



**ENVIRONMENT, CLIMATE CHANGE AND
FOREST DEPARTMENT**

**POLICY NOTE
2024-2025**

DEMAND No.15

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Minister for Environment and Climate
Change**

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**GOVERNMENT OF TAMIL NADU
2024**

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BOARD**

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POLICY NOTE-2024-2025
DEPARTMENT OF ENVIRONMENT AND
CLIMATE CHANGE

மண்டிணிந்த நிலனும்
நிலனேந்திய விசும்பும்
விசும்பு தைவரு வளியும்
வளித் தலைஇய தீயும்
தீ முரணிய நீரு மென்றாங்கு
ஐம்பெரும் பூதத்தியற்கை

புறநானூறு : 2, 1 – 6

பொருள்

அணுச்செறிந்த நிலமும், அந்நிலத்தின் ஓங்கிய
ஆகாயமும், அவ்வாகாயத்தைத் தழுவிவரும்
காற்றும், அக்காற்றின்கண் தலைப்பட்டதீயும்,
அத்தீயோடு மாறுபட்ட நீருமென ஐவகை பெரும்
பூதங்களால் ஆனது இயற்கை.

*The land of elemental Earth compact;
The Ethereal sky which that land holds high;
The Air which scours the sky's expanse;
The Fire which leaps up in that air;
The Water which fights the scorching fire;
These are the five primordial elements.*

Purananuru (verse: 2, 1-6)

1. Introduction

Tamil Nadu has a rich tradition of nature conservation that dates back to the Sangam era (300 BCE to 300 CE), and it is renowned for its extensive body of Tamil literature, which offers profound insights into the relationship between people and their environment. By blending this traditional knowledge with modern practices, Tamil Nadu offers a model of enduring environmental stewardship. The State's commitment to nature conservation, inherited from its ancient culture, inspires sustainable living and environmental protection in the contemporary world.

Nature conservation and climate change are intricately linked and influence each other significantly. Protecting and restoring ecosystems mitigates climate change and helps societies adapt. The Government views environmental pollution

and climate change as a major humanitarian crisis. Our vision is to embrace and develop ways to mitigate the impacts, access financial resources for adaptation, and create awareness among various stakeholders.

The Department of Environment was established on 13.10.1995, vide G.O.Ms.No.335, Environment and Forests Department, recognizing the importance of the Agenda-21 of the Earth Summit of United Nations Conference on Environment & Development, held during June 1992 Rio de Janeiro.

To be more inclusive about emerging and challenging issues that have arisen recently due to climate change and to find near-possible sustainable solutions to such challenges, the Department's name was rechristened as the **Department of Environment and Climate Change** vide G.O. (Ms) No.65, Environment, Climate

Change and Forest (EC.1) Department, dated 06.04.2022.

2. Vision, Mission and Strategies

2.1 Vision

To make Tamil Nadu a society that protects its environment and manages its natural resources in a sustainable, equitable, and climate-resilient manner, enabling its citizens to have a better quality of life.

2.2 Mission

The Department is mandated to protect the state's Environment by undertaking all mitigation and adaptation measures against natural vagaries and preparing plans to protect natural resources and conserve natural habitats.

2.3 Strategies

1. Conserve and preserve Natural resources and promote their sustainable use by

maintaining balanced ecosystems and the functions of the environment.

2. Prepare a holistic Climate Change Policy for Tamil Nadu that supports climate change mitigation, adaptation, and resilience across all governance sectors.
3. Prepare a coastal zone management plan and shoreline protection plan for the coastal regulation zones to protect our 1076 kilometres of coastline.
4. Create sustainable tourism and healthy coastal management through Beach Management and Aesthetics Management Systems (BEAMS).
5. Educate and empower local communities to manage climate change at ground zero while promoting best practices of adaptation and mitigation.

6. Create awareness for sustainable use of natural resources by involving National Green Corps and Eco-clubs.
7. Build standards for energy-efficient infrastructure for energy savings.
8. Reduce energy consumption by creating practical models of green mobility to reduce carbon emissions and bring in regulatory mechanisms.
9. Promote a multistakeholder approach to fast-tracking climate action in a synergised fashion by creating a robust and dynamic monitoring mechanism that ensures better compliance with Environmental Standards through transparent and credible systems.
10. Develop collaborations and strengthen community engagement to build a long-term commitment to a Net Zero Carbon future for Tamil Nadu.

11. Develop climate-resilient technologies in collaboration with various research institutions to create green models.
12. Develop a comprehensive Data Repository Infrastructure related to climate science and climate modelling for future projections, thereby enabling effective policy and decision-making.

2.4 Functions of the Department

- Formulating policies related to Environmental issues for the Government of Tamil Nadu.
- Creating a framework to bring Synergy among the line Departments of the State and thus evolving policy initiatives for the State.
- Integration of knowledge and experiences of National and International agencies through collaboration and partnership.

- Developing framework for capacity building of various stakeholders (Line Departments, Institutions/Universities, Researchers, Experts, Non-Governmental Organizations (NGOs)) on Climate Change Adaptation and Mitigation.
- Implementing the Statutory provisions of Coastal Regulation Zone (CRZ) Notification and Environment Impact Assessment (EIA) Notification.

The Department handles environmental protection and management efforts, except those handled by the Tamil Nadu Pollution Control Board. It is the nodal agency for formulating climate change-related schemes, plans, and programmes and implementing them in the State. The Department is also the nodal agency for creating awareness of environmental protection through its vast network of National Green Corps and Eco-clubs in schools and colleges.

3. Statutory Provisions for Environmental Safeguard

The guiding principle of a sustainable economy is creating a development pathway that meets the needs of the present without compromising the needs of the future. Sustainable development recognises the interdependence of environmental, social and economic systems and promotes equality and justice through empowering people.

A. Constitutional Provisions

The Indian Constitution is one of the first in the World to recognise the importance of environmental conservation.

The 42nd constitutional amendment introduced Article 48 (A), which, as part of the Directive Principles of State Policy, directs, "The State shall endeavour to protect and improve the environment and

to safeguard the forests and wildlife of the country.”

Article 51 (A)(g), part of the Fundamental Duties, states, “It shall be the duty of every citizen of India to protect and improve the natural environment.”

As the Constitution provides the framework for creating a welfare State, the country's finite natural resources must be optimally utilized without adversely affecting either the health of the people or the environment. This is the essence of sustainable development. We must make conservation-oriented development choices to avert pressure on Natural resources and life-support systems.

B. The Environmental Protection Act (EPA), 1986, was enforced in 1986 to protect and improve the environment and its related matters.

C. Environment Impact Assessment (EIA) Notification was enacted in 2006 by the Government of India to impose certain restrictions and prohibitions on new projects or activities or the expansion or modernization of existing projects or activities based on their potential environmental impacts undertaken in any part of India.

D. Coastal Regulation Zone (CRZ) Notification ensures conservation and protection of coastal stretches and livelihood security for fishermen and local communities living in coastal areas. The first CRZ notification was issued by the Ministry of Environment, Forests and Climate Change, Government of India, in

1991 under the Environmental (Protection) Act, 1986. Subsequently, CRZ notifications were issued in 2011 and 2019 to promote development in a sustainable manner based on scientific principles, considering natural hazards and sea level rise.

4. Initiatives of the Department

The Department of Environment and Climate Change is the nodal department for Climate Change adaptation and mitigation activities as prescribed in the Sustainable Development Goal (SDG 13): Climate Action.

13.1 - Climate action emphasises strengthening resilience and adaptive capacity to climate-related hazards and natural disasters in its target.

13.2 - Integrate Climate Change measures into national policies, strategies and planning.

13.3 - Improve education, create awareness, and improve human and institutional capacity on climate change, adaptation, mitigation, impact reduction and early warning.

TNSAPCC 2.0 is a framework for the State's adaptation and mitigation strategies that is intricately interwoven with the Sustainable Development Goals 13.1, 13.2, and 13.3.

The Department of Environment and Climate Change works closely with Revenue and Disaster Management to help them formulate district-level Disaster Preparedness Plans. This will help reduce the impact of extreme weather events. The State will move closer to the Target as envisioned in the National Indicator Framework to strengthen resilience and adaptive capacity to climate-related hazards and natural disasters.

4.1 Tamil Nadu State Action Plan on Climate Change (TNSAPCC)

The Government of Tamil Nadu (GoTN) recognises Climate Change as a serious issue and has introduced many measures to combat it.

The Tamil Nadu State Action Plan on Climate Change (TNSAPCC), launched in 2015, is a comprehensive framework. It provided the first State-wide and cross-sectoral climate change impact and vulnerability assessment. The plan also formulated a range of adaptation and mitigation strategies to be implemented by various Departments, showcasing the state's commitment to combat climate change.

To reiterate its commitment to addressing the critical issue of climate change, the Government of Tamil Nadu is preparing the second edition of the State

Action Plan on Climate Change (TNSAPCC 2.0) for the years 2022-2030.

The action plan has identified the following eleven vulnerable sectors, *viz.*,

1. Sustainable Agriculture & Allied Sectors
2. Water Resources
3. Forests & Biodiversity
4. Coastal Area Management
5. Strategic Knowledge and Climate Literacy
6. Children and Youth for Climate Action
7. Disaster Management and Mitigation
8. Health and Sanitation
9. Sustainable Habitat
10. Enhanced Energy Efficiency & Solar Mission
11. Gender and Climate Change

4.2 Tamil Nadu Governing Council on Climate Change

In order to ensure that all activities are in line with the objectives of the Tamil Nadu Climate Change Mission, the Government has set up the Tamil Nadu Governing Council on Climate Change. Tamil Nadu is the pioneer in India to set up a Governing Council exclusively for Climate Change

4.2.1 Objectives of Tamil Nadu Governing Council on Climate Change

1. Provide a Policy directive to the Tamil Nadu Climate Change Mission.
2. Advise on Climate adaptation and mitigation activities.
3. Approve Tamil Nadu State Action Plan on Climate Change.
4. Guide the State Climate Change Mission and District Climate Change Missions on implementing various climate initiatives.

4.2.2 Composition of the Tamil Nadu Governing Council on Climate Change

The Tamil Nadu Governing Council on Climate Change was established with 26 members under the Chairmanship of the Hon'ble Chief Minister of Tamil Nadu. The members include Ministers and Secretaries of various departments and eminent experts of National and International repute.

The first Governing Council meeting on Climate Change was held on 03.03.2023 under the Chairmanship of the Hon'ble Chief Minister of Tamil Nadu. Subsequently, the second and third Governing Council meetings on climate change were presided over by the Additional Chief Secretary to Government, Environment, Climate Change and Forest Department on 09.06.2023 and 22.05.2024, respectively.

4.3 Tamil Nadu Green Climate Company (TNGCC)

The Tamil Nadu Government, under the Department of Environment, Climate Change & Forest, has set up the Tamil Nadu Green Climate Company (TNGCC), which is a Not-for-Profit Company and a unique platform to respond to Climate Change in the State. TNGCC is a first-of-its-kind ambitious initiative by the State Government. It will act as a Special Purpose Vehicle (SPV) to address the Climate Crisis in the State, which has become more widespread in recent times and calls for immediate attention to Climate Policy, leading to purposeful and equitable long-term solutions.

TNGCC will drive innovative climate & sustainability solutions by transforming communities and urban & rural infrastructure across the State that are hardest hit by climate disruption.

The Company is governed by a Board chaired by the Additional Chief Secretary to the Government, Environment, Climate Change & Forest Department with the following officials as Directors:

- Principal Secretary to Government, Finance
- Principal Secretary to Government, Energy
- Principal Secretary to Government, Municipal Administration & Water Supply
- Principal Secretary to Government, Agriculture & Farmers Welfare
- Principal Secretary to Government, Housing and Urban Development
- Additional Chief Secretary to Government, Water Resources
- Additional Chief Secretary to Government, Transport
- Principal Chief Conservator of Forests, Tamil Nadu Forest Department

- Chairperson, Tamil Nadu Pollution Control Board

A Project Management Unit (PMU) is set up in TNGCC, comprising of:

- Chief Executive Officer
- Technical Officer
- Finance Officer
- Admin Officer
- Admin Associates

The PMU will aid TNGCC with its expertise on factors leading to Climate Change and implement the necessary Climate Actions while also monitoring & overseeing the four missions and their progress. It will act as a body to measure and report the progress of projects that will be undertaken.

TNGCC is committed to creating a Climate-Positive and lasting change in the State, raising the ambition for action against

climate change, and supporting sustainable and climate-resilient development through detailed research and analysis.

To achieve the aforementioned goals, four core Missions have been initiated under the Leadership of the Hon'ble Chief Minister, namely;

- Green Tamil Nadu Mission (GTM)
- Tamil Nadu Wetlands Mission (TNWM)
- Tamil Nadu Climate Change Mission (TNCCM)
- Tamil Nadu Coastal Restoration Mission (TN-SHORE)

TNGCC is investing in integrated strategies and policy-making to maximise the co-benefits between mitigation, adaptation and sustainable development.

4.4 Green Tamil Nadu Mission

The government has announced the Green Tamil Nadu Mission to increase the

total area under forest and tree cover in Tamil Nadu to 33 percent of the state's land area. Under the Mission, a Massive Tree Plantation Programme of indigenous and diverse species will be rolled out as a people's movement over the next 10 years in coordination with multiple departments and public and private institutions.

4.5 Tamil Nadu Wetlands Mission

With the objective of ecological restoration of wetlands in Tamil Nadu, the Mission will identify and map 100 wetlands in 5 years and restore the ecological balance with a focus on livelihood options. Under this Mission, a wetland inventory process will be initiated using digital technologies. An Integrated Management Plan for Ecological restoration of wetlands would be undertaken through a participatory process involving local communities and all other relevant stakeholders.

