



GOVERNMENT OF PUDUCHERRY

**ACTION PLAN FOR
COASTAL POLLUTION MANAGEMENT**



**PUDUCHERRY POLLUTION CONTROL COMMITTEE
&
PUBLIC WORKS DEPARTMENT**

NOVEMBER 2020

ACTION PLAN FOR COASTAL POLLUTION MANAGEMENT IN THE UNION TERRITORY OF PUDUCHERRY

Introduction

Hon'ble National Green Tribunal (NGT) in O.A. No. 829/2019 with respect to the matter of Lt. Col. Sarvadaman Singh Oberoi Vs Union of India & Ors. has directed all the coastal States / UTs to formulate Action Plan for Coastal Pollution Management. The execution of action plan is to be monitored by the already formed River Rejuvenation Committee (RRC) which may be called as Coastal Rejuvenation Committee (CRC).

Government of Puducherry has already constituted River Rejuvenation Committee vide No.4739/PPCC/RRC/Sci-I/2018 dated 13.11.2018 as mentioned below:

- | | | |
|--|---|-------------|
| 1. Secretary (Environment)
Chief Secretariat
Puducherry. | - | Chairperson |
| 2. Director
Local Administration Department
Puducherry. | - | Member |
| 3. Director
Directorate of Industries and Commerce
Puducherry. | - | Member |
| 4. Member Secretary
Puducherry Pollution Control Committee-cum-
Director, Department of Science, Technology & Environment
Puducherry. | - | Member |

The same will function as Coastal Rejuvenation Committee and shall monitor the progress of the implementation of this Action Plan.

A meeting was held on 04.11.2020 under the Chairmanship of the Chief Secretary, Government of Puducherry to formulate Action Plan for Coastal Pollution Management.

Legal Framework

The discharge of pollutants into coastal waters are regulated under the following legislations:

The Water (Prevention and Control of Pollution) Act, 1974:

Section 24. PROHIBITION ON USE OF STREAM OR WELL FOR DISPOSAL OF POLLUTING MATTER, ETC.

(1) Subject to the provisions of this section,-

(a) no person shall knowingly cause or permit any poisonous, noxious or polluting matter determined in accordance with such standards as may be laid down by the State Board to enter (whether directly or indirectly) into any stream or well or sewer or on land; or

(b) no person shall knowingly cause or permit to enter into any stream any other matter which may tend, either directly or in combination with similar matters, to impede the proper flow of the water of the stream in a manner leading or likely to lead to a substantial aggravation of pollution due to other causes or of its consequences.

Coastal Regulation Zone (CRZ) Notification, 2019:

4. Prohibited activities within CRZ- The following activities shall be prohibited...

(v) Discharge of untreated waste and effluents from industries, cities or towns and other human settlements.

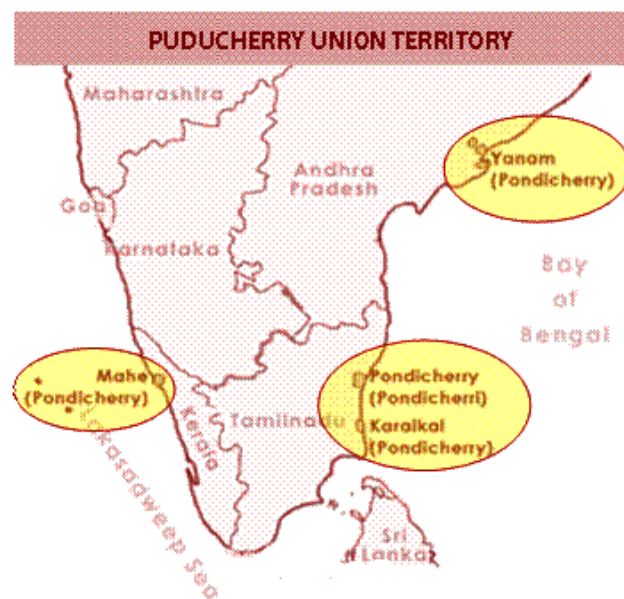
(vi) Dumping of city or town wastes including construction debris, industrial solid wastes, fly ash for the purpose of land filling.

