 Material Recovery facility (MRF) as well as Baling facilities (03 nos.).**

**IX.** Details of Alternate Treatment Technology being adopted by the State/UT: **The State has proposed to set-up Plastic-to-Fuel plant at Pernem Municipal Council (North Goa) on a trial-basis.**

**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.**

**XIII.** Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment 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. Expected level of compliance – 100%, **Actual compliance – 90%** (*No change since last-month*), **Target – August 2021** (target revised from May 2021 to August 2021 due to COVID-19 restrictions).
- 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 last-month*), **Target: December 2021** (target revised from May 2021 to December 2021 due to COVID-19 restrictions).
- XVI.** Rain Water Harvesting: Although the State receives abundant rainfall to the tune of about 160-inches per year, 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. Department of Industries, Trade and Commerce (DITC) is encouraging the industries to adopt rainwater harvesting initiatives. - Expected level of compliance: 50%, **Actual compliance: 20%** (*no change since last-month*), **Target: December 2021** (target revised from May 2021 to December 2021 due to COVID-19 restrictions).
- XVII.** Demarcation of Floodplain and removal of illegal encroachments: **70%** - Expected level of compliance: 100%, **Actual compliance: 95%**, (*No change since last-month*), **Target: June 2021** (target revised from March 2021 to June 2021 due to COVID-19 restrictions).
- 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:** Major stretches of lower-reaches of major rivers (*i.e. downstream regions*) are flanked by mangroves while, along upper-reached (*i.e. upstream regions*), there is either coconut plantation or no space for any plantation.
- XX.** Development of Biodiversity Park: As referred in MPR for the month ending October 2020.
- XXI. Reuse of Treated Water:** Although there is no agricultural demand, part utilization has been proposed for (i) release of STP-treated water at Colva into Sal-river so as to maintain the flow, (ii) flushing of St. Inez creek, (iii) municipal gardening, (iii) social forestry, (iv) private-plantation, (v) dust-suppression measures and every attempt is being made to utilize the STP-treated waters.
- 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 carried out including aeration of the stored

water. Expected level of compliance 100 %. **Actual Compliance - 100%** (+50% change since last-month). **Target – May 2021** (target achieved).

**XXIII. Status of Preparation of Action Plan:** Central Pollution Control Board (CPCB) has approved the Action plans prepared for Sal river (*priority criteria- III*) as well as Mandovi and Talpona rivers (*both falling under priority criteria – IV*). In the remaining eight polluted river-stretches (*all falling under priority criteria – V*) proposed Action Plan Strategies (APSs) have been approved during the 25<sup>th</sup> RRC-Goa meeting held on 05<sup>th</sup> January 2021 under the Chairmanship of Secretary, Environment.

Further, Out of these 11 action plans prepared for polluted river-stretches, **six polluted river-stretches are coastal rivers** namely – (i) Mandovi, (ii) Zuari, (iii) Talpona, (iv) Chapora, (v) Terecol and (vi) Sal and include all aspects of the coastal / marine pollution with technological-interventions to be executed / implemented by stakeholder departments concerned and incorporates budget-estimates as well as defined timelines for its completion.

**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: 90%** (+20% change since last-month), **Target: August 2021.**

## Annexure A

Number, installed capacity and utilization of existing GWMC MSWS sorting and baling processing facilities in TPD:

### 1. MRF facilities

- i. Verna MRF facility: ~**8 TPD** (*dry waste*)
- ii. Cacora MRF facility: ~**5 TPD** (*dry waste*)
- iii. Bicholim MRF facility: ~**8TPD** (*dry waste*)

2. **Integrated Solid Waste Management Facility (SWMF)** of 150 tons per day (TPD) at Saligao and currently work is in progress of enhancing from existing 150-TPD to 250-TPD (+20%), **present 45% (+7% change since last-month) work completed.**



