

# ANNUAL ENVIRONMENT SURVEY REPORT

**2022-2023**



Eden Beach Photography by K. Kalamegam, EE.



**GOVERNMENT OF PUDUCHERRY**  
**DEPARTMENT OF SCIENCE, TECHNOLOGY & ENVIRONMENT**  
**PUDUCHERRY POLLUTION CONTROL COMMITTEE**

# WORLD ENVIRONMENT DAY

## 05.06.2023

### BEAT PLASTIC POLLUTION



**Editor** : **Dr. N. Ramesh**  
Member Secretary, PPCC

**Data Compilation** : **J. Selvanayagi, JSA** **C. Sarmila, D.E.O**  
**R. Ilangothane, D.E.O** **T. Balaji, J.R.F**  
**P. Vimal Raj, D.E.O** **A. Abirami, D.E.O**



# **ANNUAL ENVIRONMENT SURVEY REPORT**

## **2022-2023**



**GOVERNMENT OF PUDUCHERRY**  
**DEPARTMENT OF SCIENCE TECHNOLOGY & ENVIRONMENT**  
**PUDUCHERRY POLLUTION CONTROL COMMITTEE**  
**3<sup>rd</sup> Floor, Housing Board Building,**  
**Anna Nagar, Puducherry – 605 005.**

✉ [dste.@py.gov.in](mailto:dste.@py.gov.in)

☎ 0413-2201256

🌐 <https://dste.py.gov.in/>

📞 0413-2203494

**Dr. Tamilisai Soundararajan**  
**Lt. Governor,**  
**Govt. of Puducherry.**



### **MESSAGE**

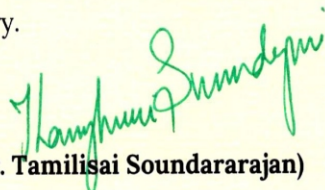
Conservation of the environment is the responsibility we bear towards our future generation. It is our duty to protect and preserve our natural resources, promote sustainable practices, and ensure a healthy and sustainable living environment for all. Puducherry, with its diverse ecosystems and rich biodiversity, holds a special place in our hearts. Our Union Territory is blessed with pristine coastlines, lush greenery, and a unique cultural heritage that necessitates safeguarding and cherishing these invaluable assets for the benefit of our people and the generations to come.

The commitment and proactive measures of the Government of Puducherry in terms of policies and practices for fostering a sustainable living environment is undeniable and the efforts of the Government and the Department of Science, Technology and Environment in this regard are compiled in this report. The report highlights the various initiatives undertaken by our administration, the Department of Science, Technology and Environment in collaboration with various stakeholders to address the environmental challenges we face and promote sustainable development across different sectors.

With an understanding that environmental sustainability goes hand in hand with social and economic well-being, our approach is holistic, aiming to strike a balance between development and conservation. I firmly believe that sustainable living is not a mere aspiration, but a collective responsibility that requires the active participation of every individual, community, and organization.

I applaud the dedicated efforts of the Department of Science, Technology and Environment, along with other departments and agencies, in spearheading these initiatives and working tirelessly towards achieving our sustainability goals. Their commitment and passion are truly inspiring.

I also acknowledge the support and cooperation of our citizens, nongovernmental organizations, educational institutions, and the private sector in working for positive life change. It is through our collective efforts that we can build a resilient and sustainable future for Puducherry.

  
(Dr. Tamilisai Soundararajan)

**N. RANGASAMY**  
Chief Minister  
Government of Puducherry



## MESSAGE

Our planet is facing numerous environmental challenges, including climate change, pollution, deforestation etc. As a responsible government, the obligation to assess these rising impacts on the environment is well understood and necessary actions to mitigate these impacts in the UT of Puducherry are being initiated.

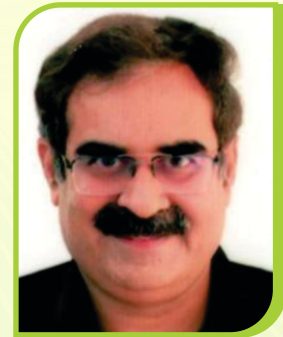
The Government of Puducherry has sustainable development as its modus operandi proclaims for a collective responsibility of all stakeholders to protect the environment and create a sustainable future for ourselves and our future generations. As a significant step towards a sustainable future, our government has made particular measures towards curbing the production and use of single use plastic in the UT of Puducherry and is working towards a single use plastic free UT of Puducherry. Our government is planning for enhanced climate action in the U.T. of Puducherry by formulating climate mitigation and adaptation strategies for this decade with the revised State Action Plan on Climate Change. Further, promotion of sustainable development and eco-tourism in the U.T. are envisaged in our government prioritizing the need to compliment environment in our ambition of economic growth.

This Annual Environmental Survey Report 2022-23 provides a comprehensive overview on the state of environment of our UT, including air and water quality, waste management, and the stringent pollution management practices and climate actions that are taken up by our government. This report serves as a reminder of the challenges we face and the progress we have made towards a cleaner and healthier environment.

I'm sure that the Department of Science, Technology and Environment will play a larger role in realising the ambitions of the Government in creating a sustainable, eco-friendly and climate resilient Union Territory in the years to come.

Date: 19.5.2023.

  
**N. Rangasamy**



## MESSAGE

The relationship between humans and nature remains complex and multifaceted, but there is a growing recognition for the need to live in harmony with the natural world and to take steps to protect and preserve it. In recent years, there has been an increased awareness on the importance of preserving nature and protecting the environment for future generations. Efforts to conserve natural resources, reduce pollution, and promote sustainable development have gained momentum around the world. Goals, targets and commitments in the likes of the Sustainable Development Goals, the Nationally Determined Contributions, Climate Action Plans have all been strategically designed with '*environment*' as its first principle.

Although these goals and targets have been framed to be worked upon by the governance at all levels, the very fact of achieving them requires coordinated efforts from diverse stakeholders, as environmental conservation is a multi-stakeholder idea involving governments, private sectors, civil societies and the common public. The administration of the Government of Puducherry through the Department of Science, Technology and Environment is working towards mainstreaming environmental conservation in the planning and policy making of all the sectors and departments of the Government so as to foster an inclusive effort on pollution abatement and climate action. In addition to monitoring and enforcement of the norms on environmental protection, the UT administration is also focusing on creating environmental consciousness and awareness at the level of individual citizen of the UT of Puducherry by promoting the agenda of the Mission Lifestyle For Environment (LiFE) of the Government of India which will be an inclusive approach towards sustainability.

Appreciating the Department for the works reported in this Annual Environment Survey Report for the year 2022-23, I urge that the works are continued with even more environmental enthusiasm in the days ahead.

**Date: 19.05.2023**

  
(RAJEEV VERMA)  
19/5/23



## MESSAGE

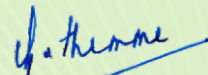


*Environment* has been an important plot-point in the chronicle of human civilization. The course of human history has always been the narrative set by Nature and the interaction of humans with nature through his relationship with the environment. Although human lifestyle was synchronous with nature in the earlier times, the relationship has not always been harmonious in the modern times. With an exponential increase in our population, urbanization and the unprecedented voracity for resources to cater to all the needs of this modern society, our impacts on the environment in the likes of air, water, land and resources have compounded over the decades resulting in evident environmental degradation, habitat destruction, loss of biodiversity, and an over-arching threat of climate change.

Given the circumstances, governances at the global, national and sub-national level have understood the need to rethink plans, policies, programmes and initiatives that doesn't compromise on *environment* while focusing on *growth and development*. At the sub-national level, the Government of Puducherry through the Department of Science, Technology and Environment and its autonomous bodies and cells, has taken significant actions in the year 2022-23 as elaborated in this report. Measures towards eradication of single use plastics in the U.T. of Puducherry were steamed up in the last year, which was a key priority under the Abatement of Pollution Project funded by CPCB. Also, the Department is at the flag end of the works in presenting the updated State Action Plan on Climate Change for the U.T. of Puducherry which will include formidable climate action strategies that are envisioned to be carried out cross-sectorally in the U.T. of Puducherry in the present decade. In addition, it is my delight to share that the Department in the year 2022-23 has taken a leap in co-creating international partnerships for a sustainable environment and livelihood in the U.T. of Puducherry through two international collaborations viz., the Marine Spatial Planning framework under the Indo-Norwegian collaboration and the UK-India Twin Cities Programme.

This report, which is a record of such steadfast works carried out by the Department in the year 2022-23, will stand as a testament for the efforts laid out in the field of environment in the last year and will be a baseline for the state of environment of the UT in the years to come.

Date: 25.05.2023

  
A. Muthamma, I.A.S.



## PREFACE



Our Union Territory of Puducherry is blessed with a rich and diverse natural heritage that includes forests, wetlands, and coastal ecosystems. However, rapid urbanization, industrialization, and human activities have posed significant challenges to the environment in recent years. Over the course of the last three decades, this department has learned and understood the environmental needs of Puducherry and has partnered with institutions and other stakeholder organisations in co-creating an administrative set up and knowledge base and has evolved as an implementing authority that will strive towards making a better environment for the UT of Puducherry.

The Department of Science, Technology and Environment and the Pollution Control Committee with its allied institutions / cells in the Department are proud to present this Annual Environment Survey Report 2022-23. It is befitting that this Annual Environment Survey Report is publishing on the occasion of the World Environment Day 2023 which is commemorated this year with the theme '*Solutions to Plastic Pollution*'. This Department and the Puducherry Pollution Control Committee has taken several measures in the last year to mitigate the use of single use plastic in the UT. The Department is sanctioned with the Phase II of the Puducherry Climate Change Cell for enhanced climate action in the U.T. of Puducherry. Further, the Department is also revising the State Action Plan on Climate Change for the U.T. of Puducherry and has also created a portal on the Marine Spatial Planning which is being in collaboration with the Norwegian Government. This report carries insights of all these activities in great detail and I hope that this report will serve as a useful resource for policymakers, researchers, and environmental activists in their efforts to promote sustainable development and in conserving the environment of Puducherry.

I would like to express my gratitude to all those who have contributed to the preparation of this report, including the officials and staff of the Department of Science, Technology and Environment, Puducherry Pollution Control Committee, Puducherry Council for Science & Technology, Puducherry Climate Change Cell, EIACP and PCZMA. We remain committed to our mission and work together in achieving our goal of creating a cleaner, greener, and more sustainable environment and in making our Union Territory of Puducherry an abode of environmentally just and a front running territory in the nation.

**Date:** 31.05.2023

  
**Yasam Lakshmi Narayana Reddy**

**Dr. N. Ramesh**  
**Member Secretary**  
**Puducherry Pollution**  
**Control Committee**



### ***Foreword***

Conservation of water, scientific disposal of waste, increase of green cover and improvement of air quality are the four issues needed to be addressed in the U.T. of Puducherry.


Being a coastal city with rapid urbanization, viz-a-viz depletion of ground water table and salt water intrusion in the aquifer place Puducherry in the over exploited zone. The intervention of the Hon'ble NGT compelled to have the scientific liquid and solid waste management approach. Increasing Greens cover from 10% to 15% in the next five years is envisaged. The Fuel policy and phasing out of 15 year old Government vehicles have been notified for the improvement of air quality.

The elimination of Single Use Plastic (SUP) in the U.T. of Puducherry has been approached in three perspectives. Awareness creation, ensuring hassle-free availability of alternates to SUP and the strict enforcement of Government ban order on SUP. Standard Operation Procedures for the declaration of educational and religious institutions, Government offices and Industries ensure Puducherry marching towards as a SUP free Union Territory. SOLAI, an exclusive stall for alternative to SUP and usage of seized SUP for road making are new initiatives of PPCC.

The base of the Circular Economy begins with the identification of source of waste generated by various sectors. Puducherry Pollution Control Committee has completed the Inventorisation of Hazardous Waste, Plastic Waste, Bio-medical Waste, Solid Waste, Construction and Demolition Waste and E-waste (Industrial Sector). 92% of total hazardous waste generated in the U.T. of Puducherry is brought under the domain of Circular Economy. All the plastic manufacturers are brought under EPR regime thereby ensuring proper collection of their waste.

I am sure that this Annual Environment Survey Report 2022-23 forms an informative resource on the status of environment of the U.T. of Puducherry.

Date: 30.05.2023

  
(N.Ramesh)

## CONTENTS

Chapter	Description	Page No.
1	Introduction	1-2
2	Puducherry Pollution Control Committee	3-7
3	Industry Scenario of Puducherry	8
4	Consent Mechanism	9-11
5	Authorization	12
6	Laboratory	13-17
7	Status of Ambient Air Quality	18-28
8	Status of Water Quality	29-38
9	Solid Waste Management	39-43
10	Plastic Waste Management	44-56
11	Bio-Medical Waste Management	57-59
12	Hazardous Waste Management	60-61
13	E-Waste Management	62
14	Issue of Directions and Showcase Notices	63
15	Presentation of Green Award	64
16	Environmental Awareness Programmes	65-66
17	Puducherry Coastal Zone Management Authority	67-75
18	Puducherry Council for Science and Technology	76-90
19	Puducherry Climate Change Cell	91-99
20	EIACP Hub	100-110
21	Implementation of RTI Act	111

## LIST OF TABLES

Table No	Content	Page No.
1	PPCC meetings convened	6
2	Industrial units established as on 31.03. 2023	8
3	Categorization of Industry	9
4	Periodicity of Renewal	10
5	Delegation of Power	10
6	CTE, CTO and Renewal Issued	11
7	Authorizations Issued	12
8	Parameters Assessed in the Laboratory	16
9	Location of NAMP Stations	18
10	Air Pollutants Monitored Under NAMP	19
11	Annual average Concentration of Pollutants	20
12	Parameters monitored in CAAQMS	22
13	Status of Category-wise numbers of AQI	24
14	NWMP Stations in Puducherry	30
15	NWMP Stations in Karaikal	31
16	NWMP Stations in Mahe	31
17	NWMP stations in Yanam	31
18	Surface Water quality in Mahe region	35
19	Surface Water Quality in Yanam Region	36
20	Quality of open well water in Mahe Region	37
21	Solid waste generated, processed and disposed	39
22	Details of legacy waste accumulated and disposed	42
23	List of Producers obtained EPR Registration	46
24	List of Importers obtained EPR Registration	47
25	List of Re-Processors obtained EPR Registration	47
26	Information on Manufacturers / Sellers of Alternatives to SUP	48
27	Closed SUP Manufacturing units	51
28	SUP inspection conducted by local bodies	52
29	Authorisation issued by PPCC to HCFs / CBMWTF	57
30	Hazardous waste generation - Region wise	61
31	Directions issued	63
32	Project Proposals and Action Taken by PCZMA	73
33	Visitors is Dr. AKSC&P	90
34	Publications	101
35	Status of RTI Applications for the year 2022-2023	111

## LIST OF FIGURES AND PLATES

Figure & Plate no.	Content	Page No.
1	PPCC Organization Chart	5
2	Category wise Industries	9
3	NWMP Surface water Sampling	14
4	Marine sampling during Idol Immersion on Vinayagar Chathurthi	14
5	Source Emission Monitoring	15
6	Ambient Air Quality monitoring	15
7	PM <sub>10</sub>	20
8	SO <sub>2</sub>	21
9	NO <sub>x</sub>	21
10	Monitoring of noise level during diwali 2022	25
11	Vehicle Emission Monitoring	27
12	NWMP Stations of Puducherry	29
13	Water Quality Monitoring Stations	30
14	NWMP Stations in Karaikal	31
15	NWMP stations in Mahe	31
16	NWMP Stations in Yanam	31
17	Surface Water Quality (2023) – Puducherry and Karaikal pH	32
18	Dissolved Oxygen	32
19	Bio Chemical Oxygen Demand	32
20	Groundwater Quality in Puducherry and Karaikal during Pre Monsoon, pH	33
21	Conductivity	33
22	Nitrate	33
23	Total Alkalinity	33
24	Chloride	34
25	Total Hardness	34
26	TDS	34
27	Sodium	34
28	Sulphate	34
29	Potassium	34
30	Stakeholder consultation with UK Team	40
31	Brainstorm session with Bulk waste generator	40
32	Bio- methanation plant	40
33	Waste management in Recity	41
34	Review meeting under the Chairmanship of Development Commissioner	42
35	Bio mining of legacy waste	43
36	EPR Registration workshop	45

## LIST OF FIGURES AND PLATES

Figure & Plate no.	Content	Page No.
37	Interaction meeting with implementing authority under the chairmanship of the District Collector, Thiru. Mansoor, Karaikal	45
38	Consultation meeting with Trader Association	45
39	Stake holder meeting on Elimination of SUP	50
40	Inspection Smt.Poornima Scientist, CPCB	51
41	Inspection of SUP Units	51
42	SUP checking in Interstate borders	51
43	Consultation meeting with Plastic Manufacture Association	53
44	Director, DSTE,Smt. Priytarshny inaugurated brainstorm session	54
45	Dr. N. Ramesh, Member Secretary explaining SOP to HRI office bearer	54
46	Hon'ble, Lt. Governor Dr. TAMILISAI Soundararajan inaugurated SOLAI Stall	55
47	Road made by plastic waste	55
48	Sealing of SUP manufacturing unit by Implementing authority	56
49	Sub-Committee inspection of M/s Sri Lakshmi Narayana Institute of Medical Sciences	58
50	Common Bio- Medical Waste Treatment Facility	59
51	Inspection of JIPMER, Yanam	59
52	Inspection of HCFs	59
53	Presentation of Green Award	64
54	Pattimandram on Environment protection	65
55	Celebration of International Water day	65
56	Inauguration of LED Awareness van	66
57	Mahe Public Hearing	70
58	Yanam Public Hearing	70
59	Release of Digital MSP for U.T. of Puducherry	74
60	Beach cleaning campaign	75
61	Fun science gallery	78
62	Marine life gallery	78
63	Outdoor exhibits	78
64	Innovation Hub inauguration	78
65	Innovation Hub	79
66	Proposed site for Science Centre at Karaikal	79
67	Tree plantation at school campus	80
68	Awareness rally on SUP	80
69	Distribution of cloth bags to NGC Eco-clubs	81
70	Awareness Bus Stickers on SUP	81

	<b>LIST OF FIGURES AND PLATES</b>	
<b>Figure &amp; Plate no.</b>	<b>Content</b>	<b>Page No.</b>
71	Wall painting at Government High School, Abhisekhegapakkam, Puducherry	82
72	Zero Shadow Day awareness programme	82
73	International Ozone Day pledge	83
74	MSEB at Regional Level Science Exhibition	85
75	Appreciation by Hon'ble Chief Minister for Stall participation in SLSE	85
76	Workshop on Foldscope	86
77	Elocution	86
78	Quiz competition	86
79	Delegates at Exhibition during Science Inception G20 Summit	86
80	Participation in Bharat Pride National Science Technology Industrial Expo, Hyderabad	87
81	Participation in Centre-State Science Conclave-2022, Ahmedabad	88
82	Participation in India International Science Festival 2022, Bhopal	89
83	Participation in State S&T Councils Annual Meeting 2022, Bhopal	89
84	Climate Change Knowledge Portal	93
85	Automated Weather Station established under the project	93
86	Two-day workshop on "Mainstreaming Climate Change in the Development Planning of Puducherry"	94
87	Green Budgeting for the U.T. of Puducherry	95
88	11th SLSCCC meeting held under Chairmanship of Chief Secretary, Puducherry	96
89	Project sites after work carried out under the NAFCC project	97
90	Release of Science Calendar	98
91	Celebration of Earth Day	102
92	Expo on Infographic products & alternative	102
93	Workshop on Integrating Climate Action in the development planning	103
94	Poster released on International Day for Biological Diversity	103
95	Celebration of World Oceans Day.	104
96	Tree Plantation at coastal line of Eden Beach	104
97	Selfie point model on 'Save our Sea' at Eden Beach, Chinnaveerampattinam, Puducherry.	104
98	Elocution competitions on the occasion of World Oceans Day.	105
99	Standee and banner displayed on SUP ban in the DSTE office premises.	105
100	Mangrove Walk at mangrove lagoon on the occasion of International Day for the Conservation of Mangrove Ecosystem	105



## **CHAPTER-1**

### **INTRODUCTION**

The Department of Science, Technology and Environment (DSTE) is a key Department that works on Science and Technology advancements and Environment conservation of Puducherry. The Department houses the following four autonomous bodies:

- (i) Puducherry Pollution Control Committee
- (ii) Puducherry Coastal Zone Management Authority
- (iii) State Level Environment Impact Assessment Authority
- (iv) Puducherry Council for Science & Technology

The Puducherry Pollution Control Committee (PPCC) is a statutory body that works towards environmental conservation and protection by enforcement of various Acts, Rules and Notifications. Monitoring and inspection of the industries to ensure compliance to regulation is the modus operandi of the committee in addition to raising Public Awareness and capacity building among the stakeholders.

Puducherry Coastal Zone Management Authority (PCZMA) is implementing and enforcing coastal regulations and policies to ensure sustainable development along the coastline. It evaluate development projects and activities in the coastal zone, ensuring fragile coastal ecosystem is not affected.

The State Level Environment Impact Assessment Authority (SEIAA) plays a vital role in the environmental governance of the U.T.. It is responsible for evaluating and granting environmental clearances for the development projects that have potential impacts on environmental.

Puducherry Council for Science and Technology (PCS&T) has a prominent role in promoting and fostering scientific and technological development within the U.T. of Puducherry and acts as a nodal agency for coordinating and implementing science and technology related initiatives.

This Annual Environment Survey Report 2022-23 presents a comprehensive description on the activities carried out by the Department and the autonomous bodies.

during the year 2022-23 and an overview on the state of the environment of the U.T. of Puducherry in terms of ambient air quality, surface and ground water quality and noise levels.

This Annual Environment Survey Report is prepared to comply with the provision of Section 39(2) of the Water (Prevention and Control of Pollution) Act, 1974 and Section 35(2) of the Air (Prevention and Control of Pollution) Act, 1981. This report would serve to the needs of the policymakers, academicians, research scholars, students, environmentalists and also to other Departments.