4.6 Tamil Nadu Coastal Restoration Mission (TN SHORE)

The “Tamil Nadu Sustainably Harnessing Ocean Resources and Blue Economy (TN-SHORE)” project aims to enhance the resilience and sustainable utilisation of coastal resources through a multi-pronged approach. It envisions a holistic integration of various sectors to drive a resilient and circular blue economy and enhance local livelihoods and capacities for a greener future. To achieve these objectives, the project identifies five thematic prioritised investment areas, namely, Enhance Coastal Biodiversity, Coastal Protection, Improving Livelihoods, Pollution Abatement and Project Management.

4.7 Tamil Nadu Climate Change Mission

Combating and mitigating the impact of climate change is a major concern for a

coastal State like Tamil Nadu. During the Budget Speech for the year 2021-2022, the Tamil Nadu Climate Change Mission was launched to focus on climate change adaptation and mitigation activities, with a total outlay of Rs.500 crores for a period of Five years. Tamil Nadu Climate Change Mission is a first of its kind at the Sub-national level. The Government of Tamil Nadu is committed to building a sustainable and climate-resilient future for the people of the State. The Mission is headed by the Director of Environment and Climate Change, who is the Chief Mission Director, overseeing and co-coordinating the climate change issues in the state.

A budget outlay of Rs.77.35 crores was allocated for activities under the Tamil Nadu Climate Change Mission for 2021-2022 and 2022-2023. During the year 2021-22, baseline studies were conducted in

consultation with various Expert Institutions, such as the Indian Institute of Technology, Chennai, Centre for Climate Change and Disaster Management, Anna University, World Resources Institute (WRI), etc., which act as knowledge partners.

For the year 2022-2023, the following activities were carried out:

4.7.1 Stakeholders' Workshop

Prioritising adaptation and mitigation planning in districts to bring immediate attention to climate change vulnerability is one of the major focuses of the Government. In this regard, Stakeholders' workshops on Climate Change were conducted in all 38 districts of Tamil Nadu with the participation of various stakeholders, including line departments, NGOs, educational institutions, etc. The workshops highlighted scientific evidence on Climate Change in Regional and

Global scenarios and focused on successful Indigenous/technological interventions for the community, nature-based adaptation for building resilience in society.

4.7.2 Rehabilitation of Coastal Habitats for Climate Change Adaptation through Nature-based Solutions

The Mission's integral parts include forming Bio-shields through the planting of Casuarina, Palmyrah, Cashew, and other specialised species, raising Mangrove plantations in coastal districts wherever they grow in local ecosystems, protecting and enhancing the growth of sea grass and coral reefs, developing an action plan, and preparing an Atlas for sustainable coastal management.

A total of 195 hectares of mangrove plantation, restoration of 375 hectares of mangrove ecosystem, 90

hectares of casuarina, and 12 hectares of Palmyrah plantation were undertaken during the FY 2023 – 2024.

4.7.3 Carbon Enrichment Programme

Soil carbon storage is a vital ecosystem service which plays an extremely important role in promoting tree growth through an increased supply of nutrients, enhanced retention of water and storing significant amounts of carbon. As a pilot project, the soil obtained after bio-mining from the Perungudi dump yard by the Greater Chennai Corporation was used for plantation activities in Madurappakkam Reserve Forest. Around 6000 native tree saplings were planted on the bio-mined soil, which is extremely rich in nutrients and carbon. The project's outcome is monitored and documented by the Centre for Climate Change and Disaster Management, Anna University, Chennai.

4.7.4 Sustainable Habitat

The time has come for the realisation that the habitat where we live can no longer be ignored, and the benefits of green building practices have to be realised to reduce the impact on our environment. Energy-saving measures in Government and private buildings, independent houses and apartments to reduce greenhouse gas emissions from energy production and consumption to reduce the impacts of Climate Change. The major tasks to be undertaken are creating awareness among residents about the need for energy-saving lighting and electricity in particular, training builders and developers in cost saving climate-friendly building infrastructure through workshops, developing standard Operating Procedures for the construction of energy-efficient housing programmes and

developing green building rating mechanism as a pilot project.

Concerted, systematic engagement with Builders and Residential Welfare Associations will ensure necessary awareness and initiate behaviour change. This will also encourage interventions that will introduce appropriate construction materials and techniques, effective cooling systems, and energy-efficient technology into the residential sector.

The Department of Environment and Climate Change, in association with M/s. Indian Institute for Human Settlements (IIHS), Bangalore has conducted workshops for Builders and Resident Welfare Associations on "Energy Efficient Habitats" in nine Municipal Corporations *viz.*, Coimbatore, Dindigul, Hosur, Kanchipuram, Madurai, Salem, Tambaram, Trichy and Vellore.

4.7.5 Climate Literacy

TNCCM has taken steps to create awareness of climate change impacts by educating students on climate science. It also focuses on adaptation and mitigation activities, identifying best practices and practical solutions to climate change through media and digital communication platforms. Students are engaged in climate change awareness campaigns, group discussions, digital poster making, street plays, skits, podcasts, public campaigns etc.

The following activities were carried out under the Climate Literacy component during 2023 – 2024.

- Workshop on Climate Change for Members of Legislative Assembly was conducted on 9th October 2023.

- Climate fun and learning sessions with game kits were designed for school children.
- Social media posters have been created to impart climate literacy to the public.
- Climate Literacy Modules for Middle School Children have been developed.

4.7.6 Tamil Nadu Climate Summit 1.0

Tamil Nadu is the first State in India to organise a Climate Summit to bring in National and International best practices and address the climate and biodiversity crises. It was conducted on 8th and 9th December 2022 in Chennai with the participation of National and International Experts, Partner Organisations, Reputed Institutions, Stakeholder departments, etc.

4.7.7 Tamil Nadu Climate Summit 2.0

The second edition of the Tamil Nadu Climate Summit, which was held on the 28th and 29th of February 2024, served as a platform for enabling collaborative efforts and exchange of dialogues among National and International Experts, making way for promoting climate resilience in the State. The event was organised in a LEED Zero Carbon-certified venue that represented the carbon-neutral vision of the State. Several reports, such as the Ramsar Site Compendium, Study reports on Micro Plastics in marine, Estuarine and freshwater compartments of Tamil Nadu, Tamil Nadu's Greenhouse Gas Inventory & Pathways for Net-Zero Transition and the Guidance Manual on Organising Zero-Waste were released.

4.7.8 Climate Smart Villages

The Climate Smart Villages would serve as demo sites to test an approach to dealing with climate change at the community level through participatory methods and various technological and institutional options.

Bringing Sustainable Development Goals to the panchayat level envisions creating Climate Smart Villages for future generations. The critical nature of protecting the environment and preventing further degradation requires that people in the local areas realise the importance of natural resources available and preserve and reclaim the environment from further degradation.

Pilot projects will be done through a multi-stakeholder collaborative platform at selected villages with the following objectives:

- a) Protect natural ecosystems in the villages

- b) Understand the challenges and vulnerability of the local community to climate risks
- c) Develop future solutions to build climate resilience and increase adaptation and mitigation measures
- d) Identify and implement village/ community level agro-ecological and socio-economical solutions such as setting up village-level climate information centres for weather smart activities like agro advisories
- e) Carbon/nutrient smart practices for better management of agroforestry, land use, livestock management and bio-fuels
- f) Institutional/market smart activities like farmer-to-farmer learning and market information
- g) Learning from the smart villages would help the State to understand ground level

climate related interventions, which could be upscaled at the State level, helping the Government in climate proofing of various Government schemes

The following villages were identified for this programme viz., Pichavaram, Muthupet, Kodyakkarai, Rameswaram, Tiruchendur, Courtalam, Hogenakkal, Ooty, Yercaud, Kodaikanal and Pazhaverkadu.

4.7.9 Climate Resilient Green Monuments

Two places of worship, Annai Velankanni Church, Nagapattinam, and Meenakshi Amman Temple, Madurai, were taken up for Climate proofing as pilots to demonstrate measures towards climate adaptation and mitigation. This includes efficient solar lighting, water management, heat management, greening, eco-restoration of temple tanks, and interventions to remove plastic and microplastic.

4.7.10 District Climate Change Mission

For the first time in the Country, the Government of Tamil Nadu has set up District Climate Change Missions with the District Collector as the Mission Director and the District Forest Officer as the District Climate Officer to strengthen the climate response at the grassroots level. The Objectives of the District Climate Change Mission (DCCM) are:

- 1) To work with all Departments at the District level in line with the State Action Plan.
- 2) To closely associate itself with the Project Management Unit of the Tamil Nadu Green Climate Company (TNGCC).
- 3) To coordinate with the activities of the Tamil Nadu Climate Change Mission in developing Climate Smart Villages, Climate Resilient Green Temples, Green

Schools, Creation of Bio-shield, Blue Flag Beach, Sustainable Habitat, Carbon enrichment programme and Waste to energy power generation.

- 4) To conduct District Stakeholder workshops on integrating Climate Change adaptation and mitigation at the grassroots level to enhance development planning.

Rs. 3.80 crores were allocated and released to all 38 districts to meet these objectives.

Strategies of District Climate Change Mission

- A. Integrate climate change adaptation and mitigation into the development planning of the district.
- B. Undertake capacity building and improve institutional capacities.

C. Develop a Monitoring and Evaluation framework for climate action projects.

Deliverables:

- 1) Prepare a District-level Climate Change Mitigation and Adaptation Plan.
- 2) Provide input on low-carbon, climate-resilient development strategies and plans, review sectoral plans, and ensure consistency with the State Government's climate policy.
- 3) Bringing climate literacy programme to the grassroots level.
- 4) Creating Climate-Smart Villages.

4.7.11 Transforming the Districts into Carbon-Neutral Hubs

With rapid urbanization, the majority of the population migrates towards the cities for better opportunities, which has resulted in cities being more susceptible to Climate Change risks and vulnerabilities. Cities are

among the places most likely to feel the acute impacts of climate change and are responsible for nearly 60% of our greenhouse gas emissions. Cities could play a major role in leading the state towards achieving the goal of Carbon Neutrality. Brings together municipalities, businesses, citizens and experts to create and carry out solutions to reduce greenhouse gas emissions.

Tamil Nadu is a pioneer state in proactive climate change initiatives. In this context, GoTN has selected Rajapalyam, Rameshwaram, the Nilgiris, and Coimbatore to transform into 'Carbon Neutral Hubs'. To achieve carbon neutrality in the above places, Baseline assessments are undertaken to identify major sources of emissions.

5. Coastal Zone Management

Tamil Nadu has a vast coastline of 1,076 km, which constitutes 15 percent of

India's total coastline. The State is endowed with rich and diverse coastal habitats, such as mangroves, corals, seaweeds, seagrass beds, salt marshes, mudflats, and sand dunes.

To promote integrated and sustainable management of the coastal and marine areas, it is essential to follow multi-disciplinary approach to improve capabilities related to coastal processes, shoreline management, coastal hazards/vulnerability etc.

This department is committed to SDG Goal 14: Life below water, which emphasizes the protection and management of marine and coastal ecosystems on a sustainable basis. This includes:

14.1. Prevention and reduction of marine pollution of all kinds.

14.2. Sustainable management and protection of marine and coastal ecosystems to avoid significant adverse impacts.

14.3. Minimizing and addressing the impacts of ocean acidification, through enhanced scientific cooperation at all levels.

5.1 Geographic Information System (GIS)

The Department of Environment and Climate Change established a GIS Cell as a part of the Emergency Tsunami Reconstruction Project (ETRP) funded by the World Bank in the year 2011. GIS Cell monitors the project components under ETRP/ Coastal Disaster Risk Reduction Project (CDRRP) like demarcation of the High Tide Line (HTL), preparation of Integrated Coastal Zone Management Plan (ICZMP), Coastal

Vulnerability maps, erection of stone pillars on High Tide Lines along the coast of Tamil Nadu etc.,

The Department of Environment and Climate Change is a state body that gives clearance for projects proposed in the Coastal Regulation Zone. To monitor violations in the CRZ area, the GIS Cell is accompanying the Green Squad in identifying and mapping the location with GPS instruments. It also supports the Technical Expert Committee in identifying the project site.

5.2 Coastal Zone Management Plan (CZMP)

The Coastal Regulation Zone (CRZ) Notification, 2011, was issued vide S.O 19 (E) dated 06.01.2011 under the Environment (Protection) Act, 1986, by the Ministry of Environment, Forest and Climate Change,

Government of India, to conserve and protect coastal stretches and promote sustainable development in coastal areas.

The coastal areas have been categorized as five zones as follows in the Coastal Regulation Zone Notification 2011:

- CRZ-I (Ecologically sensitive)
- CRZ-II (Developed area)
- CRZ-III (Rural area)
- CRZ-IV (Water area which includes the water areas up to 12 Nautical miles (Nm) of the territorial waters and the tide-influenced water bodies)
- CRZ- V (Areas requiring special consideration for the purpose of protecting the critical coastal environment)

Preparing the Coastal Zone Management Plan as per the provisions of the

CRZ Notification is mandatory for every coastal State.

As per the provisions of the Coastal Regulation Zone (CRZ) Notification, 2011, the Department of Environment and Climate Change has entrusted the draft CZMP preparation for all the coastal districts of Tamil Nadu to the National Centre for Sustainable Coastal Management (NCSCM), Chennai, which is an authorized agency approved by MoEF&CC, GoI, for the above-said purpose.

The MoEF&CC, GoI have conveyed the approval of the CZMP for Tamil Nadu, based on the recommendations of the National Coastal Zone Management Authority (NCZMA) on 24.10.2018. The approved CZMP in 117 maps has been uploaded to the website of the Department of Environment and Climate Change (<http://www.environment.tn.gov.in>) and the

Environmental Information System (<http://tnenvis.nic.in>). The approved CZMP is sent to all the District Coastal Zone Management Authorities and the Stakeholder Departments for necessary action.

