ENVIRONMENT, CLIMATE CHANGE AND FOREST DEPARTMENT

ENVIRONMENT AND CLIMATE CHANGE

POLICY NOTE

2025-2026

DEMAND No.15

Thangam Thennarasu

Minister for Environment and Climate Change

INDEX
DEPARTMENT OF ENVIRONMENT AND CLIMATE CHANGE

TAMILNADU POLLUTION CONTROL BOARD

POLICY NOTE-2025-2026
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"நீர்அறம்நன்று, நிழல்நன்று, தன்இல்லுள்
பார்அறம்நன்று,பாத்துஉண்பானேல் – பேரறம்
நன்று, தளிசாலை நாட்டல் பெரும்போகம்
ஒன்றுமாம் சால உடன்"

–சிறுபஞ்சமூலம் : 61

நீர்நிலைகளை (குளம்,கிணறு) அமைத்தல், மரம்நடுதல், உறைவிடம் அமைத்தல், பகிர்ந்து உண்ணல், பாதையோரங்களில் மரம்நடுதல் ஆகிய செயல்களே பேரின் பத்துக்கான வழிகளாகும்

1. Introduction

The Department of Environment was established in 1995 with its headquarters at Chennai, aimed at promoting environmental awareness and implementing Coastal Regulation Zone (CRZ) and Environmental Impact Assessment (EIA) notifications in Tamil Nadu.

However, in recent decades, Climate change has become one of the most pressing challenges affecting ecosystems, economics, and communities worldwide. India presented its Nationally Determined Contribution (NDC) commitments in response to commitments towards the Paris Agreement 2015, which were further strengthened during the 26th UN Climate Change Conference of the Parties (COP26) held in Glasgow. India also committed to achieving net-zero emissions by 2070 at COP26.

Following this, Tamil Nadu, one of India's most industrialized States with a long coastline of

1076 km, is highly susceptible to climatic events and sea-level rise. Hence, the Government of Tamil Nadu, realizing the need to address these challenges, proclaimed that Tamil Nadu will achieve carbon neutrality ahead of the national deadline, highlighting the State's proactive stance in combating climate change.

In light of that, the nomenclature of the Department was changed from **Department of Environment** to **Department of Environment and Climate Change** in the year 2021. Following this, a dedicated mission, viz., Tamil Nadu Climate Change Mission, was launched to execute the climate actions of the State.

2. Vision, Mission, and Objectives

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 Objectives

1. Establish a comprehensive and forward-looking Climate Change Policy that integrates mitigation, adaptation, and resilience across all Government sectors, aligning with national and global climate goals.
2. Strengthen the preservation of natural ecosystems and biodiversity.
3. Develop scientifically informed and community-responsive coastal protection

frameworks to enhance the resilience of Tamil Nadu's 1,076 km coastline against sea-level rise, erosion, and extreme weather events.

4. Promote ecologically sensitive and low-impact tourism through Beach Management and Aesthetics Management Systems (BEAMS) and Blue Flag Beaches.
5. Empower local communities through inclusive climate governance, capacity-building, and decentralized adaptation models to respond effectively to localized climate impacts.
6. Scale up structured climate education through the Environment Education Programme (EEP) and Eco-Clubs to nurture a climate-conscious citizenry and instill sustainable values among youth.

7. Facilitate the shift towards green mobility and clean transportation systems to reduce fossil fuel dependency and accelerate the State's low-carbon development trajectory.
8. Enhance energy-efficient building and urban planning standards that drive energy conservation, thermal comfort, and climate-smart infrastructure.
9. Collaborate with academic and research institutions to develop, pilot, and upscale indigenous green technologies to improve the overall research ecosystem around climate change.
10. Create an integrated climate data repository for vulnerability assessments, impact modelling, and evidence-based policy formulation.
11. Enable cross-sectoral collaboration among Government bodies, academia, the private

sector, civil society, and international agencies to co-create a resilient, inclusive, and Net Zero Carbon future for Tamil Nadu.

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 a framework for capacity building and awareness programmes of various stakeholders (Line Departments, Institutions/Universities, Schools, Researchers, Experts, Non-Governmental Organisations (NGOs), Eco-clubs, and Environment Education

Programme (EEP)) on Climate Change Adaptation and Mitigation.

- Implementing the Statutory provisions of the Coastal Regulation Zone (CRZ) Notification and the Environment Impact Assessment (EIA) Notification.

The Department handles environmental protection and management efforts, except those managed 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 environmental protection awareness through its vast network of Environment Education Programme (EEP) and Eco-clubs in schools and colleges.

3. Statutory Provisions for Environmental Safeguards

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.

Constitutional Provisions

The Indian Constitution is one of the first in the World to recognize 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 endeavor to protect and improve the environment and to safeguard the forests and wildlife of the country."

Article 51A (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 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.

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

B. 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.

C. 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

4.1. Tamil Nadu Green Climate Company (TNGCC)

The Tamil Nadu Green Climate Company was established as a pioneering response to climate change by providing an institutional framework to drive climate-resilient development, ecosystem restoration, and sustainable resource management across the State.

It functions as an umbrella organization, coordinating the efforts of multiple stakeholders, including Government departments, research institutions, development partners and local communities to achieve long-term sustainability goals.

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:

- Secretary to Government, Agriculture & Farmers Welfare
- Additional Chief Secretary to Government, Housing & Urban Development
- Additional Chief Secretary to Government, Water Resources
- Principal Secretary to Government, Municipal Administration & Water Supply
- Principal Secretary to the Government, Energy
- Principal Secretary to the Government, Finance
- Principal Chief Conservator of Forests (HoFF), Tamil Nadu Forest Department
- Chairperson, Tamil Nadu Pollution Control Board
- Chief Executive Officer, Tamil Nadu Green Climate Company

In order to address the climate challenges, four core missions were being steered under the Leadership of Hon'ble Chief Minister viz.,

- Green Tamil Nadu Mission (GTM)
- Tamil Nadu Wetlands Mission (TNWM)

- Tamil Nadu Coastal Restoration Mission (TN-SHORE)
- Tamil Nadu Climate Change Mission (TNCCM)

To effectively implement these four missions, the company has structured its initiatives in the five following strategic thematic areas.

i. Climate Change Mitigation, Adaptation & Coastal Resilience.

ii. Biodiversity Conservation, Ecosystem & Coastal Restoration

iii. Circular Economy & Sustainable Resource Management

iv. Pollution Control, Urban Cooling & Environmental Health

v. Capacity Building & Community Engagement.

4.2. 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, 10.86 Crore seedlings have been planted across Tamil Nadu to increase the State's green cover. Additionally, 75 Maragatha Pooncholai (Village Woodlots) were established in all districts for the benefit of the public. As per the Indian State Forest Report-2023, Tamil Nadu has 26,450.22 Km^2 area under forest cover, which is 20.34% of the State's geographical area. As per Forest survey of India 2023 report, the forest and tree cover area is 31820.94 km^2, which is 24.47% of the geographical area of the State.

4.3. Tamil Nadu Wetlands Mission

With the objective of ecological restoration of wetlands in Tamil Nadu, the Mission aims to identify and map 100 wetlands in 5 years and restore the ecological balance with a focus on livelihood options. As a result of the concerted efforts taken to secure global recognition for key

wetlands across the State, the total Ramsar sites in the State of Tamil Nadu has gone up to 20, with the addition of Sakkarakottai and Therthangal bird sanctuaries, Ramananthapuram District, to be the wetlands of international significance. Tamil Nadu now holds the highest number of Ramsar sites in India.

4.4 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 utilization 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 areas, namely, Enhance Coastal Biodiversity, Coastal Protection,

Improving Livelihoods, Pollution Abatement, and Project Management.