## CHAPTER-2

### PUDUCHERRY POLLUTION CONTROL COMMITTEE

The Central Pollution Control Board has delegated the power and function vested with it to Puducherry Pollution Control Committee (PPCC) w.e.f. 01.04.1992 as per the provisions of Section 4 of the Water (Prevention and Control of Pollution) Act, 1974 and Section 6 of the Air (Prevention and Control of Pollution) Act, 1981. Subsequently PPCC was reconstituted by Central Pollution Control Board in the year 2011. In compliance with the Hon'ble National Green Tribunal in O.A. No. 95/2018 recently PPCC has been reconstituted again vide No. CO-99/1/2022-PCP-HO-CPCB-HO dated 14.11.2022 from 9 members to 15 members as given below:

- |    |  |          |
|----|--|----------|
| 1. | Secretary to Government<br>(Science, Technology & Environment)<br>Government of Puducherry   | Chairman |
| 2. | The Director<br>Department of Science, Technology & Environment<br>Government of Puducherry. | Member   |
| 3. | The Director<br>Directorate of Industries & Commerce<br>Government of Puducherry             | Member   |
| 4. | The Director<br>Local Administration Department<br>Government of Puducherry                  | Member   |
| 5. | Transport Commissioner<br>Transport Department<br>Government of Puducherry                   | Member   |
| 6. | The Director<br>Health and Family Welfare Services<br>Government of Puducherry               | Member   |
| 7. | The Commissioner<br>Oulgaret Municipality<br>Government of Puducherry                        | Member   |
| 8. | Medical Superintendent   | Member   |

- |     |   |                  |
|-----|---|------------------|
| 9.  | Deputy Director General of Forests ©<br>Ministry of Environment, Forest and Climate Change<br>Regional Office, Chennai    | Member           |
| 10. | Dr. S. Sureender<br>Chairman<br>Confederation of Indian Industry (CII)<br>Puducherry,                                     | Expert Member    |
| 11. | Dr. M. P. Ramanujam<br>Consultant<br>Sempadugai Nanneeragam<br>Puducherry   | Expert Member    |
| 12. | Dr. R. Saravanane<br>Professor & Director (IPR)<br>Department of civil Engineering<br>Puducherry Technological University | Expert Member    |
| 13. | The Member Secretary<br>Central Pollution Control Board<br>Parivesh Bhawan, East Arjun Nagar<br>Delhi.                    | Member           |
| 14. | The Managing Director<br>Puducherry Industrial Promotion<br>Development and Investment Corporation<br>Puducherry          | Member           |
| 15. | Senior Environmental Engineer<br>Department of Science, Technology<br>& Environment,<br>Government of Puducherry.         | Member Secretary |

**PUDUCHERRY POLLUTION CONTROL COMMITTEE  
ORGANIZATION CHART**

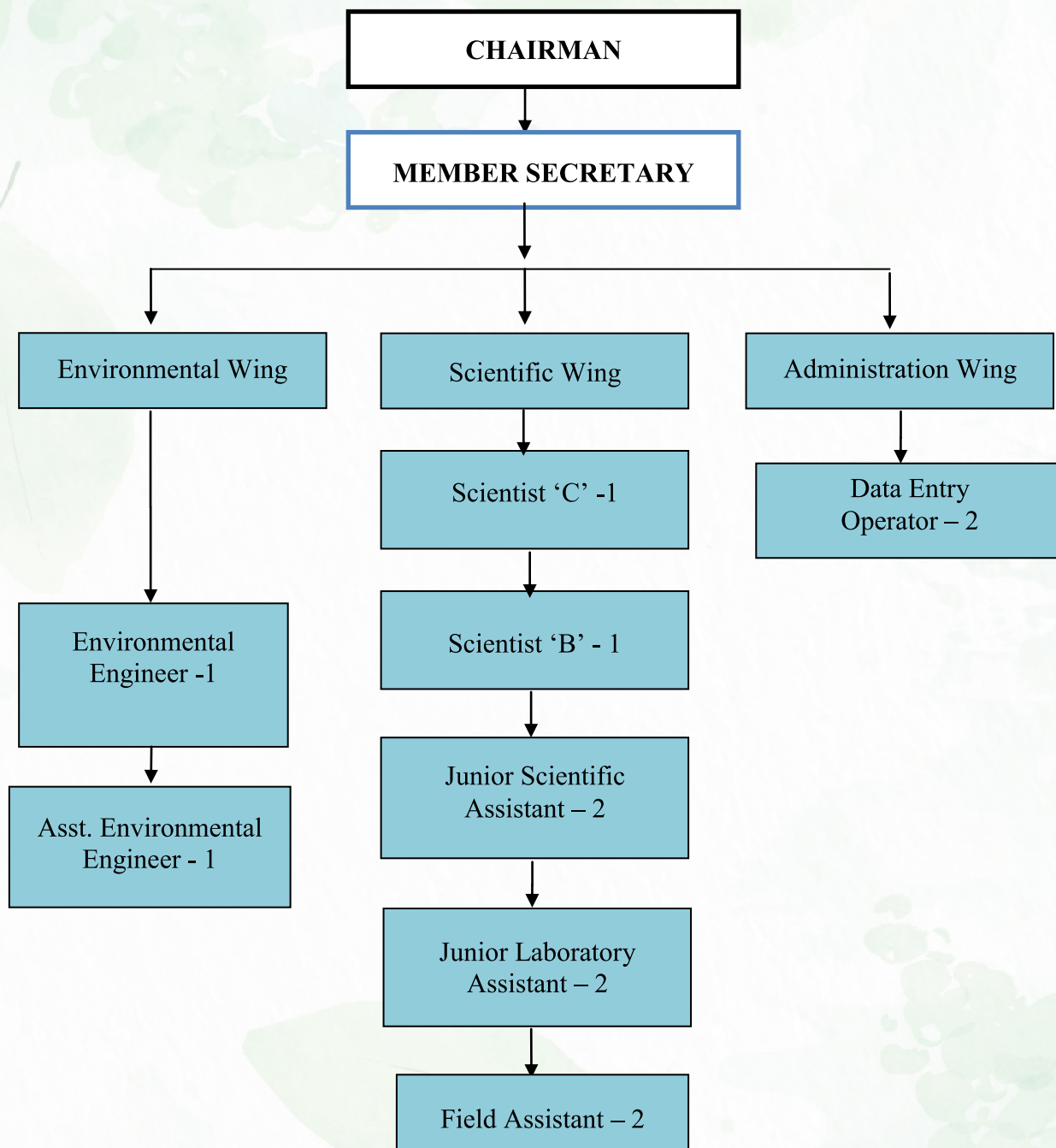


Fig: 1. PPCC Organization Chart

**Table 1. Details of PPCC meetings convened**

<b>No. of PPCC Meeting</b>	<b>Date of Convened</b>
173 <sup>rd</sup> Meeting	08.07.2022
174 <sup>th</sup> Meeting	14.10.2022
175 <sup>th</sup> Meeting	02.11.2022
176 <sup>th</sup> Meeting	22.02.2023

### **Functions of Puducherry Pollution Control Committee**

- i) Planning comprehensive programme for the prevention and control of pollution.
- ii) Advise the State Government in framing environment and industrial policy.
- iii) Collect and disseminate information relating to natural resource, environment protection and pollution control.
- iv) Carrying research programmes in conservation and pollution control
- v) Collaborating with the Ministry of Environment, Forest and Climate Change and Central Pollution Control Board (CPCB) in organizing trainings related to prevention, control of pollution and to organize mass education programmes.
- vi) Scrutinize applications and inspect the site and grant/reject Consent to Establish for industrial units.
- vii) Ensure compliance of Consent to Establish conditions and issue Consent to Operate or take action against defaulters.
- viii) Keep strict vigil and monitoring on the industrial activity and performance of pollution control devices.
- ix) Evolving economical and reliable methods of treatment of sewage and trade effluent
- x) Encourage entrepreneur to pursue Corporate Social Responsibility (CSR) measures and adopt Clean Development Mechanism
- xi) Involving Self Help Groups, NGOs, Farmers and Students in environmental awareness creating programme.
- xii) Preparation of action plan on liquid and solid waste management.

**The following Acts, Rules and Notifications are enforced by  
Puducherry Pollution Control Committee**

1. The Water (Prevention and control of Pollution) Act, 1974
2. The Water (Prevention and Control of Pollution) Rules, 1975
3. The Air (Prevention and Control of Pollution) Act, 1981
4. The Air (Prevention and Control of Pollution) Rules, 1981
5. The Environment (Protection) Act, 1986
6. Environment (Protection) Rules, 1986
7. The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989
8. The Noise Pollution (Regulation and Control) Rules, 2000
9. The Ozone Depleting Substances (Regulation) Rules, 2000
10. The Batteries (Management & Handling) Rules, 2001
11. The Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016
12. The Solid Waste Management Rules, 2016
13. The Plastic Waste Management Rules, 2016
14. The Bio-Medical Waste Management Rules, 2016
15. The E-Waste Management Rules, 2016
16. The Construction and Demolition Waste Management Rules, 2016
17. The Public Liability Insurance Act, 1991
18. Fly Ash Notification, 1991
19. Environmental Impact Assessment Notification, 2006
20. Notification on Coastal Regulation Zones, 2011

## CHAPTER-3

### INDUSTRY SCENARIO OF PUDUCHERRY

**Table 2. Industrial units established as on 31.03. 2023**

#### INDUSTRIAL UNITS PERMANENTLY REGISTERED AS ON 31.05.2022 IN THE UNION TERRITORY OF PUDUCHERRY

SI.No.	MAJOR PRODUCTS HEAD	LSI	MSI	SSI	MICRO	TOTAL
1.	Food Products	6	13	962	104	1085
2.	Cotton & Wool	7	10	883	314	1214
3.	Wood Products	0	0	480	32	512
4.	Paper & Printing	4	8	463	67	542
5.	Leather, Rubber & Plastics	11	43	905	150	1109
6.	Chemical & Chemical Products	24	34	1666	87	1811
7.	Nom-Metalic Mineral products	8	5	319	39	371
8.	Metal Products	3	22	913	61	999
9.	Machinery & parts	11	41	676	57	785
10.	Miscellaneous	0	0	243	206	449
11.	Personal Services & Hotel Project	3	15	220	103	341
12.	Repairing & Services	0	0	262	38	300
	<b>Total</b>	<b>77</b>	<b>191</b>	<b>7993</b>	<b>1257</b>	<b>9518</b>
		<b>LSI</b>	<b>MSI</b>	<b>SSI</b>	<b>MICRO</b>	<b>TOTAL</b>
<b>UNITS</b>		77	191	7993	1257	9518
<b>INVESTMENTS (Rs. in Crores)</b>		1254.78	612.81	1055.19	129.70	3052.48
<b>EMPLOYMENT (in Nos)</b>		18511	11993	72317	6574	109395
<b>PRODUCTION CAP. (Rs.in Crores)</b>		3978.00	4541.29	7067.53	286.36	15873.18

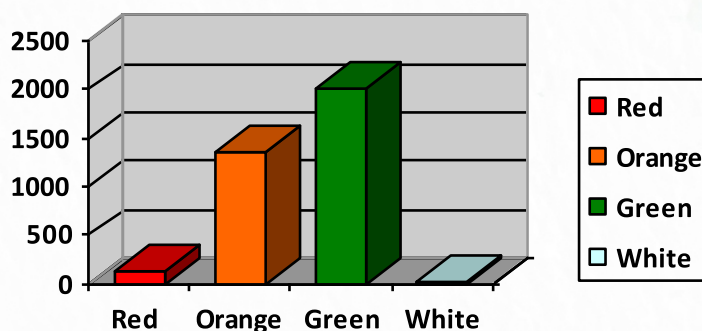
## CHAPTER-4

### CONSENT MECHANISM

Based on the Guidelines of Central Pollution Control Board (CPCB), industries have been categorized into four types based on Pollution Index Score (PIS) as given below:

**Table 3. Categorization of Industry**

Pollution Index Score	Category	No. of Industries
Above 60	Red	133
41-59	Orange	1398
21-40	Green	2067
Upto 20	White	33
<b>Total</b>		<b>3631</b>



**Fig: 2. Category wise Industries**

#### **a. Consent To Establish (No Objection Certificate)**

PPCC introduced Online Consent Management and Monitoring System (OCMMS). Entrepreneur can apply through online for Consent to Establish and Renewal of Consent in <https://ponocmms.nic.in/>. PPCC considers the following aspects on the proposals for issue of Consent to Establish:

- Pollution potential and its abatement measures.
- Site Clearance from Town & Country Planning Department.
- Ground Water Clearance from Ground Water Authority.
- Land Conversion from State Land Use Board.

**b. Consent to Operate**

Based on the compliance of conditions incorporated in Consent to Establish, Consent to Operate is issued.

**c. Renewal of Consent**

Insuring compliance of discharge / emission standards, consent is being renewed.

**Table 4. Periodicity of Renewal**

Category	Period
Green	15 years
Orange	10 years
Red	5 years

**d. Delegation of power**

In order to simplify and expedite the consent procedure, power has been delegated at different levels as given below:

**Table 5. Delegation of Power**

Sl. No	Category	Size	Issue of NOC	Issue of Consent Operate	Issue of Consent
1	Red	Large, Medium & Small	Committee	Chairman	Chairman
2	Orange	Large, Medium	Chairman	Member Secretary	Member Secretary
		Small	Member Secretary		
3	Green	Large & Medium	Member Secretary		
		Small	Member Secretary		

PPCC has issued 169 Consent To Establishs. Details of Consent to Establish, Consent to Operate and Renewal of Consent issued during the year 2022-2023 are given in Table 7.

**Table 6. Details of CTE, CTO and Renewal Issued**

Sl. No.	Month	Issued Number(s) of Consent to		
		Consent to Establish	Consent to Operate	Renewal of Consent
1.	April 2022	9	0	13
2.	May 2022	23	2	19
3.	June 2022	14	3	30
4.	July 2022	15	4	21
5.	August 2022	0	0	3
6.	September 2022	16	3	10
7.	October 2022	23	2	19
8.	November 2022	6	1	11
19.	December 2022	10	4	5
10.	January 2023	14	1	14
11.	February 2023	13	3	4
12.	March 2023	26	4	19
		<b>169</b>	<b>27</b>	<b>168</b>

## CHAPTER-5

### AUTHORIZATION

Ministry of Environment, Forests and Climate Change has notified Solid Waste Management, Plastic waste, Hazardous waste, e-waste, Bio Medical Waste and Construction and Demolition waste. Based on the provision of the Rules, PPCC issue online authorization. The details of authorization issued is given in Table 8.





**Table 7. Details of Authorization / Registration Issued**

Sl. No.	Month	Waste Management				
		BMW	HWM	MSW	PWM	E-Waste
1.	April 2022	3	4	0	1	0
2.	May2022	0	0	0	0	0
3.	June 2022	10	3	0	0	0
4.	July 2022	0	1	0	0	0
5.	August 2022	0	1	0	0	0
6.	September 2022	6	2	1	12	1
7.	October 2022	1	4	0	2	0
8.	November 2022	2	2	0	6	0
19.	December 2022	0	4	0	0	0
10.	January 2023	5	0	0	4	0
11.	February 2023	13	0	0	8	0
12.	March 2023	4	2	0	15	0
		<b>44</b>	<b>21</b>	<b>1</b>	<b>48</b>	<b>1</b>

## CHAPTER-6

### LABORATORY

Department of Science, Technology & Environment is equipped with Laboratory housed in a separate building. The Environmental Analytical Laboratory is assessed and accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL), Haryana in accordance with the standard ISO/IEC 17025:2017 in the field of testing.

		<b>National Accreditation Board for Testing and Calibration Laboratories</b>	
<b>CERTIFICATE OF ACCREDITATION</b>			
<b>ENVIRONMENTAL ANALYTICAL LABORATORY, DEPARTMENT OF SCIENCE, TECHNOLOGY &amp; ENVIRONMENT, PUDUCHERRY POLLUTION CONTROL COMMITTEE</b>			
has been assessed and accredited in accordance with the standard			
<b>ISO/IEC 17025:2017</b>			
<b>"General Requirements for the Competence of Testing &amp; Calibration Laboratories"</b>			
for its facilities at			
R.S.NO. 189, GARAGE BUILDING, IYYANAR KOIL STREET, MARIE OULGARET, METTUPALAYAM, PUDUCHERRY, INDIA			
in the field of			
<b>TESTING</b>			
Certificate Number:	TC-6480	Valid Until:	28/11/2023
Issue Date:	29/11/2021		
This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL. (To see the scope of accreditation of this laboratory, you may also visit NABL website <a href="http://www.nabl-india.org">www.nabl-india.org</a> )			
Name of Legal Identity : Puducherry Pollution Control Committee (PPCC)			
Signed for and on behalf of NABL			
	 N. Venkateswaran Chief Executive Officer		

### Activities of the Laboratory

- Ambient Air Quality and Stack emission Monitoring
- Ambient Air Quality Monitoring under National Ambient Air Quality Monitoring Programme (NAMP)
- Industrial Effluent Monitoring
- Water Quality Monitoring under National Water Quality Monitoring Programme (NWMP)
- Monitoring on festival occasion such as Diwali, Bhogi and Vinayagar Chathurthi
- Noise Monitoring
- Environmental monitoring based on Public Complaint



Fig: 3. NWMP Surface water Sampling



Fig: 4. Marine water sampling during Idol Immersion on Vinayagar Chathurthi



Fig: 5. Source Emission Monitoring



Fig: 6. Ambient Air Quality monitoring

**Table. 8: Parameters Assessed in the Laboratory**

Sl.No.	Parameters	Test Method
1	pH Value@25°C	APHA 23 <sup>rd</sup> Edition- 2017,Part No. 4500 H <sup>+</sup>
2	Conductivity@25°C	APHA 23 <sup>rd</sup> Edition- 2017,Part No. 2510 B
3	Total Suspended Solids@105°C	APHA 23 <sup>rd</sup> Edition- 2017,Part No. 2540 D
4	Turbidity	APHA 23 <sup>rd</sup> Edition-2017, 2130 B
5	Temperature	APHA 23 <sup>rd</sup> Edition-2012, 2550 B
6	Total Dissolved solids @180°C	APHA 23 <sup>rd</sup> Edition-2017,Part No. 2540 C
7	Chloride as Cl <sup>-</sup>	APHA 23 <sup>rd</sup> Edition-2017, Part No. 4500 Cl B
8	Sulphate as SO <sub>4</sub> <sup>2-</sup>	APHA 23 <sup>rd</sup> Edition-2017,Part No. 4500 SO <sub>4</sub> <sup>2-</sup> E
9	Oil & grease	APHA 23 <sup>rd</sup> Edition-2017,Part No. 5520 B
10	Bio chemical oxygen demand (3 days @ 27°C)	IS 3025 (Part 44) - 1993, Reaff : 2014
11	Chemical Oxygen Demand	IS : 3025 (Part-58) : 2006 (RA:2012)
12	Phosphate as PO <sub>4</sub> -P	APHA 23 <sup>rd</sup> Edition-2017,Part No. 4500 P-E
13	Total fixed Solids@550°C	APHA 23 <sup>rd</sup> Edition-2017,Part No. 2540 E
14	Alkalinity as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition-2017,Part No. 2320- B
15	Total Hardness as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition-2017,Part No. 2340 C
16	Calcium hardness as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition-2017,Part No. 3500Ca
17	Magnesium hardness as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition-2017, Part No. 3500Mg –B
18	Calcium as Ca	APHA 23 <sup>rd</sup> Edition-2017, Part No. 3500Ca
19	Magnesium as Mg	APHA 23 <sup>rd</sup> Edition-2017, Part No. 3500Mg
20	Sodium as Na	APHA 23 <sup>rd</sup> Edition-2017, Part No. 3500Na – B
21	Potassium as K	APHA 23 <sup>rd</sup> Edition-2017, Part No.3500K –B
22	Hexavalent Chromium as Cr <sup>6+</sup>	APHA 23 <sup>rd</sup> Edition-2017, Part No. 3500Cr B
23	Dissolved Oxygen	APHA 23 <sup>rd</sup> Edition-2017, Part No. 4500C
24	% Sodium	DSTE/PPCC/SOP/24Issue No:01,Date: 30.09.2016

25	SAR	DSTE/PPCC/SOP/25 Issue No:01, Date: 30.09.2016
27	Total Residual chlorine	IS 3025 (Part 26) : 1986 (RA:2014)
29	Nitrate-Nitrogen ( $\text{NO}_3\text{-N}$ )	APHA 23 <sup>rd</sup> Edition-2017, Part No. 4500- $\text{NO}_3^-$ E.
30	Nitrate-Nitrogen ( $\text{NO}_3\text{-N}$ )	APHA 23 <sup>rd</sup> Edition-2017, Part No. 4500- $\text{NO}_3^-$ B
31	Nitrite-Nitrogen ( $\text{NO}_2\text{-N}$ )	APHA 23 <sup>rd</sup> Edition-2017, Part No. 4500- $\text{NO}_2^-$ B.
32	Ammoniacal Nitrogen	APHA 23 <sup>rd</sup> Edition-2017, Part No. 4500- $\text{NH}_3\text{F}$ .
Ambient		
33	Respirable Particulate Matter (size less than $10\mu\text{m}$ ) or $\text{PM}_{10}$	IS 5182:(Part 23) - 2006
34	Sulphur Dioxide (as $\text{SO}_2$ )	IS 5182:(Part 2) - 2001, Reaff 2012
35	Nitrogen Dioxide (as $\text{NO}_2$ )	IS 5182:(Part 6) - 2006, Reaff 2012
Source emission		
36	Particulate Matter	IS 11255:(Part 1) -1985, Reaff 2003
37	Sulphur Dioxide (as $\text{SO}_2$ )	IS 11255 (Part 2) : 1985 Reaff 2019
38	Nitrogen Dioxide (as $\text{NO}_x$ )	IS 11255(Part 7) : 2005, Reaff 2017
39	Flow Rate	IS 11255:(Part 3) – 2008
40	Temperature	IS 11255:(Part 3) – 2008
41	Velocity	IS 11255:(Part 3) – 2008
42	Noise Level ( $L_{eq}$ , $L_{max}$ , $L_{min}$ )	IS: 9989-1981: 2014
43	Sulphur Dioxide (as $\text{SO}_2$ )	USEPA Method – 6C – 1996 Using flue gas analyser
44	Nitrogen Dioxide (as $\text{NO}_x$ )	USEPA Method – 7E – 1990 Using flue gas analyser



## CHAPTER-7

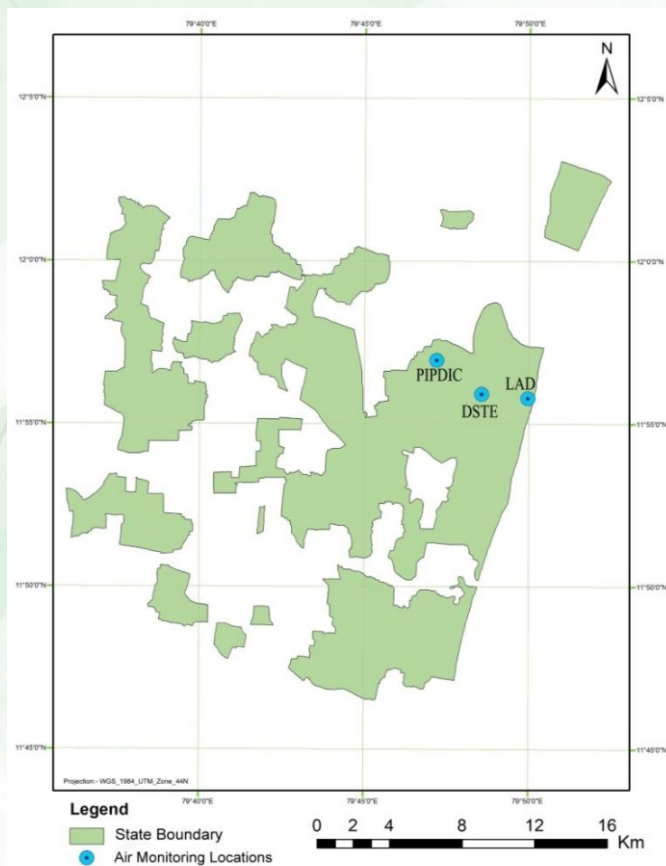
### STATUS OF AMBIENT AIR QUALITY

Puducherry Pollution Control Committee is carrying out ambient air quality monitoring at the following six locations under the 'National Air quality Monitoring Programme' (NAMP) of Central Pollution Control Board (CPCB). The monitoring of pollutants is carried out for 24 hours (4-hourly sampling for gaseous pollutants and 8-hourly sampling for particulate matter) with a frequency of twice a week.