The MoEF&CC, GoI has directed all the States to prepare the CZMP as per the guidelines of CRZ notification 2019. For the State of Tamil Nadu, the National Centre for Sustainable Coastal Management (NCSCM), MoEF&CC, GoI is preparing the maps at the scale of 1:25000 as per the Guidelines of CRZ Notification, 2019 at a cost of Rs.1.82 Crores.

The Government of India has directed all States to follow the approved CZMP as per the CRZ Notification, 2011, until the approval of CZMP as per the CRZ Notification, 2019.

5.3 Preparation of Local Level Coastal Zone Management Plan

The Government of Tamil Nadu has accorded sanction for the mapping of the Local Level Integrated Coastal Zone Management Plan mapping at the scale of 1:4000 scale through the Institute of Remote Sensing (IRS), Anna University, at a cost of Rs.2.99 crores under Coastal Disaster Risk Reduction Project (CDRRP) fund. The work is completed by the IRS, Anna University. The local-level CZMP Maps prepared as per CRZ-2011 Notification is sent to all the coastal District Collectors/District Environment Engineers, Line Departments, local bodies and other agencies to facilitate the implementation of the Coastal Zone Management Plans.

5.4 Enforcement of Coastal Regulation Zone (CRZ) Notification

CRZ regulations are implemented with the intention to conserve and protect coastal stretches, their unique environment and their marine area to promote development in a sustainable manner based on scientific principles. These regulations aim to provide livelihood security to fishermen communities and other local communities living in coastal areas. Tamil Nadu, being a large coastal State, is implementing these regulations through its coastal zone management bodies at the State and District levels.

5.5 Tamil Nadu State Coastal Zone Management Authority (TNSCZMA)

To regulate CRZ activities and to check violations in CRZ areas, the MoEF&CC, GoI has constituted a State Coastal Zone

Management Authority (SCZMA) at the State level with the Principal Secretary / Additional Chief Secretary, Environment, Climate Change and Forests Department, Government of Tamil Nadu as the Chairperson and the Director of Environment and Climate Change as its Member Secretary. It comprises of senior officials from various departments and technical experts/NGOs.

5.6 District Coastal Zone Management Authority (DCZMA)

The District Coastal Zone Management Authorities, under the Chairmanship of the respective District Collectors, were formed in all the 14 coastal districts of Tamil Nadu. These Authorities convene periodical meetings to take decisions pertaining to the Coastal Regulation Zone.

5.7 Technical Expert Committee (TEC)

The Government has constituted a three-member Technical Expert Committee vide G.O. (Ms). No.100, Environment, Climate Change and Forest (EC.3) Department, dated 13.06.2022, to assist the Tamil Nadu State Coastal Zone Management Authority (TNSCZMA) in prior scrutinizing the Coastal Regulation Zone applications.

6. State Environment Impact Assessment Authority (SEIAA) – Tamil Nadu

Under the EIA Notification, obtaining prior Environmental Clearance for certain new projects and expanding or modernising existing projects based on their potential environmental impact is mandatory. Projects falling under Category 'A' in the Schedule of the Notification require Environmental Clearance from the Ministry of Environment,

Forest & Climate Change (MoEF&CC), Government of India and for matters falling under Category 'B', depending upon the thresh-holds of the activities, requires clearance at the State Environment Impact Assessment Authority (SEIAA).

The notification provides for the constitution of SEIAA, which is empowered to grant environmental clearance to mitigate pollution and protect the environment. A State Expert Appraisal Committee (SEAC) has been constituted to assist SEIAA. The Expert Appraisal Committee appraises projects and forwards its recommendations to the SEIAA to decide on granting Environmental Clearance by following the statutory provisions stipulated under Environmental Impact Assessment Notification 2006. The present SEIAA was constituted vide MoEF&CC, GoI notification S.O. No.146 (E), dated 11.01.2022,

comprising three members and 14 Members of SEAC in Tamil Nadu for three years.

Efforts have been made to increase transparency and accountability in the issue of Environmental Clearances. The Government of Tamil Nadu uses the single-window portal "PARIVESH," enabled by MoEF&CC, GoI, to appraise, track, and issue environmental clearances.

7. Environment Management Agency of Tamil Nadu (EMAT)

To execute and monitor the river cleaning and lake conservation programmes funded by the Ministry of Environment, Forests and Climate Change, (MoEF&CC), Govt. of India, the Environment Management Agency of Tamil Nadu (EMAT) was created in 2002.

Environmental awareness programmes in schools, coastal zone conservation

programmes, and eco-restoration activities are being conducted in coordination with the TWAD Board, Municipalities, Corporations, Non-Governmental Organizations, and National Green Corps Coordinators.

Eco-restoration of water bodies under EMAT has been funded by the EPRED Fund, State Environment Impact Assessment Authority Fund, Tamil Nadu Pollution Control Board Fund, Government Grant, etc., and implemented through the line Departments. EMAT is an autonomous agency, so it facilitates more effective networking between government and non-governmental agencies.

7.1 National Green Corps (NGC)

In 1998, the Tamil Nadu Government started the Eco clubs - the first of its kind in India. Following the success of the Eco clubs in Tamil Nadu, the MoEF&CC, GoI launched NGC Eco clubs in India in 2002.

Around 4 lakh students from the 8000 NGC schools across the State participate in creating environmental awareness. Each Educational District has a Teacher Coordinator to oversee the NGC activities in the concerned Educational District. This programme imparts environmental awareness to students through on-campus and community activities like tree planting, celebrating Green Days, eco competitions, eco camps, etc. The NGC eco clubs also help create and maintain school nutri gardens. This scheme has been revamped as the Environmental Education Programme (EEP) from 2022-23.

8. Environmental Information System (ENVIS)

The Ministry of Environment, Forest and Climate Change, Government of India (MoEF&CC, GoI) launched a Central Scheme the Environment Information System (ENVIS)

in 1982. In Tamil Nadu, the ENVIS Centre, sponsored by the MoEF&CC, GoI, has been functioning under the Department of Environment and Climate Change since October 2002.

ENVIS Centre provides information on various aspects of the State of the Environment and related issues of Tamil Nadu. The ENVIS centre also collects, collates, stores, retrieves, and disseminates environmental information through a website, www.tnenvis.nic.in. Preparation of the State of Environment Report (SoER), creation of a web-based database, publication of newsletters, preparation of awareness brochures, and conducting Environmental awareness programmes are the ongoing projects under ENVIS Hub.

The ENVIS scheme, which was previously under the umbrella scheme 'Decision Support System for Environment

Awareness, Policy, Planning and Outcome Evaluation', has been subsumed within the revamped scheme of Environment Education, Awareness, Research and Skill Development, which has been approved for 2021-22 to 2025-26 in June 2022. One of the components of this revamped scheme is the "Environmental Information, Awareness, Capacity Building and Livelihood Programme (EIACP)"

9. Environmental Awards

Every year, ten Environment Awards in various categories are given to selected NGOs, institutions, researchers, and individuals for their best efforts/contributions in Environmental protection, management, and awareness.

10. ONGOING PROJECTS/SCHEMES

10.1 Chief Minister's Green Fellowship Programme (CMGFP)

The Government recognizes the need to actively involve youth in various initiatives proposed for Climate Change Adaptation and Mitigation activities in Tamil Nadu. Given that the future of India belongs to the youth of today, the Tamil Nadu Government, through CMGFP, seeks to identify, nurture, and mentor passionate young leaders on a wide range of environmental issues.

The programme aims to disseminate climate change awareness by attracting younger generations and students and creating a pool of green ideas and technological interventions that will reduce Environmental Climate change impacts and conserve Nature.

A total of 40 Green Fellows were selected through the Institute of Energy Studies, Anna University, and positioned in all 38 districts. CMGFP is housed under the Director of Environment and Climate Change for planning, coordination, supervision, and monitoring of all aspects. The Green Fellows will provide necessary support to the District Climate Change Mission Units in their actionstowards adaptation and mitigation for Climate Change.

10.2 Green Schools programme

With Climate Change becoming a reality, young children need to be prepared for adaptation and mitigation. The “green revolution” should begin with the younger generation. The Green Schools programme was launched to build climate-resilient school infrastructure and to create awareness among students.

In the first phase, 25 schools were selected for the programme. These schools will undertake various green measures like energy efficiency by using solar lighting and use of solar pumps, setting up solar borewells, adapting rain harvesting, composting, creating vegetable garden, medicinal gardens and planting fruit trees, reducing water use, recycling wastewater, creating a plastic-free environment etc. These schools will be ranked on a green index to create a repository of information on green initiatives. Rs.5.00 crores (Rs.20 lakhs each) is released to the Department of School Education towards its implementation.

Subsequently, 46 schools were selected under the second phase of the Green Schools programme, and Rs. 9.20 crores was released to the Department of School Education.

10.3 Climate Studio

The Department has taken the initiative to set up an exclusive Climate Change Research Center, viz., "Centre for Climate Change and Adaptation Research (renamed as Centre for Climate Change and Disaster Management (CCCDM)) at Anna University to strengthen the understanding of climate change and our capacity to manage and adapt to it. The Climate Studio is one of its kind in the country, with a high-performance computation facility cluster and accessories for climate modelling, which is housed at the Centre for Climate Change and Disaster Management (CCCDM) at Anna University.

Objectives of the Climate Studio

- To provide updated high-resolution and robust cadastral-level Regional Climate

Scenarios for micro-level policy planning covering the entire Tamil Nadu.

- To do a periodical assessment of Climate Change Impact & Vulnerability on Natural Resources, viz., Agriculture, Water resources, Forest & Bio-diversity and Coastal area management based on continuous assessment reports of IPCC.
- To develop multi-sectoral cadastral-level spatial information using renowned software such as SWAT, MIKE (Water sector), SHE, Infocrop, DSSAT (Agriculture), SimCLIM (coastal), Maxent (Forest), etc., to give a clear idea of climate impact and damages already caused to ecosystems and its future vulnerability to natural resources.
- To disseminate knowledge to stakeholders - planners, scientific world,

NGOs and community in vernacular languages.

Activities of the Climate Studio

- Provide access to climate and vulnerability information for evidence-based adaptation planning at National, State and local levels.
- Training programmes for assessing the impact of climate change on sectors such as water, agriculture, forestry, coastal, urban habitation, health and biodiversity, etc.
- Build scientific capacity to develop climate projections and determine vulnerability to support adaptation activities.
- Develop a network of institutions involved in climate studies and related research to exchange data and techniques and pursue collaborative research activities.

- Periodical updating of international climate data to provide the latest climate change information and improve access to climate information through a web portal.
(<https://www.annauniv.edu/cccdm/districtprofiles/ccis2/district-profile.html>)
- Bring together all institutes and research centers working on climate-related research to exchange data and techniques and to pursue collaborative research activities.
- Yellow page information linking all International and National scientific communities involved in climate studies.

10.4 Blue Flag Certification for Beaches

To plan sustainable tourism and healthy coastal management, MoEF&CC has conceived an Integrated Coastal Management Scheme, viz. BEAMS (Beach Environment and

Aesthetic Management Systems) Programme (also referred to as Beach Management Services), to reduce existing pollutants on beaches and to aspire to and achieve high International Standards in India.

The Blue Flag Certification for beaches and marines is run by the international, non-governmental, non-profit Foundation for Environmental Education (FEE), based in Denmark. The Blue Flag Beach shall comply with 33 Blue Flag Criteria under 4 major heads- standards for quality, environmental education and information, the provision of safety and services and general environmental management. Blue Flag accreditation is a highly respected and recognized eco-label working to bring together the tourism and environmental sectors at local, regional and national levels.

During the Budget Speech for the year 2021- 2022, the Government of Tamil Nadu

announced its intent to obtain the prestigious Blue Flag Certification for 10 Beaches in the next 5 years at a total cost of Rs.100.00 crores. Presently, Baseline Studies are being done at these beaches, after which the implementation will be carried out.

10.5 National Mission on Strategic Knowledge on Climate Change (SCCC-NMSKCC)

The Department of Environment and Climate Change, Government of Tamil Nadu, successfully implemented the Project entitled "Establishing/Strengthening the State Climate Change Centre/Cell under National Mission on Strategic Knowledge on Climate Change (SCCC-NMSKCC) in the State of Tamil Nadu" during the period from 2017 to 2022. The Department of Science and Technology, Government of India, has approved the NMSKCC Phase II project entitled "Providing Climate Smart Integrated

Decision Support System (CSIDSS) Tools for Cadastral Level Adaptation” for implementation by Department of Environment and Climate Change (DoE&CC), Government of Tamil Nadu. DST has allocated Rs.2.05 Crore for the five-year duration of NMSKCC Phase II to assess block-level risk and vulnerability in agriculture and water sectors due to climate change in Tamil Nadu.

10.6 Electrifying Elephant Camp at Kozhikamuthi, Topslip, through Decentralized Energy Renewable Energy Solutions

To localize climate action in the State, the Department of Environment and Climate Change has taken initiatives to provide renewable energy sources to the Mahouts, Cavadies and tribal settlements in the core forest areas of Annamalai Tiger Reserve. The

community currently uses fossil fuel-based energy for their livelihoods, which results in high Carbon Dioxide emissions in the forest area. The project will be implemented under the Tamil Nadu Innovative Initiative Scheme (TANII) for 2023-2024.

11. Highlights of the year 2023-24

- Tamil Nadu is the first State in India to organise a Climate Summit in December 2022 and February 2024 to bring-in National and International best practices and to address the climate and biodiversity crisis with the participation of National and International Experts, Partner Organisations, Reputed Institutions, Stakeholders departments, etc.
- 71 Green Schools were selected throughout Tamil Nadu and given Rs.20 lakh per school to undertake various

green measures like increasing energy efficiency through renewable energy, adapting rainwater harvesting, composting, developing green cover, creating awareness, creating a plastic-free environment, etc.