## Annexure B

Sr. No.	Project	Details		Status	Timeline
1	<b>Enhancement of Integrated Solid Waste Management Facility – Saligao</b>	Capacity :	250 TPD (+20%)	Part enhancement of Integrated Solid Waste Management Facility (SWMF) from <i>100 tons per day (TPD) to 150 tons TPD</i> is completed and currently is in process of enhancing from existing 150-TPD to 250-TPD (+20%). <ul style="list-style-type: none"> <li>• RCC wall work of digester-1 and digester-2 completed.</li> <li>• Civil superstructure work is in-progress.</li> <li>• Road-work is in progress.</li> <li>• Electro-mechanical work is in progress.</li> <li>• <b>Roofing of wet-waste shed and sludge-dewatering shed completed.</b></li> <li>• <b>Current completion status is 45% (+7% change since last-month).</b></li> </ul>	<b>December 2021</b>
	Catering to :	Bardez, Pernem, Bicholim & Sattari Talukas			
	Cost of the Project	103.87 Cr			
2	<b>Integrated Solid Waste Management Facility – Cacora</b>	Capacity :	100 TPD (+25%)	<ul style="list-style-type: none"> <li>• Foundation works of MSRC shed, digester-tank, STP, gas-engine building completed.</li> <li>• Casting of both Digester-tanks completed and <b>Construction of solar-drying shed completed.</b></li> <li>• Bag-opener and wind-sifter, <b>digester-mixers, sedimentation-tanks received at site.</b></li> <li>• <b>Current completion status is 42% (+5% change since last-month).</b></li> </ul>	<b>December 2021</b>
	Catering to :	Sanguem, Dharbandora, Quepem & Canacona Talukas			
	Cost of the Project	173.98 Cr			
3	<b>Integrated Solid Waste Management Facility- Bainguinim</b>	Capacity :	250 TPD (+20%)	<ul style="list-style-type: none"> <li>• Environmental Clearance (EC) has been granted.</li> <li>• RFQ has been floated on 21/09/2020 and RFQ bid opened on 15/02/2021. Three bids were received. However, none of the bids are fulfilling the minimum eligible criteria and / or have not submitted all mandatory documents.</li> <li>• The Board of Directors meeting held on 15<sup>th</sup> April 2021 decided to reject all the pre-applications bids for request for pre-qualification (RFQ) due to incomplete bids / discrepancies in bid-document from all three bidders and decided to refloat the RFQ by incorporating the pre-qualification criteria adopted after the pre-bid meeting of earlier RFQ and give 06-weeks time to make the bid more competitive and attract more bidders. Accordingly, the GWMC is in progress of preparing the revised RFQ-document.</li> <li>• Expert Committee meeting was held on 31/05/2021 to finalize the technical specification of the RFQ <b>and minutes approved on 20<sup>th</sup> June 2021.</b></li> </ul>	<b>Proposed timeline for completion is October 2022.</b>
	Catering to:	Tiswadi & Ponda Talukas			