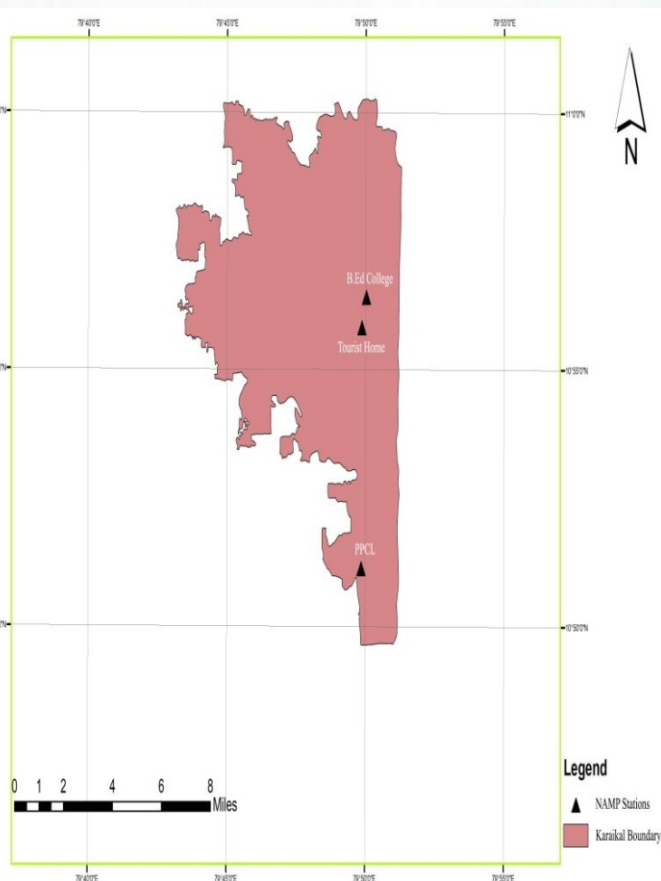
**Table 9. Location of NAMP Stations**

Sl. No.	Location Name	Location Type	Source of Pollution
1	Local Administrative Department Building (LAD), Suffren Street, Puducherry.	Residential area	Vehicle emission and natural dust from road
2	Dept of Science Technology and Environment Building (DSTE), Anna Nagar, Puducherry.	Residential cum Commercial area	Vehicle emission and natural dust from road
3	Electricity Department, Mettupalayam Industrial Estate (PIPDIC), Puducherry.	Industrial area	Industrial Pollution and vehicular pollution.
4	B.Ed. College, Nehru Nagar, Karaikal	Residential area	Vehicle emission and natural dust from road
5	Govt. Guest House, Kovilpathu, Karaikal	Residential cum Commercial area	Vehicle emission and natural dust from road
6	PPCL, Polagam, T.R. Pattinam, Karaikal	Industrial area	Industrial Pollution and vehicular pollution.

## PUDUCHERRY



## Karaikal



**Table 10. Air Pollutants Monitored Under NAMP**

Sl. No.	Air Pollutant	Method of measurement	Possible sources	Effects
1	Particulate Matter – Pm10 (size less than 10 microns)	Gravimetric	Road traffic emissions particularly from diesel vehicles Industrial combustion plants Commercial and residential combustion	Visibility reduction cardio-pulmonary problems asthma, bronchitis, and pneumonia in order people
2	Nitrogen dioxide	Improved West and Gaeke method	High temperature combustion (internal combustion engines, fossil fuel-fired power stations, industrial) Burning of Bio-mass and Fossil Fuels	Irritates the nose and throat increase susceptibility to respiratory infections
3	Sulphur di Oxide	Modified Jacob and Hochheiser	Combustion of fossil fuel. Combustion process in diesel, petrol.	Respiratory illness. Visibility impairment

**Table 11. Annual average Concentration of Pollutant**

Sl. No	Location	Pollutant in $\mu\text{g}/\text{m}^3$		
		PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>2</sub>
1	LAD	53	4.1	12.8
2	DSTE	54	3.3	12.3
3	PIPDIC	40	3.1	12.2
4	B.Ed college, Karaikal	38	2.1	4.8
5	Govt Tourist Home, Karaikal	50	2.4	5.1
6	PPCL, Karaikal	39	2.1	4.8
Standard		60	50	40

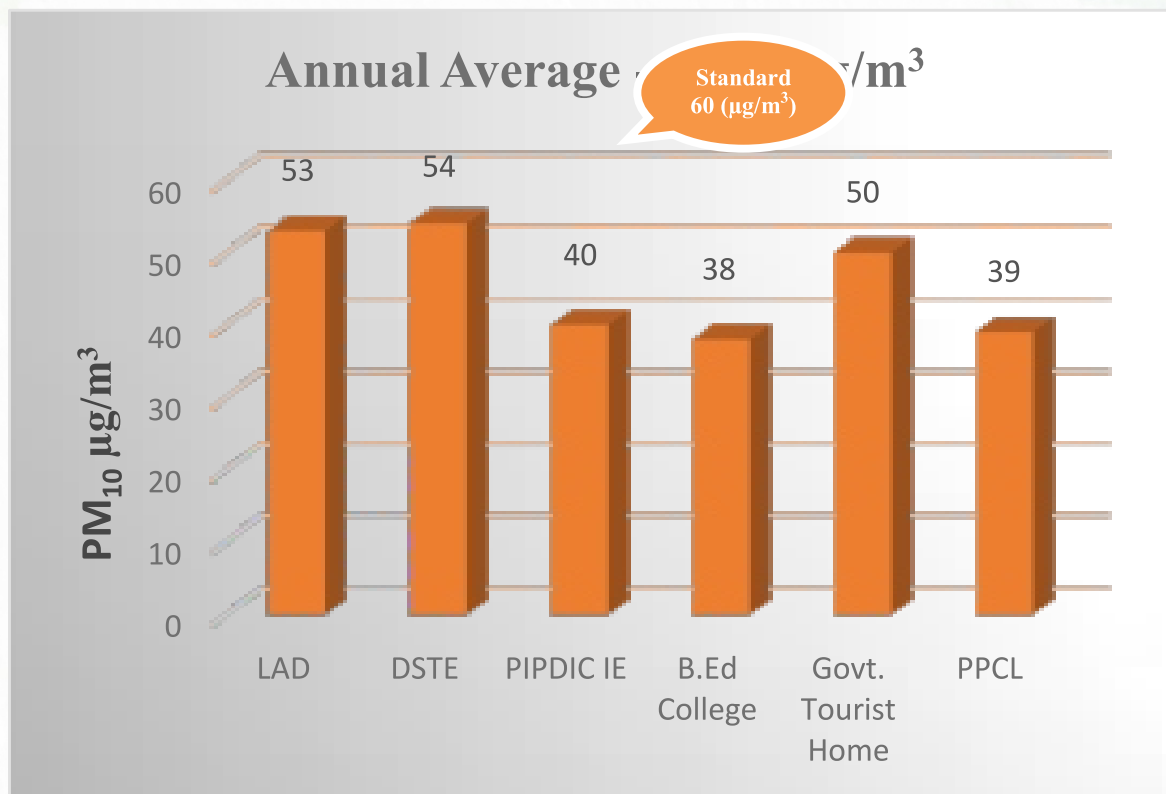


Fig: 7. PM<sub>10</sub>

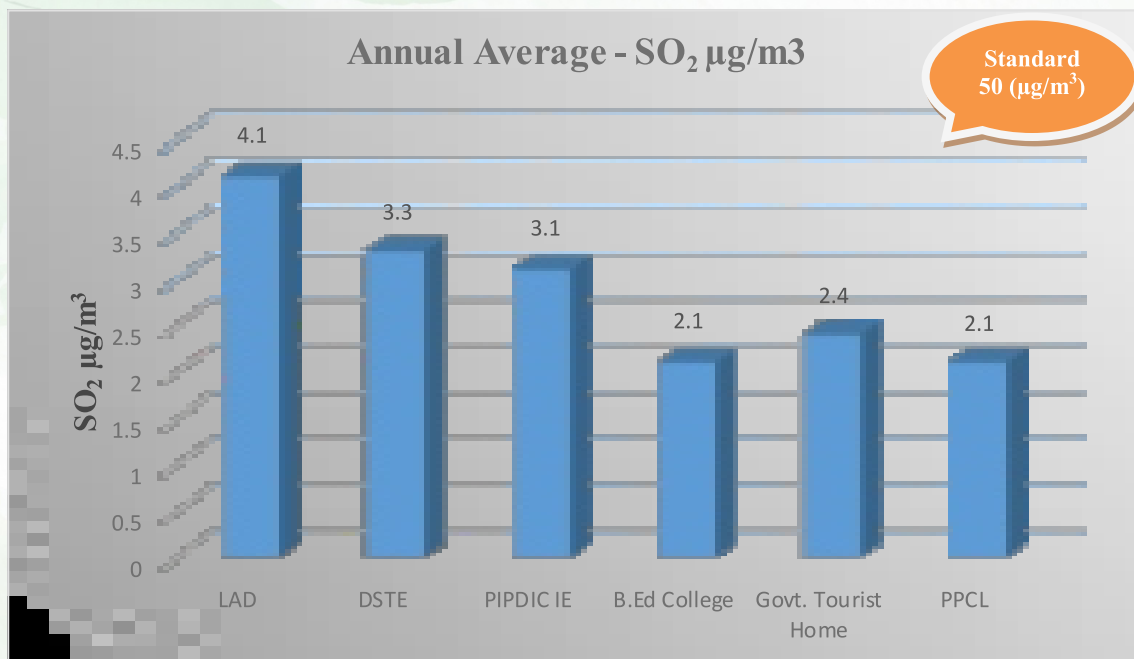


Fig: 8. SO<sub>2</sub>

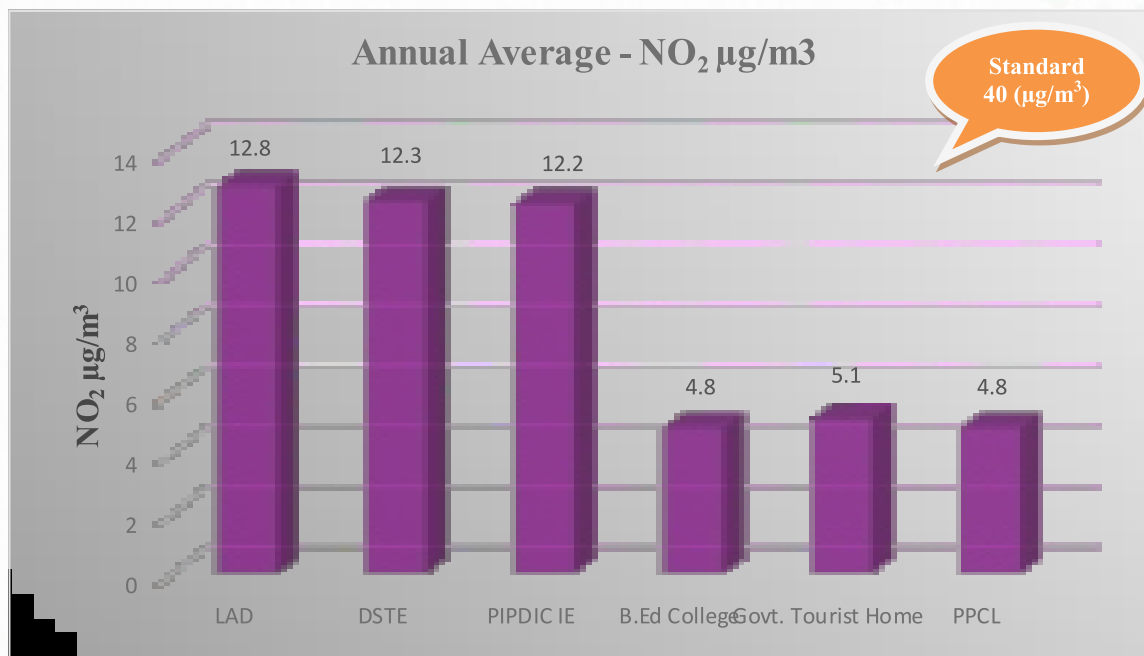


Fig: 9. NO<sub>2</sub>

## Status

- The monitoring results reveals that 24 Hourly average concentration of Particulate Matter  $PM_{10}$  measured in all the six locations are within the prescribed standard limit of  $100 \mu\text{g}/\text{m}^3$ .  $PM_{10}$  concentration exceeded the prescribed standard limit during the Diwali festival.
- Annual average concentration of  $PM_{10}$  measured the six locations are in the ranges from 38 –54 ( $\mu\text{g}/\text{m}^3$ ) which is within the prescribed standard limit of  $60 \mu\text{g}/\text{m}^3$
- The annual average concentrations of  $\text{SO}_2$  &  $\text{NO}_x$  in all the six locations are within the prescribed standard limit. One of the reasons for low levels of pollution in coastal cities like Puducherry is that it has excellent ventilation effects due to sea and land breezes which dilute the pollution levels.

## Continuous Ambient Air Quality Monitoring Station (CAAQMS)

Puducherry Pollution Control Committee is operating one CAAQMS at the terrace of Town and Country Planning Department with the financial assistance of Central Pollution Control Board. Parameters monitored in CAAQMS are given Table.

**Table 12. Parameters monitored in CAAQMS**

Parameters Monitored	Meteorological Parameters Monitored
Particulates ( $PM_{10}$ & $PM_{2.5}$ )	Temperature ( $^{\circ}\text{C}$ )
Sulfur Dioxide ( $\text{SO}_2$ )	Relative Humidity (%)
Oxides of Nitrogen ( $\text{NO}$ , $\text{NO}_2$ , $\text{NO}_x$ ) and ammonia	Barometric Pressure (mm Hg)
Carbon Monoxide ( $\text{CO}$ )	Solar Radiation ( $\text{Watts}/\text{m}^2$ )
Ozone ( $\text{O}_3$ )	Wind Direction (Degrees)
Benzene	Wind Speed (m/sec)

Air Quality Index is a tool for effective communication of air quality status to people in terms, which are easy to understand. It transforms complex air quality data of various pollutants into a single number (index value), nomenclature and colour.

There are six AQI categories, namely Good, Satisfactory, Moderately polluted, Poor, Very Poor, and Severe. Each of these categories is decided based on ambient concentration values of air pollutants and their likely health impacts (known as health breakpoints). Health Breakpoint concentrations for each of the pollutant vary with reference to the AQI category. The sub-indices for individual pollutants are calculated using its 24-hourly measured average concentration value of a pollutant and health breakpoint concentration range. The sub-index is a linear function of concentration of a particular pollutant (for example, the sub-index for PM<sub>2.5</sub> will be 51 at concentration 31 µg/m<sup>3</sup>, 75 at concentration of 45 µg/m<sup>3</sup> and 100 at concentration 60 µg/m<sup>3</sup>).

AQ sub-index and health breakpoints are evolved for eight pollutants (PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>2</sub>, SO<sub>2</sub>, CO, O<sub>3</sub>, NH<sub>3</sub>, and Pb) for which short-term (upto 24-hours) National Ambient Air Quality Standards are prescribed. The worst sub-index among the computed parameters is responsible for the index for that location. All the eight pollutants may not be monitored at all the locations. Overall AQI is calculated only if data are available for minimum three pollutants, out of which one should necessarily be either PM<sub>2.5</sub> or PM<sub>10</sub>.

The overall AQI can give clear view about ambient air and the report reveals that PM<sub>10</sub> is mainly responsible to determine the air quality which can be easier for a common man to understand. The PM<sub>10</sub> concentration in the Puducherry and Karaikal region is sourced predominantly from the anthropogenic activity, which may be due to the increase in vehicle movement, road dust, bursting of crackers etc.

AQI is an initiative intended to enhance public awareness and involvement in efforts to improve air quality. People can contribute by maintaining vehicles properly (e.g. get PUC checks, replace car air filter, maintain right tyre pressure), following lane discipline & speed limits, avoiding prolong idling and turning off engines at red traffic signals. In addition to above, avoid using private vehicles and instead use public transport/walk/carpool.

**Table 13. Status of Category-wise numbers of AQI**

AQI Category	AQI Range $\mu\text{g}/\text{m}^3$	Colour Code	Number of AQI Values in different category		Possible Health Impacts
			No of AQI Values	% of AQI Values	
Good	0-50		176	48.2	Minimal Impact
Satisfactory	51-100		167	45.8	Minor breathing discomfort to sensitive people
Moderate	101-200		17	4.7	Breathing discomfort to the people with lung, heart disease, children and older adults
Poor	201-300		3	0.8	Breathing discomfort to people on prolonged exposure
Very Poor	300-400		2	0.5	Respiratory illness on prolonged exposure
Total AQI Values			365	100	

Note: One observation means one AQI Calculated for daily ambient air quality data at one station.

The result reveals that during the year 2022 air quality indicates that 48.2% values falls in good category, 45.8% falls under satisfactory category, 4.7% falls under moderate, 0.8% falls under poor category and 0.5% falls under very poor respectively.

#### **Ambient Air Quality and Noise Pollution Levels – Deepavali 2022**

Puducherry Pollution Control Committee carried out Ambient Air Quality and Noise Monitoring on Pre-Deepavali day (17.10.2022) and on Deepavali day (24.10.2022) in Puducherry and Karaikal to assess the environmental impact bursting of crackers during Deepavali festival.

### Noise Level Monitoring

The Ambient Noise Level was measured at two location viz., Muthialpet and Mudaliarpet in Puducherry and one location at Kovilpathu, Karaikal from 06.00 P.M. to 12.00 midnight. The report reveals that the measured noise level was increased by 22% and 33% on Deepavali Day compared to Pre-Deepavali Day at Muthialpet and Mudaliarpet respectively in Puducherry and in Karaikal the noise level was increased by 30 % on Deepavali Day compared to Pre-Deepavali Day.

The main cause of increase in the Ambient Noise Level on the Deepavali day is due to bursting of crackers and vehicular movement.

### Ambient Air Quality Monitoring

The data received from Continuous Ambient Air Quality Monitoring station located at Jawahar Nagar reveals that the concentration of  $PM_{10}$  and  $PM_{2.5}$  were  $308 \mu g/m^3$  and  $251 \mu g/m^3$  respectively



Fig: 10. Monitoring of Noise Level During Deepavali 2022

The outcome of the report reveals that the concentration of pollutants monitored on Deepavali day 2022 was found to be higher on compared to Pre Deepavali in Puducherry Region and the corresponding Air Quality Index (AQI- 401 (CAAQMS) and 428 (manual monitoring station) on Deepavali day comes under severe category in Puducherry Region and it comes under moderate category in Karaikal.

### **Ambient Air Quality Monitoring**

For compliance of Hon'ble Supreme Court Order dated 23.10.2018, Puducherry Pollution Control Committee has conducted short term ambient air quality monitoring in Puducherry for 14 days (Commencing from 7 days prior to Diwali and ending 7 days after Diwali) for the parameters namely PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>2</sub>, Pb, As, Ni, Al, Ba, Fe, Sr and Sulphur. Accordingly, the monitorings were conducted at two residential locations viz.,

(i) Reddiapalayam and (ii) Mudaliarpeth. The analysis report reveals the following

- The concentration of PM<sub>10</sub> and PM<sub>2.5</sub> were found to be higher and above the 24 hours average concentration prescribed limit of 100 µg/m<sup>3</sup> and 60 µg/m<sup>3</sup> on Pre Deepavali Day (23.10.2022) and on Deepavali day 2022 in Puducherry respectively. All the other days concentration were within the prescribed standard limits.
- On Deepavali day PM<sub>10</sub> and PM<sub>2.5</sub> at location I was 372 µg/m<sup>3</sup> and 195 µg/m<sup>3</sup> and at location II was 345 µg/m<sup>3</sup> & 329 µg/m<sup>3</sup> respectively.
- The 24 hours average concentration of SO<sub>2</sub> and NO<sub>2</sub> at two locations were observed within the prescribed standards of 80µg/m<sup>3</sup>.
- Lead (Pb): The concentration of Lead was found higher than the prescribed standard on Deepavali Day. It is due to bursting of crackers. Lead was also present on 23.10.2022 and 29.10.2022 in the location I and on 23.10.2022, 29.10.2022 and 30.10.2022 at location II which was within 24 hourly prescribed NAAQS limit of 1.0 µg/m<sup>3</sup>. The values are in the ranges between 0.19 µg/m<sup>3</sup> to 2.27 µg/m<sup>3</sup>.
- Nickel (Ni): Presence of Nickel was found in both the locations on Deepavali day and Normal day. The values are in the ranges between 1.7 ng/m<sup>3</sup> and 10.6 ng/m<sup>3</sup>. It is within the prescribed standard of 20 ng/m<sup>3</sup>.



Fig: 11. Vehicle Emission Monitoring



- Arsenic (As): The concentration of Arsenic are in the ranges between 0.63 ng/m<sup>3</sup> and 1.53 ng/m<sup>3</sup> on Deepavali day and Normal day on 23.10.2022 at location I and II on 23.10.2022. It is within prescribed standard of 6 ng/m<sup>3</sup>.
- Aluminium (Al): The concentration of Aluminium was in the ranges are 1.6 µg/m<sup>3</sup> – 15.8 µg/m<sup>3</sup> on Deepavali day and Normal day on 23.10.2022 at location I and at location II on 23.10.2022 and 25.10.2022. It is within prescribed standard of 40 µg/m<sup>3</sup>.
- Barium: The concentration of Barium on was in the ranges are 5.6 µg/m<sup>3</sup> – 13.5 µg/m<sup>3</sup> on Deepavali day and Normal day on 23.10.2022 at location I & II on 23.10.2022. Barium exceeded the prescribed standard limit of AAQCV 4.0 µg/m<sup>3</sup>.
- Iron: The concentration of Iron was in the range of 1.2 µg/m<sup>3</sup> to 2.9 µg/m<sup>3</sup> on Deepavali day and on the normal day in location I and II. It is within AAQCV of 40 µg/m<sup>3</sup>.
- Strontium found on Deepavali day and on Normal day on 23.10.2022 at both location. The values are in the ranges between 1.2 µg/m<sup>3</sup> to 3.1 µg/m<sup>3</sup> respectively.

The Ambient Air Quality Monitoring was carried at three locations viz., Reddiarpalayam, (ii) Mudaliarpet and (iii) Anna Nagar in Puducherry and in Karaikal at Kovilpathu from 06.00 A.M. to 06.00 A.M.. The report reveals that the 24 hours average PM<sub>10</sub> concentration at all three locations were observed higher than the prescribed standards of 100 µg/m<sup>3</sup>. The maximum concentration of PM<sub>10</sub> and PM<sub>2.5</sub> in the ambient air on Deepavali, 2022 was observed during 2:00PM-10:00PM. In Puducherry the city level average calculated for PM<sub>10</sub> and PM<sub>2.5</sub> concentrations on Deepawali day (24.10.2022) were 335µg/m<sup>3</sup> and 286µg/m<sup>3</sup> respectively and in Karaikal the concentration of PM<sub>10</sub> was 130µg/m<sup>3</sup>. The 24 hours average concentration SO<sub>2</sub> and NO<sub>2</sub> at all the three locations were observed well below the prescribed standards of 80µg/m<sup>3</sup>.

### **Vehicular Emission Testing Centre**

Puducherry Pollution Control Committee has conducted a Joint Inspection along with the Regional Transport Department, Government of Puducherry to establish the Pollution Testing Centre. Pollution Testing Centre tests the vehicle emission and issue Pollution Under Control (PUC) Certificate

## CHAPTER - 8

### STATUS OF WATER QUALITY

Department of Science, Technology & Environment / Puducherry Pollution Control Committee has been monitoring Water quality periodically at various locations with financial assistance from Central Pollution Control Board under National Water Quality Monitoring Programme (NWMP). Monitoring is being done on quarterly basis in surface water bodies in Puducherry and Karaikal regions, Annually in Mahe and Yanam regions and during pre and post monsoon in the case of ground water.

#### Objectives of Water Quality Monitoring

The water quality monitoring is performed with the following main objectives:

- To understand the nature and extent of pollution control and measures required.
- To evaluate the extent of pollution control required and effectiveness of pollution control measures already in existence.
- To assess water quality trends over a period of time.
- To assess assimilative capacity of a water body thereby reducing cost on pollution control.
- To assess the fitness of water for different uses.