- The Chief Minister's Green Fellowship Programme has helped sensitise 70,000+ individuals across all districts of Tamil Nadu through 450 meticulously designed awareness programs on pressing environmental issues.
- The International Forum has recognised the contribution of Green Fellows in collaborating with the efforts of students and volunteers under the Tide Turner's Plastic Challenge of the United Nations Environment Programme with awards and accolades.
- District Climate Change Mission Units were constituted in all 38 districts of

Tamil Nadu, with the District Collector as the Chairman and the District Forest Officer as the Climate Officer, to coordinate and facilitate the efforts of various departments at the district level in implementing the Climate initiatives.

12. Conclusion

The Government of Tamil Nadu is committed to timely intervention to adapt to and mitigate climate change. This is possible only by planning sustainable resource use, involving the local community, and supporting stakeholder departments. Tamil Nadu, being a pioneer State, will be the torchbearer for the entire country in environmental conservation, climate change mitigation, and sustainable development.

TAMIL NADU POLLUTION CONTROL BOARD

மணிநீரும் மண்ணும் மலையும் அணிநிழற்
காடும் உடைய தரண்.

குறள் - 742

“மணிபோல தெளிந்தநீர் உடைய அகழியும், விரிந்த
மண்பரப்பும், உயர்ந்த மலைகளும், அழகிய நிழல்
தரும் மரங்களைக் கொண்ட காடும் ஒரு நாட்டைப்
பாதுகாக்கும் கோட்டையாகும்” அதாவது ஆறுகள்,
மலைகள், காடுகள், மணல்பரப்பு மற்றும் மரங்கள்
ஆகியவற்றைப் பாதுகாத்து இப்பூமியினை
பேரழிவிலிருந்து தடுத்து நிறுத்திட வேண்டியது
குறித்து இக்குறளில் வலியுறுத்துகிறார்
வள்ளுவர்”

1. Introduction

The environment plays a vital role in the existence of all life forms on this planet. The term environment covers the interaction of all the living species, climate, weather and natural resources. All of these components have an impact on human survival and economic activities. The environment is responsible for nourishing the life on the face of the earth. Thus, it helps us

set the benchmark for a safe and healthy natural ecosystem. The objectives of environmental protection are to conserve natural resources and the existing natural environment, repair damage, and reverse trends. Preservation, protection and improvement of the environment for present and future generations are the solemn duty of every citizen. Considering the above, the Government of TamilNadu established the Tamil Nadu Pollution Control Board (TNPCB) on 27.02.1982. TNPCB is a statutory body under the Environment, Climate Change and Forest Department, Government of Tamil Nadu. The Board comprises a Chairman, a Member Secretary, five officials nominated by the Government, five members to represent local authorities, three non-officials to represent the interest of agriculture, fishery, industry or trade or any other interest and two members to represent the

companies or corporations owned by the State Government.

2. Functions of the Board

- To plan a comprehensive programme to prevent, control and abate water and air pollution.
- To advise the State Government on any matter concerning the prevention, control or abatement of water and air pollution.
- To collect and disseminate information on water and air pollution and the prevention, control, or abatement.
- To encourage, conduct and participate in investigations and research relating to problems of water pollution and prevention, control or abatement of water pollution.
- To inspect the effectiveness of sewage and trade effluent treatment plants and review plans and specifications for corrective measures.

- To inspect industrial plants or manufacturing processes and any control equipment and to give directions to prevent, control or abatement of air pollution.
- To inspect air pollution control areas to assess the quality of air therein and to take steps to prevent, control or abatement of air pollution in such areas.
- To perform such other functions as may be prescribed by the State Government or Central Pollution Control Board.

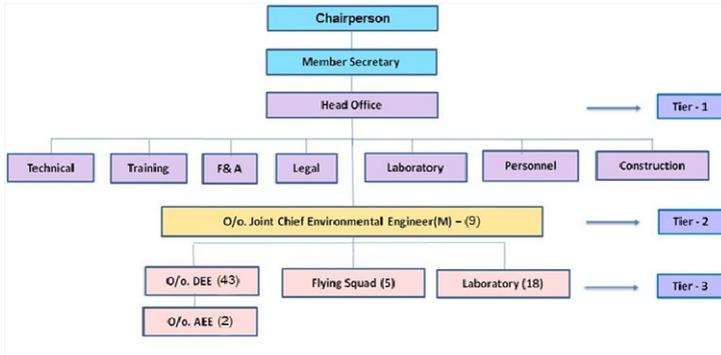
3. Organisational Set-up

For effective and efficient functioning of the organisation, the Board has a three-tier system consisting of (i) the Head Office in Chennai, (ii) Nine Zonal Offices, and (iii) Forty-three District Environmental Engineer Offices. Apart from this, there are five Flying Squads at Erode, Tiruppur, Chennai, Salem

and Vellore headed by Environmental Engineers and two Assistant Environmental Engineer (AEE) Offices at industrial hot-spot areas at Manali and Mettur.

As per G.O. (Ms). No.22, ECCF (EC.2) Department, Dated: 02.02.2024, Five New DEE offices at Velachery-Chennai South (Restructuring the existing Chennai District limit), Ranipet, Tenkasi, Perambalur and Tiruvarur are formed.

To support the monitoring system, TNPCB has established 18 Environmental laboratories across various District Offices, including the Head office, for analysing samples of water, waste water and air emissions as well as monitoring the water sources and ambient air in the State.



4. ConsentMechanism

4.1Categorization of Industries in Tamil Nadu

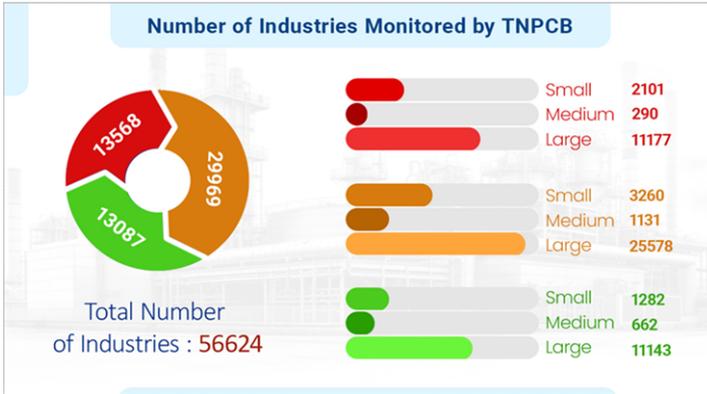
As per the Central Pollution Control Board (CPCB) direction, industries are categorised as Red, Orange, Green, and White based on the Pollution Index Score.

For monitoring, TNPCB has classified industries into different categories by considering the pollution index and the value of its Gross Fixed Assets (GFA), which is as follows:-

Classification based on GFA	GFA (Rupees in Crores)	Category based on Pollution Index			
		Red	Orange	Green	White
Large	> 10	Highly Polluting	Medium Polluting	Less Polluting	Least Polluting
Medium	> 5 - ≤ 10				
Small	≤ 5				
Pollution Index		>60	41-59	21-40	<21

The industries categorised as red, orange, and green are part of the consent mechanism. Meanwhile, white-category industries do not need consent from the Board; only intimation to TNPCB is sufficient.

The number of industries which are issued consent and monitored by the Board as on 31.03.2024 is given below:-



4.2. Criteria for Issue of Consent to Industries

TNPCCB issues 'Consent to Establish' (CTE) for establishing an industry's activities, viz. Construction of infrastructures and installation of machinery required for production and treatment systems for waste management, along with necessary monitoring devices.

CTE is issued after assessing all the approvals obtained from competent authorities and siting criteria fixed by the Board for various industries. TNPCCB grants

CTE to industries with seven years validity for projects attracting Environmental Impact Assessment (EIA) Notification 2006 and five years validity in case of non-EIA projects. Subsequently, the industry/ unit will apply for Consent to Operate after completing the establishment activity.

'Consent to Operate' (CTO) is issued to operate the industry/unit after ensuring compliance with the conditions stipulated in the CTE issued to the unit.

From 2021-2022, 'Consent to Operate (CTO)/Renewal of Consent (RCO)' to the industries are issued as a block, with a validity period of 5 years for Red, 10 years and 14 years for Orange and Green category industries respectively under the Ease of Doing Business.

Further, to promote "ease of doing business" and industries in the State, green-

category industries located in the Industrial Use Zone / Industrial Estate as classified by the Directorate of Town & Country Planning (DTCP) / Chennai Metropolitan Development Authority (CMDA) / Local Planning Authority (LPA) can apply directly for Consent to Operate (CTO) without obtaining CTE. This concept of issuing CTO without CTE is known as CTO Direct.

4.3. Online Consent Mechanism

TNPCB implemented the Online Consent Management and Monitoring System (OCMMS) on 19.01.2015 through its web portal, www.ocmms.tn.gov.in. To facilitate industries' application online through OCMMS, a Care Centre has been established in all district offices.

Various committees constituted by TNPCB at different levels decide the powers for issuing consent to different categories of

industries to ensure the efficient and effective implementation of the Acts and Rules.

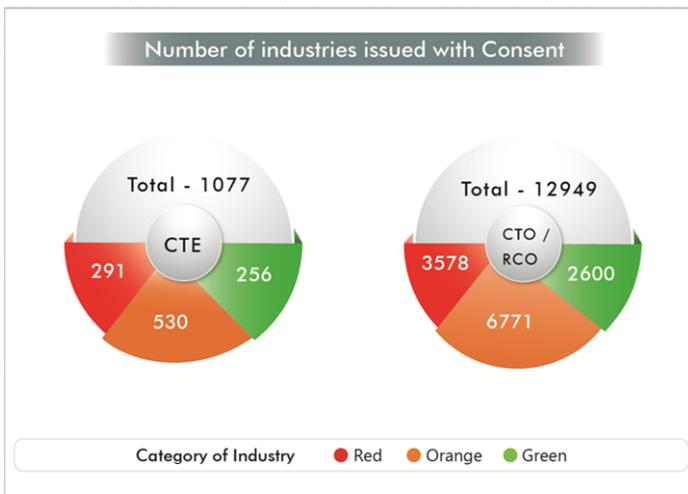
Apart from issuing CTE and CTO for industries, TNPCB also grants Authorization for the management of Hazardous and other Wastes, Biomedical Wastes, Solid Wastes, E-Wastes, Plastic Wastes, and Construction and demolition (C&D) Wastes.

4.4. Auto-Renewal

The Board introduced a concept of 'Auto Renewal' of Consent for Red-Small and all Orange and Green category industries. Accordingly, consent is renewed for the industries without prior inspection based on the self-certification by the industries. This ensures the grant of renewal of consent within seven days of receipt of the application through the Online Consent Management and Monitoring System (OCMMS). Consent to Establish (Extension) is

also issued through Auto Renewal.Applications received through the Single Window Portal are processed immediately.

Industries issued with CTE & CTO/RCO from 01.04.2023 To31.03.2024



5. Environmental Quality Monitoring for Water, Air and Noise

Environmental Quality monitoring and data analysis are vital to assess the environmental conditions and to support policy development and its implementation.

As per the mandate given in the Water (Prevention and Control of Pollution) Act, 1974, and the Air (Prevention and Control of Pollution) Act, 1981, TNPCB monitors the quality of water, air and noise through various initiatives and programmes in the State.

5.1. Care Air Centre and Water Quality Watch

Care Air Centre, which functions at the Head Office of TNPCB, is established as a Centre for Accessing Real-Time Air (Quality) Information Reports to monitor industrial stack emissions and the Ambient Air Quality of surrounding areas on a real-time basis. This is the first of its kind in the country. Major air-polluting industries, such as cement, oil refineries, petrochemicals, thermal power plants, fertilisers, iron & steel industries, etc., are connected to the Care Air Centre. If the air quality parameters exceed

the prescribed standards, auto-generated SMS and e-mails are sent immediately to the industry and the concerned Joint Chief Environmental Engineers (M) and District Environmental Engineers to rectify the defects. Besides, this system ensures industry self-monitoring and rectification. As on date, 820 industrial units are connected to this centre for Stack monitoring and 154 industrial units for Ambient Air quality monitoring.

Following the success of the monitoring in the Care Air Centre, TNPCB has also incorporated the Water Quality Watch Centre. This centre connects major water-polluting industries, such as tanneries, distilleries, sugar factories, pharmaceuticals, pesticides, textile processing, and Common Effluent Treatment Plants (CETPs). The quality of treated effluents is monitored in real-time. Three hundred sixty industrial units are connected to this Centre, and real-time

monitoring data are displayed on the TNPCB website.

5.2. Water Pollution Monitoring Mechanism

TNPCB monitors the treatment systems provided by industries, Common Effluent Treatment Plants (CETPs), Sewage Treatment Plants (STPs), and disposal of sewage/trade effluent to ensure that they achieve the prescribed standards before discharge into land water bodies and the sea.

All the highly polluting 17 category/Red-Large industries shall provide a Zero Liquid Discharge System (ZLD) with an Effluent Treatment Plant followed by a Multiple-Effect Evaporator (MEE) and an Agitated Thin Film Dryer (ATFD)/Elevated Solar Evaporation Pans to recycle the treated wastewater.

5.3. Common Effluent Treatment Plants (CETPs)

Considering the critical functions performed by Micro, Small, and Medium Enterprises (MSME) and the constraints in complying with wastewater discharge standards by these individual units, TNPCB initiated an innovative scheme to ensure their growth in an environmentally sustainable manner. This scheme promotes common facilities for the treatment of effluents.