In

4	<b>Solid Waste Management Facility –Verna (250 TPD + 20%)</b>	<table border="1"> <tr> <td data-bbox="647 185 795 261">Capacity</td> <td data-bbox="795 185 1018 261">250 TPD (+20%)</td> </tr> <tr> <td colspan="2" data-bbox="647 261 1018 672">Catering to Mormugao &amp; Salcete Talukas</td> </tr> </table>	Capacity	250 TPD (+20%)	Catering to Mormugao & Salcete Talukas		<ul style="list-style-type: none"> <li>• Work order to conduct Environment Impact Assessment (EIA) Studies for 250 TPD + 20% Integrated Solid Waste management Facility &amp; Waste-to-Energy has been issued to M/S Sadekar Enviro Engineers Pvt. Ltd.,</li> <li>• The proposal for appointment of IVL Swedish Environmental Research for carrying out pre-feasibility studies for setting up Waste to Energy Facility in Goa for the amount of 35,000 Euros (<i>exclusive of any value-added tax</i>) on nomination basis is approved in Cabinet meeting.</li> <li>• Agreement is placed for vetting from legal and treaties division of the Ministry of External Affairs.</li> <li>• Ambient Air Quality Monitoring completed on 31<sup>st</sup> May. <b>Compilation of Baseline data for three-months has been completed.</b></li> <li>• <b>Biodiversity survey is in-progress.</b></li> </ul>	<b>Upon grant of Environmental Clearance (EC), GWMC shall float tender for SWMF 250 TPD.</b>		
Capacity	250 TPD (+20%)									
Catering to Mormugao & Salcete Talukas										
5	<b>Construction &amp; Demolition Waste Management Facility – Bicholim</b>	<table border="1"> <tr> <td colspan="2" data-bbox="647 672 1018 748">Capacity: 500 TPD</td> </tr> <tr> <td colspan="2" data-bbox="647 748 1018 824">Land:44,478 sqm</td> </tr> <tr> <td colspan="2" data-bbox="647 824 1018 1421">Catering to: State of Goa</td> </tr> </table>	Capacity: 500 TPD		Land:44,478 sqm		Catering to: State of Goa		<ul style="list-style-type: none"> <li>• GWMC has taken the possession of revenue, land under survey no 146/2,3,4,6 and 148/2,6,7 at Curchirem Village in Bicholim taluka.</li> <li>• Whereas it has been observed that there are names in Form I &amp; XIV of the aforementioned survey number under another rights column as lessee. Hence, the matter was placed before Collector North to grant the land free from all encumbrances.</li> <li>• Further matter regarding demarcation of this land is going on before the Dy. Collector Bicholim. Subsequently, <u>07 hearings (+2 since last-month)</u> have been conducted and out of 27 opponents only 2 opponents have been objected. Order to be passed by Dy. Collector of demarcation after which fencing, security-cabin will be set-up.</li> <li>• Meantime, GWMC has requested the District Magistrate, North Goa Collectorate to hand over the said land to GWMC without any encumbrances after following due procedure prescribed under law, the said matter has been forwarded to the Deputy Collector/SDO Bicholim for necessary action. Awaiting Order from Deputy Collector, Bicholim.</li> <li>• GWMC received objection from VP Ona-Maulinguem, Bicholim dated 23/06/2020 for setting up garbage/MSW facility. Hence, letter has been sent on 12/10/2020 to the VP informing that the plant is not for garbage/MSW and instead for C&amp;D facility.</li> <li>• The Demarcation Order has been passed on 29<sup>th</sup> January 2021 by Dy. Collector &amp; SDM (Bicholim). The demarcation order has been forwarded to ISLR, Bicholim for inspection and demarcation. The demarcation was fixed on 05/05/2021 at 10.30 a.m. However, due to section 144 imposed and implementation of curfew, the said work was postponed.</li> </ul>	<b>The consultant shall submit DPR by mid-February 2021 and GWMC shall float tender for setting up C &amp; D Waste Management Facility by May 2021 and construction work towards the same shall commence by January 2022 and to be completed in 18 months i.e. November 2023 after getting the land without any encumbrances including trial</b>
Capacity: 500 TPD										
Land:44,478 sqm										
Catering to: State of Goa										

				<p>Accordingly, the next date is fixed on 14<sup>th</sup> June 2021.</p> <ul style="list-style-type: none"> <li>Final draft copy of DPR has been submitted by SINTEF on 04.02.2021 which has been approved in Board of Directors meeting held on 15/04/2021. Subsequently, DPR will be placed before TASC for scrutiny and for technical clearance.</li> <li><b>The District Collector (North) has identified quarry in Tuem for back-filling with inert Construction debris and Demolition wastes (i.e. C &amp; D waste). GWMC had constructed portable cabinet at Tuem site and accordingly informed Corporation of Panaji (CCP) to start disposing C &amp; D wastes with proper S.O.P. as issued by the Collector –North Goa district and GWMC.</b></li> <li><b>Regarding tender for fencing and security-cabin, file is sent for approvals for opening of tender.</b></li> </ul>	operation.
6	<b>Common Bio-Medical Waste Treatment Management facility (CBMWTF)</b>	Capacity	200 kgs. Per. hour incinerators.	<ul style="list-style-type: none"> <li>Both Sheds have been erected.</li> <li>Masonry work of walls and floor tiling work in shed-2 is in-process.</li> <li>Autoclave, boiler, 300kg/hr Incinerator with APCD, segregation belt, Stack Chimney, Firefighting equipment's and plastic recycling unit and other machinery installation in process.</li> <li>ETP collection tank construction in process.</li> <li><b>External electrical pole connection approval pending.</b></li> <li><b>Currently 85% (+5% change since last-month) of project is completed.</b></li> </ul>	<b>December 2021</b>
7	<b>Common Hazardous Waste Treatment Storage and Disposal Facility (CHWTSD)</b>	Capacity	25,000 TPA Secured Landfill (SLF) & 1.5 ton/hr incinerators	<ul style="list-style-type: none"> <li>Phase 1: Completed, i.e. secured landfill - 1 (SLF1), storage shed - 1, weigh bridge, wheel washing, security cabin, laboratory.</li> <li><b>Phase 2: 55% (+5% change since last-month) completed</b>, timeline for completion of phase 2 is December 2021.</li> <li>GSPCB has granted consent to operate of SLF1 on 31/03/2021.</li> </ul>	Landfill - 1 commissioned on March 2021. Project will be completed by <b>December 2021.</b>
8	<b>Design-Build and Operate an E-Waste Management (Collection, Storage and Dismantling)</b>	Capacity	<b>15 - TPD</b>	<ul style="list-style-type: none"> <li>Tender for selection of service provider for Design-Build and Operate an E-Waste Management (<i>Collection, Storage and Dismantling</i>) for the State of Goa was floated on 06/07/2020.</li> <li>Technical bid was opened on 30<sup>th</sup> November 2020.</li> <li>Technical presentation before the TEC of technical proposal held on 27<sup>th</sup> January-2021.</li> <li>Financial Bid of the single bid tender was opened on 11/03/2021</li> <li>Letter of Award is issued to CAM Industrial Service dated 30/04/2021. Subsequently, Concession Agreement has been sent for Legal-vetting to Legal Retainer.</li> </ul>	<b>March 2022</b>