#### Water Quality Monitoring Stations

Water quantity is monitored in 31 stations. The details are shown in the figure

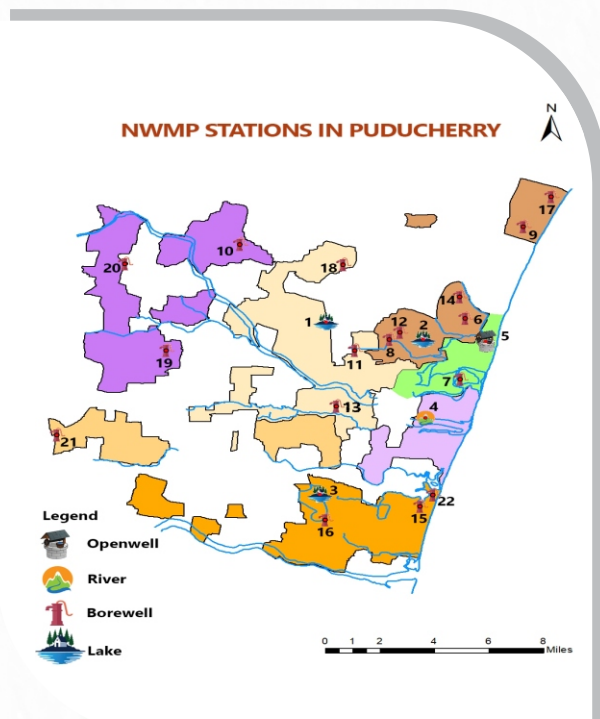


Fig: 12. NWMP Stations at Puducherry

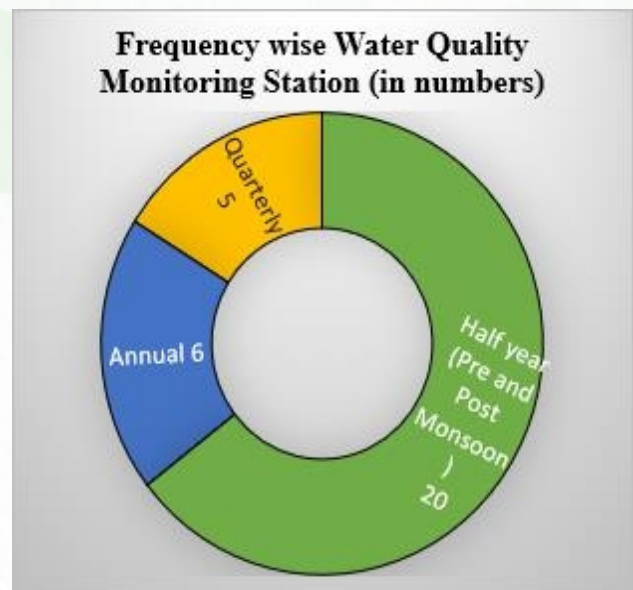
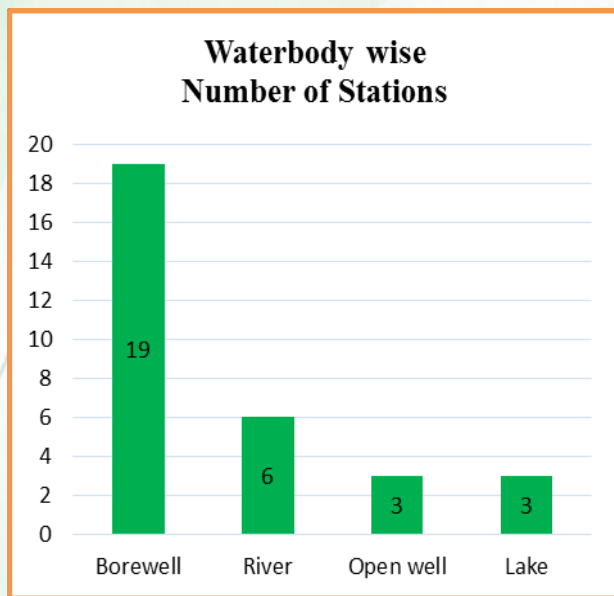


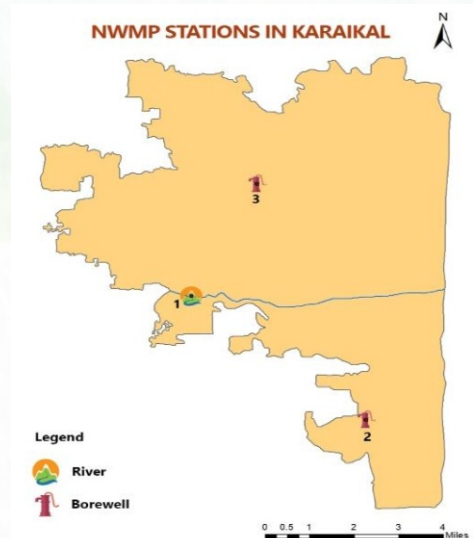
Fig: 13. Water Quality Monitoring Stations

Table 14. NWMP Stations at Puducherry

Sl.No	Location	Sl.No	Location
1	Ousteri Lake	12	Mettupalayam
2	Kanagan Lake	13	Uruvaiyar
3	Bahour Lake	14	Maruthi School
4	Chunnambar River	15	Echankadu
5	ChettyKoil, Mission Street	16	Near Lake, Bahour
6	Krishna Nagar	17	Chevalier Sellane Government Higher secondary school, Kalapet
7	Thengaithittu	18	DhanderarKulam, Sedarapet
8	Muthirappalayam	19	Kothapurinatham, Thiruvandarkoil
9	Pondicherry University	20	Thirukkanur
10	Katterikuppam	21	Madukarai
11	Kurumbapet	22	Panithittu

**Table 15. NWMP stations in Karaikal**

Sl.No	Location
1	Arasalar
2	T.R Pattinam
3	Vadamattan



**Fig: 14. NWMP Stations in Karaikal**

**Table 16. NWMP stations in Mahe**

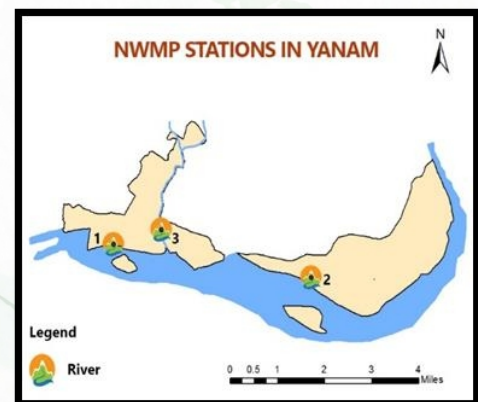
Sl.No	Location
1	Mahe River
2	Pallur
3	Panthakkal



**Fig:15. NWMP stations in Mahe**

**Table 17. : NWMP Stations in Yanam**

Sl.No	Location
1	Gowtami - Godavari River Near Balayogi Bridge
2	Gowtami - Godavari River Near Adavipolam
3	Coringa River (Tidal Lock)



**Fig: 16.NWMP Stations in Yanam**

## Surface Water Quality – Puducherry and Karaikal

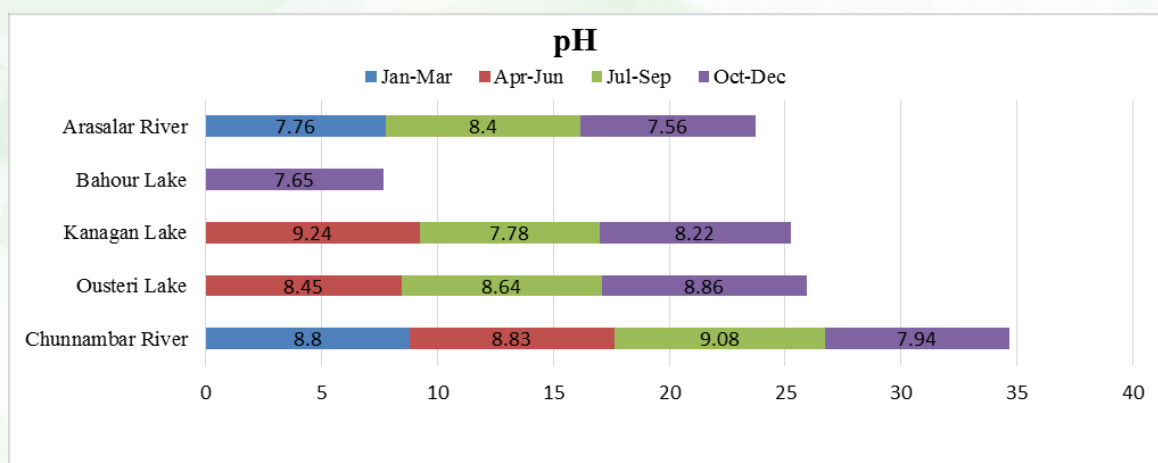


Fig: 17. pH

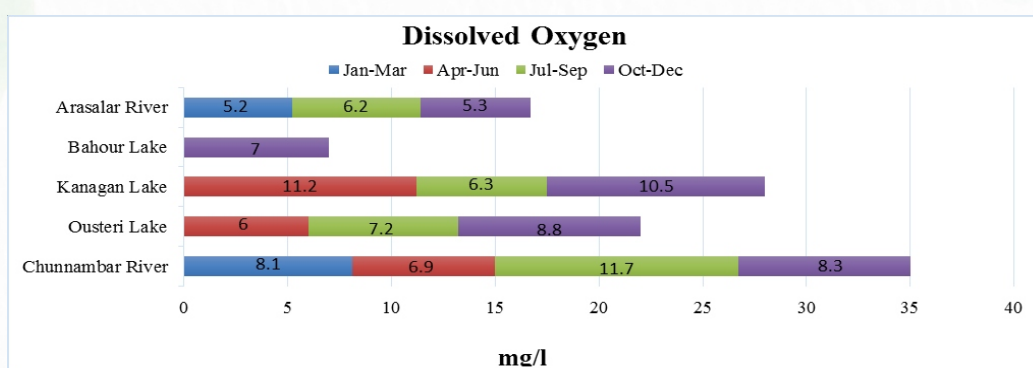


Fig: 18. DO (mg/l)

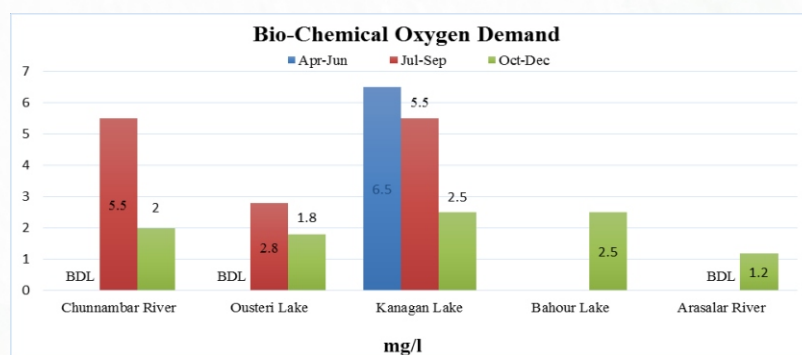


Fig: 19. BOD (mg/l)

**Note:** As per the primary water quality criteria for bathing water of class B, DO shall be more than 5 mg/l and BOD shall be lesser than 3 mg/l.

## Groundwater Quality in Puducherry and Karaikal during Pre Monsoon, 2022

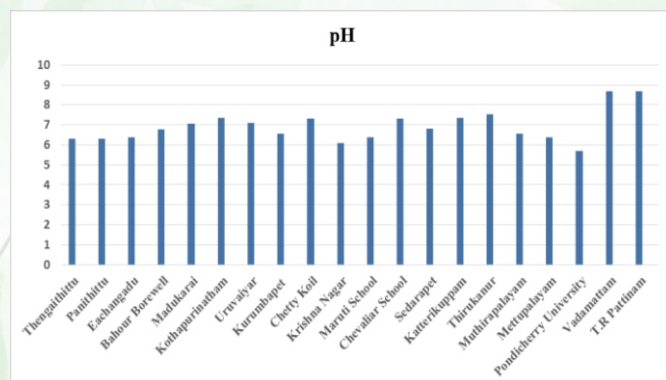


Fig: 20. pH

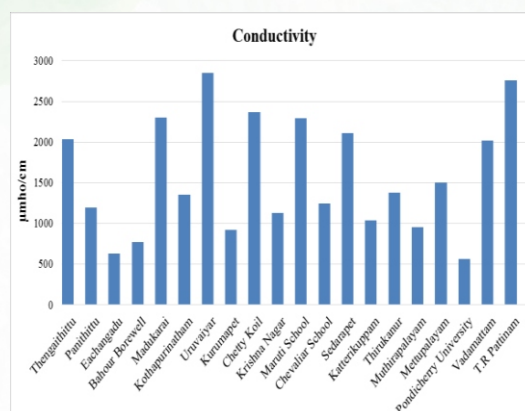


Fig: 21. Conductivity ( $\mu\text{mho/cm}$ )

**Note:** Permissible Limit – 6.5 to 8.5

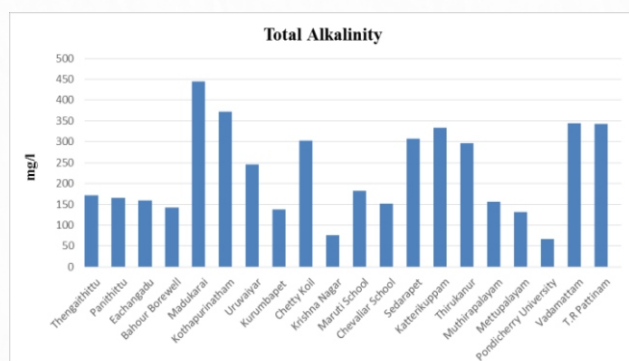


Fig: 22. Total Alkalinity ( $\text{mg/l}$ )

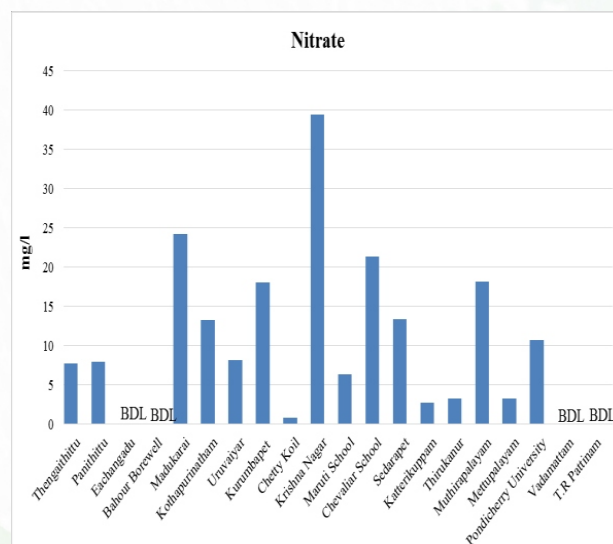


Fig: 23. Nitrate ( $\text{mg/l}$ )  
**Note:** Permissible Limit – 45 ( $\text{mg/l}$ )

**Note:** Permissible Limit – 600 ( $\text{mg/l}$ )

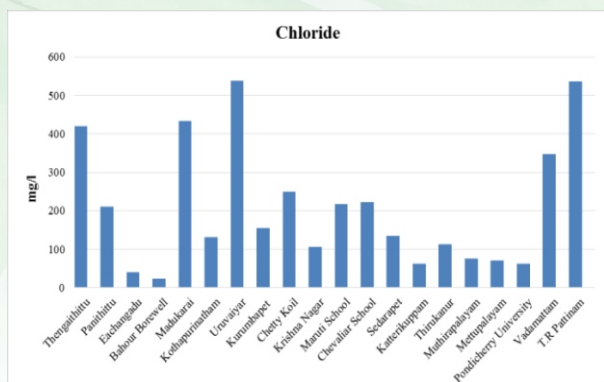


Fig: 24.Chloride (mg/l)

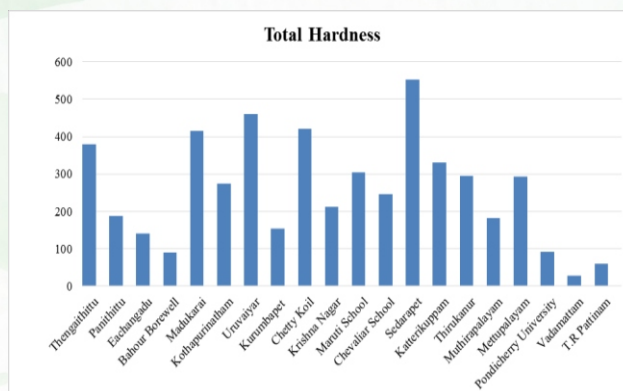


Fig: 25. Total Hardness (mg/l)

**Note:** Permissible Limit – 1000 (mg/l)

**Note:** Permissible Limit – 600 (mg/l)

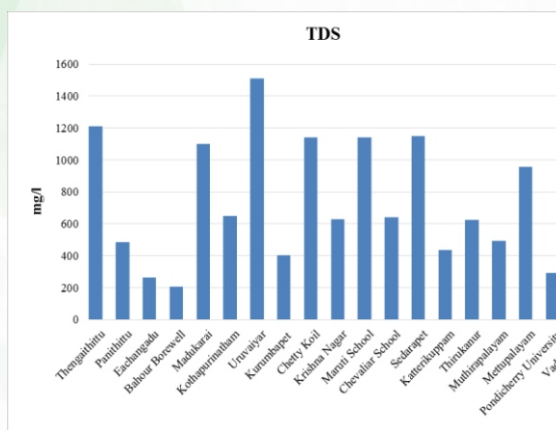


Fig: 26. TDS (mg/l)

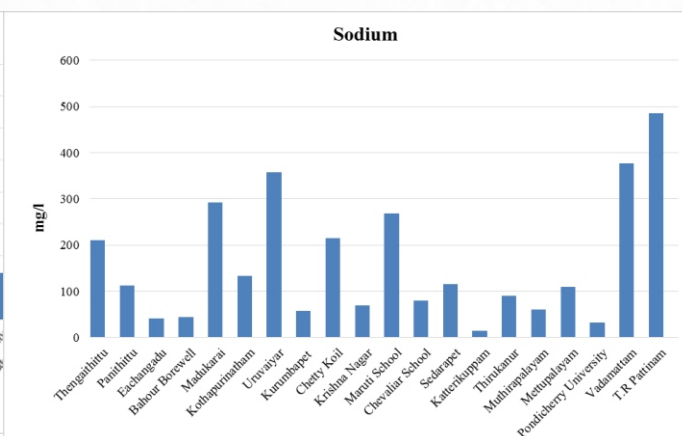


Fig: 27. Sodium (mg/l)

**Note:** Permissible Limit –2000 (mg/l)

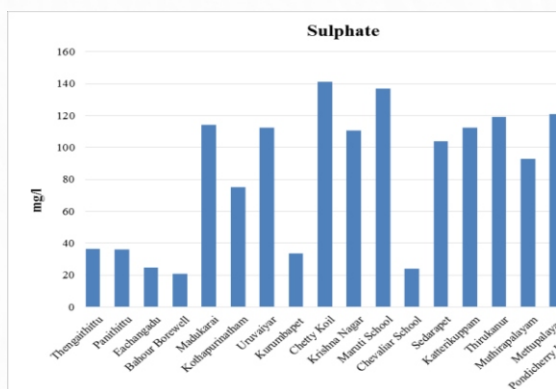


Fig: 28. Sulphate (mg/l)

**Note:** Permissible Limit - 400 (mg/l)

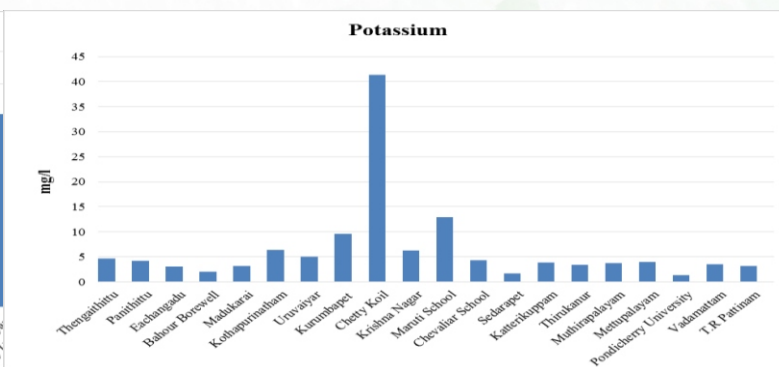


Fig: 29. Potassium (mg/l)

**Table 18. Surface Water quality in Mahe Region**

Sl. No.	Parameters	Mahe river
1.	Temperature °C	26.0
2.	DO (mg/l)	6.9
3.	pH	6.54
4.	Conductivity (µmho/cm)	133
5.	BOD (mg/l)	BDL (DL - 1.0)
6.	Nitrite Nitrogen as NO <sub>2</sub> - N (mg/l)	BDL (DL - 0.02)
7.	Nitrate Nitrogen as NO <sub>3</sub> - N (mg/l)	1.84
8.	Nitrate as NO <sub>3</sub> (mg/l)	8.21
9.	Turbidity NTU	52.7
10.	Total Alkalinity (mg/l)	61
11.	Bi- Carbonate as HCO <sub>3</sub> <sup>-</sup> (mg/l)	74.88
12.	P.Alkalinity (mg/l)	BDL (DL - 5.0)
13.	Carbonate as CO <sub>3</sub> <sup>2-</sup> (mg/l)	BDL (DL - 3.0)
14.	Chloride (mg/l)	30.33
15.	COD (mg/l)	BDL (DL - 5.0)
16.	Total Hardness as CaCO <sub>3</sub> (mg/l)	16.0
17.	Calcium as CaCO <sub>3</sub> (mg/l)	10.0
18.	Calcium as Ca <sup>++</sup> (mg/l)	4.0
19.	Magnesium as CaCO <sub>3</sub> (mg/l)	6.0
20.	Magnesium as Mg <sup>++</sup> (mg/l)	1.458
21.	Sulphate (mg/l)	BDL (DL - 5.0)
22.	Orthophosphate as PO <sub>4</sub> <sup>3-</sup> -P (mg/l)	BDL (DL - 0.05)
23.	TDS (mg/l)	82.0
24.	TSS (mg/l)	33.0
25.	FDS / TFS (mg/l)	52.0
26.	Ammonical Nitrogen as NH <sub>3</sub> -N (mg/l)	BDL (DL - 0.4)
27.	Sodium (mg/l)	15.1
28.	Potassium (mg/l)	1.1
29.	Hexavalent Chromium (mg/l)	BDL
30.	% Sodium	65.34
31.	SAR	1.6
32.	Arsenic (mg/l)	BDL (DL -0.00049)
33.	Cadmium (mg/l)	BDL (DL - 0.00042)
34.	Copper (mg/l)	BDL (DL - 0.00035)
35.	Lead (mg/l)	BDL (DL - 0.00031)
36.	Total Chromium mg/l	BDL (DL - 0.00056)
37.	Mercury (mg/l)	BDL (DL - 0.00052)
38.	Nickel (mg/l)	BDL (DL - 0.00054)
39.	Zinc (mg/l)	BDL (DL - 0.00059)
40.	Iron (mg/l)	0.57
BDL - Below Detectable Limit; DL - Detection Limit		

**Table 19. Surface Water Data in Yanam Region**

Sl. No.	Parameters	Gautami - Godavari River Near Adavipolam	Coringa River (Tidal Lock)	Gautami - Godavari River Near Balayogi Bridge
1.	Temperature °C	29.0	29.0	30.0
2.	DO mg/l	7.3	7.0	8.5
3.	pH	7.99	8.03	8.29
4.	Conductivity µmho/cm	16600	10460	9800
5.	BOD mg/l	BDL (DL : 1.0)		
6.	Nitrate - N mg/l	BDL (DL : 0.3 )		
7.	Nitrite - N mg/l	BDL (DL : 0.02 )		
8.	Nitrate mg/l	BDL		
9.	Turbidity NTU	1.7	3.0	1.5
10.	Bi- Carbonate as CaCO <sub>3</sub> mg/l (T.Alkalinity)	136.0	142.0	138.0
11.	Carbonate as CaCO <sub>3</sub> mg/l (P.Alkalinity)	BDL (DL : 5)	7	14
12.	Bi- Carbonate as HCO <sub>3</sub> <sup>-</sup> (mg/l)	161.04	164.7	151.28
13.	Carbonate as CO <sub>3</sub> <sup>2-</sup> (mg/l)	BDL (DL : 3)	4.2	8.4
14.	Chloride mg/l	4465.28	2346.65	2061.63
15.	COD mg/l	BDL (		
16.	Total Hardness mg/l	1449	878	798
17.	Calcium Hardness mg/l	327	294	204
18.	Calcium as Ca++ mg/l	130.8	117.6	81.6
19.	Magnesium Hardness mg/l	1122	584	594
20.	Magnesium as Mg++ mg/l	272.65	141.91	144.34
21.	Sulphate mg/l	613.35	361.63	303.74
22.	Orthophosphate mg/l	BDL (DL : 0.05)	0.26	0.16
23.	TDS mg/l	7832	4791	4148
24.	TSS mg/l	15.0	26.0	14.0
25.	FDS/TFS mg/l	7056	4078	3582
26.	Calcium Hardness mg/l	327	294	204
27.	Calcium as Ca++ mg/l	130.8	117.6	81.6
28.	Magnesium Hardness mg/l	1122	584	594
29.	Magnesium as Mg++ mg/l	272.65	141.91	144.34
30.	Sulphate mg/l	613.35	361.63	303.74
31.	Orthophosphate mg/l	BDL(DL:	0.26	0.16
32.	TDS mg/l	7832	4791	4148
33.	TSS mg/l	15.0	26.0	14.0
34.	FDS/TFS mg/l	7056	4078	3582
35.	Ammonia - N mg/l	BDL		
36.	Hexavalent Chromium mg/l	BDL		
37.	Arsenic mg/l	BDL (DL : 0.00049)		
38.	Cadmium mg/l	BDL (DL : 0.00042)		
39.	Copper mg/l	BDL (DL : 0.00035)		
40.	Lead mg/l	BDL (DL : 0.00031)		
41.	Total Chromium mg/l	0.012	BDL (DL : 0.00056)	
42.	Mercury mg/l	BDL (DL : 0.00052)		