TNPCB supports establishing Common Effluent Treatment Plants (CETPs) for clusters of small-scale industries in various parts of the State. TNPCB also assists small industries in evaluating CETPs' technical proposals through reputed institutions.

In Tamil Nadu, CETP schemes are formulated for the following industrial sectors:

S. No.	Industrial Sector	No. of CETP Schemes
1.	Tanneries	13
2.	Textile Bleaching & Dyeing Units	19
3.	Electroplating Units	2
4.	Hotels & Lodges	1
5.	Pharmaceutical Industries	1
	Total	36

Apart from the 19 CETPs for textile bleaching and dyeing units, 10 CETPs are proposed for which CTE has been issued by TNPCB. Funding for these CETPs is sought under the Integrated Processing Development Scheme (IPDS), Ministry of Textiles, Government of India, and under the "NadanthaiVaazhi Cauvery" Project Scheme, Ministry of Jal Shakti, Government of India.

5.4. Seepage Treatment System at SIPCOT Industrial Growth Centre, Perundurai, Erode District

G.O.(Ms).No.218 dt. 20.11.2023 has been issued by Industries, Investment Promotion and Commerce (MIG.1) Department for the establishment of a new Common Seepage Water treatment plant, 2000 KLD capacity of Zero Liquid Dischargeconsisting of Hardness Removal Plant, RO, MEE& ATFD at a cost of Rs.40 Crores for the treatment of seepage water from the SIPCOT industrial growth centre, Perundurai, Erode District. TNPCB and SIPCOT will contribute Rs.10 Crores each, and SIPCOT Industries Federation (textiles, tanners &general industries) will contribute Rs.20 Crores.Fiveacres of land have been selected to set upthe plant at SIPCOT, IGC, Perundurai.

5.5. Status of Sewage Treatment Plants of Urban Local Bodies

In compliance with the Hon'ble NGT order in OA No.673 of 2018, TNPCB submits a monthly report to the Government of India based on the data received from Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB), Commissionerate of Town Panchayat (CTP) and Directorate of Municipal Administration (DMA). All sewage treatment plants (STP) are provided by the urban local bodies (ULBs) and are classified as a red category.

The State currently has 105 STPs either under operation or in the trial run stage, of which 87 have received Consent to Operate (CTO), and 19 have received Consent to Establish (CTE).

TNPCB has issued CTO for 20 Faecal Sludge Treatment Plants (FSTPs) and CTE for 9 FSTPs.

5.6. Directions issued by TNPCB to prevent discharge of untreated sewage into water bodies

Directions have been issued to Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB), Commissionerate Town Panchayat(CTP) and Directorate of Municipal Administration (DMA) to complete the Underground Sewerage System (UGSS) for unsewered areas and ensure that no untreated sewage is discharged into rivers or any surface water bodies. Directions have also been given to CMWSSB, Commissionerate of Town Panchayat (CTP) and Directorate of Municipal Administration (DMA) to construct and operate the STPs with valid consent of the Board. Based on the instructions from the Central Pollution Control Board (CPCB), further directions have been issued to install Online Continuous Effluent Monitoring Systems (OCEMS) and Mobile

Applications in the existing STPs to monitor them effectively.

The Board levies Environmental Compensation to the local bodies that do not comply with conditions mentioned in the consent order or any other directions the Board gives.

TNPCB is continuously taking action by directing the Transport Department to cancel the Registration Numbers of tanker lorries transporting and discharging sewage illegally into the water bodies. Up to April 2024, TNPCB recommended cancelling 38 registration numbers.

Directions have also been issued to CMWSSB, CTP, and DMA to install a Digital Lock system with Global Positioning System (GPS) tracking in the Tanker Lorries registered and used by ULBs for the collection and disposal of sewage.

To protect Pallikaranai Marsh from sewage disposal from nearby areas, TNPCB and line departments are taking steps to plug sewage outfalls.

5.7. Monitoring of Water Bodies

5.7.1 National Water Quality Monitoring Programme

TNPCB is monitoring the water quality of inland water bodies in Tamil Nadu under the National Water Quality Monitoring Programme (NWMP) with a funding pattern of 70:30 (70% TNPCB fund and 30% CPCB fund) partial at 158 stations in the year 2023-2024 by collecting monthly/half-yearly samples in the following water bodies. The details are as follows:-

Water Body	Locations	Details
Rivers (12)	71	Cauvery, Tamirabarani, Bhavani, Palar, Vaigai, Thirumanimutharu, Sarabanga, Vennar, Vasista, Amaravathi, Cooum and Adyar

Water Body	Locations	Details
Lakes (8)	8	Udhagamandalam, Kodaikanal, Yercaud, Veeranam, Porur, Poondi, Pulicat and Redhills
Groundwater (8 Districts)	22	Erode, Namakkal, Salem, Karur, Trichy, Tirunelveli, Thoothukudi, & Tiruvallur Districts
Seawater (14 Coastal Districts)	34	Coastal - 32 Beach - 2
Sewage Treatment Plants	16	Chennai, Cuddalore, Madurai, Trichy, Tirunelveli, Salem, Erode (Perundurai and Dindigul Districts)
Drains	4	Chennai
Canal	2	Chennai
Tank	1	Tiruvallur
Total	158	

The results of seawater, rivers, lakes & groundwater are displayed on the TNPCB website (<https://tnpcb.gov.in/water-quality.php>) and uploaded to the CPCB website (<https://cpcb.nic.in/nwmp-data/>) regularly.

5.7.2. Polluted River Stretches

Based on the National Water Quality Monitoring Programme (NWMP) data, CPCB has declared 311 river stretches in the country as Polluted River Stretches. Ten river stretches fall in Tamil Nadu: Cauvery, Bhavani, Sarabanga, Thirumanimutharu, Vasista, Tamirabarani, Palar, Amaravathi, Cooum and Adyar.

CPCB has issued certain guidelines for preparing an Action Plan to protect Polluted River stretches by constructing sewage treatment plants, solid waste management facilities, evicting encroachments, averting coastal pollution / industrial pollution, etc.

TNPCB prepares the action plans. The Action Plans for Palar and Amaravathi have been prepared and are under implementation, and the action plans for Cooum and Adyar are under preparation.

The Action Plan is implemented by the Public Works Department, Municipal Administration and Water Supply Department, and Directorate of Rural Development & Panchayat Raj, and it is continuously monitored by the River Rejuvenation Committee(RRC).

Due to the implementation of Action Plans and continuous review by RRC, the Biochemical Oxygen Demand (BOD) values in rivers such as Sarabanga, Cauvery, and Bhavani have been reduced considerably.

5.7.3. Real-Time Water Quality Monitoring Stations (RTWQMS)

TNPCB has proposed implementing real-time water quality monitoring stations at eight locations across the State. These systems utilise online monitoring technology to continuously measure and transmit data on water quality parameters such as pH, Temperature, Dissolved

Oxygen (DO), Turbidity, Conductivity, Total Dissolved Solids (TDS), Total Suspended Solids (TSS), Biochemical Oxygen Demand (BOD), and Chemical Oxygen Demand (COD).

The 8 locations for installation of RTWQMS are as follows:-

Sl. No	River	Location	Monitoring Office
1.	Kalingarayan Canal (Erode North)	M/s Pioneer Mills Processing India Lt: 11.41106, Ln: 77.68578	O/o DEE, Perundurai
2.	Kalingarayan Canal (Erode North)	M/s SCM Textile Processing Mills Lt: 11.35164, Ln: 77.74247	O/o DEE, Perundurai
3.	Bhavani (Coimbatore North)	Mettupalayam (Upstream at Samana water intake point of Mettupalayam Municipality) Lt: 11.30742, Ln: 76.92233	O/o DEE, Coimbatore
4.	Bhavani (Coimbatore North)	M/s KG Denim Ltd (Downstream) Lt: 11.312, Ln: 76.99595	O/o DEE, Coimbatore
5.	Noyyal (Tiruppur North)	M/s Gokul Dyeing Factory Mangalam Village, Tiruppur Lt: 11.10651, Ln: 77.26001	O/o DEE, Tiruppur

Sl. No	River	Location	Monitoring Office
6.	Noyyal (Tiruppur North)	Near Kasipalayam Bridge, Tiruppur Lt: 11.11975, Ln: 77.39716	O/o DEE, Tiruppur
7.	Noyyal (Tiruppur North)	Downstream of Orathapalaym (Downstream) Lt: 11.11084, Ln: 77.53981	O/o DEE, Perundurai
8.	Thenpennai Sokkarasanapalli	Sokkarasanpalli (Near the border with Karnataka) Lt: 12.84269, Ln: 77.85904	O/o DEE, Hosur

Data from the above locations will be received from July 2024. These data support the identification of pollution sources, assessment of the impact of industrial activities, and appropriate actions to mitigate pollution and protect water resources.

5.8. Air Pollution Monitoring Mechanism

5.8.1. National Air Quality Monitoring Programme

Under the CPCB-funded National Air Quality Monitoring Programme (NAMP), TNPCB monitors ambient air quality in major cities and industrial clusters at 52 stations in the State twice a week to have 104 observations in a year as per the CPCB protocol for the parameters PM10 and PM2.5, Sulphur dioxide (SO₂), nitrogen dioxide (NO₂), and Ammonia (NH₃).

NAMP Locations
Existing:52 Stations Chennai (8), Coimbatore (3), Madurai (3), Salem (1), Tiruchirapalli (5), Thoothukudi (3), Mettur (2) and Cuddalore (3), Dharmapuri (3), Nagercoil (3), Perambalur (3), Sivagangai (3), Thiruvarur (3), Theni (3), Villupuram (3) and Thiruvannamalai (3)
For the year 2024–2025: 28 Stations Alandur (2), Cuddalore (2), Dindigul (2), Vellore (2), Avadi (2), Tiruppur (2), Tirunelveli

NAMP Locations

(2), Thanjavur (2), Salem (2), Nagapattinam (2), Kanchipuram (2), Rajapalayam (2), Erode (3) & Mettur (1) and 3 Rural stations each at Mettupalayam, Hosur and Tenkasi

The annual average values of 52 NAMP stations in the State recorded from April 2023 to March 2024, the Air Quality Index (AQI), were found to be satisfactory (with an AQI value of 51-100).

5.8.2. Continuous Ambient Air Quality Monitoring (CAAQM) Stations

The Board installed 34 Continuous Ambient Air Quality Monitoring (CAAQM) stations to continuously monitor the ambient air quality (AAQ). TNPCB has proposed installing 25 new CAAQM stations.

The CAAQM stations monitor parameters such as PM₁₀, PM_{2.5}, SO₂, NO₂, NH₃, O₃, CO, Benzene, Toluene, and Xylene (BTX) continuously. The AAQ data and the AQI in real-time are linked to the TNPCB

website and uploaded to the Electronic Air Quality Data System (EAQDS) of CPCB and on social media for public viewing.

5.8.3. Non-Attainment Cities

Based on the National Air Quality Monitoring Programme (NAMP) data, the CPCB has identified 131 cities in the country as non-attainment cities, where the PM₁₀ level exceeded the annual average standard of 60µg/m³. High levels of particulate matter are due to vehicle movement, re-suspension of road dust, burning of solid waste, use of fuels in domestic and commercial establishments, industrial emissions, etc.

In Tamil Nadu, Thoothukudi, Trichy, Madurai, and Chennai have been identified as non-attainment cities. The Action Plans to improve the air quality in these cities have been approved by CPCB and are being implemented by the line Departments.

The sanctioned funds to Thoothukudi Corporation for 2023-2024 are utilized for afforestation like developing Miyawaki forests and road development. Regarding Trichy Corporation, the process of widening and improving Bituminous Road, a length of 3.11 Km, is in progress.

5.9. Ambient Noise Monitoring Mechanism

Under the National Ambient Noise Monitoring Network Programme, CPCB has established Real-Time Ambient Noise Monitoring Stations at ten locations in Chennai City, covering silence zones, residential areas, and industrial areas. The stations are located in Egmore, T. Nagar, Perambur, Guindy, Triplicane, Pallikaranai, Velachery, Washermanpet, Anna Nagar, and Sowcarpet. The data is uploaded on the CPCB website.

The monitoring data reveals that the ambient noise level in Chennai city exceeds the prescribed standards, which is mainly due to vehicular movement and construction activities.

During 2024, under National Ambient Noise Monitoring Network (NANMN) from sub-scheme "Control of Pollution", CPCB has sanctioned an amount of Rs.1,36,00,000/- (Rupees One Crore and Thirty-Six-Lakh only) for the establishment/installation of eight Noise Monitoring stations in Million plus Cities (4 stations in each city) at Coimbatore and Madurai which is under implementation.

6.Waste Monitoring Mechanism

6.1.Bio-Medical Waste Management

As per the Bio-Medical Waste Management Rules, 2016, TNPCB issues Authorisations to Health Care Facilities (HCFs) and Common Bio-Medical Waste Treatment and Disposal Facilities

(CBMWTFs)and monitors the compliance of various rules provisions. The Government has constituted a State-Level Advisory Committee to supervise the implementation of the Rules.

In the State, as on date, authorization has been issued to 29,944 Private and Government hospitals, including bedded and non-bedded clinics, veterinary institutions, pathological labs, blood banks and research institutions.

6.1.1.Common Bio-medical Waste Treatment Facilities (CBMWTFs)

CBMWTFs are functioning for the collection, transport, treatment and scientific disposal of biomedical waste. In Tamil Nadu, 12 CBMWTFs are in operation,and the total installed capacity is 101.62 Tons/Day. Five CBMWTFs are under establishment.