About Puducherry

Puducherry Union Territory comprises of four coastal enclaves viz. Puducherry, Mahe, Yanam and Karaikal regions which are geographically separated from each other. For administration purpose the Union Territory is divided into two districts viz. Puducherry and Karaikal.

Puducherry District consists of Puducherry, Yanam and Karaikal are located in the coastal area and dependent on the coastal resources for its development and livelihood. Puducherry region is interwoven within the state of Tamil Nadu along the Bay of Bengal coast. Yanam region is located within the state of Andhra Pradesh a few km inland of the Bay of Bengal Coast along the banks of Gautami Godavari River which is a tidal influenced water body. Karaikal is located within the state of Kerala along the Arabian Sea coast.

Karaikal District comprises of the Karaikal region which is located 132 km south of the city of Puducherry and bounded by the state of Tamil Nadu on three sides and Bay of Bengal on the East.



The coastal setting of all the four regions of Puducherry UT makes it highly vulnerable to coastal disasters and climate change impacts. The limited coastal resources and the rising economic activities that compete for these vital resources are leading to more and more conflicts.

COASTAL GEOMORPHOLOGY

i) Puducherry Region

Pondicherry Region is a flat plain with an average elevation of about 20-25 metres above mean sea level. The marine plain stretches along the Bay of Bengal extends for about 22 km with a width ranging from 400 to 600 metres. The sea coast has a narrow flat beach with the sea almost touching the plain land at places. The marine plain consists of gently sloping lands with sand dunes. Other characteristic coastal land forms such as creeks and lagoons are also present. The tidal flats extending along the coastal stretch are narrow, except around the Ariyankuppam estuary. Along the Puducherry coast, beaches are generally narrow and are undergoing severe erosion along the northern segment whereas in the southern segment, beaches are comparatively broad and depositional. Barrier dunes are seen as continuous mounds between Ariyankuppam, Kirumambakkam, Manapattu and Narambai areas. Estuarine mouths are prominent at Ariyankuppam, north of Pooranankuppam and in the southern segment where both Gingee and Ponnaiyar rivers join the Bay of Bengal.

Table 1. Area Covered under CRZ in Puducherry

Length of coastline along Bay of Bengal	22.23 km
Length of tidal influenced inland water bodies like rivers and creeks	61.54 km

ii) Karaikal Region

Karaikal Region is located in the Deltaic area of Cauvery River Basin. The region is a monotonous peneplain with elevation not more than five meters above mean sea level at any point. Aeolian action is evident in the coastal tract in the form of sand dunes and mounds. Being situated on sea coast, coastal geomorphological units like sand dunes, tidal inlet, spit bars, coastal beach with swamps and marshes are common. Sand dunes are found in patches on plains.

The coastal area of the region is occupied by coastal community settlements, beach resorts, farmhouses, aquaculture ponds, tourist spots, and parks. Fishing is the main occupation of people living in the suburban coastline, whereas, in the urban coastline the inhabitants are also employed in industries and governmental and non-governmental organizations. Karaikal Port is another major activity along the coastline.

Table 2. Area Covered under CRZ in Karaikal

Length of coastline along Bay of Bengal	17.08 km
Length of tidal influenced inland water bodies like rivers and creeks	93.29 km

iii) Mahe Region

Mahe is a small coastal town situated on the west coast in Kerala, on the Malabar coast of the Arabian Sea located on the mouth of the Mayyazhi River. Mahe is bounded on the southwest by the Arabian sea, on the north by river Ponnigar (Moolakadavu) and on the other sides by a stretch of calcareous hills of medium height, which are linked to the Ghats by a series of wooded hillocks. Mahe is a land that has its soul so connected to Kerala even though it forms a part of the union territory of Puucherry. Mahe has a beautiful landscape surrounded by river and serene beach.

Table 3. Area Covered under CRZ in Mahe

Length of coastline along Arabian Sea	1.46 km
Length of tidal influenced inland water bodies like rivers and creeks	2.41 km

vi) Yanam Region

Yanam is a small area of 8 square miles in extent, situated on the left bank of the eastern branch of the Gautami – Godavari River in Andhra Pradesh. It is built in a place where the river Coringa and the Godavari meet and is bounded on the East and South by these rivers. Its located at about nine kilometres from the Bay of Bengal coast. It consists of relatively smooth flood plains, alluvial tracts and fluvial landforms produced by the river.