43.	Nickel mg/l	BDL (DL : 0.00054)		
44.	Zinc mg/l	BDL (DL : 0.00059)		
45.	Iron mg/l	0.38	0.76	0.20

**Table 20. Quality of open well water in Mahe Region**

Sl. No.	Parameters	Pallur open well	Pandakkal open well	Acceptable limit	Permissible limit
1.	Temperature °C	27.5	27.0		
2.	pH	5.44	5.40	6.5 - 8.5	NR
3.	Conductivity µmho/cm	344.0	102		
4.	BOD mg/l	BDL (DL - 1.0)			
5.	Turbidity NTU	BDL (DL - 1.0)		1	5
6.	Total Alkalinity mg/l	22	BDL (DL -	200	600
7.	Bi- Carbonate as $\text{HCO}_3^-$ mg/l	26.57	24.16		
8.	P. Alkalinity mg/l	BDL (DL - 5.0)			
9.	Carbonate as $\text{CO}_3^{2-}$ mg/l	BDL (DL - 3.0)			
10.	Chloride mg/l	45.99	16.63	250	1000
11.	COD mg/l	BDL (DL - 5.0)			
12.	Total Hardness as $\text{CaCO}_3$ mg/l	66.0	16.0	200	600
13.	Calcium as $\text{CaCO}_3$ mg/l	40.0	12.0		
14.	Calcium as $\text{Ca}^{++}$ mg/l	16.0	4.8	75	200
15.	Magnesium as $\text{CaCO}_3$ mg/l	26.0	BDL (DL - 4.0)		
16.	Magnesium as $\text{Mg}^{++}$ mg/l	6.318	0.972	30	100
17.	TDS mg/l	270.0	50.0	500	2000
18.	TSS mg/l	BDL (DL - 10)			
19.	FDS / TFS mg/l	46.0	29.0		
20.	Sodium mg/l	27.8	9.2		
21.	Potassium mg/l	5.8	BDL (DL - 1.0)		
22.	% Sodium	45.04	53.84		
23.	SAR	1.5	1.0		
24.	Nitrite Nitrogen as $\text{NO}_2^-$ N	BDL (DL - 0.02)			
25.	Nitrate Nitrogen as $\text{NO}_3^-$ N	3.87	1.18		
26.	Nitrate as $\text{NO}_3^-$ mg/l	17.6	5.24		
27.	Ammonical Nitrogen as $\text{NH}_3$ -	BDL (DL - 0.4)			
28.	Phosphate as $\text{PO}_4^{3-}$ mg/l	BDL (DL - 0.05)			
29.	Sulphate as $\text{SO}_4^{2-}$ mg/l	9.64	8.92		
30.	Hexavalent Chromium as $\text{Cr}^{6+}$	BDL			
31.	Arsenic mg/l	BDL (DL - 0.00049)		0.01	0.05
32.	Cadmium mg/l	BDL (DL - 0.00042)		0.003	NR
33.	Copper mg/l	BDL (DL - 0.00035)		0.05	1.5
34.	Lead mg/l	BDL (DL - 0.00031)		0.01	NR

35.	Total Chromium mg/l	BDL ( DL - 0.00056)	0.05	NR
36.	Mercury mg/l	BDL ( DL - 0.00052)	0.001	NR
37.	Nickel mg/l	BDL ( DL - 0.00054)	0.02	NR
38.	Zinc mg/l	BDL ( DL - 0.00059)	5	15
39.	Iron mg/l	BDL ( DL - 0.00067)	0.3	NR

**BDL** - Below Detectable Limit; **DL** - Detection Limit; **NR** - No Relaxation

### Surface Water

pH is slightly alkaline in Chunnambar, Ousteri lake and in Kanagan Lake. Dissolved Oxygen (DO) is meeting the Primary Water Quality Criteria of  $\geq 5$ mg/l in all the Surface water bodies Samples.

The concentration of Biological Oxygen Demand (BOD) is Kanagan Lake during April and July are 6.5mg/l and 5.5mg/l respectively. In Chunnambar River during July the values of BOD was 5.5mg/l higher than the Primary Water Quality Criteria of  $\leq 3$  mg/l. In all the other samples BOD is within the criteria. In Chunnambar river during Jan, Apr quarters, in Ousteri lake during Apr quarter and in Arasalar River during Jan and July quarters the concentration of BOD is Below Detectable Limit.

An increase in BOD level indicates excessive concentration of organic matter which is due to mixing of sewage in surface water bodies.

### Ground Water

pH of ground water in Thengaithittu, Panithittu, Eachangadu, Krishna Nagar, Maruti School, Mettupalayam and Pondicherry University is closer to 6.5. The Level of pH in Vadamattam and T.R. Pattinam during pre monsoon is slightly higher than the range of 8.5. This may be due to geological formation.

Pesticides viz., Alpha BHC, Beta BHC, Gamma BHC, OP DDT, PP DDT, PP DDE, PP DDD, Alpha Endosulphan, Beta Endosulphan, Dieldrin, Carbaryl (Carbamate), 2,4-D, Aldrin, Malathion, Methyl Parathion, Chloropyriphos, Isoproturon, Alachlor, Atrazine, Monochrotophos, Ethion, Phorate, Butachlor, Heptachlor and Chlorandane are Below Detectable Limit in all the locations and trace metals viz., Copper, Cadmium, Lead, Total Chromium, Zinc, Iron, Arsenic, Mercury, Nickel are also Below Detectable Limit in most of the locations and in other locations the values are within the prescribed standard limits.

## CHAPTER-9

### SOLID WASTE MANAGEMENT

The management of Solid Waste in urban areas has emerged as one of the biggest challenges faced by the Municipalities throughout the country, which is aggravated by rapid urbanization. Disposal of legacy wastes and substantially increasing the recycling of solid waste is one of the targets set in Sustainable Development Goals (SDGs). Proper solid waste management (SWM) presents an opportunity not only to avoid the adverse impact on public health and environment but also enable to recover resources, realize environmental, economic and social benefits. Therefore, scientific disposal of solid waste through segregation, collection, transportation and processing is paramount importance. Details of Solid waste generated, processed and disposed in the U.T. of Puducherry are given in table.

**Table 21. Solid waste generated, processed and disposal**

Sl. No.	Name of the Municipality	Solid Waste generated (TPD)	Processed (TPD)	Gap in Processing (TPD)	To disposal site (TPD)
1	Pondicherry Municipality	155	7.05	147.95	147.95
2	Oulgaret Municipality	155	3.97	151.03	151.03
3	Karaikal Municipality	40	33.5	6.5	6.5
4	Mahe Municipality	12.5	12.5	0	0
5	Yanam Municipality	20	1	19	19
	<b>TOTAL</b>	<b>382.5</b>	<b>58.02</b>	<b>324.48</b>	<b>324.48</b>

#### Bulk Waste Generator

Any commercial establishments (or) institute, generates more than 100 kgs./day are comes under Bulk Waste Generator. 20% of total solid waste is generated by Bulk Waste generator. Puducherry being a densely populated city has limited land areas to setup composting plant. Training programe has been organized to the Bulk waste generator for insitu composting processing. Two medical colleges and one star hotel have set up Bio-methanation plants

Bulk Waste Generators in Puducherry, Oulgaret and Karaikal Municipality have been notified and directed to manage their wet waste on their campus. Oulgaret Municipality has empaneled 4 service providers to guide in proper disposal of solid waste.

A technical session on waste management was organized on 27<sup>th</sup> and 28<sup>th</sup> of Feb.2023 with experts from United Kingdom. A brainstorming programme on “Towards Zero waste and sustainable Municipality” was organized on 31.03.2023.



Fig: 30. Stakeholder consultation with UK Team



Fig: 31. Brainstorm session with Bulk Waste generator

### **Wet Waste Management:**

Segregation of waste is practiced in Karaikal Municipality. It is processed in the Paravaipet area. Nearly 28 TPD of wet waste is processed by composting / vermi-composting and Bio-methanation methods. The compost are utilised by the farmers and the gas produced from bio-methanation plant are utilised for lighting purpose around the processing area. Though the segregation is not practiced in Puducherry the wet waste collected from the markets are being processed in Bio-methanation plant at Kurumbapet.



Fig: 32. Bio-methanation plant

## Dry waste Management

Dry waste has been managed by the ULBs in their Material Recovery Facility (MRF). In Puducherry Municipality, one private enterprenuer viz. M/s Recity India Pvt. Ltd., has established a facility of 4 TPD to segregate different types of dry waste. After segregation, the recyclable materials are sent to the re-cyclers. The non-recyclables are sent for Co-processing in cement plants, Tamil Nadu



Fig:33. Waste management in Recity

Integrated Municipal Solid Waste Processing Project at Yanam Municipality has been commenced on 08.12.2021.

## Review Meeting on Solid Waste Management

- i) 5<sup>th</sup> State Level Committee meeting on Solid Waste Management with regard to the Order of Hon'ble NGT in the matter of O.A. No. 606 of 2018 was held on 21.07.2022, under the Chairmanship of the Chief Secretary, Government of Puducherry.
- ii) Review meeting on compliance status of direction of Hon'ble NGT in O.A. No.606 was held on 27.10.2022 under the Chairmanship of the Chief Secretary, Govt. of Puducherry Chief Secretary.
- iii) The Development Commissioner –cum-Finance Secretary to Govt., has been designated as the State Nodal Officer (SNO) and conducted review meeting on 12.01.2023.



Fig:34. Review meeting held on 12.01.2023 under the Chairmanship of Development Commissioner

### Disposal of Legacy Waste

6.5 lakhs M..T. of waste was accumulated in the U.T. of Puducherry. It is being disposed through Bio mining.

Table 22. Details of legacy waste accumulated and disposed is given in table

Dumping Site	Legacy Waste (Tons)	Quantity Removed (Tons)	Total area of the dump site	Area Reclaimed	Timeline for completion
Kurumbapet, Oulgaret Municipality	5.53 Lakhs	5.53 Lakhs	23 Acres	6 Acres	100% Bio-mining Completed in 31 <sup>st</sup> Mar 2023
Paravaipet, Karaikal Municipality	0.76 Lakhs	0	9.5 Acres	NIL	Work initiated during March 2023
UKV Nagar, Yanam Municipality	0.15 Lakhs	0	1.5 Acres	NIL	Tendering process



Fig:35. Bio mining of legacy waste

## CHAPTER-10

### PLASTIC WASTE MANAGEMENT

MoEF& CC, GOI, has notified Guidelines on Extended Producer Responsibility (EPR) on 16.02.2022 for Plastic Packaging. Producer, Importer, Brand-Owner (PIBOs) and Plastic Waste Processors (PWPs) are covered under the provisions of these Guidelines and need to register on the centralized portal developed by CPCB.

#### Obligated Entities

The following entities are covered under the Extended Producer Responsibility obligations and provisions of these guidelines:

- (a) Producer (P) of plastic packaging;
- (b) Importer (I) of all imported plastic packaging and / or plastic packaging of imported products;
- (c) Brand Owners (BO) including online platforms/marketplaces and supermarkets/retail chains other than those, which are micro and small enterprises as per the criteria of Ministry of Micro, Small and Medium Enterprises, Government of India.;
- (d) Plastic Waste Processors

#### Coverage of Extended Producer Responsibility

- (i) Category I  
Rigid plastic packaging;
- (ii) Category II  
Flexible plastic packaging of single layer or multilayer (more than one layer with different types of plastic), plastic sheets or like and covers made of plastic sheet, carry bags, plastic sachet or pouches;
- (iii) Category III  
Multilayered plastic packaging (at least one layer of plastic and at least one layer of material other than plastic);
- (iv) Category IV  
Plastic sheet or like used for packaging as well as carry bags made of compostable plastics. Standard Operating Procedure (SOP) for registration of PIBOs through Plastic EPR portal has

been framed. All the SUP industry are getting registered in the portal. Closure directions were issued to 51 defaulted units.

Training for EPR Registration was held at CPCB, New Delhi on 22.11.2022. Smt. J. Selvanayagi, JSA, PPCC participated in this workshop.



Fig: 36. EPR Registration workshop

Training programmes and periodical consultation workshops are being organised to the Plastic industry Associations and implementing authorities for effective enforcement of PMW Rules, 2016. .



Fig: 37. Interaction meeting with implementing authority under the chairmanship of the District Collector, Thiru. Mansoor, Karaikal



Fig: 38. Consultation meeting with Trader Association

MoEF&CC, GOI, has notified PWM (second amendment) Rules, 2022, on 06.07.2022. Wherein, this Rules emphasis about Bio-degradable plastic, pre consumer packaging waste and post consumer packaging waste and all entities shall be registered under EPR portal.

**Table 23. List of Producers obtained EPR Registration under EPR Portal**

Sl. No	Name of Industry
1	Servo Packaging Limited
2	Ameya Plastics
3	Engineering Plastic Industries
4	National Polyplast (India) Private Limited
5	Adithya Package Industry
6	Selvas Plastics
7	SwaashpetPolymersPvt Ltd
8	Lakshmi Ganapathy Polymer
9	GuberaGanapathy Polymers
10	Earnest Leema Plastic Industries
11	Shri Mouliiswara Poly Pvt Ltd
12	Jay Multti Tech
13	Kohinoor Poly Pack
14	Lloyds Poly Bag
15	MultiflexPackagings
16	Creative Propack Limited
17	Sai Ushodaya Industry
18	Sri Pondy Polymers
19	Shah Plastics
20	Sri Pondy Plastics
21	Rajaganapathy Industries
22	Sri Ganapathy Polymers
23	Priyan Industries
24	Narmada Plastics
25	Sri Jai Guru Polymers
26	Mahavir Plastic Company
27	Altek
28	Balamurugan Polymers
29	Shah Multipack
30	Mico Poly Pack
31	Gaayatri Multipack

32	E-Mox Manufacturing Private Limited
33	Arunachaleswarar Industries
34	Shri Chandra Mouleeswara Industries

**Table 24. List of Importers obtained EPR Registration under EPR Portal**

Sl. No	Name of Industry
1.	Plumage Technology Private Limited
2.	KrystalsImpex
3.	General Optics (Asia) Ltd

**Table 25. List of Re-Processors obtained EPR Registration under EPR Portal**

Sl. No	Name of Industry
1.	Danial Plastics
2.	FF Polymers
3.	Krishna Industries
4.	Meera Polymers
5.	MS Plastics
6.	MSR Plastics
7.	Padma Polymers
8.	Padma Polymers Unit II
9.	Poly Product Industries
10.	Priya Plastics
11.	Selvaganapathy Traders
12.	Servo Packaging Limited
13.	Sri Lakshmi Plastics Unit II
14.	Sri Sai Teja Industries

Thiru. Karthikeyan, Scientist „C□ along with officials of DSTcarried out Inspection in SUP units and market on 14<sup>th</sup> July 2022 in Puducherry and the same type of drive was conducted in KKL also. 32 units were inspected

**Table 26. Information on Manufacturers / Sellers of Alternatives to Single Use Plastics**

Sl. No	Name of Entity	SUP Alternative
1	M/s. Selvas Plastics	Compostable Cups, Plates Trays
2	M/s. Altek	Compostable Cups, Plates
3	M/s. Poseidon Enterprises Unit -I	Compostable Carry bags
4	M/s. Poseidon Enterprises Unit -II	Compostable granules
5	M/s. Adithya Ram Naturals	Areca Leaf Plates
6	M/s. Le Eco Planet	Alternatives products
7	M/s. Solai, Nehru Street	Alternative products
8	M/s. Solai, Bahour	Alternative products

Tamil Nadu Pollution Control Board has organized an Expo for alternatives to single-use plastics on 26.09.2022. PPCC staffs were participated in the event and collected information.

#### **Elimination of Single Use Plastic (SUP) in the U.T. of Puducherry**

Action Plan has been formulated with the seven components to make U.T. of Puducherry as Single Use Plastic free. Government of Puducherry has constituted “State Level Special Task Force” and “District Level Special Task Force” under the Chairmanship of the Chief Secretary and the District Collector respectively, for taking measures on eliminate Single Use Plastic in the U.T. of Puducherry. Seven depts. have been notified as Implementing Authorities. They are conducting periodical joint inspections and seizing banned SUP from stockist and closing down SUP manufacturing units. During the year, 10 SUP manufacturing units were closed and CTE of 84 SUP units were revoked. During the year around 7 tonnes of SUP were seized and Rs. 60,000 has been collected as fine.

Govt. of Puducherry encourages to establish alternates to SUP units. There are 33 paper cup, 3 Arecanut plate and 3 compostable plastic bag, cup and container manufacturing units are in operation.

In order to contain migratory of SUP products from neighbouring States, squad of CPCB and PCC inspected all the entries to the Puducherry and alerted the check post. MoEF

launched EPR portal is fully in operational. All the SUP industry are getting registered in the portal. Closure directions were issued to 51 defaulted units.

Training programmes and periodical consultation workshops are being organised to the Plastic industry Associations and implementing authorities.

Non-availability of suitable alternative for SUP is one of the constraint for elimination of SUP. After conducting various field exposures, the following locally available materials are found to be best suitable alternatives.

- i) Low cost cloth, paper bags and non-woven bags
- ii) Banana leaf, Lotus, Lilly and Manthara leaves.
- iii) Areca nut plate
- iv) Paper cup and straw

“Supply Chain” is placed in the system for uninterrupted availability of these low cost materials to the needy vendors. Solai, a stall for exclusively alternates products to SUP was installed in many parts of the Puducherry. Through SHG of DRDA, necessary training has been provided to bridge the gap between demand and Supply. Cost of the alternative products are generally higher than SUP. In order to reduce cost of the alternate products, advertisement of brand owner products are printed on the non-woven /cloth bags, paper cups, etc. Brand owner bear part of the cost of the bags/cups towards advertising their products.

In order to facilitate the needy peoples/firms to get idea about availability of all alternates products, comprehensive database on availability of alternate product has been hosted in the Departments website.

Documentary Movie is found to be most effective awareness creation system. A documentary movie on the “Ill effect of Single Use Plastic” has been released and being screened in LED van throughout Puducherry. Circular Was issued to all institutions including Medical Colleges vide letter No.5/ DSTE/ PPCC/ SUP/ SEE/ 2022/ 214, dt.24.02.2022 to declare as SUP free campus. 17 educational institutes have been declared as SUP free campus.

It is proposed to launch Green School Award on the eve of Celebration of World Environment Day, 5<sup>th</sup> June, 2023 for Excellence in Environment Conservation School.

Finance Department issued circular to all HODs and Secretaries on 06.06.2022 not to purchase SUP for their office. Standard Operating Procedure (SOP) for making SUP free Government office has been prepared and circulated to all the Government Departments.



Fig: 39. Stake holder meeting on Elimination of SUP was held on 13.01.2023 under the Chairmanship of Smt. Dr. A. Muthamma, Secretary (Envt.)

By creating intensive awareness on the ill effects of usage of SUP followed by strict enforcement actions against banned plastic items and ensuring availability of suitable alternative for SUP, U.T. of Puducherry will be free from SUP.

### **Joint Inspection with CPCB**

Smt. Poornima, Scientist 'D' Regional Office, CPCB along with officials of PPCC have inspected stockiest, Market and manufacturing unit and interstate borders during 18.10.2022-19.10.2022 and seized 79 kg of SUP and collected of fine of Rs. 6700.

Two days SUP drive was taken up by the Scientist of RD Chennai along with Officials of PPCC, PM, and OM on 18.10.2022 and 19.10.2022.

Inspection of Single Use Plastics Units/Shops/Stockiest along with Mrs. Poornima, Scientist, 'D', RD, Chennai was conducted on 18.10.2022. During that time 12 Shops/Stockiest / units in Pondicherry Municipality was inspected and Seized 51.3kg of banned SUP items and 12 no. of challans issued with a fine of Rs.3700.

On 19.10.2022, inspected 12 units in Mettupalayam Indl. Estate. And inspected the Single Use Plastics Units/Shops/Stockiest of 20 units in Oulgaret Municipality, and Seized 27.7kg of banned SUP items and 20 no. of challans issued with a fine of Rs.3000. The following SUP manufacturing units were closed under Section 5 of Environment (Protection) Act, 1986.

**Table 27. Closed SUP Manufacturing units**

Sl. No	Name of the Unit
1	M/s. Devi Thozhilagam, Ulavaikal, Puducherry
2	M/s. Sangunathan Polymers, Senthanatham, Puducherry
3	M/s. Vallalar Industries, Kattukuppam, Puducherry
4	M/s. Priyan Industries, Ulavaikal, Puducherry



Fig:40. Smt.Poornima, Scientist CPCB



Fig: 41. Inspection of SUP Units

In order to contain migratory of SUP products from neighboring States, squad of CPCB and PCC inspected all the entries to the Puducherry and alerted the check post.



Fig: 42. SUP checking in Interstate borders

CPCB has also created SUP Compliance Monitoring Portal. Wherein, the SPCBs/PCCs will register the nodal persons of all the Local bodies. The Registered Local bodies can enter the number of entities to be inspected and number of entities inspected along with date, time and photographs and type of violation, challan issued, material seized etc.

**Table 28. SUP inspection conducted by local bodies**

<b>Month</b>	<b>No of Inspection</b>	<b>Seized quantity (Kg)</b>	<b>Fine Imposed(Rs)</b>
August 2022	48	500	4300
September 2022	154	46.9	11400
October 2022	48	5.8	4850
November 2022	42	15.2	4700
December 2022	15	28	14800
January 2023	156	48.6	18850
February 2023	50	24.6	4600
March 2023	179	547.7	26700
April 2023	73	6400	21.4
<b>Total</b>	<b>765</b>	<b>1238.2</b>	<b>96600</b>

#### **Declaration of (Puducherry Assembly) as SUP free premises.**

Hon'ble Speaker declared Puducherry Assemble as SUP free premises on the floor of the Assembly on 29.03.2023. He announced that with effect from 01.05.2023 14 types of SUP are not allowed into the Legislative Assembly.

#### **SUP ban in the Government Department**

As per the decision of the State Level Task Force on SUP chaired by the Chief Secretary in its meeting held on 17.05.2022, all the departments/Institutions under the Government of Puducherry are hereby instructed not to purchase the following Single Use Plastic items which have been duly banned in the Union Territory of Puducherry.

In case of any violation, the concerned officer who has approved the purchase of these items shall be held responsible and shall personally bear the expenses incurred on the Single Use Plastic items purchased. The DAT shall not admit any bills henceforth for settlement of expenses incurred by any Department/Institution against the purchase of these items.

### **Consultation meeting with Plastic Manufacturing Association and Implementing Authorities**

Consultation meeting with Plastic manufacturing Association and Implementing Authorities was organized on 07.07.2022 under the Chairmanship of the District Collector Shri. E. Vallavan, I.A.S and evolved strategic for elimination of SUP.