Details of Common Bio-medical Waste Treatment and Disposal Facilities (CBMWTFs) – In operation

S. No	Name & Address of the CBMWTFs	Equipment capacity		Areas covered
		Incinerator (Kg/day)	Autoclave (Kg/day)	
1	M/s. G. J. Multiclave (India) Pvt Ltd, Chengalpattu District	10800	8000	Part of Chennai & Kancheepuram Districts
2	M/s. TamilNadu Waste Management Ltd., Chengalpattu District	4400	3240	Cuddalore, Chennai (N), Part of Kancheepuram, Tiruvallur Districts
3	M/s. Medicare EnviroSystems, Thanjavur District	3300	2000	Thanjavur, Thiruvarur, Trichy, Nagai, Pudukottai, & Sivagangai, Perambalur, Ariyalur Districts
4	M/s. Ken Bio Links Private Ltd., Vellore District	6000	3600	Vellore & Tiruvannamalai Districts
5	M/s. Ramky Energy & Environment Ltd, Salem district	3300	825	Salem, Namakkal, Erode & Karur Districts
6	M/s. Teknotherm Industries, Coimbatore District	6000	9000	Coimbatore, Nilgris & Tiruppur Districts

7	M/s. Aseptic System Bio-Medical Waste Management Co., Tirunelveli District	4000	3200	Tirunelveli, Thoothukudi & Kanyakumari Districts
8	M/s. Ramky Energy and Environment Ltd., Virudhunagar District	3300	1600	Madurai, Virudhunagar, Dindigul, Theni & Ramnad Districts
9	M/s. Kovai Biowaste Mgt (P) Ltd, Coimbatore	5500	4400	Coimbatore, Tiruppur & Nilgiris Districts
10	M/s. Pondicherry Solid Waste Mgt Company Private Limited, Cuddalore District	12000	2560 (10.24 m ³)	Cuddalore, Villupuram, Perambalur, Ariyalur, Kallakurichi Districts
11	M/s. TN Waste Management Ltd. Krishnagiri District	6000	450	Dharmapuri & Krishnagiri Districts
12	M/s. Re Sustainability IWMSolutions Ltd. Tiruvallur District	4000	1000	Chennai & Tiruvallur Districts

Details of Common Bio-Medical Waste Treatment and Disposal Facilities(CBMWTFs)under establishment:-

S. No.	Name & Address of the CBMWTFs	Equipment Capacity		Status of operation
		Incinerator (Kg/day)	Autoclave (Kg/day)	
1	M/s. City Meditech Industries Tiruppur District	975	1525	Under establishment
2	M/s. Environ BiowasteTiruvallur District	1000	6400	Environmental clearance under progress
3	M/s. Greater Chennai TiruvallurDistrict	10000		Environmental clearance under progress
4.	M/s. Ramnad Doctor's Association, Ramanathapuram District	-	-	Environmental clearance under progress
5.	M/s. Medicare Environmental Management Private Limited (MEMPL), Sivagangai District	-	-	Environmental clearance under progress

6.2. Battery Waste Management(BWM)

Ministry of Environment, Forest and Climate Change (MoEF&CC), GoI notified the Battery Waste (Management) Rules, 2022 on 22.08.2022 under the Environment (Protection) Act, 1986.

The above Rule shall apply to producers, dealers, consumers, and entities involved in the collection, segregation, transportation, and recycling of Waste Batteries and all types of batteries regardless of chemistry, shape, volume, weight, material composition, and use.

As per the Battery Waste Management Rules, 2022, 116 Producers have registered with the CPCB, and 4 Battery Waste Recyclers have registered with TNPCB. Details are available on the CPCB website(www.cpcb.nic.in).

As per the above Rules, Producers (manufacturers, importers) shall have the obligation of Extended Producer Responsibility (EPR) for the battery they introduce into the market, and the Producer shall meet the collection and recycling targets.

According to the Rules, battery Producers, Recyclers, and Refurbishers shall register through the online centralized portal developed by the Central Pollution Control Board (CPCB). Recyclers and Refurbishers shall also register with TNPCB on the CPCB portal. The portal will help improve accountability, traceability, and transparency in fulfilling EPR Obligations. This portal would be the single point data repository concerning orders and guidelines for implementing BWM Rules, 2022.

6.3. Solid Waste Management (SWM)

As per the SWM Rules, 2016, 226 Authorizations have been issued for Corporations, Municipalities, and Town Panchayats in Tamil Nadu that generate more than 5 tons of solid waste per day.

TNPCB issued directions under section 5 of the Environment (Protection) Act, 1986, to 30 local bodies to remit Interim Environmental Compensation for Noncompliance with SWM Rules, 2016.

6.3.1. Bio-mining of legacy waste

Solid Waste Management Rules mandate Local Bodies to carry out bio-mining of old dumpsites and land reclamation. Accordingly, the bio-mining of legacy waste has been initiated by the Local Bodies in 269 locations in the State and the Bio-mining of legacy waste has been completed in 119 locations. In the remaining 150 locations,

works are under progress. As on date, 574 acres of land are reclaimed.

6.4. Plastic Waste Management

Rapid increases in population, urbanisation, economic levels, and industrial growth have led to a massive increase in plastic waste generation.

As per the Annual Report submitted by the Urban Local Bodies for 2022-2023, a total quantity of 2144 tons/day of plastic waste has been generated from 21 Municipal Corporations, 138 Municipalities and 490 Town Panchayats in Tamil Nadu. Of this, 90% (1930 tons/day) of the waste was collected and channelised for recycling and other purposes. The collected waste is then segregated and sent to resource recovery facilities. The recyclable waste is sold to the registered recyclers, and the non-recyclable waste is disposed to cement industries for co-processing.

As per the Plastic Waste Management Rules, 2016, as amended in 2022, 261 authorized Plastic Waste Recyclers and 39 compostable plastic manufacturing units have been registered with the Tamil Nadu Pollution Control Board in the state.

6.4.1. Ban on Single-Use Plastics (SUP)

The Government, vide G.O.(Ms) No.84 Environment and Forests (EC.2) Department dated 25.06.2018, issued orders to ban certain types of one-time-use and throwaway plastic items, including plastic carry bags, irrespective of thickness and size. The ban is in effect from 01.01.2019.

The Ministry of Environment, Forest and Climate Change, Government of India, vide notification dated 12.08.2021, notified a ban on the manufacture, import, stocking, distribution, sale, and use of Single-Use

Plastic Items. The ban is in effect from 01.07.2022.

S. No	List of Banned Items
1.	Plastic sheet / cling film used for food wrapping
2.	Earbuds with plastic sticks
3.	The plastic sheet used for spreading on the dining table
4.	Balloons with plastic sticks
5.	Plastic Thermocol plates
6.	Candy with plastic sticks
7.	Plastic-coated paper plates
8.	Ice cream with plastic sticks
9.	Plastic-coated paper cups
10.	Polystyrene for decoration
11.	Plastic tea cups
12.	Cutlery, such as plastic forks
13.	Plastic tumbler
14.	plastic spoons
15.	Thermocol cups
16.	Plastic knives
17.	Plastic carry bags of all sizes & thickness
18.	Wrapping or packaging films around sweet boxes

19.	Plastic-coated carry bags.
20.	Wrapping or packaging films around invitation cards
21.	Non-woven Carry Bags
22.	Wrapping or packaging films around cigarette packets
23.	Water pouches/packets
24.	Plastic or PVC banners less than 100 microns
25.	Plastic straw
26.	Plastic stirrers
27.	Plastic flags
28.	Plastic trays

6.4.2. Enforcement of Ban on SUP

From January 2019 to April 2024, closure and disconnection of power supply directions were issued to 235 Industries involved in the manufacture of banned plastic items, including non-woven carry bags, plastic carry bags, water pouches, etc.

ULB officials frequently conduct raids, and fines are imposed against the users of

Single-Use Plastics (SUPs). From January 2022, 6,93,878 raids have been conducted, in which 691 tons of Banned Single-Use Plastics were seized, and Rs. 8.75 crores in fines have been collected.

6.4.3. Special Enforcement Activities

TNPCB has strictly enforced the Single-Use Plastic ban, and accordingly, intensive activities were carried out from October 2022 to March 2024 as per the instructions of the Central Pollution Control Board, with focus on Street Vendors, Flower and Fruit Sellers, Local Markets, Wholesale Markets, Industrial Areas, inter-state borders, and inspection of concerned industries in all the Districts of Tamil Nadu.

During the special enforcement drive, 57,126 entities were inspected. Of these, 13,753 violators were found. Around 116.178 Tons of banned SUP items were seized and

sent for recycling, whereas Rs. 64.59 lakhs of fine amount were collected by the local bodies.

6.4.4. Awareness Activities on SUP Ban

The TNPCB took up the following awareness activities:

- The District officials of TNPCB have been conducting awareness campaigns in coordination with the District Collectors vested with the responsibility of ensuring the prevention of storage, supply, transport, sale, and use of banned plastic items. The awareness campaign carried out in various Districts includes *viz.*, vehicle campaign, distribution of pamphlets to the public, display of posters in District offices of TNPCB, Government offices, schools, colleges, commercial establishments, markets, public gathering areas such as hospitals,

hotels, industrial estates, malls, bus stands, railway stations, theatres etc.

- TNPCB has issued a press release in English and Tamil on the ill effects of Single-Use Plastics (SUP). The Government's effort to enforce the ban on SUP was elaborated on, and the people's cooperation and support to eliminate it were sought.

6.4.5. Extended Producers Responsibility (EPR) for plastic packaging

This is being implemented under Plastic Waste Management Rules, 2016, as amended in 2022 by the Ministry of Environment, Forest and Climate Change, Government of India. To streamline the implementation process of EPR, it is the responsibility of Producers, Importers and Brand-owners (PIBOs) to ensure the processing of their plastic packaging waste through recycling, re-use or end-of-life disposal, viz.,

co-processing, Waste-to-energy, Plastic to oil, roadmaking, industrial-composting etc.,

As per the EPR Guidelines, Producers, Importers, and Brand Owners (PIBOs) shall register through the online centralized portal developed by the Central Pollution Control Board (CPCB). The platform enhances accountability, traceability, and transparency in meeting EPR obligations.

PIBOs operating in one or two States shall obtain Registration from the respective State Pollution Control Boards. PIBOs operating / marketing in more than two States shall obtain Registration from the Central Pollution Control Board.

Plastic Waste Processors (PWPs) shall register with TNPCB on the centralised EPR portal (<https://eprplastic.cpcb.gov.in/>) developed by CPCB. PIBOs shall fulfil their

EPR obligation by purchasing EPR certificates from PWPs through CPCB's EPR portal.

TNPCB has so far issued Registration to 692 PIBOs and 126 PWPs.

6.4.6. State-Level Special Task Force (STF)

The Government constituted a state-level Special Task Force (STF) on 07.02.2022 under the Chairmanship of the Chief Secretary and a district-level Task Force under the Chairmanship of the District Collector/ Commissioner (for Greater Chennai Corporation) to monitor the implementation of the Single-Use Plastic (SUP) ban. The STF meetings were held on 05.03.2022, 02.03.2023, and 22.02.2024. All the nodal Departments have been addressed to implement the action points and make the initiatives successful in Tamil Nadu.

6.5. Construction and Demolition Waste Management

Construction and Demolition (C&D) waste mainly consists of inert and non-biodegradable materials such as concrete, plaster, metal, wood, plastics, etc., which have recycling value.

In Greater Chennai Corporation, two C&D waste processing facilities, one at Kodungaiyur and another at the Perungudi dumpsite, have capacities of 400 tons/day.

Directions issued to Chennai Metropolitan Development Authority (CMDA), Directorate of Town & Country Planning (DTCP), Public Works Department (PWD), Tamil Nadu Housing Board (TNHB), Tamil Nadu Slum Clearance Board (TNSCB) will procure materials from C&D waste and make it mandatory in municipal and government contract works based on the CPCB Guidelines on Dust Mitigation measures

in handling construction material and C&D wastes.

6.6.E-Waste Management

The Ministry of Environment, Forest and Climate Change, Government of India, revised the E-Waste (Management) Rules, 2016, and notified the E-Waste (Management) Rules, 2022, in November 2022. The same has been in force since 1 April 2023.

The Rule intends to manage e-waste in an environmentally sound manner and put in place an improved Extended Producer Responsibility (EPR) regime for e-waste recycling wherein all the manufacturers, producers, refurbishers and recyclers are required to register on the portal developed by CPCB and shall file annual and quarterly return through the CPCB portal.

As per the E-Waste Management Rules, 2022, three E-waste Recyclers and 463 Producers of Electric and Electronic Equipment (EEE) have registered with the CPCB.

6.7 Hazardous Waste Management

Hazardous Waste is managed as per the provisions of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. As of 31.03.2023, the Board has identified 4612 industries generating hazardous waste and issued Authorisation under this Rule. In the year 2022-2023, 11.41 lakh tons of hazardous waste was generated, of which 1.33 lakh tons (11.66%) were landfillable, 0.291 lakh tons (2.54%) were incinerable, 4.16 lakh tons (36.45%) were recyclable and 5.63 lakh tons (49.34%) were utilisable waste.

6.7.1. Common HW Disposal Facilities (Landfillable&Incinerable of Hazardous Waste)

The details of the three everyday Hazardous Waste Treatment Storage and Disposal Facilities HW-TSDF are as follows:-

Location	Details of Facility		Authorised capacity (TPA)	Cumulative HW disposed (Tons)
	Facility Type	Year of Commission		
Gummidi poondi Thiruvallur District	Landfill	Nov 2007	3 Lakh	7.33 Lakh
	Incineration	Nov 2009	0.12 Lakh	0.56 Lakh
	Pre-processing	Mar2023	0.50Lakh	-
Virudhunagar District	Landfill	Dec2016	0.90Lakh	1.14 lakh (Not operation since 31.03.2023)
Krishnagiri District	Landfill	Jun 2023	0.907Lakh	-
	Pre-processing	Jun 2023	0.299 Lakh	-

6.7.2 Utilization& Recycling of Hazardous Waste

Co-Processing of Hazardous Waste in Cement Plants

Based on the CPCB guidelines, the Board has permitted using hazardous and other waste in cement kilns as alternate raw material for co-processing or as alternate fuel. Subject to the compliance criteria specified, authorisation under HOWM Rules, 2016 has been granted to 15 cement industries to process 17.45 lakh tons of utilisable waste in cement kilns for co-processing annually. From 2022 to 2023, about 2.81 lakh tons of ETP sludge were utilised in various cement industries in Tamil Nadu for co-processing.