4.5 Tamil Nadu Climate Change Mission

Combating and mitigating the impact of climate change is a major concern for a coastal State like Tamil Nadu. Hence, the Tamil Nadu Climate Change Mission was launched, based on the announcement during the budget session of the year 2021-22 to focus on climate change adaptation and mitigation activities, with a total outlay of Rs.500 crores for a period of Five years vide G.O (MS). No.54, Environment, Climate Change and Forests (EC-2) Department, dated 23.03.2022. Tamil Nadu Climate Change Mission is a first of its kind at the Subnational level, resonating the Government's commitment to build a sustainable and climate-resilient future for its citizens.

The objective of the Mission is to adopt integrated, evidence-based planning to maximize co-benefits across climate mitigation, adaptation and sustainable development. Tamil Nadu will leverage the expertise of its academic and research institutions to inform policy and implementation. It seeks to enhance sectoral understanding of climate impacts and foster coordinated responses, including emission reduction, resource mobilization, and improved resilience through sustainable infrastructure.

The Mission is headed by the Director of Environment and Climate Change, who is the Chief Mission Director, overseeing and coordinating the climate change issues in the State.

4.5.1. Tamil Nadu Governing Council on Climate Change

The State Government has issued orders vide G.O. (Ms.). No.242, Environment, Climate

Change and Forests (EC-2) Department, dated 21.10.2022 for setting up the Tamil Nadu Governing Council on Climate Change with Eminent Scientists, Experts from International Organizations, Chief Secretary to Government, Secretaries to Government, Hon'ble Ministers and Stakeholders from various sectors under the leadership of Honorable Chief Minister of Tamil Nadu on Climate Change with the following objectives

i. Provide a policy directive to the Tamil Nadu Climate Change Mission
ii. Advise on Climate Adaptation and Mitigation Activities
iii. Approve Tamil Nadu State Action Plan on Climate Change
iv. Provide guidance to the State Climate Change Missions and District Climate Change Missions on the implementation of various Climate initiatives.

4.5.2. 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 and Second Governing Council meeting on Climate Change was conducted under the Chairmanship of the Hon'ble Chief Minister of Tamil Nadu, on 03.03.2023 and 05.12.2024, respectively.

4.5.3. Tamil Nadu Climate Summit 3.0

Tamil Nadu Climate Summit 3.0, a massive event organized by the Tamil Nadu Climate Change Mission with a participation of around 2000 individuals, inaugurated by the Hon'ble

Chief Minister of Tamil Nadu, serves as a platform for the stakeholders, partner organizations, Climate Enthusiasts, Researchers and students for exchange of dialogues and enabling collaborative effort making way for promoting climate resilience in the State.

The following documents were released at the TN Climate Summit 3.0 by the Hon'ble Chief Minister of Tamil Nadu

1. Action Plan for de-carbonization pathways in Rajapalayam,
2. Lifestyle for Climate framework document
3. TNPCB & You 2025 Book
4. Fish Net Initiative Book
5. Compendium of Best Practices for Environmental Sustainability and Climate Change Adaptation in Tamil Nadu
6. Brief Document on Wetland & Health Card
7. Compendium of Wetlands

8. Further, the Online Waste Exchange Bureau Website and
9. Voluntary Rating Mechanism Website

In addition, Environmental Awards were distributed to the Awardees under various categories.

4.5.4. One Health Initiative

The One Health approach recognizes the interconnectedness of human, animal, and environmental health. In Tamil Nadu, the rapid urbanization, agricultural practices, and biodiversity create unique health challenges that necessitate a holistic strategy. This initiative aims to foster collaboration among various sectors to enhance health outcomes for communities across the State.

Key Activities to be taken up:

1. Organize forums and workshops to bring together Government agencies, health

professionals, NGOs, academia, and communities for interdisciplinary collaboration.

2. Support research projects and laboratories that explore the linkages between human, animal, and environmental health, and encourage data sharing.

4.5.5. Retrofitting of Government Buildings

The Detailed Project Reports are being prepared to incorporate Climate Resilient and Sustainable Measures in two Government Hospitals, Stanley Medical College and Hospital, Chennai, and Rajiv Gandhi Medical College, Chennai, respectively, as a part of the One Health Initiative.

4.5.6 Hon'ble Chief Minister's Waterbody Conservator Award

Water is a crucial element for sustaining life, but the rapid growth of urbanization and industrialization has exerted immense pressure on water resources. This cumulative impact, coupled with the effects of climate change, has led to water scarcity in various regions of the country. To safeguard this precious resource, effective and efficient management by the community based on sound scientific methodology is essential to preserve and enhance its ecosystem services.

Therefore, to honor the individuals/ institutions / Civil Society Organizations who dedicated their lives to preserving and conserving the water bodies of the State, the applications were invited through the TN awards portal from all the districts of Tamil Nadu. The nominations from each district shall be submitted by the District Collectors to the State Level Selection

Committee, headed by the Chief Mission Director, TNCCM, through online. The selected awardees will be honored with an award and a cash prize of Rs.1.00 lakh.

4.5.7. Sustain TN

Climate change poses a significant threat to our planet and its inhabitants, necessitating urgent action to mitigate its impacts and build resilience. SustainTN aims to catalyze a wave of eco-innovations that will contribute to a more sustainable and climate-resilient future for Tamil Nadu and beyond. SustainTN seeks to engage Students, individuals, teams, and start-ups in developing innovative solutions to address key environmental and climate challenges faced by the State. The selected startups will be mentored and provided with market opportunities by Startup TN.

4.5.8. Green Indexing Of Cities

The rapid urbanization in the State amplifies resource consumption and emissions, further exacerbating climate change and environmental degradation. Without strategic and evidence-based interventions, climate impacts could severely disrupt socio-economic development and intensify inequalities. This project is crucial to institutionalize effective climate governance across Tamil Nadu's districts and municipalities. Data collection and the development of a dashboard are in progress for monitoring the environmental performance of the districts for indexing.

4.5.9 My TN Initiative – Nature Stewardship Programme – 'புதியதோர் உலகம் செய்வோம்'

The "My TN Initiative: A Nature Stewardship Programme" is aimed at promoting the conservation and restoration of the natural environment in Tamil Nadu. This initiative would

bring together the collective efforts of youth volunteers to raise awareness, and push for tangible climate action and policy changes. The online platform titled 'Puthiyathor Ulagam Seivom (புதியதோர் உலகம் செய்வோம்)' is under development with collaboration from UNICEF – YuWaah.

4.5.10 Lifestyle For Climate

This initiative is an integral part of Tamil Nadu Climate Change Mission, spearheaded by the Department of Environment & Climate Change, aimed at fortifying the State against the impacts of climate change while championing ecological conservation and sustainability. The primary objective is to develop a Lifestyle for Climate Certification program for existing buildings through a comprehensive framework that assesses the sustainable measures followed in those buildings. Hence, the framework was

developed and launched by the Honorable Chief Minister of Tamil Nadu during the TN Climate Summit 3.0 conducted on 4th and 5th February 2025 in Chennai. The dedicated platform for rating and certifying green buildings is under development.

4.5.11 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. Its imperative to bring 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, Government of Tamil Nadu has selected Rajapalayam, Rameshwaram, the Nilgiris, and Coimbatore to transform into 'Carbon Neutral Hubs'. Carbon-neutral workshops were conducted in Nilgiris, Coimbatore, and Rajapalayam. Following this, the Carbon Neutral Action Plan is under preparation after discussion with various stakeholders in these four hubs to attain carbon neutrality.

Consequently, the Action plan for de-carbonization pathways in Rajapalayam has been released by the Honorable Chief Minister of Tamil Nadu during the TN Climate Summit 3.0 conducted on 4th and 5th February 2025.