Table 4. Area Covered under CRZ in Yanam

Length of coastline along Bay of Bengal	Nil
Length of tidal influenced inland water bodies like rivers and creeks	65.43 km

This Action Plan consists of the following eleven components:

1. Identification of polluted River / drains that reaches the sea
2. Inventorization of industries discharging effluent into the sea
3. Providing sewage treatment plant to the drains that reaches the sea
4. Evolving scientific coastal area waste management system
5. Eradication of open defecation
6. Establishing periodical coastal water monitoring network
7. Periodical monitoring of drains and Rivers entering into the sea
8. Green belt development along the coastal area
9. Coordination with Institutes of importance.
10. Integrated Coastal Zone Management Plan
11. Developing Information Education and Communication (IEC) Network

1. IDENTIFICATION OF POLLUTED RIVER / DRAINS THAT REACHES THE SEA

i. Puducherry Region

In Puducherry Region, the following five major drains carries sewage water into the Bay of Bengal.

- i. Karuvadikuppam Drain
- ii. Uppar Drain
- iii. Grand Canal
- iv. Thengaithittu Lagoon
- v. Murungapakkam Drain

i. Karuvadikuppam Drain

The Karuvadikuppam drain is a flood cum drainage canal which acts as a flood carrier during monsoon period and carries house hold and commercial drainage water during other periods. This drain starts at Karuvadikuppam near Airport and confluences with the Bay of Bengal near the old Distillery at Vazhaikulam, and its average drainage flow is about 10 MLD. This carrier receives its drainage water from the converging contour area of the drainage course and discharges into sea.

Fig. 1 Karuvadikuppam Drain



ii. Uppar Drain

This is the major flood cum drainage carrier in the urban limit of Puducherry, which starts from Gorimedu and passing through various fully developed residential and commercial areas for about 10 Km and finally infalls into sea near Dubrayapet. This drain acts as a flood carrier during monsoon period and carries house hold and commercial drainage water during other periods and finally discharges into sea without any treatment and its average drainage flow is about 25 MLD. This drain mainly passes through the areas which are not having Under Ground Drainage (UGD) system and hence huge discharge is seen at the in-fall point.

Fig. 2 Uppar Drain



iii. Grand Canal Drain

This is also a flood cum drainage carrier located in the white town of Puducherry, which starts from Kurusukuppam, runs parallel to Ambour Salai and finally joins with Uppar canal at Dubrayapet. It has two directional flows with a ridge point at the junction of J.N Street and Ambour Salai. The northern side flow infalls into Karuvadikuppam drain at Kurusukuppam and the southern side flow infalls into Uppar Canal at Dubrayapet. On account of achieving 100% underground drainage connections with in Boulevard which is the main catchment area of Grand Canal, there is no much of gray water flow in this canal. However about 2 to 3% of gray water is still seen within the Grand Canal due to discharge of gray water by unlicensed petty Tea shops, Coffee shops and Two-Wheeler water service stations.

It is observed that due to flattened bed slope of Grand Canal and lower sill than the sill of Uppar Canal at confluence point, there will always be back water effect in the Grand Canal, which will be maximum during high tides. This is one of the reason, for gray water in the Grand Canal, even though the catchment area of this Grand Canal has full-fledged Under Ground Sewer network.

Fig.3 Grand Canal



iv. Thengaithittu Drain

Mettuvaikkal and the Pallavaikkal are the main sources for the drainage load to Thenganthittu Lagoon. This lagoon acts as flood carrier during monsoon period and carries house hold and commercial drainage water during other periods and finally discharges into sea without any treatment and its average drainage flow is about 20 MLD. Mettuviaikkal and the Pallavaikkal mainly pass through the areas not having Under Ground Drainage system and hence, much discharge is seen in Thenganthittu Lagoon.

Fig. 4 Thenganthittu Drain



v. Murungapakkam Drain

Murungapakkam river is of back water without any upper catchment area like other rivers. On either side of this river, municipal drains are infalling causing traces of pollution.

Fig. 5 Murungapakkam Drain



2. INVENTORIZAZION OF INDUSTRIES DISCHARGING EFFLUENT INTO THE SEA

M/s. Solara Active Pharma Science Ltd. and M/s. Chemfab Alkalis Limited are two industries functioning in the coastal area. M/s. Solara Active Pharma Science Ltd., Kalapet has become Zero Liquid Discharge (ZLD) and thus no discharge enters into the sea.