## 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 June 2021

#### 1.RIVER CHAPORA NEAR ALORNA FORT, PERNEM

Sr.No.	Parameters	Jun-21	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	6.85	6.0-9.0
2	Dissolved Oxygen mg/l	6.7	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	281	-

**Remarks: All parameters are within permissible limits.**

#### RIVER CHAPORA NEAR SIOLIM BRIDGE

Sr.No.	Parameters	Jun-21	Limit for SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.73	6.5-8.5
2	Turbidity (NTU)	6.47	30 NTU
3	Dissolved Oxygen mg/l	7.4	4 mg/l or more
4	BOD mg/l	BDL	3 mg/l or less
5	Fecal Coliform MPN/100ml	320	100 or less MPN/100ml
6	Fecal Streptococci	111	-

**Remarks: Fecal Coliform is exceeding the permissible limit for the month of June 21.**

#### 2.RIVER TIRACOL AT KERI, PERNEM

Sr.No.	Parameters	Jun-21	Limit for SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.34	6.5-8.5
2	Turbidity (NTU)	8.08	30 NTU
3	Dissolved Oxygen mg/l	6.0	4 mg/l or more
4	BOD mg/l	BDL	3 mg/l or less
5	Fecal Coliform MPN/100ml	330	100 or less MPN/100ml
6	Fecal Streptococci	131	-

**Remarks: Fecal Coliform is exceeding the permissible limit for the month of June 21.**

#### 3.RIVER SINQUERIM, CANDOLIM SIDE

Sr.No.	Parameters	Jun-21	Limit for SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.49	6.5-8.5
2	Turbidity (NTU)	6.67	30 NTU
3	Dissolved Oxygen mg/l	5.5	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	241	-

**Remarks: Fecal Coliform is exceeding the permissible limit for the month of June 21.**

#### RIVER SINQUERIM, NEAR GANPATI TEMPLE

Sr.No.	Parameters	Jun-21	Limit for SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.37	6.5-8.5
2	Turbidity (NTU)	10.85	30 NTU
3	Dissolved Oxygen mg/l	5.5	4 mg/l or more
4	BOD mg/l	BDL	3 mg/l or less
5	Fecal Coliform MPN/100ml	270	100 or less MPN/100ml

6	Fecal Streptococci	221	-
<b>Remarks: Fecal Coliform is exceeding the permissible limit for the month of June 21.</b>			

<b>4.RIVER ZUARI AT MADKAI JETTY</b>			
Sr.No.	Parameters	Jun-21	Limit for SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.02	6.5-8.5
2	Turbidity (NTU)	46.6	30 NTU
3	Dissolved Oxygen mg/l	6.6	4 mg/l or more
4	BOD mg/l	2.4	3 mg/l or less
5	Fecal Coliform MPN/100ml	2200	100 or less MPN/100ml
6	Fecal Streptococci	-	-
<b>Remarks: Turbidity and Fecal Coliform is exceeding the permissible limit for the month of June 21.</b>			