4.5.12 Sustainable Habitat

The time has come for the realization that the habitat where we live can no longer be ignored, and the benefits of green building practices have to be realized to reduce the impact on our environment. Energy-saving measures have to be adopted 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 a green building rating mechanism as a pilot project.

Concerted, systematic engagement with Builders and Residential Welfare Associations will ensure necessary awareness and initiate behavior 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 21 Municipal Corporations *viz.,* Avadi, Chennai, Coimbatore, Cuddalore, Dindigul, Erode, Hosur, Kanchipuram Karur, Kumbakonam, Madurai, Nagercoil, Salem, Sivakasi, Tambaram, Thanjavur, Thoothukudi, Tiruppur, Tirunelveli, Trichy and Vellore. A total of 3,360 individuals belonging to Builders and

Residential welfare Associations were trained through the meticulously designed two-day workshop.

4.5.13 Carbon Enrichment Programme

Soil carbon storage is a vital ecosystem service that 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. The Carbon Enrichment Programme is a strategic initiative aimed at promoting soil carbon storage and enhancing tree growth through the utilization of nutrient-rich soil obtained from the bio mining of Municipal solid waste. By utilizing the nutrient-rich soil obtained from bio mining, around 6000 saplings have been planted at Madurapakkam Reserve Forest in the 1st week of October 2023. The sapling has grown better in the plots applied with Bio-mined soil in the ratio 1:1. Further studies are underway to prepare a detailed report

on the impacts of the Carbon Enrichment Programme at Madurapakkam Reserve Forest. The project's outcome is monitored and documented by the Centre for Climate Change and Disaster Management, Anna University, Chennai.

4.5.14 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, Palmyra, Cashew, and other specialized species, raising Mangrove plantations in coastal districts wherever they grow in local ecosystems, protecting and enhancing the growth of seagrass and coral reefs, developing an action plan, and preparing an Atlas for sustainable coastal management.

A total of 195 hectares of Mangrove Plantation in the Modified Fish-Bone Method have

been planted in the coastal districts of Tamil Nadu, and around 375 hectares of degraded mangrove forests have been restored during the FY 2023 -2024. Further, planting of Casuarina for 90 hectares has been taken up in addition to restoration of 375 hectares of degraded mangrove forests in the coastal districts during the year 2024-2025.

4.5.15 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. The Detailed Project Reports for incorporating Climate Resilient and Sustainable Measures such as efficient solar lighting, water management, heat management, greening, eco-restoration of temple tanks, and interventions to remove plastic and micro plastic were prepared and is submitted to

Hindu Religious and Charitable Endowments Department for taking up the interventions in Madurai Meenakshi Amman Temple. Similarly, the DPR for Annai Velankanni Church has been submitted to the District Collector, Nagapattinam and the Rector, Annai Velankanni Church.

4.5.16 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 – 2025.

- Climate fun and learning sessions with game kits were designed for school children and were distributed to 500 Government Schools of Tamil Nadu.
- Climate Literacy Modules for School Children have been developed.
- Around 120 Social media posters, 60 reels and several short videos have been created to impart Climate Literacy among the public.
- A Hackathon for Government School students to bring out innovative solutions has been conducted in Salem through the District Climate Change Mission.
- The Department of Environment and Climate Change, Government of Tamil Nadu, has developed an extensive activity calendar under its Climate Literacy initiative, aimed at

engaging 58,854 schools across the State. This calendar serves as a structured framework to promote awareness and action on environmental sustainability among students through a series of dedicated activities, themed observances, and pledges.

- Tamil Nadu State-Wide Quiz on Climate Change and Sustainability was launched to foster eco-awareness among school students. The quiz, designed in two phases, began with an online preliminary round on January 29, 2025, where students participated in a bilingual (Tamil & English). With nearly 60,000 students participating, students from Government and Government-Aided Schools were the six finalists. The finalists were awarded medals, certificates, and trophies for their achievements. This is one of the largest campaigns of this kind in India.

- In order to impart ecological consciousness and sustainability awareness, summer nature camps and winter nature camps for Government School students have been conducted in all districts of Tamil Nadu. Around 11,400 students across Tamil Nadu have been educated on the ecological and environmental importance through this nature camp initiative.
- The climate literacy campaign has been conducted in 21 educational institutions across Tamil Nadu. Wherein 3,150 college students from various institutions participated in the event. Further, awareness programmes on Climate Change were organized through Capacity building workshops, training programmes, Nature walks, Cyclathon rallies, Street plays in public places, etc. Around 12,000 individuals were sensitized through these programmes.

4.5.17 District Climate Change Mission

The Government of Tamil Nadu has established District Climate Change Missions (DCCM) in all 38 districts, with the District Collector as the Mission Director and the District Forest Officer as the District Climate Officer, to strengthen climate response at the grassroots level.

With an allocation of ₹3.80 crores, the mission aims to integrate climate change adaptation and mitigation into district-level development planning, enhance institutional capacities, and develop a monitoring framework for climate action projects. The DCCM works in alignment with the State Action Plan, coordinating with the Tamil Nadu Climate Change Mission to implement its initiatives. Additionally, it organizes stakeholder workshops to promote climate literacy and ensure community participation in climate adaptation and mitigation efforts. Each district has conducted two

capacity-building and awareness workshops so far, contributing to the State's vision of low-carbon, climate-resilient development.

4.5.18. 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 actions towards adaptation and mitigation for Climate Change.

The Green Fellows have played a pivotal role in catalyzing impactful change through meticulously executing 1,284 awareness programs and sensitizing more than 4.60 lakhs individuals across districts by advocating Meendum Manjappai, Plastic bans, SVEEP Campaigns, and nature conservation. Further literacy, publications including 7 editions of Climate chronicles, monthly newsletters, and awareness handouts have been distributed to

various Government stakeholders in all the districts. In addition, the Programme has facilitated effective implementation of the three missions, i.e., Tamil Nadu Climate Change Mission, Green Tamil Nadu Mission, Tamil Nadu Wetland Mission, at district levels, which has been recognized by the District Administrations and Hon'ble Minister for Environment & Climate Change through Excellence Awards.

4.5.19. 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 this regard, so far 197 Government Schools were selected under this programme and

were allocated with an amount of Rs. 39.40 Crore (Rupees Twenty Lakh per School) to undertake various green measures for energy efficiency by using solar lightings, use of solar pumps, setting up bore wells, Rainwater harvesting Structures, composting, creation of vegetable garden/medicinal gardens and planting fruit trees, reducing water use, recycling wastewater and creating a plastic-free environment etc. in their premises.

In order to implement the program effectively, a dedicated Green School committee has been constituted under the chairmanship of the District Collectors in all the districts of Tamil Nadu. Accordingly, implementation in the four green schools has been completed and certified as a Green School in March 2025. The implementation in other schools is in progress and will be certified during the year 2025-2026.

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 a multi-disciplinary approach to improve capabilities related to coastal processes, shoreline management, coastal hazards / vulnerability, etc.

This department is committed to Sustainable Development Goals 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 GIS Cell has prepared the Coastal Zone Management Plan (CZMP) through the National Centre for Sustainable Coastal Management (NCSCM) and the Local Level Coastal Zone Management Plan (LLCZMP) through Indian Remote Sensing (IRS), by the Coastal Regulation Zone (CRZ) Notification 2011 issued by the Ministry of Environment, Forest and Climate Change MoEF&CC.

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 upto 12 Nautical miles (Nm) of the territorial waters and the tide-influenced water bodies]

- CRZ-V (Areas requiring special consideration for 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, Government of India, for the above-said purpose.

The MoEF&CC, Government of India has 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 has been sent to all the District Coastal Zone Management Authorities and the Stakeholder Departments for necessary action.