Fig: 43. Consultation meeting with Plastic Manufacture Association

### **Standard Operation Procedure (SOP) for declaring SUP free campus**

PPCC formulated Standard Operation Procedure (SOP) for declaring Education and Religious Institutions, Government Office and Industry as SUP free campus. A consultation meeting was held with special officer of Hindu Religious Institutes (HRI) on 02.02.2023. Ministry of Environment and Forest notified Plastic Waste Management (Amendment) Rules, 2022. Brainstorm session was organized on December, 16, 2022. Director, DSTE Smt. P. Priyadarshini made key note address.



Fig:44. Director, DSTE, Smt. Priytarshny inaugurated brainstorm session



Fig: 45. Dr. N. Ramesh, Member Secretary explaining SOP to HRI office bearer

### **Inauguration of SOLAI**

Inorder to facilitate availability of alternates to SUP, PPCC has established second “SOLAI”, a stall for alternate products for SUP and inaugurated by Hon'ble Lieutenant Governor Dr. Tamilisai Soundrajan on 23.06.2022 at Nehru Street, where grand bazar is located.



Fig:46. Hon'ble Lt. Governor Dr. Tamilisai Soundararajan inaugurated SOLAI stall

### **Plastic Road making using seized SUP**

2 Km road was laid in Korkumedu, Thavalakuppam using seized SUP under Pradhan Mantri Gram Sadak Yojana Scheme on 24.01.2023 and 1 Km road was laid in Nettapakkam.



Fig:47. Road made by plastic waste

### **Enforcement Action**

13 SUP manufacturing units were closed and CTE of 84 SUP units were revoked. During the year around 7 tonnes of SUP were seized and Rs. 96,600 has been collected as fine.

M/s Metro Poly Pack, Sulthanpet and M/s. Vinayaga Polymers, Pillaiyarkuppam, Puducherry were inspected by the Member Secretary (PPCC), Commissioner of Villianur Commune Panchayat and Tahsildar of Villianur Taluk on 06.04.2023, and noticed that the units were manufacturing the disposal plastic banned Single Use Plastic (SUP) item.



Fig: 48. Sealing of SUP manufacturing unit by Implementing authority



## CHAPTER-11

### BIO-MEDICAL WASTE MANAGEMENT

330 Health Care Facilities have obtained authorisation under Bio Medical Waste Manangement Rules, 2016.

**Table 29. Authorisation issued by PPCC to HCFs / CBMWTF**

Sl. No	Description	Puducherry	Karaikal	Mahe	Yanam
1.	Bedded	1	2	0	0
2.	Non-Bedded	26	3	3	0

The total quantity of Bio-Medical Waste (BMW) generation is 4.6 TPA. All BMW generated in Puducherry region is disposed in M/s. Pondicherry Solid Waste Management Pvt. Ltd., Thuthipet. This facility is having incinerator, Autoclave Microwave oven and secure land fill. he HCFs in Yanam is disposing the BMW through a CBMWTF available in EVB Technologies in Rajamundry Andra Pradesh. The HCFs in Mahe are disposing their BMW through M/s IMAGE, who is authorized by Kerala State Pollution Control Board. The Govt. Hospitals in Mahe are disposing through an Incinerator available at General Hospital, Mahe.

#### State Level Advisory Committee

In compliance to the Bio-Medical Waste Management Rules, 2016, State Level Advisory Committee and Regional and District Level Advisory Committee has been constituted vide order dated 15.05.2019. State Level Advisory Committee meeting was held on 22.03.2022, under the Chairmanship of the Secretary to Government (Health). In the meeting, the Secretary (Health) insisted to give prioritise for the proper disposal of Bio-medical waste and allot funds accordingly.

Based on the decision taken in 173<sup>rd</sup> PPCC meeting held on 08.07.2022, joint inspection was carried out on 24.08.2022 to M/s Sri Lakshmi Narayana Institute of Medical Sciences, Ossudu, Puducherry, to assess ground level factual position on available building, waste water generation and treatment by the following Sub-Committee members:

- i) Deputy Director, (PH), Dte. Of Health and Family Welfare, Puducherry
- ii) Senior Town Planner, Puducherry Planning Authority, Puducherry
- iii) Senior Environmental Engineer, Dept. of Science, Technology and Environment, Puducherry



Fig: 49 Sub-Committee inspection of M/s Sri Lakshmi Narayana Institute of Medical Sciences

### **Enforcement Action for violation of BMW Rules, 2016**

A unit / HCF had disposed a bag full of Bio-Medical waste containing syringes and papers and plastic covers into a padappan pond of Bahour village. It was alleged that a HCF located in that area must have thrown this bag into the lake. Action has been initiated by PPCC, to clear and dispose the BMW from that place, by CBMWTF. It was ascertained that M/s R.J. Clinical Lab, West street, Bahour, had disposed the BMW. Environment Compensation (EC) was imposed to the Lab and the same was remitted by the lab.

### **Common Bio-Medical Waste Treatment Facility**

Unauthorized BMW on the road side was reported in daily. Nearly 130 kgs of various BMW was collected and disposed in Common Bio Medical Waste Treatment Facility, Thuthipet. The vehicle which was used for transport of BMW was seized by SHO of Thavalakuppam and a case was booked



Fig: 50. Common Bio-Medical Waste Treatment Facility

### Inspection of HCFs:

HCFs are inspected for issue of authorisation / issue of CTE/CTO and renewal of consent under Water and Air Act.



Fig: 51. Inspection of JIPMER, Yanam



Fig:52. Inspection of HCFs

CBMWTF was inspected on 02.12.2022 for renewal of authorisation under BMW Rules, 2016. They are complying with the Rules. The transport of BMW was ensured by GPS system and the emission of Chimney is tracked by OCEMS system by PPCC. Bar-coding system is also in place with major HCFs.

## **CHAPTER-12**

### **HAZARDOUS WASTE MANAGEMENT**

Ministry of Environment, Forest and Climate Change has notified Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 by superseding earlier Hazardous waste Rules, 2008.

The Hazardous and other wastes (management and transboundary movement) rules, 2016 was notified on 04<sup>th</sup> April 2016.

Hazardous waste means any waste which by reason of characteristics such as physical, chemical, biological, reactive, toxic, flammable, explosive or corrosive, causes danger or is likely to cause danger to health or environment, whether alone or in contact with other wastes or substances, shall include:

- (i) Waste specified under column (3) of Schedule I,
- (ii) Waste having equal or more than the concentration limits specified for the constituents in class A and class B of schedule II or any of the characteristics as specified in Class C of Schedule II and
- (iii) Wastes specified in part A of schedule III in respect of import or export of such wastes or the wastes not specified in part A but exhibit hazardous characteristics specified in part C of schedule III;

Other waste means waste specified in part B and part D of schedule III for import or export and includes all such waste generated indigenously within the country.

This rules stipulates that all occupier involved in handling, generation, collection, reception, treatment, storage, reuse, recycling, recovery, pre-processing, utilization including co-processing and disposal of hazardous waste has to be obtain authorisation from respective State Pollution Control Board or Committee for above activities.

In Puducherry, 139 industries have been identified as hazardous waste generating units, which generate 31088 TPA of hazardous waste for the year 2021-2022. The details of hazardous waste generation are given below

**Table 30. Hazardous waste generation -Region**

Sl. No.	Region	Quantity of Hazardous waste generated in TPA				Total
		Landfillable	Incinerable	Recyclable	Utilizable	
1.	Pondicherry	2289	153	2460	26169	31070
2.	Karaikal	0	0	14	3	18
3.	Yanam	--	--	--	--	--
4.	Mahe	--	--	--	--	--
Total		2289	153	2474	26172	31088



## **CHAPTER-13**

### **E-WASTE MANAGEMENT**

Ministry of Environment, Forest and Climate Change has notified e-waste Management Rules, 2016. Various brainstorm sessions were conducted to stakeholder to get familiarized with the provisions of the rules.

In Puducherry, around 82.49 TPA of e-waste is generated for the year 2021-2022. PPCC has authorized 2 E-wastes Collection Centers and 3 Producers in Puducherry and Karaikal. A list of Collection Centers authorised by Puducherry Pollution Control Committee have been uploaded in Department Office web site at <https://dste.py.gov.in/ppcc/waste%20management.html>.

#### **Awareness program on E-waste management**

In order to create a wide spread public awareness, public notice was published on 21.01.2022 in English and Tamil dailies on disposal of e-waste and authorised collection point in U.T of Puducherry.

And In association with Karo Sambhav & Suryan FM Puducherry, a radio awareness programme, interview byte were aired on 12.02.2023 as part of the campaign to connect to the listeners. During the interview, officials of PPCC shared insights on:

- (a) What is e-waste and how it affects our health and environment?
- (b) How to solve the e-waste problem and the role of SPCB in this.
- © How we as citizen can contribute to the generation of a circular economy of our nation.

In order to disseminate information to public on ill-effect of e-waste due to improper disposal and how it requires to be managed.

## CHAPTER-14

### ISSUE OF DIRECTIONS AND SHOWCASE NOTICES

PPCC issues direction under Section 33 (A) of Water (Prevention and Control of Pollution) Act, 1974, Section 31 (A) of Air (Prevention and Control of Pollution) and Section 5 of the Environmental (Protection) Act, 1986 to the industries which violates the provisions of the said Acts. The details of various directions issued during the year 2022-23 are given in the Table.

**Table 31. Directions issued for the period 2022-2023**

Month	Under Air Act	Under Water Act	Under Environment Act	Under HWM Rules	Under PWM Rules	Under E-Waste Rules
April 2022	6	7	0	0	0	0
May 2022	2	2	0	0	1	0
June 2022	9	11	2	0	0	0
July 2022	10	10	0	0	0	0
August 2022	0	0	1	0	75	0
September 2022	1	2	1	50	0	0
October 2022	4	5	0	4	24	0
November 2022	4	3	0	0	39	0
December 2022	3	4	2	15	0	1
January 2023	5	7	0	0	0	0
February 2023	2	0	1	1	0	0
March 2023	8	9	0	3	1	0
<b>Total</b>	<b>54</b>	<b>60</b>	<b>7</b>	<b>73</b>	<b>140</b>	<b>1</b>

## CHAPTER-15

### PRESENTATION OF GREEN AWARD

Green award has been instituted to be given on the Independence Day, 15<sup>th</sup> August once in three years to the industry which has contributed substantially to the cause of improvement of environment and adopted innovative technology on pollution control in the U.T. of Puducherry. It consists of cash prize of Rs.1,00,000/- and a citation.

“GREEN AWARD for the period 2019-2021” with cash prize of Rs.1,00,000/- is awarded to M/s.Sundram Fasteners Limited (Fasteners Division),Puducherry for their contribution towards improvement of environment and adopting innovation technologies in Pollution Control



Fig: 53 Presentation of Green Award

## CHAPTER-16

### ENVIRONMENTAL AWARENESS PROGRAMMES

Various awareness programme / workshops / webinars were conducted based on the theme assigned by the Ministry in order to educate and giving training to youth / students / stakeholders / local people at the ground level (district / village level). Conducted virtual / offline mode competition for the school and college students based on the event theme in order to generate environmental awareness among the students.

#### Celebration of World Environment Day, 2022

DSTE celebrates the world Environment Day every year in befitted manner. A pattimandram on Environment protection was conducted by Solomon Papaiya.



Fig:54. Pattimandram on Environment protection

#### Celebration of Water Day

In collaboration with PONDYCAN, International Water day was celebrated on 22.03.2023 certificate was issued to quiz winner.



Fig:55. Celebration International Water Day

### Inauguration of LED Awareness van

In order to create awareness on the ill effect of usage of SUP, PPCC made a documentary movie. To screen the movie in Urban and Rural areas, LED awareness van was bought by PPCC and inaugurated by Hon'ble Chief Minister, Thiru. N. Rangaswamy on 5<sup>th</sup>, June, 2022



Fig: 56. Inauguration of LED Awareness van

## **CHAPTER-17**

### **PUDUCHERRY COASTAL ZONE MANAGEMENT AUTHORITY**

#### **Genesis of PCZMA**

The Ministry of Environment & Forest & Climate Change, Government of India passed a Notification on 19th February 1991 under the Environment (Protection) Act, 1986 known as 'Coastal Regulation Zone Notification, 1991 where in it is declared that the coastal stretches of seas, bays, estuaries, creeks and backwaters which is influenced by tidal action up to 500 meters from HTL and the land between LTL and HTL as Coastal Regulation Zone and imposed certain restrictions in the said Coastal Regulation Zone.

Based on the Guidelines in the CRZ Notification the Coastlines of the Puducherry, Karaikal and Mahe, Yanam regions in the U.T. of Puducherry were studied and a Coastal Zone Management Plan (CZMP) was prepared by the Town and Country Planning Department, Puducherry during 1992. The same was approved by MOEF and published in State Gazette vide G.O. Ms. No. 18/93/Hg dated 31st December 1993. Till 1998, the provisions of CRZ Notifications were monitored and enforced by a High Power Committee of the Development Department, Govt. of Puducherry and the regulation of construction activities in CRZ was dealt by the Pondicherry / Karaikal / Mahe / Planning Authorities in their respective regions.

In 1998, Puducherry Coastal Zone Management Authority (PCZMA) was constituted and published in Gazette of India on 26th November 1998 based on the Supreme Court Direction to the Central Government to consider setting up of State & National Coastal Zone Management Authorities for ensuring effective implementation of CRZ Notifications. PCZMA was subsequently the authority was reconstituted in 2002, 2005, 2008, 2012, 2015, 2018 & 03.01.2022.

#### **Constitution of PCZMA**

The Ministry of Environment Forest and Climate Change in exercise of the powers conferred by sub-sections (1) and (3) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) (hereinafter referred to as the said Act), constitutes the Puducherry Coastal Zone Management Authority (hereinafter referred to as the Authority) consisting of the following persons, for a period of three years from the date of Publication i.e. 3<sup>rd</sup> October, 2018.

S.No	Members	Status
1	Secretary, Department of Science, Technology and Environment, Government of Puducherry, Puducherry.	Chairman, ex-officio
2	Director, Department of Fisheries and Fishermen Welfare, Government of Puducherry, Puducherry	Member, ex-officio
3	Chief Town Planner, Department of Town and Country Planning, Government of Puducherry, Puducherry.	Member, ex-officio
4	Prof. Dr.R. Ramesh, Founder Director, National Centre for Sustainable Coastal Management, Anna University Campus, Chennai;	Member (Expert)
5	Dr. M.V.Ramana Murthy, Scientist „G□ and Director, National Central for Coastal Research, NIOT Campus, Chennai;	Member (Expert)
6	Thiru. Ashok Panda Co-convenor, Indian National Trust for Art and Cultural Heritage (INTACH), Pondicherry Chapter.	Member (NGO)
7	Director Department of Science, Technology & Environment Puducherry.	Member Secretary, ex - officio.

### Regional Coastal Zone Management Committee (RCZMC)

The Government of Puducherry vide G.O .Ms. No. 26/ 2014 / Env't dated 08.12.2014 has constituted the district level committee under the Chairmanship of District Magistrate to assist the State / U.T level Coastal Zone Management Authority. Since Puducherry is geographically consists of four regions located far away from each other namely Puducherry, Karaikal, Mahe, Yanam. Government of Puducherry considered it necessary to constitute a Regional Coastal Zone Management Committee (RCZMC) in each of the four regions for the purpose of implementation and enforcement of provisions of CRZ Notification in the U.T of Puducherry. The committee members list can be viewed from the following link;  
[https://dste.py.gov.in/pczma/Pdf/Notification/Constitution\\_of%20Regional\\_CZMC.pdf](https://dste.py.gov.in/pczma/Pdf/Notification/Constitution_of%20Regional_CZMC.pdf)

### Regulatory Functions

Puducherry Coastal Zone Management Authority (PCZMA) is the regulatory body for protecting and improving the quality of the coastal environment and regulating the activities in the coastal area as per the prevailing CRZ Notification. PCZMA coordinates with the Union territory pollution Control Committee in preventing and abating coastal environmental pollution in the coastal areas of Puducherry U.T.

## **Puducherry and its Coast**

The Union Territory of Puducherry has a coastline of 45 kms , stretching along the Bay of Bengal and to some extent along the Arabian Sea out of which Puducherry region alone has 24 Km of coast line, Karaikal has 20 km stretch and Mahe has 1 km Stretch of Coastline and 192 kms of Tidal influenced water bodies in the U.T of Puducherry with a very wide range of coastal eco systems such as estuaries, lagoons, mangroves, backwaters, sand stretches etc.

## **Coastal Zonation**

The Coastal Zone area is classified into CRZ-IA, CRZ IB, CRZ-II, CRZ-III, CRZ-IVA, IVB, based on the CRZ Notification, 2011 and has been included in the CZMP of Puducherry. The activities permitted and prohibited in the respective CRZ area can be read from the CRZ Notification, 2011. The Zonation were incorporated in the existing CZMP prepared under CRZ, 2011 which was approved by the MoEF&CC on 24.10.2018.

## **CRZ Notification, 2019**

The Ministry of Environment, Forest and Climate Change, Government of India published CRZ Notification, 2019 replacing earlier CRZ Notification, 2011. Until the existing Coastal Zone Management Plan (CZMP) prepared under CRZ, 2011 is not revised the CRZ Notification, 2019 and its benefits cannot be extended to the current projects. The Government of Puducherry has initiated the process of revising the preparation of the CZMP through the National Centre for Sustainable Coastal Management (NCSCM), Chennai an autonomous Institute under the MoEF&CC. Ministry of Environment Forest and Climate Change has issued an Office Memorandum dated 08.08.2019 notifying Institutes / Agencies for the preparation of the CZMPs / ICRZ plans. The NCSCM is one of the 7 notified agencies.

NCSCM has submitted the Draft CZMP for U.T. of Puducherry. As per the guidelines issued by GoI Public consultation is mandatory for obtaining views and opinions from the Public on the draft CZMP. The draft CZMPs hosted in the PPCC / PCZMA website for necessary views / suggestion from the Local communities / Stakeholders / NGOs and same was published in the News Papers in all the four region of U.T. of Puducherry. The Public Hearing was conducted in Mahe on 24.03.2023 and Yanam on 12.04.2023 by the Puducherry Pollution Control Committee. Puducherry and Karaikal are yet to conduct.

After conduct of the public hearing in all the regions of the Union Territory the draft CZMPs has to be placed before the PCZMA. The modifications, recommendations

suggestions received has to be incorporated and sent to the Scrutiny committee at NCSCM, Chennai followed which the CZMP has to be submitted to NCZMA/MoEF&CC for necessary approval. After the final approval from the MoEF&CC the CRZ Notification, 2019 and the rules will be implemented in the Union Territory of Puducherry.

The draft CZMPs can be downloaded from the below mentioned link;

<https://dste.py.gov.in/ppcc/CZMP-2019.html>

[https://dste.py.gov.in/pczma/Draft\\_CZMP\\_2019.html](https://dste.py.gov.in/pczma/Draft_CZMP_2019.html)



Mahe Public Hearing chaired by District Collector, Puducherry along with the Member Secretary, PPCC and other officials.

Fig: 57. Mahe Public Hearing

**Yanam Public Hearing Chaired by District Collector, Puducherry along with the officials of DSTE & PPCC.**



Fig: 58. Yanam Public Hearing

### **Functions of PCZMA are as follows**

PCZMA carries out the following activities for protecting and improving the quality of the coastal environment and preventing and abating coastal environmental pollution in the coastal areas of Puducherry U.T.

1. Examination of proposals for changes or modifications in classification of CRZ areas and in the Coastal Zone Management Plans (CZMP) received from the Puducherry State Government and making specific recommendations to the National Coastal Zone Management Authority (NCZMA) thereof.
2. Enquire into cases of alleged violations of the provisions of the CRZ Notification and to take action.
3. Deal with environmental issues relating to CRZ which may be referred by Puducherry Government or NCZMA
4. Identify ecologically sensitive areas in CRZ and formulate area-specific management plans for the identified area
5. Identify coastal areas highly vulnerable to erosion or degradation and formulate area-specific management plans
6. Identify economically important stretches in the CRZ and prepare Integrated Coastal Zone Management Plan for the same
7. Obtaining NCZMA approval for plans prepared.
8. Examine all project proposals in CRZ areas and give their recommendations
9. Ensure compliance of all specific conditions that are stipulated in CZMP of Puducherry.
10. Furnish report of its activities to NCZMA once in six months.

### **Procedure for CRZ Clearance**

(A) Procedure for clearance of permissible activities.- All projects attracting CRZ Notification, 2011 shall be considered for CRZ clearance as per the following procedure mentioned in the 4.2 para of the CRZ Notification, 2011, namely:-

(i) The project proponents shall apply with the following documents while seeking prior clearance under CRZ notification to the concerned State or the Union territory Coastal Zone Management Authority, -

(a) Form-1 (Annexure-IV of the CRZ notification);

(b) Rapid EIA Report including marine and terrestrial component except for construction projects listed under 4(c) and (d)

(c) Comprehensive EIA with cumulative studies for projects in the stretches classified as low and medium eroding by MoEF&CC based on scientific studies and in consultation with the State Governments and Union territory Administration;

(d) Disaster Management Report, Risk Assessment Report and Management Plan;

(e) CRZ map indicating HTL and LTL demarcated by one of the authorized agency (as indicated in para 2) in 1:4000 scale;

(f) Project layout superimposed on the above map indicated at (e) above;

(g) The CRZ map normally covering 7km radius around the project site.

(h) The CRZ map indicating the CRZ-I, II, III and IV areas including other notified ecologically sensitive areas;

(i) No Objection Certificate from the concerned State Pollution Control Boards or Union territory Pollution Control Committees for the projects involving discharge of effluents, solid wastes, sewage and the like.;

(j) Processing Fee as per the respective slab prescribed by the PCZMA for the Total Project Investment.

(ii) The concerned CZMA shall examine the above documents in accordance with the approved CZMP and in compliance with CRZ notification and make recommendations within a period of **sixty days** from date of receipt of complete application,-

a) MoEF or State Environmental Impact Assessment Authority (hereinafter referred to as the SEIAA) as the case may be for the project attracting EIA notification, 2006;

b) MoEF for the projects not covered in the EIA notification, 2006 but attracting para 4(ii) of the CRZ notification;

c) SEIAA, for the projects specified under paragraph 4 (i) (except with respect to item

d) thereof relating to building projects with less than 20,000 sq.mts of built up area) and for the projects not attracting EIA Notification 2006”.

(iii) MoEF&CC or S E I A A shall consider such projects for clearance based on the recommendations of the concerned CZMA within a period of sixty days.

(B) For applying to Ministry of Environment Forest and Climate Change (MoEF&CC) Government of India the online portal link ; <https://environmentclearance.nic.in/> or under Parivesh portal of MoEF&CC.

(C) All the details required for applying clearance from the Puducherry Coastal Zone Management Authority (PCZMA) were hosted in the web link; <https://dste.py.gov.in/pczma/>

(D) The permitted and Prohibited activities are listed in the CRZ Notification, 2011. In general setting up of new industries and expansion of existing industries were restricted under CRZ Notification, 2011 except,-(a) those directly related to waterfront or directly needing foreshore facilities,

### **PCZMA Meeting**

The Authority meets periodically to review the CZMP of Puducherry, discuss Environmental issues related to CRZ region and examine project proposals in CRZ region (all constructions / developments within 500 meters from High Tide Line of sea , HTL to 100 mts or width of the creek whichever is less on the landward side along the tidal influenced water bodies that are connected to the sea and the distance upto which development along such tidal influenced water bodies is to be regulated shall be governed by the distance up to which the tidal effects are experienced which shall be determined based on salinity concentration of 5 parts per thousand (ppt)).