Hazardous Waste Recycling Facilities

The Board has authorised 111 HW Recyclers to recycle nine different hazardous wastes as given in the Table below:-

S. No	Type of Recycling Facilities	No Facilities authorised for recycling (MT)	Total Authorized Capacity (MTA)
1	Brass Dross	2	944.00
2	Zinc Bearing Waste	13	14537.60
3	Copper Bearing Waste	7	34990.00
4	Spent catalyst containing Ni, Cd, Zn, Cu, As, V & Co	1	17390.00
5	Lead-bearing waste, including battery waste	23	501045.76
6	E-Waste	4	43900.00
7	Paint and ink Sludge/ residues	3	4600.00
8	Used oil	34	113046.60
9	Waste oil	24	41150.59
	Total	111	771604.55

Hazardous Waste Pre-Processing Facilities

To encourage the co-processing of hazardous waste in cement kilns for beneficial purposes, seven hazardous waste pre-processing units to make a homogenised mixture of materials suitable for co-processing in the cement kilns for direct use either as raw material substitution or fuel supplementary is under operation. These facilities have pre-processed around 62,000 tons of hazardous & other wastes during 2022-2023 & sent for co-processing in cement industries.

Hazardous Waste Utilization Facilities

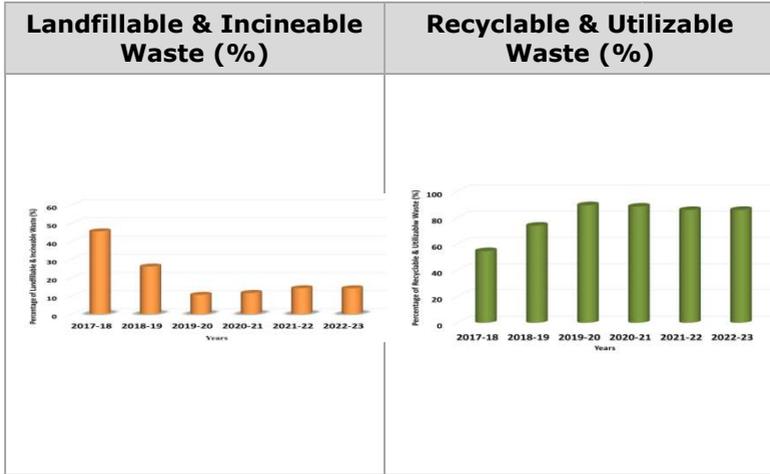
The Board has authorised 33 numbers

of industries for utilisation of the following HW categories in the Table below:

S. No	Type of Utilizing Facilities	No of Facilities for utilization (MT)	Total Authorized Capacity (MTA)
1	Recovery of solvents from spent solvents	11	24272.0
2	Utilization of Spent Acid	2	15600.0
3	Decontamination of contaminated drums/containers/barrels	16	40425.0
4	Utilisation of waste di-chromate solution	4	13068.4
	Total	33	93365.4

As the TNPCB is encouraging more recycling and utilising facilities to handle recycling and utilising waste, the quantity of landfillable/incinerable waste has decreased, and the amount of recyclable/utilisable waste

has increased over the years, as given in the Figure below.



Graph showing the Recyclable/Utilizable Waste & Landfillable/Incinerable Waste trend during 2022-2023.

6.7.3 Utilization of Mixed Salt:

Textile units

In Tamil Nadu, about 207605.053 T of mixed salts generated from the Zero Liquid Discharge (ZLD) system of Textile processing units are stored in closed sheds with impervious floor of the premises of the IETPs and CETPs. Based on the Standard Operating Procedure (SOP) issued by the CPCB, a

treatment and disposal facility at Ramanathapuram District is functioning for further processing of mixed salts and obtained Consent to Operate from the Board valid for a period up to 31.03.2028. So far, this facility has received 2342.675 T of mixed salt from the textile units for further processing.

Tannery Units

In Tamil Nadu, about 113059.1 Metric Tons (as of 31.03.2024) of mixed salts generated from the Zero Liquid Discharge (ZLD) treatment system of Tannery units are stored in the premises of the industries/ CETPs inside closed sheds. The CPCB has yet to release the Standard Operating Procedure (SOP) for utilising tannery mixed salt generated by treating tannery wastewater.

CETP of M/s. VANITEC has obtained approval from the government of India for its

proposed upgrade, which includes a common salt purification plant under the STEP scheme. The implementation of salt purification plant technology will be a solution to a long-term problem in the tannery sector.

Extended Producer's Responsibility (EPR) for Waste Tyre

The Central Pollution Control Board (CPCB) has developed an online portal on its website (cpcb@nic.in) for Extended Producer Responsibility (EPR) for Waste Tyres under Hazardous and Other Waste (Management and Transboundary Movement) Amendment Rules, 2022. All stakeholders, such as Producers, Recyclers, and Retreaders, are required to register in the above portal.

As on date for Tamil Nadu, 28 Tyre Producers have applied for registration and 10 have obtained EPR certificates. Further, 35 Recyclers have applied for registration, and 16 have obtained EPR certificates.

6.7.4 National Hazardous Waste Tracking System

CPCB has developed the “National Hazardous Waste Tracking System (NHWTS)”to track the generation, transportation, storage, recycling, utilisation, and disposal of hazardous waste nationwide. This application functions as a single application for monitoring the movement of hazardous waste and resolves the issues about interstate movement of hazardous wastes.

In this regard, TNPCB has taken continuous steps to onboard the Hazardous waste-generating industries and facilities in Tamil Nadu for effective monitoring and tracking. As on 25.04.2024, 911 numbers of hazardous waste industries are registered in this portal.

6.7.5 Remediation of Contaminated Sites M/s. Hindustan Unilever Limited, Kodaikanal

M/s. Hindustan Unilever Limited (HUL) at Kodaikanal (earlier in the name of M/s. Ponds India Limited) was operated between 1984-2001 and manufactured clinical glass mercury thermometers. During its operation, the site was contaminated with mercury over a total area of 17858 Sq.m. Based on the scientific studies, the specific Target Level (SSTL) is fixed at 20mg/Kg in the soil by the Scientific Expert Committee (SEC), NEERI & CPCB, and the remediation works involving Soil Excavation, Washing, Retorting, Homogenization and Backfilling, commenced from March 2021. The National Environmental Engineering Research Institute (NEERI) supervises the remediation work.

The remediation work is being monitored continuously by Scientific Expert Committee Members and TNPCB. The

remediation process is expected to be completed in December 2024.

M/s. Tamil Nadu Chromates and Chemicals Limited, Ranipet

M/s. Tamil Nadu Chromates and Chemicals Ltd (TCCL) at Ranipet, Walajah Taluk, Vellore District, was established in 1975 by the Government and finally closed in 1995. About 2.2 lakh tonnes of chromium-bearing hazardous process waste sludge generated during production was dumped in 2 hectares of open land in the factory's backyard. As suggested by M/s. ERM India Pvt Ltd at the site interim remedial measures implemented in which capping of hazardous waste stockpile, construction of drainage network and cut-off trench, construction of rainwater pond and construction of new boundary wall is being done at a cost of Rs.15 Crores. The technical document has been submitted by the consultant

M/s. Stratus Environmental Inc Pvt Ltd and the project is expected to be completed in 6 months.

7. Legal Enforcement Mechanism

The Board is empowered to file complaints in court, issue closure directions and stoppage power supply against defaulting/erring units under the various Environmental Acts.

Appellate Authority

Appellate Authority at Chennai has been functioning since 2000 and deals with appeals preferred by industries against the orders of the TNPCB.

National Green Tribunal

The Southern Bench of the National Green Tribunal (NGT) in Chennai has been in operation since 2012 to handle cases related to environmental issues in the State.

7.1 Online Legal Case Management and Monitoring System (OLMMS)

TNPCB has developed and implemented the Online Legal Case Management and Monitoring System (OLMMS) to track and monitor legal cases filed across various legal forums, including:

1. Hon'ble Supreme Court of India
2. Hon'ble High Court of Madras
3. Madurai Bench of Hon'ble High Court of Madras
4. Hon'ble National Green Tribunal (NGT)
5. Appellate Authority

From November 2022 onwards, TNPCB processed all case files only through the above software. This software empowers TNPCB to efficiently manage legal proceedings, stay updated on judgments, and ensure timely compliance.

8. Other Activities

Environmental Training Institute

The Environmental Training Institute (ETI) of TNPCB provides pollution control and environmental protection training to Board employees, industrial representatives, and executives from Municipalities, Corporations, line departments, and non-governmental Organizations (NGOs) on new Environmental Technologies, Environmental Acts/Rules, self-development, Time Management, leadership qualities and stress management. For 2023 - 2024, ETI held 11 internal training programmes and 38 external training programmes benefitting 411 officers.

Environmental Awareness Programme

Every year, the Board conducts various Environmental awareness programmes to raise public awareness and encourage people to take positive action to protect the

Environment, such as rallies, environmental quiz competitions, tree planting, auto-rickshaw campaigns, pamphlet distribution, display boards, FM radio broadcasting, and the screening of short films through visual media especially during festival seasons like Deepavali, Bhogi and Vinayagar Chathurthi.

The above-said awareness programmes are being conducted for school and college students to nurture young minds.

Further, awareness regarding solid waste management is also being created in coordination with local bodies and district administration.

Self-explanatory models regarding waste management, the functioning of ETP/STPs, and the ban on SUPs are displayed in the stall of the Trade Fair Exhibition held at Island Ground, Chennai, every year.

During the Climate Summit 2.0, stalls exhibiting the significance of the Meendum Manjappai Campaign and Tamil Nadu Fishnet Initiatives were set up.

Action taken on erring units

TNPCB has issued a closure order to 152 erring industrial units and issued a show cause notice to 3482 industries for non-compliance with consent conditions and Environment Regulations from April 2023 to March 2024 to protect the Environment.

Open House Session

To make the board's functions more transparent and, in turn, generate confidence and trust among the stakeholders, the Board is conducting an "OPEN HOUSE SESSION" (OHS) on the 5th of every month from April 2022 at all TNPCB offices. During this session, the public can interact with officials and sort out their issues. From April 2023 to

March 2024, 454 complaints were registered in the Open House, and 408 complaints have been resolved.

9. New Initiatives/ Flagship Programmes taken up by TNPCB

Modernisation of TNPCB

- A new Joint Chief Environmental Engineer (Monitoring) Office was formed and functioning at Chengalpattu (Maraimalai Nagar) to ensure better supervision and monitoring.
- Five new District Environmental Engineer Offices have been formed in Chennai (South), Thiruvarur, Tenkasi, Ranipet, and Perambalur to effectively coordinate with the District Administration.

Establishment of Real-Time Water Quality Monitoring Stations (RTWQMS)

- As announced in the 2021 Budget Speech by the Hon'ble Finance Minister, TNPCB is establishing Real-Time Water Quality Monitoring Stations at 8 locations in the State.
- Continuous Ambient Air Quality Monitoring Stations are being established at 25 locations in the State by TNPCB.

Integrated Environmental Monitoring Studio (IEMS)

- India's first Integrated Environmental Monitoring Studio is being established in TNPCB for visual depiction of tracking of Hazardous waste, Biomedical waste, and E-waste movement and to integrate various modules such as Online Consent Management and Monitoring System, Online Grievance Petition and Redressal

System, Online Legal Cases Management and Monitoring System, Integrated Lab Module, web-based geospatial service, Continuous Emission/Ambient Air Quality Monitoring System, Water Quality of Rivers, Functioning and Evaluation of ETPs(Effluent Treatment Plants) of industries/Common effluent treatment plant (CETPs) / Sewage Treatment Plants (STPs) of Local Bodies. The Studio will be launched in July 2024.

Green Champion Awards

- Since 2021, TNPCB has presented Green Champion Awardsto organizations, education institutions, schools, colleges, residential welfare associations, individuals, local bodies, and industries for their outstanding contributions to environmental conservation.
- Every year, 100 recipients from the above categories will be chosen for the Award and a monetary prize of Rs.1.0

lakh. In 2022-2023, Green Champion Awards were given to the selected awardees on World Environment Day 2023 by the Hon'ble Minister of Environment and Climate Change

Green Rating of Industries

TNPCB is introducing voluntary Green Rating of Industries to assess their environmental performance, encourage them to align with best practices of clean and green technologies, and thus incentivise them by rating them as Platinum, Gold, Silver, and Bronze. Design and development of a web portal for Voluntary Green Rating is in progress.

Tamil Nadu Fishnet Initiatives

Tamil Nadu Fishnet Initiatives (TNFI), a unique and novel initiative by TNPCB, aims to prevent marine pollution by establishing

collection centres for abandoned or discarded fishnets, recovering them for recycling, and implementing circular economy solutions to conserve marine biodiversity. Two sites, Kasimedu and Kovalam, were selected as pilot sites.

Mainstreaming Rag Pickers in Circular Economy

To Mainstream Rag Pickers in the Circular Economy, a pilot project was initiated in Zone 13 & 14 of Greater Chennai Corporation to promote the circular economy and revive the lives of Rag Pickers.