The MoEF&CC, Government of India 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, Government of India, 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 at a scale of 1:4000 at a cost of Rs. 2.99 crore through the Institute of Remote Sensing (IRS), Anna University, under the 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 are 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 authority at the State and District levels.

5.5 Tamil Nadu State Coastal Zone Management Authority (TNSCZMA)

To regulate development / construction activities and to check violations in CRZ areas, the MoEF&CC, GoI has constituted a Tamil Nadu State Coastal Zone Management Authority (TNSCZMA) 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, Department of Environment and Climate Change

as its Member Secretary. The Authority comprises senior officials from various departments and technical experts/NGOs. It is a State-level recommending body, recommending the proposal to MoEF&CC /SEIAA based on the nature of the project for CRZ clearance

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 periodic meetings to take decisions pertaining to the development proposals in CRZ areas as per CRZ notification and recommend proposals to TNSCZMA after ensuring that the proposals are in compliance with environmental regulations and do not harm coastal ecosystems in the Coastal Regulation Zones.

5.7 Initiatives in Coastal Regulation Zone:

- To enhance transparency in the Coastal Regulation Zone, the Department of Environment has launched a dedicated web portal for the Tamil Nadu State Coastal Zone Management Authority (TNSCZMA)-(http://www.tnsczma.gov.in).
- 14 Assistant posts have been created, one in each coastal district, to provide support to the District Coastal Zone Management Authority (DCZMA) and ensure effective enforcement of CRZ Notifications.
- An online e-payment system has been introduced for collecting scrutiny fees for CRZ Clearance applications, replacing the traditional method of payment through a Demand Draft.
- The Department of Environment and Climate Change, successfully organised two Regional Workshops in Chennai and Cuddalore, covering the coastal districts of Chennai, Chengalpattu,

Tiruvallur, Cuddalore, Villupuram, and Mayiladuthurai. These workshops aimed to equip stakeholders in coastal districts with essential knowledge for the effective implementation of the CRZ Notification, 2019.

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

Under the EIA Notification 2006, obtaining prior Environmental Clearance for greenfield and brownfield projects based on their potential environmental impact is mandatory. Projects falling under Category 'A' in the Schedule of the Notification required 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 Level 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.

The current 6th State Level Environment Impact Assessment Authority(SEIAA) was constituted through the Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India notification S.O. No. 1098 (E), dated March 6, 2025. For the first time, Tamil Nadu has set up two State Expert Appraisal Committees (SEAC—I and SEAC—II) established to assist the SEIAA

The Authority comprises Chairperson, Member Secretary, and SEIAA Member, along with two Chairpersons, two Member Secretaries, and fourteen Members for SEAC-I and SEAC-II in Tamil Nadu, serving a term of three years.

The State Expert Appraisal Committee (SEAC) 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 and subsequent amendments.

Initiatives in handling Environmental Clearance files

- To enhance transparency in the processing of Environmental Clearance files, the Parivesh Portal is utilized for evaluating Environmental Clearance applications. The average time taken to issue the EC is 49 days, making it one of the leading States in India to provide clearance expeditiously.
- The Environmental Clearance (EC) process has transitioned to a completely paperless system to protect the environment. As of January 1, 2025, the State-level Environmental Impact

Assessment Authority (SEIAA) of Tamil Nadu will no longer accept hard copies of applications. Following the implementation of e-office, all aspects of the Environmental Clearance internal process and related files will be managed exclusively through the e-office system. Therefore, the office has officially converted to a paperless operation.

- An online e-payment system has been implemented for the State Level Environmental Impact Assessment Authority (SEIAA) through the website seiaa.tn.gov.in. This system is used for the scrutiny of Environmental Clearance (EC) applications, replacing the previous method of collecting scrutiny fees via a Demand Draft. A processing fee ranging from Rs.10,000/- to Rs.10,00,000/-is collected from project proponents to facilitate ease of doing business and reduce physical interactions.

- SEIAA TN is revamping its website for better transparency in file tracking systems and daily updates

7. Environment Management Agency of Tamil Nadu (EMAT)

The Environment Management Agency of Tamil Nadu (EMAT) is an autonomous agency, to facilitate more effective networking between Government and non-Governmental agencies. It was created in 2002 to execute and monitor the work under National River Conservation Programme (NRCP) and National Lake Conservation Programmes (NLCP) funded by the Ministry of Environment, Forests and Climate Change, (MoEF&CC), Govt. of India. The work sanctioned under NRCP and NLCP was completed in 2005.

Eco-restoration of water bodies activities are being carried out in coordination with the

various Government Departments Viz. Water Resources Department, Municipal Administration, Town Panchayat and Forest Department.

These eco-restoration activities have been funded by the State Environment Impact Assessment Authority (SEIAA), Tamil Nadu Pollution Control Board(TNPCB), Government Grant, etc., and implemented through the line Departments.

Now, EMAT is monitoring Eco-restoration activities of water bodies, creation of eco parks in various districts from the fund available under Corporate Environment Responsibility Fund.

7.1. Environment Education Programme (EEP)

The National Green Corps Programme was launched in 2002 in Tamil Nadu with 100 Eco-clubs per district to promote environmental consciousness among students in the Government

Schools. The number of eco-clubs has progressed further, and at present, Eco clubs are functioning in 9500 Schools, with 250 per district for 38 districts. In order to increase the outreach, the formation of Eco clubs has been extended to Matriculation Schools, the Central Board of Secondary Education (CBSE), and Private Schools. The previously called National Green Corps programme was revamped into the "Environment Education Programme (EEP)" since 2023-24

During 2024-25, MoEF&CC, New Delhi has released Rs.5.53 Crore under EEP for conducting an awareness programme. Accordingly, various awareness activities viz. Sustainable Lifestyle workshop, Innovative Awareness programme, various activities at eco-club levels in school, Awareness programme through "Message on Wheel", Exhibition, distribution of cloth bags to avoid usage of plastic bags, and Nature Camping programme, etc. have been conducted in all 38

districts during 2024-25. With 400 programs, nearly 10 lakh students and the public have benefited from this scheme.

8. Environmental Information, Awareness, Capacity Building and Livelihood Programme (EIACP)

The Ministry of Environment, Forest and Climate Change, Government of India (MoEF&CC, GoI) had 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.

This HUB provides information on various aspects of the State of the Environment and related issues of Tamil Nadu. The EIACP PC HUB also collects, collates, stores, retrieves, and disseminates environmental information through a website, www.tnenvis.nic.in. Preparation of the State of

Environment Report (SoER), conducting certificate courses under the Green Skill Development Programme (GSDP), creation of a web-based database, publication of newsletters, preparation of awareness brochures, and conducting Environmental awareness programmes are the ongoing projects under EIACP PC HUB.

The EIACP 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, Mission Life and Outreach Programmes, Research and publications, Green Skill Development Programme, Mass awareness campaigns, Capacity Building and Livelihood Programme.

9. Environmental Awards

The Environmental Awards are being distributed annually for ten awardees under

various categories by the Government to recognize the efforts and contributions of NGOs, institutions, researchers, and individuals for their best efforts/contributions in environmental protection, management, and creation of awareness. During 2024-25, ten environmental awards were given to awardees in Climate Summit 3.0 held on February 4-5, 2025.

10. Ongoing Projects / Schemes

10.1 Climate Studio

The Department has established 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 & Biodiversity 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.
- 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.

10.2. 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.

The Kovalam Beach in Chengalpattu District, was selected as the pilot beach as it meets the water quality and safety criteria as per the Blue Flag Standards, which is implemented by the Society of Integrated Coastal Management (SICOM), MoEF&CC, GoI. The Beach Management Committee (BMC) has been constituted under the

Chairmanship of the District Collector, Chengalpattu District to monitor and supervise the Blue Flag Beach Programme at Kovalam Beach. The Kovalam Beach, Chengalpattu has been certified with Blue Flag Award for the tourism season starting from October 2021 to May 2022 on 21.09.2021 and was again renewed every year. It was renewed on 25.01.2025 for a year in FY 2024-25.