**Table 32. Project Proposals and Action Taken by PCZMA**

<b>Details of Meeting</b>	<b>Date</b>	<b>No. of Projects Cleared</b>	<b>No. of Projects Deferred</b>	<b>No. of Projects Rejected</b>
46 <sup>th</sup> Meeting	15.02.2022	31	2	5
47 <sup>th</sup> meeting	09.05.2022	8	2	3
48 <sup>th</sup> meeting	29.09.2022	17	-	-
49 <sup>th</sup> meeting	23.12.2022	13	-	1

### **OTHER ACTIVITIES:**

#### **The Marine Spatial Planning for the U.T. of Puducherry.**

Marine Spatial Planning is an endeavour of the Government of India, with the convergence of the Ministry of Earth Science and Norway Climate and Environment, Government of Norway in opening the India - Norway Task force on Blue Economy for Sustainable Development, a collaboration for Integrated Ocean Management and Research in significant sectors viz., energy, transportation, fisheries, aquaculture, tourism etc. MSP will help analyse and allocate the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic and social objectives of the planning process. The goal of MSP is to ensure that the ocean is used in a sustainable and equitable manner.

The Digital version MSP for U.T. of Puducherry has released on 13.02.2023 and Hans Jacob Frydenlund, Norwegian Ambassador to India, Shri. Tamilisai Soundarajan,

Hon'ble Chief Minister N. Rangaswamy, Hon'ble Speaker Shri. Embalam R. Selvam, Shri. K. Lakshminarayanan Hon'ble Minister for Public Works, Dr. M. Ravichandran, Secretary, Ministry of Earth Sciences, GoI the Chief Secretary of Govt. of Puducherry Shri. Rajeev Verma, Dr. A. Muthamma, I.A.S. Secretary (Science, Technology & Environment)-cum Chairman, PCZMA, Dr. M.V. Ramana Murthy, Director, National Centre for Coastal Research (NCCR), Chennai, P. Priyadarshini, Director, DST&E, -cum- Member Secretary, PCZMA and Norwegian Government, GoI and GoP officials, also participated in the said event.



Fig: 59. Release of Digital MSP for U.T. of Puducherry on 13.02.2023

### **1. Preparation of Shoreline Management Plan for U.T. of Puducherry**

Shoreline Management Plan for U.T. of Puducherry was preparing through National Centre for Coastal Research (NCCR), Ministry of Earth Science, GoI, Chennai, to save the Puducherry Coast.

### **2. Preparation of Shoreline Changes Maps for U.T. of Puducherry**

Shoreline Changes Maps for the U.T. of Puducherry was preparing through National Centre for Sustainable Coastal Management (NCSCM), Ministry of Environment, Forest and Climate Change, GoI Chennai for necessary incorporation in the Draft Coastal Zone Management Plan for U.T. of Puducherry prepared under CRZ Notification, 2019.

Swachh Sagar Surakshit Sagar Campaign, a Coastal Clean-up and Awareness drive was organized on 27<sup>th</sup> August, 2022 at the Promenade Beach Puducherry, which is one among the 75 beaches selected in the country for the campaign. The program was jointly organized by Ministry of Environment, Forest and Climate Change, GoI and Government of Puducherry, Shri. Bhupender Yadav, Hon'ble Minister for Minister for Environment, Forest and Climate Change, Hon'ble Lt. Governor Shri. Tamilisai Soundarajan, Hon'ble Chief Minister N. Rangaswamy, Hon'ble Speaker Shri. Embalam R. Selvam, the Chief Secretary of Govt. of Puducherry Shri. Rajeev Verma, Smt. Richa Sharma, Additional Secretary, MoEFCC, Smt. Smitha R, IAS, Secretary to Government (Science, Technology and Environment), Govt. of Puducherry inaugurated the cleaning campaign. Nearly 1500 school children, 500 NCC cadets and NSS volunteers participated in the campaign.



Fig: 60. Beach Cleaning Campaign

#### 4. International Coastal Clean up Day - 2022

International Coastal Clean up Day ('Swachh Sagar, Surakshit Sagar/Clean Coast Safe Sea)' on 17th September 2022. in Puducherry in line with the International Coastal Cleanup Day. A massive coastal clean-up operation was carried out in the coastal stretches of Puducherry at Gandhi Statue, Vaithikuppam, Solai Nagar, Vambakeerappalayam, Kalapet, Pillaichavady, Narambai, Veerampatinam and Moorthikuppam. Hon'ble Lieutenant Governor, Tamilisai Soundararajan, Shri. S Selvaganapathy, Member of Rajya Sabha, Dr. A. Muthamma, I.A.S. Secretary (Science, Technology & Environment)-cum Chairman, P. Priyadarshini, Director, DST&E, -cum- Member Secretary, PCZMA has inaugurated the cleaning campaign. Nearly 1000 school children, 200 NCC cadets and NSS volunteers participated in the campaign.

## CHAPTER-18

### PUDUCHERRY COUNCIL FOR SCIENCE & TECHNOLOGY

Puducherry Council for Science and Technology (PCS&T), an apex autonomous body to promote Science and Technology awareness / applications / innovations in the U.T. of Puducherry was started with the recommendations of the NITI Aayog the erstwhile Planning Commission, GoI vide G.O. Ms.No. 9/Envvt/98 dated 23.6.1998 and registered under the Societies Registration Act, 1860 on 6<sup>th</sup> November 1998. Since from its constitution, PCS&T is functioning under the Administrative Department of Science, Technology and Environment (DSTE).

Composition of the Council and Executive Committee are as follows:

Sl. No.	Designation	Position
1.	Hon <sup>ble</sup> Chief Minister (Hon <sup>ble</sup> Minister in-charge of Science, Technology and Environment)	Chairman
2.	Chief Secretary	Vice-Chairman
3.	Director (JIPMER)	Member
4.	Nominee of Pondicherry University	Member
5.	Director (VCRC)	Member
6.	Development Commissioner	Member
7.	Secretary (Finance)	Member
8.	Secretary (Sci. Tech. & Envvt.)	Member
9.	Secretary (Education)	Member
10.	Secretary (Health)	Member
11.	Secretary (Industries)	Member
12.	Secretary (Agriculture)	Member
13.	Non-official members nominated by the GoP	Three Members
13.	Nominee of Planning Commission, GoI	Member
14.	Nominee of DST, GoI	Member
15.	Dean (RAGACOVAS)	Member
16.	Director (DSTE)	Member Secretary
<b>Executive Committee:</b>		
Sl. No.	Designation	Position
1.	Secretary (Sci. Tech. & Envvt.)	Chairman
2.	Secretary (Finance)	Member
3.	Secretary (Education)	Member
4.	Non official member nominated by GoP	Member
5.	Director (DSTE)	Member Secretary

#### OBJECTIVES:

- ❖ To identify areas for the application of S&T to the developmental needs of this Territory.
- ❖ To advise the Government on the formulation of the policies and measures which will promote applications of S&T to the identified needs, objectives and goals.

- ❖ Financial assistance to pursuing research in the area of Science, Technology and Environment.
- ❖ Popularization of science among students and the public.

#### **BUDGET:**

Council functions with annual Grant-in-Aid (GIA) from the budget of the Administrative Department and schemes / programmes specific grants from Department of Science and Technology (DST), Ministry of Science and Technology (MoST), Government of India (GoI); Ministry of Culture (MoC), GoI and Ministry of Environment, Forests and Climate Change (MoEF&CC), GoI.

#### **SCHEMES / PROGRAMMES:**

- ❖ **MoC, GoI:** Innovation Hub at the existing Dr. AKSC&P at Puducherry and Setting up of Space Exposition Centre, Innovation Hub and Planetarium at Karaikal are under execution.
- ❖ **DST, MoST, GoI:** Core grant support for the Core Secretariat of PCS&T is an ongoing programme.
- ❖ **MoEF&CC, GoI:** Activities on Swachhta Action Plan, Swatchh Nirmal Tat Abhiyan, Environment Education Awareness and Training (EEAT) and National Green Corps (NGC)-Eco-clubs are executed.

#### **Dr. ABDUL KALAM SCIENCE CENTRE AND PLANETARIUM**

Dr. Abdul Kalam Science Centre and Planetarium (Dr. AKSC&P), Puducherry was set up by the National Council of Science Museums (NCSM) with active support of PCS&T. Being a single use plastic free campus, the Centre is established in a built – up area of 1.5 acres of land and houses 2 permanent exhibition galleries viz., Marine and Fun Science Gallery. It also has a Science Park, Planetarium, Science Demonstration Lecture Corner, Children's Activity Corner, Auditorium, Mini Conference Hall and other public facilities. It's an ideal place to engage the young and the old alike with the process of discovering science through a fun filled experience.



Fig: 61 Fun science gallery



Fig: 62. Marine life gallery



Fig.63.outdoor exhibits

## SCHEMES / PROGRAMMES

### Innovation Hub at Dr. AKSC&P



Fig:64. Innovation Hub inauguration

Innovation Hub was established at Dr. Abdul Kalam Science Centre and Planetarium, Puducherry at the cost of Rs. 150 lakhs on 50:50% share basis between Government of Puducherry and National Council for Science Museums, Kolkata, Government of India. The facilities at the Innovation Hub are Discovery Hall, Hall of Fame, Idea Lab, Thod – Phod – Jod (break & remake) corner, Kabad Se Jugad (build from scraps), Idea Box and Design Studio. The project execution has been carried out by Visvesvaraya Industrial and Technological Museum (VITM), NCSM, GoI. The Innovation Hub at Dr. AKSC&P was inaugurated on 18.05.2022.

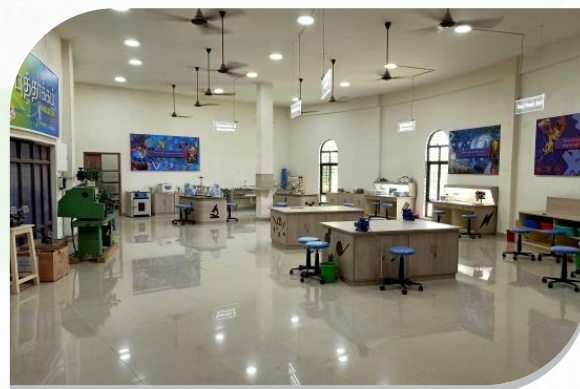


Fig: 65. Innovation Hub

### **Establishment of Science Centre (Space Exposition Centre), Digital Planetarium and Innovation Hub in Thirunallar Temple Town, Karaikal**



To enrich scientific knowledge in the younger minds through experimental learning, interaction and engagement. Land to an extent of 5 acres was acquired. Earth filling works was assigned to PWD, Puducherry. Approval awaited from GoP for the DPR to be furnished for seeking financial assistance from Ministry of Culture, GoI as per the revised guidelines for National Council for Science Museums. Rs. 25 lakhs sanctioned to PWD, Karaikal on 17.03.2023 for earth filling and compound wall construction

Fig: 66. Proposed site for Science Centre at Karaikal

### **SWACHHTA ACTION PLAN (SAP)**

#### **Awareness on Air and water Pollution**

Awareness Programme was conducted on Air and Water Pollution to School Children's of 50 Government School (Puducherry-25, Mahe-5 and Yanam-5 and Karaikal-15 schools) in the U.T. of Puducherry through State Training Centre, Directorate of School Education,

Puducherry. The awareness programmes was conducted for 100 students per school. An amount of Rs.1,00,000/- was sanctioned for this awareness programme. Nearly 5000 school students were benefitted under this programme



Fig: 67. Tree plantation at school campus

### Awareness Rally for curbing the usage of Single Use Plastics

Five Awareness Rally was conducted on curbing the usage Single Use Plastics by Government School students in the U.T. of Puducherry under Swachhta Action Plan. PCS&T conducted Five Awareness Rallies in two districts of the Puducherry (Puducherry-2, Mahe-1, Yanam-1 and Karaikal-1) on curbing the usage of Single Use Plastics involving Government School students (150 Nos. per rally) through State Training Centre, Department of School Education, Puducherry. For this purpose an amount of Rs. 50,000/- was sanctioned from the funds of SAP.



Fig: 68. Awareness Rally on SUP

### Distribution of Cloth bags

Cloth / Jute bags for public distribution to curtail Single use plastic carry Bags. Purchase of **10,000 Nos.** of Gada Cloth bag with semi handle for an amount of **Rs. 3,00,000/-** was purchased from the funds of SAP(MoEF&CC, GoI) for public distribution to avoid the usage of single use plastic bags. These bags were disbursed to NGC Eco-club school students and public



Fig: 69. Distribution of Cloth Bag to NGC Eco Clubs

### **Distribution of Automatic Hands free Sanitizer dispensers and Non-Chlorinated Colour Coded bags to 20 primary Health Centres in the U.T of Puducherry.**

Automatic Hands Free Sanitizer (HFS) 20 nos. was purchased at a cost of Rs.50,000/- and Non-Chlorinated Colour Coded bags (581 Kgs.) for disposal of Bio-Medical Waste from the funds of Swachhta Action Plan in the U.T.of Puducherry. These are proposed to be used in 20 Public Health Centres in the Puducherry and Karaikal regions through Department of Health and Family Welfare, Puducherry during World Environment Day 2022.

### **Awareness Bus Stickers on Curbing the Usage of Single Use Plastics**

Awareness on curbing the usage of single use plastics among the public and the student community is being done by pasting awareness stickers in public places and state transport buses in the U.T. of Puducherry. 2500 Nos. of A3 size vinyl stickers in English and three regional Languages has been disbursed for pasting in school, colleges, public places and buses at a cost of Rs. 2.00 lakhs.



Fig:70. Awareness Bus Stickers on SUP

## Wall painting in 55 Government Schools in the U.T. of Puducherry for

School wall painting in 55 Govt. schools in the U.T. of Puducherry for an amount of Rs. 2,75,000/- for creating awareness on environment to students and public from the funds of SAP was carried out during the year 2022-2023.



Fig: 71. Wall Painting at Government School

## Zero Shadow Day

Awareness programme on the occurrence of Zero Shadow Day was organised by PCS&T in co-ordination with Pondicherry Science Forum and Sri Aurobindo Society, Puducherry.



Fig:72. Zero Shadow Day awareness programme

awareness in the minds of the students about the effects of ozone depletion and its effects on human beings and the environment. The seminar also educated on the preventive measures to be carried out by the implementation of Montreal Protocol to protect life on earth. Special talk was also delivered by two experts in this field. Drawing competitions for school students was also conducted by Puducherry Pollution Control Committee under the theme “Montreal Protocol at 35 : Global Co-operation protecting life on earth” in Dr. Abdul Kalam Science Centre and Planetarium on 16.09.2022.



Fig:73. International Ozone Day pledge

### **Implementation of Skill Vigyan State Partnership programme in Life Science and Biotechnology of Dept. of BioTechnology, Ministry of Science and Technology, GoI**

To provide hands – on – training of tools and techniques in the multidisciplinary areas of Biotechnology for the younger generation to take up jobs in medical fields. Proposals were submitted to DBT, GoI. Evaluation of the proposals by the Expert Committee of DBT, GoI was also done. Additional documents related to one of the short listed proposal like PFMS module and Quarterly plan of the scheme was furnished to DBT. , a revised proposal with the standards of National Skill Qualification Framework (NSQF) for an amount of Rs. 3,13,25,000/- was submitted on 03.01.2023. Approval from DBT, GoI is awaited.

### **Establishment of Patent Information Centre in the U.T. of Puducherry.**

To create awareness on IPR issues by organising workshop/ seminars to provide patent search and filing facilities at the door step of Innovators, Researchers and entrepreneurs. A revised Proposal was submitted to DST, GoI for an amount of Rs. 1,75,85,740/- for the Establishment of Patent Information Centre. In principle approval from DST, GoI is received.

### **Formulation of Science Technology and Innovation Policy (STIP) for the U.T of Puducherry.**

This STIP policy encourages the grass root level innovators and fosters the research developmental needs in the U.T of Puducherry. As per the advice of Department of Science and Technology, Government of India formulation of a separate Science Technology and Innovation Policy for the U.T of Puducherry is proposed. Accordingly, proposals were requested from five Educational Institutions for framing of draft STIP. The draft STIP will be prepared in consultation with the stakeholder Departments.

### **Mapping of Science and Technology Needs (MSTN).**

Mapping of Science and Technology Needs (MS&TN) in the U.T. of Puducherry as per the SDG Index under the State Science and Technology Programme (SSTP) of DST, GoI. As per the advice of Department of Science and Technology, Government of India, Mapping of S&T needs for the developmental. The MSTN will be prepared in consultation with the stakeholder Departments.

### **The Regional Level and State Level Science Exhibition held on 28.11.2022 to 02.12.2022 at Jeevanandam Govt. Higher Secondary School, Karamanikkuppam, Puducherry**

The Regional and State level Science Exhibition was conducted from 28.11.2022 to 02.12.2022 at Jeevanandam Govt. Higher Secondary School, Puducherry under the Main theme “Technology and Toys” followed by the sub theme on the related topics viz. Advancement in Information and Communication Theory, Eco-Friendly Material, Health and Cleanliness, Transport and Innovation, Environment concerns, Historical Development with current Innovation, Mathematics for us respectively by Directorate of School Education, Puducherry. The exhibition was inaugurated by Thiru. A. Namassivayam, Hon'ble Minister for Education, Puducherry, Thiru. P.T. Rudra Goud, The Director of School Education, Puducherry and Thiru. Mylswamy Annadurai, Vice President for Tamil Nadu Council for Science and Technology, Tamil Nadu. The Hon'ble Minister for Education and The Director of School Education visited our stall, Mobile Science Exhibition vehicle and we narrated the concepts shortly to them.

The impressive exhibits were shortlisted by the experts in the regional level competitions and they were placed in the next level of exhibition (i.e. State level Science Exhibition) where they have to compete with other set up of exhibits brought up of three enclaves (Karaikal, Mahe & Yanam) of U.T of Puducherry. Students, Teachers from various

Government and Private schools visited our Stall, Mobile Science Exhibition Vehicle and enquired about Dr. AKSCP its location, fare details, show timing, working days. Distributed pamphlets of Dr. AKSCP, brochures of Innovation Hub and they asked the registration details, steps to be followed to enter into innovation Hub at Dr. AKSCP.



Fig:74. MSEB at Regional Level Science Exhibition



Fig:75. Appreciation by Hon'ble Chief Minister for Stall participation in SLSE

**Awareness programmes on G20 meeting at Puducherry at Dr. Abdul Kalam Science Centre & Planetarium, Puducherry on 18.01.2023 to 27.01.2023**

Conduct of awareness programme about G20 for the benefit of School and College students in co-ordination with Directorate of Information and Publicity under the theme “Disruptive Science for Innovation and Sustainable Development” at Dr. Abdul Kalam Science Centre and Planetarium, Puducherry on 18.01.2023.

### **Workshop on documentation of pollen Grains through Foldscope**



Fig:76. Workshop on Foldscope

### **Elocution Competitions for School and College students on G20 themes**

Elocution Competition was conducted for the School students from Class VI to X and College students under the title “One Earth, One Family, One Future” and “Disruptive Science for Innovation and sustainable development” at Dr. Abdul Kalam Science Centre and Planetarium, Puducherry on tamil and english language separately. Around 218 students participated from various schools and colleges in the elocution competition. Cash award and Certificates was disbursed to the prize winners.



Fig: 77. Elocution



Fig: 78. Quiz competition

## Science Inception G-20 Summit

An exhibition was organised at the Science Inception G20 Meeting venue at Suganya Convention Centre, Puducherry on 30.01.2023 under the guidance of the Secretary (Science, Technology & Environment). Organizations viz., Pondicherry University, Vector Control Research Centre, French Institute of Puducherry, Atal Incubation Centre and National Institute of Technology Puducherry showcased their R&D activities and prototype models. The G20 delegates participating in the said meeting visited this exhibition. DSTE and PCS&T officials participated in the said exhibition.



Fig: 79. Delegates at Exhibition during Science Inception G20 Summit

## **Bharat Pride National Science Technology Industrial Expo – 2023**

The Department of Science, Technology & Environment / Puducherry Council for Science and Technology participated in the Bharat Pride National Science Technology Industrial Expo – 2023 organized at Dr. APJ Abdul Kalam Building, Anurag University Campus, Hyderabad by Jagruti Youth Association, Telangana during 9<sup>th</sup> March – 12<sup>th</sup> March, 2023. The Scientific Officer, DSTE and Technical Assistant, PCS&T along with Atal Incubation Centre official and the following Puducherry startups delegates participated in the Expo;

1. M/s. Nevar Systems Pvt. Ltd.,
2. M/s. Flowget Solutions Pvt. Ltd.,
3. M/s. Aedaa Equipments Pvt. Ltd.,
4. M/s. Verob Camfe Pvt. Ltd.,
5. M/s. EX-OR Robotics Pvt. Ltd.,

Out of 6 stalls allotted to Puducherry under Silver Participation Category, in one stall the DSTE and its Autonomous bodies major activities / programme details were displayed. In other 5 stalls, the startups displayed their products with details. Several GoI / State Departments / Organizations / Industrial Startups / S&T NGOs participated in the Expo. The Expo was visited by public, various organizations delegated and students. The Silver Category Stall participation charges of Rs. 5.00 Lakhs for Puducherry stalls were borne by PCS&T.



Fig:80. Participation in Bharat Pride National Science Technology Industrial Expo, Hyderabad

## Participation in National S&T Conclaves / Conferences



Fig:81. Participation in Centre-State Science Conclave-2022, Ahmedabad



Fig:82. Participation in India International Science Festival 2022, Bhopal



Fig:83. Participation in State S&T Councils Annual Meeting 2022, Bhopal

Table 33. Visitors at Dr. AKSC&P

DR. ABDUL KALAM SCIENCE CENTRE & PLANETARIUM															
Year	Planetarium						Science Centre						Free Entry *	Total visitors	Total Fees Collected (Rs.)
	Adult		Children		Foreigners		Adult		Children		Foreigners				
	Nos.	Fees	Nos.	Fees	Nos.	Fees	Nos.	Fees	Nos.	Fees	Nos.	Fees			
2015 –16	21695	433900	27652	276520	95	3800	27761	277610	31894	159470	173	3460	59828	1154760	
2016 –17	15003	300060	12374	123740	52	2080	19388	193880	14453	72265	95	1900	6552	693925	
2017 – 18	14611	292220	12065	120650	48	1920	19888	198880	14304	71520	109	2180	2375	687370	
2018 – 19	12729	254580	13196	131960	56	2240	16422	164220	14167	70835	84	1680	1401	625515	
2019 –20	10041	200820	10844	108440	14	560	12998	129980	14060	70300	26	520	1036	510620	
2020 – 21	930	18600	340	3400	-	-	1994	19940	946	4730	2	40	-	2942	46710
2021 – 22	3715	37150	1916	9580	-	-	2535	50700	1290	12900	0	0	-	5383	110330
2022-23	11384	113840	8093	40465	25	500	3671	73420	2720	27200	18	720	913	19502	256145
Total	90108	1651170	86480	814755	290	11100	104657	1108630	93834	489220	507	10500	12277	225013	4085375
Note: * Free Entry for Government and Government Aided Schools Students with Escort Teachers and Differently Abled Persons.															

## CHAPTER-19

### PUDUCHERRY CLIMATE CHANGE CELL

The Puducherry Climate Change Cell (PCCC) was established in the Department of Science, Technology and Environment, Puducherry in August 2016 with the support of the Department of Science and Technology, Govt. of India under the National Mission for Strategic Knowledge on Climate Change. The cell is the nodal agency for Climate Change Knowledge Management in the UT and responsible for collecting, collating and disseminating region specific climate information essential for planning and implementing strategic actions and policies on climate change. The cell is actively engaged in building knowledge networks and research capability in climate science and building stewardship and capacities at Individual, Institutional and Systemic Level for enhancing its climate resilience of the U.T.