M/s. Chemfab Alkalis Limited discharge 12 KLD of treated effluent into the sea beyond 500 mt. The quality of treated effluent is periodically monitored by Puducherry Pollution Control Committee (PPCC). Discharge is connected to Online Continuous Effluent Monitoring System (OCEMS) of Central Pollution Control Board and PPCC.

M/s. Chemplast Sanmar, Karaikal is also maintaining Zero Discharge.

The following seven Coastal resorts are functioning in Puducherry Region. Details of sewage generation, treatment and gap analysis is given in the table:

Table 5. List of Coastal Resorts

Sl. No.	Name of the Resort	Sewage Generation (KLD)	Capacity of STP (KLD)	GAP (KLD)	Completion of GAP
1	Hotel Pondicherry Ashok	20	10	10	3 months
2	St. James Court Beach Resort	12	-	12	3 months
3	Nalla Eco Friendly Beach Resort	8	-	8	3 months
4	Pondy Bay Resort unit of GRT Hotels formerly Siddharta Resorts Foods Pvt. Ltd.	12	30	-	NA
5	Le Pondy – Joy’s the Beach Resort Pvt. Ltd.	26	40	-	NA
6	RKN Resorts	10	20	--	NA
7	Club Mahindra	65	100	--	NA

3. PROVIDING SEWAGE TREATMENT PLANT IN THE DRAINS REACHES THE SEA

i. Karuvadikuppam Drain

One exclusive STP needs to be installed for treating this drainage water before letting into the sea, for which a detailed study has to be conducted by an external expert agency on the flow and characters of the drainage water in the canal who may be fixed through Expansion of Industries (EoI) which will be invited shortly, after obtaining necessary Administrative Approval from the Competent Authority by PWD. The approximate cost of the project would be around **₹15.00 crore** (only for the construction and not for the cost of land).

Sl. No.	Activities	Timeline
1	Calling of EOI	30.12.2020
2	Finalisation of EOI/Appointing Consultant	28.02.2021
3	DPR from Consultant	31.03.2021
4	Administrative Approval & Expenditure Sanction	30.04.2021
5	Tender processing	30.06.2021
6	Award of work	31.07.2021
7	Completion of Work (12 Months)	31.07.2022

ii. Uppar Drain

It is proposed to treat this drainage water before it is let into sea, which can be achieved by installing a mass scale STP having a handling capacity of 25MLD, near the confluence point of Uppar drain and Grand canal on the southern side of the existing 17 MLD STP at Dubrayapet, wherein sufficient land belonging to Port Department is available. To install this mass scale STP plant, an approximate amount of ₹ **40.00 crore** (only for the construction and not for the cost of land) would be required. The work will be taken up after conducting a detailed study on the flow and character of the drainage water through a consultant who may be fixed through EOI which will be invited shortly, after obtaining necessary Administrative Approval from the Competent Authority by PWD.

Sl. No.	Activities	Timeline
1	Calling of EOI	30.12.2020
2	Finalisation of EOI/Appointing Consultant	28.02.2021
3	DPR from Consultant	31.03.2021
4	Administrative Approval & Expenditure Sanction	30.04.2021
5	Tender processing	30.06.2021
6	Award of work	31.07.2021
7	Completion of Work (1 year & 5 Months)	31.12.2022

Meanwhile, as an interim measure, it is proposed to treat a part of Uppar Canal waste water in the existing STP at Dubrayapet as this plant is running short of its full capacity owing to certain Underground sewer networks which are still going on in its command areas. This 17 MLD plant is now running with an inflow of 8.5 MLD. The full running capacity of the plant will be achieved in a period of 9 months (i.e by April-2021) once all the sewage house service connections of the command area are connected with the UGD network. Till such time a part of Uppar drain water can be co-treated in the Dubrayapet STP, after providing necessary intake pumping arrangements at a probable cost of ₹ 25 lakhs for which work order was issued and the work will be completed by end of February 2021.

iii. Grand Canal

Departmental action in coordination with Pondicherry Municipality is proposed to be taken on those violators not connecting their drainage lines with underground sewer network by sealing the gray water disposal outlet pipe and to disconnect their water supply line in a scheduled manner.