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, Implementation works in Marina beach, Chennai, Ariyamaan beach, Ramanathapuram, Kameshwaram beach, Nagapattinam and Silver Beach, Cuddalore are under progress. For FY 2025-26, the baseline survey and the Detailed Project Report (DPR) are under preparation for

the remaining six beaches. This has been announced at an outlay of Rs.24 crore.

10.3 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.

11. Achievements of the year 2024-25

- The office of the Department of Environment and Climate Change was successfully shifted to the new office at 9th Floor, CMRL Metro Bhavan, Nandanam, Chennai, to cope up with its increasing divisions and staff strength.
- According to NITI Aayog's Sustainable Development Goals (SDG) India Index 2023-24, Tamil Nadu secured the 1st rank in Climate Action (Goal 13), achieving a score of 81. This marks a significant improvement from its previous 11th position, highlighting the State's substantial progress in addressing climate change challenges.

Beyond climate action, Tamil Nadu also ranked 1st in Affordable and Clean Energy (Goal 7), with scores of 100. These accomplishments reflect Tamil Nadu's proactive initiatives, including Tamil Nadu climate missions and international collaborations, aimed at achieving net-zero emissions ahead of national target.

- Tamil Nadu is the first State in India to organize a Climate Summit to bring in National and International best practices and to address the climate and biodiversity crisis with the participation of International Experts, Partner Organizations, Reputed Institutions, Stakeholders departments, etc. The Climate Summit 3.0 was held on 4th and 5th February 2025.
- The Chief Minister’s Green Fellowship Programme has helped sensitize 4.60 lakh individuals through 1,284 meticulously

designed awareness programs on pressing environmental issues.

- Through the Environmental Education Programme, around 400 programs have been conducted, benefiting nearly 10 lakh students and members of the public.
- To enhance transparency in the Coastal Regulation Zone, the Department of Environment has launched a dedicated web portal for the Tamil Nadu State Coastal Zone Management Authority (TNSCZMA)-(http://www.tnsczma.gov.in).

12. Conclusion

The Department of Environment and Climate Change, Government of Tamil Nadu, as a pioneer in environmental and climate action, has consistently demonstrated strong leadership and an unwavering commitment. Through the implementation of dedicated missions, innovative

programs, capacity building, and grassroots engagement, the Department has laid a robust foundation for a climate-resilient, sustainable, and equitable future. The achievements outlined reflect the integrated efforts of Government bodies, local communities, academic institutions and civil society, all working towards the shared vision of a greener and more sustainable Tamil Nadu.

The Department reaffirms to conserve natural ecosystems, enhance climate literacy, support nature-based solutions, and empower districts and communities to become Stewards of nature. With continued focus, collaboration, and innovation, Tamil Nadu is poised to set an example for other States and regions in building a resilient future for generations to come.

TAMIL NADU POLLUTION CONTROL BOARD
POLICY NOTE - 2025-2026

இருபுனலும் வாய்ந்த மலையும் வருபுனலும்
வல்லரணும் நாட்டிற்கு உறுப்பு.

குறள் 737

"ஆறு, கடல் எனும் இருபுனலும், வளர்ந்தோங்கி நீண்டமைந்த மலைத் தொடரும், வருபுனலாம் மழையும், வலிமைமிகு அரணும், ஒரு நாட்டின் சிறந்த உறுப்புகளாகும்."

1. Introduction

Our environment is a complex and interconnected web of life. It's not just a backdrop to our lives; it's the very essence of our existence. Thus, it is everything that surrounds us – the air we breathe, the water we drink, the soil beneath our feet, and the diverse flora and fauna that inhabit our planet.

It is imperative to protect our natural environment from deteriorating, and the only way to do that is through environmental protection. Environmental protection is the practice of preserving and restoring the natural world to ensure a sustainable future for all living beings.

With rapid industrialisation, urbanisation, deforestation, and pollution, the planet faces significant environmental challenges, including climate change, habitat destruction, and loss of biodiversity.

Protecting the environment is not just a responsibility but a necessity to maintain the ecological balance and secure resources for future generations. Thus, Environmental protection encompasses actions taken to preserve and maintain the natural environment, including efforts to adapt, mitigate climate change and prevent harmful human impacts on ecosystems.

The Government of Tamil Nadu established Tamil Nadu Pollution Control Board (TNPCB) on

27.02.1982 under the administrative control of the Environment, Climate Change, and Forest Department. TNPCB, as a statutory body, is entrusted with the implementation of environmental laws and regulations in the State. The Board is constituted with a Chairperson, Member Secretary, five official members nominated by the Government, five representatives from local authorities, three non-official members representing agriculture, fisheries, industry, trade, or other relevant sectors, and two members from State-owned Companies or Corporations.

2. Functions of the Board

- To plan a comprehensive programme for prevention, control and abatement of 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 relating to water and air pollution and the prevention, control or abatement thereof.
- 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 sewage and trade effluent treatment plants for their effectiveness and review plans, specifications for corrective measures.
- To inspect industrial plants or manufacturing process, any control equipment and to give directions to take steps for the prevention, control or abatement of air pollution.
- To inspect air pollution control areas for the purpose of assessment of quality of air therein and to take steps for the prevention, control or abatement of air pollution in such areas.

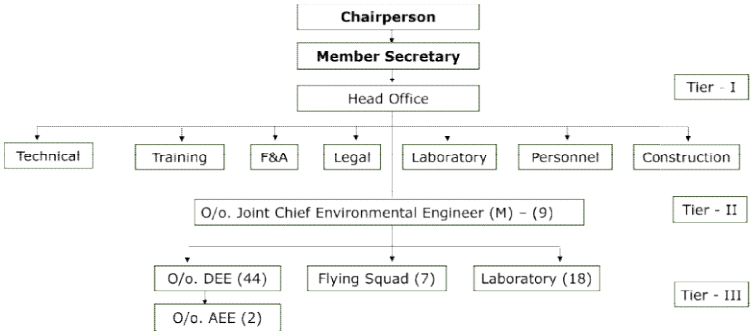
- To perform such other functions as may be prescribed by the State Government or Central Pollution Control Board.

3. Organizational Set-up

For the effective and efficient functioning of the organization, the Board has a three-tier system consisting of (i) Head Office in Chennai, (ii) Nine Zonal Offices (iii) Forty- four District Environmental Engineer Offices. Apart from this, there are seven Flying Squads at Erode, Tiruppur, Chengalpattu, Manali, Ennore, Salem and Vellore headed by Environmental Engineers and two Assistant Environmental Engineer (AEE) Offices at industrial hot-spot areas at Pallavaram and Mettur.

Government of Tamil Nadu vide G.O. (Ms). No.43, Environment, Climate Change and Forests Department, Dated 15.03.2024, established the O/o. DEE (MERRC) and the Flying Squad (MERRC).