<b>RIVER ZUARI AT BORIM BRIDGE</b>			
Sr.No.	Parameters	Jun-21	Limit for SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.02	6.5-8.5
2	Turbidity (NTU)	7.22	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	1400	100 or less MPN/100ml
6	Fecal Streptococci	431	-
<b>Remarks: Fecal Coliform is exceeding the permissible limit for the month of June 21.</b>			

<b>5.RIVER ASSANORA AT ASSANORA</b>			
Sr.No.	Parameters	Jun-21	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	6.97	6.0-9.0
2	Dissolved Oxygen mg/l	6.5	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	47	-
<b>Remarks: All parameters are within permissible limits.</b>			

<b>6.RIVER VALVANTI AT SANQUELIM</b>			
Sr.No.	Parameters	Jun-21	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	6.85	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	1700	5000 or less MPN/100ml
5	Fecal Streptococci	171	-
<b>Remarks: All parameters are within permissible limits.</b>			

<b>7.RIVER KHANDEPAR, OPA, PONDA</b>			
Sr.No.	Parameters	Jun-21	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	4.7	4 mg/l or more
3	BOD mg/l	BDL	3 mg/l or less
4	Total Coliform MPN/100ml	1100	5000 or less MPN/100ml
5	Fecal Streptococci	44	-
<b>Remarks: All parameters are within permissible limits.</b>			

**RIVER KHANDEPAR, CODLI**

Sr.No.	Parameters	Jun-21	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	6.81	6.0-9.0
2	Dissolved Oxygen mg/l	5.0	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	85	-

**Remarks: All parameters are within permissible limits.**

**8.RIVER BICHOLIM BARAZAN NAGAR, BICHOLIM**

Sr.No.	Parameters	Jun-21	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	7.01	6.0-9.0
2	Dissolved Oxygen mg/l	6.9	4 mg/l or more
3	BOD mg/l	BDL	3 mg/l or less
4	Total Coliform MPN/100ml	13000	5000 or less MPN/100ml
5	Fecal Streptococci	241	-

**Remarks: Total Coliform is exceeding the permissible limit for the month of June 21.**

**9.RIVER MANDOVI AT TONCA MARCELA**

Sr.No.	Parameters	Jun-21	Limit for class SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.15	6.5-8.5
2	Turbidity(NTU)	6.8	30 NTU
3	Dissolved Oxygen mg/l	5.4	4 mg/l or more
4	BOD mg/l	BDL	3 mg/l or less
5	Fecal Coliform MPN/100ml	1400	100 or less MPN/100ml
6	Fecal Streptococci	1601	-

**Remarks: Fecal Coliform is exceeding the permissible limit for the month of June 21.**

**10.RIVER TALPONA AT CANACONA**

Sr.No.	Parameters	Jun-21	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	7.1	6.0-9.0
2	Dissolved Oxygen mg/l	7.6	4 mg/l or more
3	BOD mg/l	BDL	3 mg/l or less
4	Total Coliform MPN/100ml	140	5000 or less MPN/100ml
5	Fecal Streptococci	151	-

**Remarks: All parameters are within permissible limits.**

**11.RIVER SALAT KHAREBAND,MARGAO**

Sr.No.	Parameters	Jun-21	Limit for class SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.50	6.5-8.5
2	Turbidity(NTU)	70.5	30 NTU
3	Dissolved Oxygen mg/l	1.2	4 mg/l or more
4	BOD mg/l	4.8	3 mg/l or less
5	Fecal Coliform MPN/100ml	4900	100 or less MPN/100ml
6	Fecal Streptococci	>1601	-

**Remarks: Turbidity, BOD and Fecal Coliform is exceeding the permissible limit for the month of June 21. Dissolved Oxygen is below permissible limit for the month of June 21.**

**RIVER SAL AT MOBOR**

Sr.No.	Parameters	Jun-21	Limit for class SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.6	6.5-8.5
2	Turbidity(NTU)	7.74	30 NTU
3	Dissolved Oxygen mg/l	5.8	4 mg/l or more
4	BOD mg/l	BDL	3 mg/l or less
5	Fecal Coliform MPN/100ml	2200	100 or less MPN/100ml
6	Fecal Streptococci	281	-

**Remarks: Fecal Coliform is exceeding the permissible limit for the month of June 21.**

NOTE:

1)BDL- Below Detection Limit