Arresting Gray Water Entering into the Grand Canal:

- ❖ The gray water generated from Tea shops, Coffee shops and Two wheeler water service stations flowing in the 'L' drain is proposed to be diverted in to the nearby UGD manholes at the junctions of M.G. Road, Mission Street, Chinna Subrayapillai Street, etc. with a view to dissipate the load in UGD system. This task has been carried out and there is some reduction of gray water discharge in the Grand Canal.
- ❖ Inflow of gray water at Milad Street and Calve Subburaya Chetty Street have been arrested and diverted to the nearby manholes.
- ❖ To assess the road side shops and night time eateries and identify the gray water discharge into the open drain by these shops illegally, a detailed survey has been conducted street by street. It has been identified that 59 shops are letting their gray water in the road side drains. All the 59 (fifty nine)

shopkeepers have been persuaded and connected their gray water disposal with the UGD system.

- ❖ After the due date, if the sewerage connections are not effected, the water supply connections will be disconnected.
- ❖ Even after disconnecting the water supply line, if there is flow of gray water in the Grand canal due to illegal disposal of waste water in the open drain, the matter maybe referred to Government.

iv. Thengaithittu Lagoon

It is the obligation of Govt. of Puducherry to treat this drainage water before it is let into sea, which can be achieved by installing a mass scale STP having a handling capacity of 20 MLD, in the Fisheries Department land in Thengaithittu wherein nearly 3 Acres of land is available. To install this mass scale STP plant, an approximate amount of ₹ **35.00 Crore** (only for the construction and for the cost of land) would be required. The work will be taken up after conducting a detailed study on the flow and character of the drainage water through a consultant who may be fixed through EOI, which will be invited shortly after obtaining necessary administrative approval from the competent authority by PWD. Simultaneously action has to be taken to take possession of Fisheries Department land by PWD.

Sl. No.	Activities	Timeline
1	Calling of EOI	30.12.2020
2	Finalisation of EOI/Appointing Consultant	28.02.2021
3	DPR from Consultant	31.03.2021
4	Administrative Approval & Expenditure Sanction	30.04.2021
5	Tender processing	30.06.2021
6	Award of work	31.07.2021
7	Completion of Work (1 year & 5 months)	31.12.2022

In order to contain the flow of untreated sewage water into the sea through rivers the following Action Plans are proposed.

a) Sankaraparani River

This is the one of the major rivers running in Puducherry Region and the main water source to Ossudu tank through Suthukeni anicut. Down to this anicut this river course acts as ground water recharging carriers having check dams at various places. Some drainage carries adjoining residential and commercial habitations are infalling in to this river course causing pollution of the water stored in this water body. This river is under the scanner of the Hon'ble NGT to abate the discharge of raw sewage/untreated and direction issued to PWD by DSTE/PPCC to provide semi-permanent filtering system by means of providing grating at the infall points of such drains in order to filter the solid, plastic, floating materials in the drainage water before it is discharged into the river. Accordingly, this work was completed at n 6 places up to Villianur village by PWD and reported to DSTE for updation to the Hon'ble NGT by DSTE.

In order to comply with the directions of the Hon'ble NGT, it was decided to fix an agency to study the drainage courses and provide a suitable treatment plant, wherever required by PWD. Tender has been called for and after finalizing the agency, work will be taken up.

Sl. No.	Activities	Timeline
1	EOI called for and finalisation of Contractor & Contract bid	30.12.2020
2	Administrative Approval & Expenditure Sanction	31.01.2021
3	Award of work	28.02.2021
4	Completion of Work (1 year)	28.02.2022

b) Murungapakkam River

No major drain pertaining to PWD infalls into this river course. Hence, large scale STP may not be required and to treat the gray water Decentralized Waste water Treatment System (DEWATS) can be provided by PWD

Sl. No.	Activities	Timeline
1	Calling of EOI	31.12.2020
2	Finalisation of EOI/Appointing Consultant	28.02.2021
3	DPR from Consultant	31.03.2021
4	Administrative Approval & Expenditure Sanction	30.04.2021
5	Tender processing	30.06.2021
6	Award of Work	31.07.2021
7	Completion of work (1 year)	31.07.2022

ii. Karaikal Region

Bar screening arrangement has been provided at 20 locations at Urban drainage /street drains confluencing into river Vanjiar and Arasalar in Urban areas and are handed over to the Commissioner, Karaikal Municipality for up keep and maintenance.