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



4. Consent Mechanism

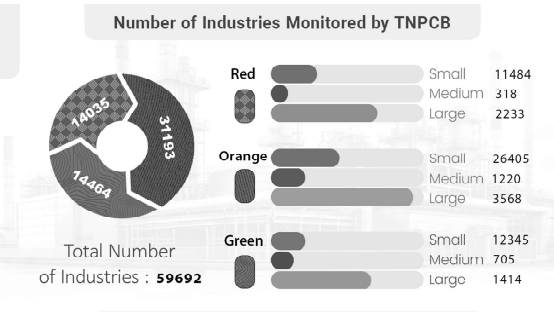
4.1 Categorization of Industries in Tamil Nadu

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

For monitoring purposes, TNPCB has categorized industries based on their pollution index and the value of their Gross Fixed Assets (GFA) as follows:

Classification based on GFA	GFA (Rs 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. Whereas white category industries are exempted from obtaining consent from the Board and only intimation to TNPCB is sufficient. The number of industries which are issued consent and monitored by the Board as on 31.03.2025 is given below:



4.2. Criteria for issue of Consent to Industries

TNPCB 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 prescribed by the Board for various industries. TNPCB grants CTE to industries with ten years validity for projects attracting Environmental Impact Assessment (EIA) Notification 2006 (as amended) 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 only 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 has implemented the facility of Online Consent Management and Monitoring System (OCMMS) from 19.01.2015 through its web portal www.ocmms.tn.gov.in. In order to facilitate the industries to apply online through OCMMS, Care Centre has been established in all the District offices.

Various committees constituted by TNPCB at different levels to decide the powers for issuing consent to different categories of industries to ensure the efficient and effective implementation of the Acts and Rules.

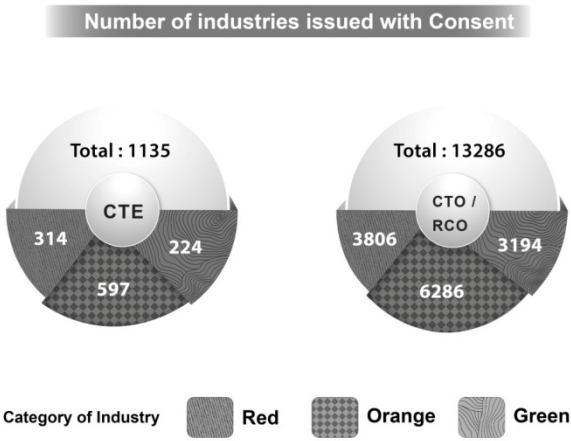
Apart from issuing CTE and CTO for industries, TNPCB also grants Authorization for the management of Hazardous and other Wastes,

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, 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.

The details of industries issued with CTE & CTO/RCO from 01.04.2024 to 31.03.2025 are as follows:



5.0. 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. Integrated Environmental Monitoring Studio (IEMS)

India's first Integrated Environmental Monitoring Studio was inaugurated by the Hon'ble Chief Minister of Tamil Nadu on 14.08.2024 and is functioning at the TNPCB's Corporate Office, Guindy. This is the first of its kind in the Country for the online monitoring of emission letting out by the industries including Cement, Oil Refinery, Petrochemicals, Thermal Power Plants, Fertilizers, Iron & Steel. This is established as a Centre for Visual depiction on tracking of Hazardous waste, Bio Medical waste, E- wastes movements and to integrate various modules such as Online Consent Management and Monitoring System. In case, the air quality parameters exceed the prescribed standards, auto-generated SMS and e-mails are sent immediately to industry and the Regional Joint Chief Environmental Engineers and District Environmental Engineers concerned to take immediate action to correct the malfunction if any

and rectify the defects. Besides, this system ensures self-monitoring and rectification by industries. As on date, 820 industrial units are connected to this center for Stack monitoring and Ambient Air quality monitoring.

TNPCB has also incorporated the Water Quality Watch Module in the Centre. Major water-polluting industries such as tanneries, distilleries, sugar factories, pharmaceuticals, pesticides, textile processing and Common Effluent Treatment Plants (CETPs) etc., are connected to this Centre. The quality of treated effluent is monitored on a real-time basis. 390 industrial units are connected to this Centre.

5.2. Water Pollution Monitoring Mechanism

All the highly polluting 17 category / Red-Large industries shall provide Zero Liquid Discharge System (ZLD) with Effluent Treatment Plant followed by Multiple Effect Evaporator (MEE) and Agitated Thin Film Dryer (ATFD)/Elevated

Solar Evaporation Pans with an aim to recycle the treated wastewater.

TNPCB is monitoring treatment system provided by the industries, Common Effluent Treatment Plants (CETPs), Sewage Treatment Plants (STPs) and disposal of sewage/trade effluent in achieving the prescribed standards before discharge into land, water bodies and sea.

5.3. Common Effluent Treatment Plants (CETPs)

In Tamil Nadu, CETP scheme has been formulated for the following industrial sectors to supports clusters of small-scale industries:

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

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

The Government in G.O.(Ms). No. 218, Industries, Investment Promotion and Commerce Department, dated 20.11.2023 has been issued for establishment of a new Common Seepage Water Treatment Plant, 2000 KLD capacity of Zero Liquid Discharge at a cost of Rs.40 Crores for the treatment of seepage water from the SIPCOT Industrial Growth Centre (IGC) Perundurai. TNPCB and State Industries Promotion Corporation of Tamil Nadu (SIPCOT)

will contribute Rs.10 Crores each, SIPCOT Industries Federation (textiles, tanners & general industries) will contribute Rs. 20 Crores. Common Seepage Water Treatment Plant will be implemented by SIPCOT.

5.5. Status of Sewage Treatment Plants of Urban Local Bodies

Sewage Treatment Plants (STP) provided by the Urban Local Bodies (ULBs), are classified as red category by TNPCB and have to obtain CTE and CTO from TNPCB.

The State currently has 119 STPs either under construction or operation or under trial run stage; Out of which, CTO has been issued to 102 STPs and CTE has been issued to 17 STPs.

Directions have been issued to all the common STPs to install Online Continuous Effluent Monitoring Systems (OCEMS) and Mobile Application for the existing STPs to monitor them effectively.

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 of 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, CTP and DMA to construct and operate the STPs with valid consent of the Board.

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

TNPCB is continuously taking action by directing the Transport Department to cancel the Registration of the tanker lorries that are

transporting and discharging sewage illegally into the water bodies. A total of 44 Registration have been recommended for cancellation by TNPCB upto October 2024.

Directions have also been issued to CMWSSB, Commissionerate of Town Panchayat (CTP) and Directorate of Municipal Administration (DMA) to install Digital Lock system with Global Positioning System (GPS) tracking the Tanker Lorries which are registered and used by ULBs for collection & disposal of sewage.

5.7 Role of Laboratories on Monitoring

TNPCB has established 18 Laboratories across the State, out of which 8 Advanced Environmental Laboratories (AELs) and 10 District Environmental Laboratories (DELs) to monitor Water, Air and Noise quality as per CPCB guidelines, as part of numerous projects funded by the CPCB.

Advanced Environmental Laboratories (AELs) of TNPCB are accredited by "National Accreditation Board for testing and calibration Laboratory (NABL)" and are certified for fulfilling requirements of Occupational Health and Safety Assessment System (OHSAS). AEL, Chennai was recognized under the Environment (Protection) Act (EPA) of 1986 in 2023.

Microbiology Analysis Wing has been upgraded in all the Advanced Environmental Laboratories of TNPCB in the year 2024 and establishment of Microbiology Analysis Wing is underway in all the District Environmental Laboratories of TNPCB. In 2024, TNPCB analyzed a total of 5,692 microbiological samples. At present, microbiology parameters such as total coliforms, faecal coliforms and streptococci are analysed at AELs of TNPCB as per CPCB guidelines.

5.8. Monitoring of Water Bodies

5.8.1. National Water Quality Monitoring Programme (NWMP)

TNPCB is monitoring the water quality of inland water bodies in Tamil Nadu under the NWMP with funding pattern in the ratio of 70:30 (70% TNPCB fund and 30% CPCB fund), at 158 stations in the year 2024-2025 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
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 sea water, rivers, lakes & groundwater are displayed on TNPCB website (npcb.gov.in/water-quality.php) and uploaded in the CPCB website (cpcb.nic.in/nwmp-data/) regularly.