Online Waste Exchange Bureau

Online Waste Exchange Bureau is a web-based application that brings together all the stakeholders of different types of waste, such as plastic waste, E-waste, Battery waste, Tyre waste, Used oil, and hazardous waste, to improve circularity in

waste management. TNPCB is developing the web portal through TNeGA.

Development of 1000 Kurunkadugal

Industries in Tamil Nadu developed 1000 Kurunkadugal with indigenous tree species. Geo-tagging of Kurunkadugal is in progress. The Kurunkadugal scheme supports the Green Tamil Nadu Mission to increase the tree cover from 23.8% to 33% of the state's geographical area.

Soil Quality Mapping

Soil quality mapping is being carried out across industrial areas using geospatial tools by TNPCB through Tamil Nadu Agricultural University. The study is being carried out in a phased manner, viz., SIPCOT/SIDCO areas, Comprehensive Environmental Pollution Index (CEPI) areas and other polluted areas. The study will be completed by 2025.

Setting up of Research and Development (R&D) Center- a green building

TNPCB has proposed to set up an R&D Centre, a green building to host an Integrated Environmental Monitoring Studio(IEMS), IT Wing & State-of-the-art laboratory. The project is expected to be completed by 2026.

People's Campaign against Throw Away Plastics – Meendum Manjappai

"Meendum Manjappai" Campaign

- A State Campaign titled "Meendum Manjappai"- "a call for back to basics and into the future" with traditional nature-based solutions was launched as a "People's Campaign against throwaway plastics". The campaign was launched in December 2021 to create awareness among the people and promote alternatives to plastic, alongside

enforcement of the ban on SUPs, urging citizens to replace Single-Use Plastic bags with Manjappai, a traditional symbol of Tamil culture.

- The campaign is being implemented in all districts, and awareness activities are being conducted in coordination with the District Collector and line departments. The local bodies are taking action to inspect the shops / commercial establishments to check the use of SUPs and are seizing the materials banned by the Government of Tamil Nadu. Over 6.10 lakhs of Manjappai (cloth bags) have been distributed through awareness campaigns.

Launch of Manjappai Vending Machines

- In support to the campaign and to make Manjappai available and accessible to public and reduce the usage of plastic carry bags, the Government of Tamil

Nadu came up with a first-of-its-kind cloth bag vending machine and has installed these machines at 174 strategic locations like markets, malls, public building premises and locations of high public footprint such as Koyambedu Market (wholesale fruits and vegetable market), Madras High Court premises, Madurai Bench of Madras High Court, Madurai District Court, Kalaignar Centenary Bus Terminus – Kilambakkam, markets in certain districts, etc. Also, these machines were showcased during special gatherings like the National Expo on Eco-alternatives for banned SUP and Conference for Start-ups 2022, Singara Chennai Food Festival, Climate Summit 2.0, Island Grounds exhibition and District events. Over 3.69 lakhs of Manjappai (cloth bags) have been dispensed through the Manjappai Vending Machines.

Promotion of Eco-friendly alternatives

National Expo

- A first-of-its-kind National Expo on Eco alternatives to SUPs and a Start-up Conference in September 2022 was organized at Chennai Trade Centre in Chennai for the manufacture & sales of alternatives to plastic, promote and create awareness among the public on other options available for SUPs. Over 170 stalls were exhibited by Eco alternative manufacturers, and nearly 5000 visitors attended the Expo.

Eco-alternatives directory

- First its-kind directory in the entire country on Directory of Manufacturers of Eco Alternative Materials for SUPs in Tamil Nadu is prepared by TNPCB to promote the availability of eco-alternatives to SUPs among businesses

like hoteliers, caterers, marriage Halls, theatres, malls, etc.The Directory is available on the TNPCB website.

Manjappai award

- The Environment, Climate Change, and Forest Department, Government of Tamil Nadu, has instituted an Award for the best plastic-free campuses by announcing Manjappai awards to the three best schools, three best colleges, and three best Commercial establishments that implement the ban on SUPs and encourage the use of eco-alternatives to carry bags and other banned SUPs. The awards were presented on World Environment Day 2023 and will be continued for subsequent years.

Manjappai Mobile App and Website

- To make the information and developments around the “Meendum

Manjappai” campaign accessible to all, the “Meendum Manjappai App” and “Meendum Manjappai Website” were launched by the Hon'ble Minister of Environment and Climate Change on World Environment Day 2023. Details of district-wise implementation of the ban, details of manufacturers of eco-friendly products, and details of recyclers of plastic waste are registered on this website district-wise. District-wise locations for Manjappai Vending Machines and Reverse Vending Machines are available on the website. So far, more than 17000+ people have visited the website, and the mobile app has been downloaded and used by 1060+ people.

Manjappai Brigades and Manjappai Kiosk (Coastal Litter Monitoring Kiosk)

- TNPCB has launched Manjappai Brigade with electric vehicles to create awareness

of the ban on Single Use Plastics and Meendum Manjappai Campaign through two electric cars and six electric bikes, which are customised in line with the theme of the campaign, as a pilot initiative in Chennai. This initiative increases the public outreach about the campaign by carrying out awareness through public address systems and disseminating information about the ban on SUPs and the Meendum Manjappai campaign at schools, colleges, temples, marketplaces, and other important locations. These Brigades will also monitor and report the usage of banned SUPs to TNPCB through the Meendum Manjappai mobile application, which shall notify the local bodies to take necessary action.

- Further, for the first time in the country, TNPCB has installed a Coastal Litter Monitoring Kiosk at Besant Nagar Beach

and at Neelankarai Beach, Chennai, which provides information about the marine plastic pollution and sensitises the public about the Meendum Manjappai campaign. The kiosk houses a Manjappai Vending Machine and video displays and print information about banned SUPs and their eco-friendly alternatives. Awareness programmes on the SUP ban and promotion of Manjappai are being done at the Kiosks every week.

Studies undertaken by TNPCB

TNPCB focuses on updating technological interventions to increase environmental quality and resilience. Thus, TNPCB conducts multiple studies on the thrust areas as follows:

- Microplastics Assessment in Coastal areas, estuaries, and lakes in Tamil Nadu through Suganthi Devadason Marine Research Institute, Tuticorin.

- Development of devices or technology to mitigate noise pollution from power loom machines in the Tharamangalam area, Salem, through Anna University, Chennai.
- Hydrogeological&Geophysical investigation in the SIPCOT, Perundurai, Erode through National Geophysical Research Institute (NGRI), Hyderabad.
- Pollution load carrying capacity study in Manali Industrial area, Chennai, as per NGT Order through Enviro Care Systems, Chennai.
- Evaluation and Strengthening of TNPCB through Ernst & Young, New Delhi.
- Prepare a time-bound comprehensive action plan to monitor coastal – marine pollution along coastal stretches in Tamil Nadu through the National Centre for Coastal Research (NCCR), Chennai.
- Assessment of Environmental Compensation for the brick kiln units located in Thadagam, Coimbatore District

through The Energy & Resources Institute (TERI), Delhi.

- Strategies with a detailed action plan for E-waste and Battery waste circularity in Tamil Nadu through Price Waterhouse Cooper (PwC) in coordination with the British Deputy High Commission.
- Baseline Survey on discarded fishnets and other plastic debris along the coastal areas of Tamil Nadu through Suganthi Devadason Marine Research Institute, Tuticorin.

10. Sustainable Development Goals

The Sustainable Development Goals (SDGs) include 17 goals and 169 targets, which were resolved at the UN Summit in September 2015.

Concerning **Goal 6, 'Clean Water and Sanitation', and under Indicator 6.3.2 (Percentage of industries complying with wastewater treatment as per CPCB**

norms), TNPCB ensures that all industries treat trade effluent to comply with the norms and achieve a Zero Liquid Discharge (ZLD) system for trade effluent. The aim is to recycle treated wastewater, thereby reducing raw water consumption for industrial purposes.

Concerning Goal 9, 'Industries innovation and infrastructure,' and Indicator 9.4.1a (Number of air quality monitoring stations), TNPCB monitors ambient air quality at 87 stations (52 manual stations under the National Air Quality Monitoring Programme (NAMP), 34 Continuous Ambient Air Quality Monitoring Stations (CAAQMS), and one mobile CAAQMS) covering the district headquarters and major industrial clusters.

Four cities were identified as non-attainment cities based on their particulate matter levels. Action is being

taken to improve the air quality in these cities.

The Government of Tamil Nadu, through TNPCB, has developed a Voluntary Green Rating Mechanism to assess industries' environmental performance, with air quality as one of the parameters. The mechanism encourages industries to align with the best clean and green technology practices and rates them as Platinum, Gold, Silver, and bronze.

Concerning **Goal – 11, 'Make cities and human settlements inclusive, safe, resilient and sustainable'** and under Indicators 11.6.1(Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated by cities), 11.6.2 (Annual mean levels of fine particulate matter (e.g. PM_{2.5} and PM₁₀) in cities)& 11.6.3(Number of days the levels of fine particulate matter (PM_{2.5}

and PM₁₀) above mean level). TNPCB performs the following:

To achieve the indicators 11.6.1

- TNPCB is monitoring the management of hazardous wastes by industries, solid wastes, plastic wastes, e-wastes, bio-medical wastes, tyre wastes, and battery wastes under various Waste Management Rules.
- Hazardous industrial and bio-medical waste from healthcare facilities are disposed of at respective Common Waste Treatment & Disposal facilities. To ensure the processing of other wastes through recycling, re-use or end-of-life disposal such as co-processing/ Waste-to-energy/ oil making/ road making/ industrial composting, the Extended Producer Responsibility (EPR) regime has been implemented for Producers, Importers,

Brand Owners, Recyclers, Refurbishers, and Manufacturers.

- Tamil Nadu Fishnet Initiatives (TNFI) to prevent marine pollution by establishing collection centres for abandoned or discarded fishnets, recovering them for recycling and implementing circular economy solutions to conserve marine biodiversity.
- Mainstreaming of Rag Pickers in Circular Economy to increase waste collection, promote the circular economy and revive the lives of Garbage Collectors.

To achieve indicators 11.6.2 & 11.6.3

- TNPCB monitors Particulate Matter (PM10& PM2.5) under the National Air Quality Monitoring Programme (NAMP) and through Continuous Ambient Air Quality Monitoring Stations (CAAQMS),

which cover the district headquarters and major industrial clusters.

- TNPCB is instructing industries to adopt gaseous fuels such as R-LNG, CNG, and LPG instead of wood, coal, pet coke, etc. Industries are also instructed to install suitable air pollution control devices such as bag filters, scrubbers with cyclone separators, and electrostatic precipitators to control particulate emissions.

Concerning **Goal:12, 'Responsible Consumption and Production** Indicators 12.4.2a (Environmental quality monitoring by the introduction of monitoring stations across the State), 12.5.4 (Per capita hazardous waste generated) and 12.5.5 (Ratio of the processed quantity of hazardous waste sent for recycling to dangerous waste generated) TNPCB performs the following:

- TNPCB monitors the environmental quality under the National Water Quality Monitoring Programme (NWMP) and Chennai City Waterways Monitoring Programme (CCWMP). Similarly, ambient air quality is monitored under the state's National Air Quality Monitoring Programme (NAMP), and ambient noise levels are measured in 10 locations in Chennai.
- TNPCB has identified 4,612 industries that are generating hazardous waste and has issued Authorization under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, for scientific disposal such as recycling, utilisation, co-processing, incineration and landfilling. In the past six years, the quantity of hazardous wastes sent to incineration and landfilling has decreased due to increased awareness of the need

for reduction, reuse, and recycling by industries.

Concerning **Goal - 13, 'Climate Action'** Indicator 13.3.2 (Strengthening institutional, systemic and individual capacity building to implement adaptation, mitigation and technology transfer and development actions in the State),TNPCB performs the following.

- TNPCB has created 1000 Kurunkadugal through industries using native tree species to slow climate change by expanding the State's tree cover.
- TNPCB conducts training programmes through its Environmental Training Institute (ETI) and encourages TNPCB officials to attend training programmes conducted by Technical Expert Institutions. Further, to create environmental awareness among the public, several awareness programmes on

waste management are conducted especially during festival seasons throughout Tamil Nadu by the District Environmental Engineers of TNPCB in their respective Districts.

- TNPCB has taken decisive steps to strengthen the overall organizational structure and man power to cater to multi-dimensional requirements.



The Hon'ble Chief Minister of Tamil Nadu has inaugurated the Chief Minister's Green Fellowship Programme with 40 aspiring Green Fellows.



The second edition of the Tamil Nadu Climate Summit, which was held on 28th and 29th February 2024 in the presence of the Minister of Youth Welfare and Sports Development Department of Tamil Nadu



Launch of “Voluntary Green Rating of Industries in Tamil Nadu” in coordination with FCDO, UK Deputy High Commission



Felicitation of winners of Environ Solvers Hackthonby Hon'ble Minister for Environment and Climate Change during the celebration of World Environment Day 2023



Presentation of Manjappai Awards by the Hon'ble Minister for Environment and Climate Change during the celebration of World Environment Day – 2023



Presentation of Green Champion Awards by Hon'ble Minister for Environment and Climate Change during the celebration of World Environment Day – 2023



Norway's Deputy Minister of Foreign Affairs visited the TNPCB Manjappai Kiosk at Besant Nagar and participated in a beach cleanup with schoolchildren.



Eco alternative products for plastics exhibited during the Mega Beach Cleanup event



A fish model created using plastic waste was exhibited to create awareness about marine plastic pollution.



The Mission LiFE pledge was taken during the Mega Beach Cleanup event at Kovalam Beach.



**Mega Beach Cleanup event organised by
TNPCB on 21.05.2023**



**TNPCB Manjappai Kiosk and E-vehicle
launch event in Elliot Beach, Besant
Nagar, Chennai**

Kurunkadugal