Tenders were called for by the Executive Engineer, Public Health Division, PWD, Puducherry to provide STP for Arasalar river in Karaikal and is under process.

Sl. No.	Activities	Timeline
1	EOI called for and finalisation of Consultant	30.12.2020
2	DPR from Consultant	31.01.2021
3	Administrative Approval & Expenditure Sanction	28.02.2021
4	Award of work	15.05.2021
5	Completion of Work (1 year and 6 months)	30.11.2022

iii. Mahe Region:

A common Sewage network or STP does not exist in Mahe. The disposal of human excrement is done by collection in the individual septic tank and soakage system and disposed.

The main channels in the Mahe Region are flood water carriers namely: -

- a) Grand Canal.
- b) Chalakara channel.
- c) Palloor Vayalnadu channel.
- d) Vayalil Peedika – Kopalam channel.
- e) Channel near the Indoor Stadium.
- f) Channel on the Northern side of Puthalam channel.

Except the Grand Canal, all the channels are naturally formed ones thro' the Valley area. No sewage / sullage drains other than storm water is discharged into Mahe River.

Regarding Grand Canal, which is discharging into Harbour Zone is primarily a flood carrier. Owing to development of the area and rapid Urbanization, establishment of eateries, etc. the household / kitchen wash water is let into the Grand Canal through the road side drains. During summer the drainage water from Grand Canal is not allowed to be discharged directly into Sea, as it is pooled into a natural Oxidation Pond and allowed to percolate through sand dunes. In other seasons due to presence of rain water this drainage water will flow into Sea diluting with normal rain water. However, a 50 KLD STP is proposed in the reclaimed shore of the Harbour. Another 10 KLD STP is proposed to handle the waste water expected to be generated from the Fishing Harbour activities.

The Installation of these STP's had already been proposed in the Fishing Harbour Project. However, since the contract for the Fishing Harbour Project was terminated, this STP shall be taken up as a separate work with the following schedule by PWD. Sufficient land is available.

Sl. No.	Activities	Timeline
1	Calling of tender	30.12.2020
2	Finalisation of tender	31.01.2021
3	Award of work	28.02.2021
4	Completion of Work (9 Months)	30.11.2021

iv. Yanam Region

A common Sewage network or STP does not exist in Yanam. The disposal of human excrement is done by collection in the individual septic tank and soakage system and disposed. In Yanam Region there are 11 drains / channels that are in existence viz:

- a) Kanakalapeta Eastern side drain from GLR to A.P border.
- b) Kanakalapeta Westernside drain (Boorugapolem drain from Kanakalapeta to A.P border).
- c) Aritikayalanka drain from Aritikavalanka to N.H. 216.
- d) Aritikayalanka drain from N.H. 216 to Tidal lock.
- e) Poleramma drainage channel from Polerama temple to Danamma temple.
- f) Poleramma drainage channel from Polerama temple to Ramartnakodu.
- g) Zicrianagar drainage from Zicrianagar to Yerra Gardens. 0
- h) Ambedkar Nagar drain from Agriculture office to Coringa river.
- i) Dommetipeta drain from community hall to flood bank to Gurrempeta.
- j) Sitharama Nagar drain from Sitharama Nagar junction to Island No:3.
- k) French channel drainage at Gopal Nagar.

These drains act as flood carrier during monsoon period and carries household and commercial drainage water during other periods thus discharging the waste water into the Coringa River and Gowthami Godavari River. Necessary proposal for providing low cost Decentralized Waste water Treatment System (DEWATS) for these drains will be taken-up as per the following schedule by PWD. Land is available in the bank of the channels:

Sl. No.	Activities	Timeline
1	Calling of EOI	30.12.2021
2	Finalisation of EOI/Appointing Consultant	28.02.2021
3	DPR from Consultant	31.03.2021
4	Administrative Approval & Expenditure Sanction	30.04.2021
5	Tender processing	30.06.2021
6	Award of Work	31.07.2021
7	Completion of work (1 year)	31.07.2022

4. EVOLVING SCIENTIFIC COASTAL AREA WASTE MANAGEMENT SYSTEM

Solid waste generation in the coastal areas located in Puducherry Municipality, Oulgaret Municipality and Ariyankuppam Commune are Door-to-Door collected, transported and disposed at Kurumbapet Resource Recovery Park through Swachatha Corporation. Solid waste generated in other coastal villages located in Bahour Commune are collected, transported and disposed by local body.