5.8.2. Polluted River Stretches (PRS)

Based on the NWMP data, CPCB has declared 311 river stretches in the Country as PRS during the year 2022 and identified ten numbers of river stretches in Tamil Nadu as "Polluted River Stretches (PRS)" based on the parameter viz., Biochemical Oxygen Demand (BOD) level in the rivers and categorized the PRS into five priorities:

Sl. No.	Priority Class	Biochemical Oxygen Demand (BOD mg/L)
1.	I	> 30
2.	II	20 – 30
3.	III	10 – 20
4.	IV	6 – 10
5.	V	3 – 6

The details of the ten PRS notified in Tamil Nadu by CPCB along with the stretches and priorities are tabulated as below:

S. No	Name of the River	Length (Kms)	Polluted River Stretches	Priority Year 2022
1.	Sarabanga	70	Thathayampatti to T. Konagapadi (15 Kms)	II
2.	Thirumani mutharu	120	Salem to Papparapatti (15 Kms)	I
3.	Vasishta	87	Manivilundhan to Thiyaganur (10 Kms)	I
4.	Cauvery	253	Mettur to Mayiladuthurai (200 Kms)	III
5.	Bhavani	217	Sirumugai to Kalingarayan(60 Kms)	V
6.	Tamirabarani	128	Pappankulam to Arumuganeri (80 Kms)	IV
7.	Cooum	70	Avadi to Sathya Nagar (31.70 Kms)	I
8.	Adyar	42.50	Tambaram to Nandanam bridge (30.10 Kms)	I
9.	Amaravathi	282	Madathukulam to Karur (108 kms)	V
10.	Palar	222	Kodaiyanchi to Marapattu(16.30 Kms)	V

The water quality of polluted river stretches indicates that the main cause of pollution is due

to the discharge of untreated domestic sewage/sullage and dumping of municipal solid wastes from the urban local bodies.

Accordingly, TNPCB in co-ordination with Line Departments has prepared the Action Plans for all the ten PRS which are under implementation.

The Line Departments responsible for implementation of the Action Plans are Municipal Administration and Water Supply Department, Directorate of Municipal Administration, Commissionerate of Town Panchayats, Chennai Metropolitan Water Supply & Sewerage Board, TNPCB, Directorate of Rural Development & Panchayat Raj, Tamil Nadu Urban Habitat Development Board, etc. The implementation of the Action Plans is monitored by the Secretary, Ministry of Jal Shakti, Government of India, the Chief Secretary, Government of Tamil Nadu and River Rejuvenation Committee.

Due to implementation of the Action Plans and efforts taken by the Government, the water quality of the rivers viz. Sarabanga, Cauvery, Bhavani, Tamirabarani, Palar and Amaravathi have been improved and is satisfying the bathing standards of CPCB.

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

TNPCB has implemented real-time water quality monitoring stations at eight locations across the State which measures pH, Temperature, Dissolved Oxygen (DO), Turbidity, Conductivity, Total Dissolved Solids (TDS), Total Suspended Solids (TSS), Bio-Chemical Oxygen Demand (BOD) and Chemical Oxygen Demand (COD).

Based on the Real Time Water Quality Data from the RTWQM Stations, the river water quality falls under the following category as

prescribed in CPCB Designated Best Use (DBU) Classification:

River	RTWQM Station	DBU Class
Bhavani	Mettupalayam M/s KG Denim Ltd	A B
Kalingarayan Canal	M/s Pioneer Mills M/s SCM Textile Processing Mills	E E
Noyyal	M/s Gokul Dyeing Kasipalayam Bridge Orathapalayam	E E D
Thenpennai	Sokkarasanapalli	Installed (to be commissioned)

CPCB - **Designated- Best-Use Classification**

A Drinking Water Source without conventional treatment but after disinfection
B Outdoor bathing (Organized)
C Drinking water source after conventional treatment & disinfection
D Propagation of Wildlife and Fisheries
E Irrigation, Industrial Cooling, Controlled Waste disposal

Data from the above locations is being received at TNPCB servers housed at Water Quality Watch Centre, Chennai. These data support the identification of pollution sources for taking appropriate actions to mitigate pollution.

5.9. Air Pollution Monitoring Mechanism

5.9.1. National Air Quality Monitoring Programme (NAMP)

Under the NAMP, TNPCB monitors ambient air quality in major cities and industrial clusters at 85 stations in the State, twice a week with 104 observations a year as per the CPCB protocol for the parameters PM_{10} and $PM_{2.5}$, Sulphur dioxide (SO_2), Nitrogen dioxide (NO_2) and Ammonia (NH_3).

NAMP Locations - 85 Stations
Existing: 52 Stations Chennai (8), Coimbatore (3), Madurai (3), Salem (1), Tiruchirapalli (5), Thoothukudi (3), Mettur (2), Cuddalore (3), Dharmapuri (3), Nagercoil (3), Perambalur (3), Sivagangai (3), Thiruvarur (3), Theni (3), Villupuram (3) and Thiruvannamalai (3)
For the year 2024–2025: 33 Stations Alandur (2), Cuddalore (2), Dindigul (2), Vellore (2), Avadi (2), Tiruppur (2), Tirunelveli (2), Thanjavur (2), Salem (2), Nagapattinam (2), Kanchipuram (2), Rajapalayam (2), Erode (3) and Mettur (1) & 5 Rural stations each at Mettupalayam, Hosur, Tenkasi, Thiruthani and Tiruvengadu.

The Air Quality Index (AQI) from the above NAMP stations was found to be satisfactory (AQI :51-100).

5.9.2. Continuous Ambient Air Quality Monitoring (CAAQM) Stations

In order to monitor the Ambient Air Quality (AAQ) on a continuous basis, the Board installed 34 Continuous Ambient CAAQM stations. The Stations monitor the parameters viz., PM_{10}, $PM_{2.5}$, SO_2, NO_2, NH_3, O_3, CO and Benzene, Toluene and Xylene (BTX) on a continuous basis. The AAQ data are linked to the TNPCB website and uploaded in Electronic Air Quality Data System (EAQDS) of CPCB.

5.9.3. Non-Attainment Cities

Based on the National Air Quality Monitoring Programme (NAMP) data, the CPCB has identified 130 cities in the Country as non-attainment cities, where the particulate matter level exceeded the annual average standard of 60µg/m^3.

High levels of particulate matter are due to movement of vehicles, 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.

Mitigation measures are being implemented in thematic areas such as vehicle road dust, construction & demolition, waste and biomass - dumping and burning under the NCAP in coordination with various line departments.

TNPCB has issued direction to all the industries and establishments within the State of Tamil Nadu operating Diesel Generator sets to bring down the particulate matter by installing retrofitted emission control device vide notification dated 30.07.2024.

The Action Plans to improve the air quality in these cities, are under implementation by the line Departments.

5.9.4. Comprehensive Environmental Pollution Index (CEPI)

TNPCB has been monitoring land, air and water quality in eight Polluted Industrial Areas (PIAs) in Tamil Nadu during both pre- and post-monsoon periods through third party NABL accredited laboratories.

The CEPI scores are categorized as follows:

CEPI score	>70	60-70	50-60	40-50
Category	Critically Polluted Area	Severely Polluted Area	Normally Polluted Area	Other Polluted Area

The post-monsoon 2023 and pre-monsoon 2024 monitoring has been completed, and the CEPI scores for the 11 PIAs are as follows:

S. No	Name of Location (PIA)	Pre–monsoon 2023	Post-monsoon 2023	Pre-monsoon 2024
1.	Manali	30.01	30.81	29.31
2.	Ranipet	18.37	18.42	14.96

3.	Tiruppur	42.14	24.29	23.31
4.	Mettur	23.75	20.99	20.99
5.	Thoothukudi	25.77	25.09	2.734
6.	Coimbatore	35.26	21.38	4.317
7.	Cuddalore	36.35	30.32	23.72
8.	Erode	39.40	41.03	19.68
9.	Perundurai	25.85	19.76	7.80
10.	Pallipalayam	24.91	22.12	12.42
11.	Kumarapalayam	22.69	12.42	12.42

On comparison of CEPI scores of pre-monsoon 2023 and pre-monsoon 2024 for the 11 PIAs, there is a decrease in overall CEPI scores (CEPI score: <40-50).