#### Strategies of PCCC

- Establishing a strong knowledge network with expert organisations within the U.T. and outside for knowledge exchange, conducting region specific studies on climate change issues, planning adaptation and mitigation strategies and capacity building of stakeholders.
- Collection and collation of primary and secondary data and documentation of climate information like policies, guidelines, vital statistics, scientific studies, reports, articles, etc.
- Developing knowledge products for different levels of stakeholders on climate change aspects like vulnerabilities and risks, impacts, climate actions, policy briefs, current events, etc.
- Sensitizing students and the community at large on climate change concerns through continuous awareness programme.
- Organise capacity building workshops / training on climate change for the officials and other stakeholders to enhance their skills and ability to
  - Understand the climate science and recognize the effects and impacts of climate change in their region.
  - Identify the drivers of risks and vulnerability in their region in the context of climate change.

- Mainstream climate change in developmental plans and policies.
- Develop sectoral adaptation strategies and mitigation plans.
- Prepare project proposals for accessing climate finance.
- Support the Government of Puducherry in preparation, implementation and monitoring of State Climate Change Action Plan

## **Major Activities of the Cell during 2022-23**

### **1.Knowledge Networking:**

The Cell has established robust partnership with the expert institutions in the U.T. viz. Puducherry University, Puducherry Technological University, National Institute of Technology – Puducherry and JIPMER and other expert institutions located outside viz. NCSCM and NCCR for knowledge sharing and to undertake specific collaborative programs and studies on climate change.

### **2.Knowledge Management:**

#### ***2.1Climate Change Knowledge Portal:***

The Cell has developed a web-based knowledge repository on climate change which integrates the scattered knowledge base on climate change in the U.T. and makes it available in one platform, in a way that it could be easily accessed and utilized by the planners, decision makers, citizens and communities. Various types of data sets like important statistics of the region, climate analytics, vulnerability analysis, GHG Inventory, SAPCC related information, weather monitoring desk, policies, projects and programs of the government, reports and research papers published at regional, national and international level and current news and events related to climate change have been made available in this website (URL: <https://dste.py.gov.in/PCCC/Index.html> ). The datasets provided in the website will be useful for planners and decision makers in framing appropriate policy interventions action plans and also for the research scholars undertaking region specific studies on climate science.



Fig: 84. Climate Change Knowledge Portal  
URL: <https://dste.py.gov.in/PCCC/Index.html>

## 2.2 Studies and Reports

The cell has published 10 technical reports on topics like long terms trends in temperature and rainfall and ambient air quality, heat wave analysis, inventory of water bodies, energy bench marking, etc. which are specific to the U.T. of Puducherry. The reports are available in the Climate Change Knowledge portal ([https://dste.py.gov.in/PCCC/PCCC\\_Reports.html](https://dste.py.gov.in/PCCC/PCCC_Reports.html)). The Cell has also published three research papers and two papers are under review. The details of the technical reports and research publications during current year are stated below:

- I) “Trend Analysis of Air Quality in Puducherry Region in the South Eastern Coast of India” is submitted for publication and is under review with the Journal of Environmental Sciences, NEERI.
- ii) “Heat Wave analysis for the region of Puducherry and Karaikal in the U.T. of Puducherry” is submitted for publication and is under review with the journal “Mausam”. The heat waves trends in the U.T. of Puducherry for the period (1976-

2020) has been analysed in accordance with the heat wave criteria of the Indian Meteorological Department.

### **Technical Reports**

- i) Energy Benchmarking Guidelines for Climate Proofing Buildings in U.T. of Puducherry, 2022.
- ii) Green Budgeting Workshop – Proceedings Report, 2022

### **2.3 Data Generation**

PCCC is collecting and compiling primary data on weather and air pollution through Puducherry Pollution Control Committee, to establish base line data for future reference and long-range planning. *Fig: 85. Automated Weather Station established under the project* Weather Data is being collected through Continuous Weather Monitoring Station procured under Phase – I of this DST project from the month of April 2018 and uploaded in the Puducherry Climate Change Cell website every month starting from April 2018. Also, 8 nos. of Respiratory Dust Samplers and 2 Nos. of PM 2.5 Samplers have been procured under this project for monitoring the ambient air quality.



*Fig: 85. Automated Weather Station established under the project*

## **3. Awareness and Capacity Building**

### **3.1. Two-day workshop on “Mainstreaming Climate Change in the Development Planning of Puducherry”**

A two-day workshop on “Mainstreaming Climate Change in the Development Planning of Puducherry” was organized on 05<sup>th</sup> and 06<sup>th</sup> May, 2022 for capacity building of government officials and other partners on integrating climate action in the development planning of U.T. of Puducherry UT. Also, stakeholder consultation was carried out on preparing the revised SAPCC for UT of Puducherry by taking into consideration the recent advancement in climate science and policies. Technical Experts from United Nations Environment Programme (UNEP), The Energy and Resource Institute (TERI), National

Institute of Ocean Research (NIOT), National Centre for Coastal Research (NCCR), Jawaharlal Institute of Post Graduate Medical Education and Research (JIPMER), Pondicherry University (PU) and the University of Illinois, Chicago participated as resource in the workshop shared their expertise in the technical sessions and coordinated the stakeholder consultations. Around 114 participants from various government departments, academic institutions and civil societies participated in the workshop.



*Fig. 86: Two-day workshop on “Mainstreaming Climate Change in the Development Planning of Puducherry”*

### **3.2 Orientation Workshop on “Green Budgeting for the U.T. of Puducherry”**

Orientation Workshop on “Green Budgeting for the U.T. of Puducherry” was organized by the Puducherry Climate Change Cell in partnership with The Energy and Resources Institute (TERI), New Delhi on 09<sup>th</sup> December, 2022 at Hotel Sunway Manor, Puducherry for the officials of 41 departments of Government of Puducherry. Dr. A. Muthamma, I.A.S., Secretary to Government (Science, Technology and Environment) presided over the workshop and delivered the key note address. The Thematic Address for the workshop was delivered by Dr. Prodipto Ghosh I.A.S. (Retd.), Distinguished Fellow, TERI. Dr. Shailly Kedia, Senior Fellow and Associate Director, TERI, Mr. Vivek Tejaswi, Deputy Director, ADRI made presentation to the participants on the concept of Green Budgeting and the methodology to be adopted for preparing the Green Budgeting Framework for Puducherry. They also conducted hands-on-training session to the officials from the government departments to have a practical experience in identifying the green components in their departmental budgets, which will aid them in taking up Green Budgeting as an elaborate exercise in the coming months.



Fig:87. Green Budgeting for the U.T. of Puducherry

### **3.2 Webinar on “Integrating SDGs in the Development Planning of U.T. of Puducherry”**

PCCC has been conducting Climate Change Webinar Series successfully for the past two years. During this year, the 14<sup>th</sup> Webinar of Climate Change Webinar series was organised with a talk by Dr. Shailly Kedia, Senior Fellow and Associate Director, TERI on the topic on the topic “Integrating SDGs in the Development Planning of U.T. of Puducherry” on 13.07.2022.

### **4.State Action Plan on Climate Change:**

The State Action Plan on Climate Change for the U.T. of Puducherry was first prepared in October 2013. Presently, Puducherry Climate Change Cell under the Department of Science, Technology and Environment is in the process of revising this SAPCC in line with recent developments like Nationally Determined Contributions (NDCs) and Sustainable Development Goals (SDGs) and taking into account recent scientific assessments and projections on global warming, vulnerability and impacts. UN Environment India (UNEP), New Delhi was engaged as a Technical Partner with The Energy and Resources Institute (TERI), New Delhi engaged as a technical consultant for revising the action plan.

with recent developments like Nationally Determined Contributions (NDCs) and Sustainable Development Goals (SDGs) and taking into account recent scientific assessments and projections on global warming, vulnerability and impacts. UN Environment India (UNEP), New Delhi was engaged as a Technical Partner with The Energy and Resources Institute (TERI), New Delhi engaged as a technical consultant for revising the action plan.

TERI, after several rounds of consultation meetings with the 22 key departments / agencies, has prepared the draft SAPCC which was tabled in the 11<sup>th</sup> State Level Steering Committee Meeting on Climate Change (SLSCCC) for approval. The recommendations of the committee will be included in the final draft of the SAPCC, which on approval of the SLSCCC committee will be submitted to the Ministry of Environment, Forests and Climate Change (MoEFCC) for validation.



Fig:88. 11<sup>th</sup> SLSCCC meeting held under Chairmanship of Chief Secretary, Puducherry

### **5.Climate Change Adaptation Project:**

PCCC is co-ordinating the project entitled “Integrated Surface Water Management for Climate Change Adaptation in U.T. of Puducherry” implemented under National Adaptation Fund for Climate Change (NAFCC) scheme of the Ministry of Environment, Forest and Climate Change (MoEF&CC). This project was formulated by DSTE, Puducherry to undertake an integrated surface water management strategy to meet out the future water demand of Puducherry and Karaikal regions. MoEFCC has sanctioned Rs. 16.76 Crores for this project under the NAFCC on 30.03.2016 and released Rs. 12.91 Crores so far through NABARD. 36 numbers of Irrigation Tanks and 36 numbers of ponds were rejuvenated under the project in Puducherry region and 130 ponds were rejuvenated in Karaikal region. Also, one Mini Lake at Padutharkollai Village in Karaikal was constructed under this project and the project was completed in March 2023.

Under the NAFCC project, Capacity Building Programme for the members of Tank Users Association and Farmers was carried out. In this, Micro Vulnerability Assessment with Micro Planning and Awareness Programme on conservation of surface water bodies has been conducted.



Fig: 89. Project sites after work carried out under the NAFCC project

#### **6.Strengthening the State Climate Change Cell:**

First phase of the Puducherry Climate Change Cell project was sanctioned by DST, GoI for the period August 2016 to August 2022. During this year a proposal was submitted to DST, GoI seeking financial assistance for strengthening the activities of the Puducherry Climate Change Cell for the next five years. Sanction has been granted by DST, GoI for Phase II of the Puducherry Climate Change Cell project under the title “Strengthening the State Climate Change Cell under NMSKCC (SCCC-NMSKCC) in the U.T. of Puducherry” at a project cost of Rs. 2.46 crores for a duration of 5 years starting from 1st April, 2023 (FY2023-24 to FY2027-28).

The cell, in its forthcoming phase, aims to expand itself by establishing a strong institutional arrangement with improved knowledge access and transfer capability and strengthened R&D capacity in partnership with knowledge institutions climate change field which would aid the Government in informed decision making. The climate change knowledge base in the U.T. will be enhanced by collecting, collating, compiling, synthesizing and disseminating region specific knowledge related to climate change. As a key priority, the district level vulnerability analysis studies carried out during the first phase will be expanded by carrying out a comprehensive climate change risk analysis study for all four regions of the UT and developing web GIS based tool to understand climate risk components and its extent

in the region and visualize the magnitude of impacts on people, settlements, infrastructure and ecosystems. The Cell intends to achieve awareness generation and capacity building at new heights and continue supporting the Government of Puducherry in framing of policies and plans for transformative climate action required at subnational level in order to achieve the commitments of the Nation under INDC and SDGs.



## CHAPTER-20

### PUDUCHERRY EIACP HUB

#### About EIACP:

The Environmental Information System (ENVIS) came into existence as a plan programme in 1983. ENVIS has been subsumed within the revamped scheme of Environment Education, Awareness, Research and Skill Development. ENVIS is renamed as EIACP (Environmental Information, Awareness, Capacity Building and Livelihood Programme) in the year 2022. EIACP serves as a one stop platform for dissemination of environmental information, informed policy formulation on various facets of environment and facilitation of alternate livelihoods through green skilling. It is a Central Scheme funded by the Ministry of Environment, Forests and Climate Change (MoEF&CC), to facilitate collection, analysis and dissemination of information on various facets of environment. The information is being disseminated through the quarterly newsletter and website.

The EIACP erstwhile ENVIS HUB is hosted at Puducherry Pollution Control Committee, Department of Science Technology and Environment since 2005. The Programme Centre is a repository of all information, publications and other value added products on its assigned subject area; maintaining database; conducting various events and activities across the year including mass awareness campaigns and events on Mission LiFE (Life Style for Environment) and SAP (Swatchata Action Plan); conducting Green Skill Development Program (GSDP) courses and capacity building programmes and other mandated activities as directed by MoEF&CC.

#### Aims and Objectives of EIACP:

- To nurture green, sustainable and inclusive workforce in order to enhance both living and environment standards while fostering gainful and self-employment of youth.
- To conduct skilling courses not only in traditional areas but also in new emerging areas like electric vehicles, hazardous waste/ Bio-medical waste etc. considering their future scope, requirements and prospects.
- To be involved in the Mission LiFE (Lifestyle for Environment) being conceptualized by the Ministry.
- To facilitate technical and environmentally conscious industrial participation focused on sustainable development.
- To develop national and international collaboration for knowledge exchange and skilling and facilitating attainment of the SDGs.
- To aid sustainable livelihoods of tribal population especially in NER based on traditional knowledge and crafts.
- To facilitate informed decisions and policy making by catering to demand for research, innovation and data on emerging issues related to environment.
- To facilitate transition to environmentally conscious futuristic citizens including awareness among public/communities on environment related issues
- To Prepare the State of Environment Report (SoER) for the U.T of Puducherry.

## About Puducherry EIACP PC Hub Centre

Puducherry EIACP Hub Centre was started on 22<sup>nd</sup> September, 2005. The EIACP centre is hosted at the Puducherry Pollution Control Committee (PPCC), Department of Science Technology and Environment, Government of Puducherry which focuses on special reference to "Status of Environment Related Issues". Activities of our centre include collection, analysis, storage, retrieval and dissemination of Environmental information in the subject area allotted. The information is being disseminated through the quarterly newsletter and website. The EIACP centre also conducts various environmental awareness program in schools and colleges for imparting Environmental comprehension among students.

## PUBLICATIONS

Puducherry EIACP Hub has released Special Publications, News Letters, infographic kits and other knowledge products etc. for the FY 2022- 2023. The complete details of the publications and special publications can be viewed at: <https://dste.py.gov.in/Envispdy/Newsletter.html>.

**Table 34. Publications**

<b>Newsletters</b>	<b>04</b>
<b>Posters</b>	<b>66</b>
<b>Pamphlets/Brochure</b>	<b>26</b>
<b>Science Calendar (Yearly &amp; Monthly)</b>	<b>2</b>

## RELEASE OF SCIENCE CALENDARS

Environmental Information, Awareness, Capacity Building and Livelihood Programme (EIACP) Hub of Puducherry, Government of Puducherry has created Value Added Knowledge Products in the form of Monthly & Yearly Science Calendar, 2023 on the theme '**Lifestyle for the Environment (LIFE)**'. The **theme promotes an environmentally conscious lifestyle** that focuses on '*Mindful and Deliberate Utilisation*' instead of '*Mindless and Wasteful Consumption*'. The main moto to create this calendar is to highlight the important days in the respective month for carrying out necessary environmental, Science related activities / celebration / events and it will

benefit the students, Environmental Organization, Government Departments and other communities to plan various environmental related events in a holistic manner.

Hon'ble Chief Minister, Government of Puducherry has released the Monthly & Yearly Science Calendar, 2023 on 28.02.2023 in the presence of Dr.A.Muthamma, Secretary to Government (Science, Technology & Environment), P. Priyatarshny, Director (Department of Science, Technology and Environment) and Dr.N. Ramesh, Member Secretary, PPCC and officials of DST&E, PPCC and EIACP staff.



Fig: 90. Release of Science Calendar

### **TRAINING EXTENSION, AWARENESS AND OUTREACH ACTIVITIES DURING 2022 – 2023 ACTIVITIES**

Puducherry EIACP Hub conducted Environmental Awareness outreach programmes and awareness campaign Programs to School Children, Colleges and Universities on Environmental Important Days like – World Water Day, world Environment Day, World Earth Day and Biodiversity Day etc., for the FY 2022 - 2023. The centre brings out Knowledge Products – like stickers, postures, brochures, pamphlets on Environmental issues. The mass awareness campaigns may be organized following the calender of important environmental days and may also have a component on Swachhta and skilling initiatives.

#### **Earth Day on 22.04.2023**



Fig: 91. Celebration of Earth Day

Dr. Kusuma. K.N., Assistant Professor, Department of Earth Science, Pondicherry University, Puducherry delivered talk on Invest in Our Planet. The number of participants was 84.

**Expo on ENVIS Infographic products & alternate products of  
Single Use Plastic at Eden Beach during 22.04.2022 to 24.04.2022**



Fig: 92. Expo on ENVIS Infographic products & alternate products

On the occasion of Earth Day, Puducherry ENVIS Hub displayed exhibits on Value added knowledge products and alternate products of Single Use Plastics at Eden Beach, Puducherry. The ENVIS Team also interacted with public and also took their views and suggestions/comments.

**Two-day workshop on Integrating Climate Action in the Development planning**

A two-day workshop on Integrating Climate Action in the Development Planning of Puducherry Union Territory was conducted by the Puducherry Climate Change Cell functioning in the Department of Science, Technology and Environment, in partnership with the Puducherry ENVIS Hub and The Energy and Resources Institute (TERI) and the United Nations Environment Programme (UNEP), New Delhi on 05.05.2022 and 06.05.2022 at Hotel Sunway Manor, Puducherry. The objective of conducting capacity building to the officials of the stakeholder departments of the Government of Puducherry is for integrating climate action in the development planning of the U.T. of Puducherry.



Fig: 93. workshop on Integrating Climate Action in the Development planning



Fig: 94. Poster released on International Day for Biological Diversity



Fig: 95. Celebration of World Oceans Day.



Fig: 96. Tree Plantation at coastal line of Eden Beach

Fig: 97. Selfie point model on 'Save our Sea' at Eden Beach, Chinnaveerampattinam, Puducherry.





Fig:98. Elocution competitions on the occasion of World Oceans Day

Fig:99. standee and banner displayed on SUP ban in the DSTE office premises.



Fig:100. Mangrove Walk at mangrove lagoon on the occasion of International Day for the Conservation of Mangrove Ecosystem

## World Ozone Day - 16.09.2022

As a part of the "World Ozone Day - 2022" celebration, Department of Science, Technology and Environment (DST&E), Puducherry Pollution Control Committee (PPCC), Puducherry Council for Science & Technology (PCS&T), Puducherry ENVIS Hub and Puducherry Climate Change Cell (PCCC) jointly organized the following activities on 16.09.2022 from 10:00 A.M. to 1:00 P.M. at Dr. Abdul Kalam Science Centre and Planetarium, Lawspet, Puducherry.

Fig:101. Poster released on the occasion of Celebration of World Ozone Day



Fig: 102. Celebration of International E-Waste Day on 14.10.2022

Fig: 103. Drawing competition on Celebration of Conservation Day



## Mission LiFE Activities

Hon'ble Prime Minister, Shri Narendra Modi launched Mission LiFE which focuses on environmentally conscious living, promoting mindful and deliberate utilization instead of wasteful consumption. The initiative aims to create a global network of individuals called Pro-Planet People (P3) committed to adopting and promoting eco-friendly lifestyles. This Programme Centre has been actively involved in implementation of LiFE activities/action plan and outreach activities under Mission LiFE to the schools and colleges in the U.T. of Puducherry from 2022 onwards. The Ministry has allotted the subject E-Waste reduced under LiFE Mission to Puducherry EIACP Hub for planning annual plan of activities in Puducherry. The Annual Plan will be implemented by EIACP Centres in coordination with Dept of Education, GoP, and other institutions for the FY 2023-2024. The programme will inspire people to adopt eco-friendly lifestyles and create a global network of environmentally conscious individuals committed to making the world a better place. Puducherry EIACP Hub conducted mass awareness campaign on Mission LiFE at different schools in Mahe & Puducherry Region.

1. Kasthurba Gandhi Govt. High School, Palloor, Mahe - 05.01.2023
2. I. K. Kumaran Govt. Higher Secondary School, Mahe - 05.01.2023
3. Mahatma Gandhi Government Arts College, Chalakkara, Mahe.- 06.01.2023
4. Datchanamurthy Govt. High School, Vambakeerapalayam, Puducherry- 23.01.2023
5. Veeramamunivar Govt. Boys High School, Puducherry - 24.01.2023.
6. Government Higher Secondary School, Puducherry - 24.01.2023.
7. Makkal Thalaivar V.S.Government High School, Puducherry- 24.01.2023.
8. Thiru V. Ka. Govt. High School, Arumbarthapuram, Puducherry - 27.01.2023.

## World Wetlands Day Celebration – 02.02.2023

Puducherry ENVIS Hub in Collaboration with Department of Forest and Wildlife, Government of Puducherry organised the following activities for the students of Sri Venkateswaraa Medical College Hospital and Research Centre, Puducherry on the occasion of World Wetlands Day observed on 02.02.2023.



Fig: 104. Wetland Walk at Ousteri lake

### **World Wildlife Day 03.03.2023**

Puducherry EIACP Hub celebrated "World Wildlife Day" in Annai Sivagami Govt. Girls Higher Secondary School, Mudaliarpet, Puducherry and also promoted Sustainable Lifestyle for Environment under LiFE Mission



Fig:105. World Wildlife day celebration

### **Awareness campaign on Mission LiFE on the eve of International Women's Day- 08.03.2023**

Puducherry EIACP Hub organized LiFE Mission awareness campaign Indira Gandhi Government Higher Secondary School, Indira Nagar, Puducherry and also promoted the aspects of Sustainable Lifestyle for Environment under LiFE Mission on the occasion of International Women's Day on 08.03.2023.



Fig: 106. Awareness campaign on Mission LiFE

### **International Day of Forests – 21.03.2023**

Puducherry EIACP Hub organized and celebrated "International Day of Forests" on 21.03.2023 in collaboration with Department of Forest and Wild Life, Puducherry. Mrs. Vanjulavalli Sridhar, I.F.S., Deputy Conservator of Forests, Addi. Charge as Conservator of Forests, Puducherry and S. Kumaravelu, Deputy Director, Department of Forest and Wildlife, Puducherry had delivered an expert talk on Forest conservation to school students. Students had a very pleasant experience while walking in a forest and also released Forests Day "Infographics". Around 150 students were participated from two schools viz. 1. St. Antony's Govt. Aided High School and 2. Sevalie Sellan Government Higher Secondary School



Fig: 107. Lecture on wildlife conservation



Fig:108 . Forest walk

### **World Water Day 22.03.2023**

Puducherry EIACP Hub organized and celebrated "World Water Day" at Chevalier Sellane Govt. Higher Secondary School, Periyakalapet on 22.03.2023. A special lecture was given on water conservation and also conducted essay, drawing & elocution competitions for the students.



Fig: 109. Lecture on water conservation

## **Mission LiFE Awareness Programme on 23.03.2023 & 24.03.2023**

Puducherry EIACP Hub organized and conducted Mission LiFE awareness programme in collaboration with EIACP RP - Thiagarajar College of Engineering, Madurai held at different colleges held on 23.03.2023 & 24.03.2023. A special Lecture was given by Dr. A. Ramalinga Chandra Sekar Asst. Prof. (Co-Coordinator/ EIACP RP - TCE), Dr. B. Sundarakannan, Program Officer (EIACP RP - TCE) & J. Nithiya (Programme Officer/ Puducherry EIACPHub) on #MissionLiFE.

1. Pondicherry University Community College on 23.03.2023
2. NSS Volunteers from 5 different colleges of Indira Gandhi College of Arts & Science, Saradhar Gandadharan College, Pope John Paul College of Education, Indira Gandhi medical College & Research Institute, Mahatma Gandhi Postgraduate Institute of Dental Science, Puducherry held on 24.03.2023.
3. Kasthurba College for Women, Villianur, Puducherry on 24.03.2023



Fig: 110. Mission LiFE Awareness Programme

## CHAPTER-21

### IMPLEMENTATION OF THE RTI ACT

As per the provision of Section 5 of RTI Act, 2005 the following officers are designed as Public Information Officers (PIO)

Dr. R. Sagaya Alfred, SSO	-	DSTE & PCZMA
Shri. Nagalla Srinivasa Rao, SO	-	PCS&T

**Table 35. Status of RTI Applications for the year 2022-2023**

Department	Received	Disposed	Balance
PPCC	142	136	6
DSTE	11	11	0
PCZMA	4	4	0
Total	157	151	6