Table 6. Details of solid waste generation in the coastal area

Sl. No.	Name of the Local Bodies	No. of Coastal Ward/ Villages	Garbage's Generated	Garbage's Collected	Population as per 2011 census
1	Oulgaret Municipality	04	12.95 MT	11.75 MT	22,417
2.	Pondicherry Municipality	06	24.47 MT	24.47 MT	40,782
3.	Ariyankuppam Commune Panchayat	04	02.50 MT	02.50 MT	10,723
4.	Bahour Commune Panchayat	03	01.50 MT	01.50 MT	7,130
5.	Karaikal Municipality	04	01.70 MT	01.70 MT	9,184
6.	Kottucherry Commune Panchayat	04	0.08 MT	0.06 MT	2,500
7.	TR Pattinam Commune Panchayat	02	0.05 MT	0.04 MT	1,000
8.	Mahe	01	1.8 T	1.8 T	4000
9.	Yanam	02	3.2 T	3 T	8000

Decentralized solid waste management system will be implemented in the coastal area.

Action : LAD

Timeline: 1 year

Plastic Waste Management

Government of Puducherry has imposed ban on Manufacture, Sale and Usage of Single Use Plastics. However littering of plastic waste is taking place in coastal area. Special Environment Squad was formed by PPCC to control littering of plastic waste.

E-Waste

PPCC authorised 5 E-waste collection centres to collect and recycle e-waste.

Bio Medical Waste

Biomedical waste generated in the Health Care Facility are collected, transported and disposed at Common Biomedical Waste Treatment Facility located at Thuthipet, Villianur Commune Panchayat.

Hazardous Waste

Hazardous waste generated from the industries located in the coastal area are disposed through authorised TSDF located in Karnataka, Co-processed at Cement units located at Tamil Nadu and reprocessed in few units located in Puducherry. Thus unauthorised disposal of hazardous waste in the coastal area has been arrested.

5. ERADICATION OF OPEN DEFECATION

Open defecation in the coastal area is one of the ugly sight commonly noticed. It leads to propagation of faecal coliforms in the sea water. Through DRDA, all the coastal habitations will be provided with toilet / public toilet facility.

Action : DRDA

Timeline: 1 year

6. ESTABLISHING PERIODICAL COASTAL WATER MONITORING NETWORK

Monitoring of coastal water is vital to assess pollution status. Monitoring was carried out at two conflux points. Report is given below:

Table 7. Coastal Water Quality Data			
S.No.	Parameters	Kurusukuppam Sewage Discharge Pt. (Coastal)	Vaithikuppam Sewage Discharge Pt. (Coastal)
1	Sample ID	937	938
2	Date of Sampling	27.08.2020	27.08.2020
3	Time of Sampling	11.15 A.M	11.40 A.M
4	Latitude	11° 56' 24.17"	11° 56' 37.07"
5	Longitude	79° 50' 17.35"	79° 50' 18.03"
6	Temp °C	29.0	29.0
7	Colour and Odour	No Noticeable colour and odour	
8	pH	8.25	8.19
9	TSS (mg/l)	129	136
10	Turbidity NTU	0.9	1.7
11	BOD (mg/l)	1.6	1.1
12	DO (mg/l)	6.6	6.7
13	Salinity PPM	25.0	24.0
14	Total Coliform MPN/100 ml	<2	<2
15	Faecal Coliform MPN/100 ml	<2	<2
16	Faecal Streptococci MPN/100 ml	<2	<2
17	Turbidity NTU	0.9	1.7
18	Cadmium as Cd (mg/l)	BDL (DL - 0.001)	
19	Lead as Pb (mg/l)	BDL (DL - 0.005)	

20	Mercury as Hg (mg/l)	BDL (DL - 0.0005)	
21	Dissolved Iron as Fe (mg/l)	0.18	0.23
22	Dissolved Manganese as Mn (mg/l)	BDL (DL - 0.05)	

BDL - Below Detectable Limit

The Concentration of pH, DO, Turbidity, Fecal Coliform and BOD are meeting the Primary Water Quality Criteria for Class SW-II Waters (For Bathing, Contact Water Sports and Commercial Fishing)

The analytical values revealed that all the parameters are within the prescribed standard. It is proposed to carry out quarterly monitoring of coastal water at Pondicherry, Karaikal and Mahe.

Action: PPCC

Timeline: Initiated

7. PERIODICAL MONITORING OF DRAINS AND RIVERS ENTERING THE SEA

Drains carry untreated sewage due to road side restaurants and tea shops and households not connected to underground sewer system. Drain / River water sampling will be carried out quarterly to assess its quality.

Action: PPCC

Cost: Rs. 1 lakh

Timeline: Initiated

8. GREEN BELT DEVELOPMENT ALONG THE COASTAL AREA

Developing green belt in the coastal area will avoid disposal of waste. Coconut, Palmyra, Casuarina and Pongame are suitable tree species for coastal place. In-collaboration with Forest Department, green belt will be developed along the coastal areas of Puducherry and Karaikal.

Action: Forest Department

Timeline: 1 year

9. COORDINATION WITH INSTITUTES OF NATIONAL IMPORTANCE

The Puducherry Pollution Control Committee has taken necessary steps to coordinate with the National Centre for Coastal Research (NCCR) in coastal Monitoring. The NCCR will provide one real time water quality monitoring buoy for real time coastal monitoring. The PPCC will also seek technical expertise from institutes like NCCR, NCSCM for coastal pollution abatement. PPCC will initiate Puducherry Coastal Water Quality Monitoring Program (PCWMP).

Action: PPCC

Timeline: 2 months

10. INTEGRATED COASTAL ZONE MANAGEMENT PLAN

The Ministry of Ministry of Environment, Forest and Climate Change is proposing to implement the Phase II of the Integrated Coastal Zone Management Project (ICZMP) in all the coastal states and UTs. Government of Puducherry has submitted a Preliminary Project Proposal and Base Document to the Ministry to the tune of 112 Crores for implementing the ICZMP in the U.T. of Puducherry. The project aims at conservation of coastal resources, pollution abatement in coastal areas and enhancing the livelihood and security of coastal communities. Following pilot projects have been formulated in the proposal for controlling pollution of coastal waters:

i) Establishing Faecal Sludge Treatment Facility in Puducherry

Project activities:

- Baseline survey, preparing comprehensive Faecal Sludge Management and Treatment Plant design
- Erection and commissioning of the treatment plant
- Capacity Building and implementation of Faecal Sludge Management Plan
Project Cost – Rs. 7 Crore

ii) **Inventorization of untreated waste water discharged into the Coastal Zone of Puducherry UT and preparation of waste water management plan by adopting decentralized treatment technologies**

Project Activities:

- Inventorisation of sources of waste water especially domestic sewage and evaluation of performance of existing STPs and suggestions for improvement by engaging reputed scientific institution.
- Preparation of waste water management plan by adopting decentralized treatment technologies.
- Design and Establishment of in-situ green technology pilot sewage treatment plants and capacity building to PWD officials for operation and maintenance

Project Cost: Rs. 18 Crores

The Ministry of Environment, Forest and Climate Change has approved to take up the project under the Enhanced Coastal and Ocean Resource Efficiency (ENCORE) project which is proposed to be implemented with financial assistance of the World Bank. Approval of the Cabinet Committee for Economic Affairs is awaited for the project.

11 . DEVELOPING INFORMATION EDUCATION AND COMMUNICATION NETWORK

Creating awareness to the public on the importance of protection of fragile coastal Eco-system is very much needed. Through handbill, poster and documentary movies, awareness creation programme will be executed.

Puducherry Council for Science and Technology, State Nodal Agency for National Green Corps and Environment Informational System Hub, Puducherry will carry out IEC activities viz., coastal awareness program, beach cleaning and webinars for conservation and preservation of coastal areas.

Action: PPCC

Cost: Rs. 3 lakhs

Timeline: 1 year