5.10. Ambient Noise Monitoring Mechanism

Under the National Ambient Noise Monitoring Network Programme (NANMN), CPCB has established Real-Time Ambient Noise Monitoring Stations at ten locations in Chennai City, covering silence zone, residential and industrial areas as follows:

S. No	Location	Classification	Avg. Value (Day) (dB)	Standard (Day) (dB)	Avg. Value (Night) (dB)	Standard (Night) (dB)
1.	Egmore (Eye Hospital)	Silence	65	50	64	40
2.	T.Nagar	Commercial	71	65	66	55
3.	Perambur	Commercial	58	65	55	55

4.	Guindy	Industrial	66	75	65	70
5.	Triplicane	Residential	64	55	59	45
6.	Anna Nagar	Silence	62	50	53	40
7.	Pallikaranai	Commercial	67	65	67	55
8.	Sowcarpet	Residential	56	55	54	45
9.	Velachery	Residential	69	55	60	45
10.	Washermenpet	Commercial	69	65	67	55

The data is uploaded on the CPCB website. The monitoring data reveals that the ambient noise level in Chennai city is exceeding the prescribed standards which are mainly due to vehicular movement and construction activities.

During 2024, CPCB has sanctioned an amount of Rs.1.36 crore 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.

5.11 Noise Mapping Study in Million Plus Cities of Tamil Nadu - Chennai (under phase I)

Noise mapping study is being carried out by the reputed educational institutions/experts using sensor-based monitoring at identified locations

such as traffic junctions, educational institutions, hospitals, commercial areas and industrial areas within the corporation limits in the cities of Chennai, Trichy, Coimbatore and Madurai with a population of more than one million in Tamil Nadu, at a cost of Rs. 3.00 crore from the Board funds.

The noise mapping study in Chennai city is being carried out by the Indian Institute of Technology (Madras) at a cost of Rs. 50 lakhs at identified 60 locations.

Sensor based noise monitoring instruments are being installed and real time connectivity shall be established and connected to Integrated Environmental Monitoring Studio at TNPCB, Corporate office.

6.Waste Monitoring Mechanism

6.1. Bio-Medical Waste Management

Bio-Medical waste is the waste generated during the diagnosis, treatment or immunization

of human beings or animals or in research activities pertaining thereto or in the production or testing in biological labs.

The Bio-Medical Waste Management Rules (BMWM), 2016 prescribe the responsibility of the waste generators and the operators of the Common Bio-Medical Waste Treatment and Disposal facilities (CBMWTFs) for the safe handling and disposal of the bio-medical waste. The TNPCB issues Authorisation to health care facilities (HCFs) and CBMWTFs and monitors the compliance of various provisions of Rules. The Government has constituted a State Level Advisory Committee to oversee the implementation of the Rules.

In the State of Tamil Nadu, as on date, 31,135 Private and Government hospitals, including bedded and non-bedded clinics, veterinary institutions, pathological labs, blood banks and research institutions, have been issued with Authorization under BMWM Rules, 2016. The

validity of the Authorization is synchronized with Consent validity.

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

CBMWTFs are functioning for the collection, transport, treatment and scientific disposal of Bio-medical waste from individual health care facilities. The daily average generation of Bio medical waste in the State during 2024 was 59.26 Tons. In Tamil Nadu, 12 CBMWTFs are established with total installed capacity of 101.625 Tons/day. Further, three more CBMWTFs are under establishment in Tiruppur, Sivagangai and Kancheepuram Districts.

Details of Common Bio-medical waste Treatment and disposal facilities (CBMWTFs)

S.No	Name & Address of CBMWTFs	Equipment capacity		Districts covered
		Incinerator (Kg/day)	Autoclave (Kg/day)	
1	M/s. G. J. Multiclave (India)Pvt Ltd, Chengalpattu	10800	8000	Part of Chennai & Kancheepuram

2	M/s. Resustainability IWM solutions Ltd., Chengalpattu Dist	4400	3240	Cuddalore, Chennai (N), Part of Kancheepuram, Tiruvallur
3	M/s. Medicare Enviro Systems, Thanjavur District	3300	2000	Thanjavur, Trichy, Thiruvarur, Nagaipattinam, Pudukottai, Sivagangai, Perambalur & Ariyalur
4	M/s. Ken Bio Links Private Ltd.,Vellore	6000	3600	Vellore & Tiruvannamalai
5	M/s. Resustainability Healthcare solutions Ltd., Salem District	3300	825	Salem, Namakkal, Erode & Karur
6	M/s.Teknotherm Industries, Coimbatore District	6000	9000	Coimbatore, Nilgiris & Tiruppur
7	M/s. Aseptic System Bio-Medical Waste Mgt Co.,Tirunelveli	4000	3200	Tirunelveli, Thoothukudi & Kanyakumari
8	M/s. Resustainability Healthcare solutions Ltd., Virudhunagar (Temporarily not in operation)	3300	1600	Madurai, Virudhunagar, Dindigul, Theni &Ramnad
9	M/s. Kovai Biowaste Mgt (P) Ltd,CBE	5500	4400	Coimbatore, Tiruppur & Nilgiris
10	M/s. Pondicherry Solid Waste Mgt Company Private Limited, Cuddalore	12000	2560 (10.24 m^3)	Cuddalore,Ariyalur, Villupuram, Perambalur, Kallakurichi
11	M/s. Resustainability IWM solutions Ltd., Krishnagiri	6000	450	Dharmapuri & Krishnagiri
12	M/s. Re Sustainability IWM Solutions Ltd. Tiruvallur District	4000	1000	Chennai &Tiruvallur

- GPS tracking for movement of vehicle carrying Bio Medical Waste from HCF to CBMWTF is established and in operation in State.

6.2. Battery Waste Management

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

The above rules shall apply to producers, dealers, consumers, and entities involved in the collection, segregation, transportation, and recycling of waste batteries. It is applicable to all types of batteries, regardless of chemistry, shape, volume, weight, material composition, and use.

As per the Battery Waste (Management) Rules, 2022, as amended, producers (manufacturers, importers) shall have the obligation of Extended Producer Responsibility (EPR) for the batteries they introduce into the market and shall meet the collection and recycling targets.

According to the rules, producers, recyclers, and refurbishers of batteries shall register through the online centralized portal developed by the Central Pollution Control Board (CPCB) https://eprbatterycpcb.in.

The portal will help improve accountability, traceability, and transparency in fulfilling EPR obligations. It serves as a single-point data repository for orders and guidelines related to the implementation of the BWM Rules, 2022 as amended.

In the State of Tamil Nadu so far, 247 Producers and 9 Battery Waste Recyclers have registered with the TNPCB and Battery Waste EPR Portal developed by CPCB. Details are available in TNPCB website (https://tnpcb.gov.in) and CPCB website (www.cpcb.nic.in), https://eprbatterycpcb.in.

Also, TNPCB has published a Handbook on EPR Guidelines for Battery Waste Management, designed for Producers, Recyclers and

Refurbishers to serve as a comprehensive guide. This handbook is available on TNPCB Website. (https://tnpcb.gov.in).

6.3. Solid Waste Management (SWM)

Solid waste consists of biodegradable and non-biodegradable waste generated from domestic, commercial and industrial activities. The Solid Waste Management (SWM) Rules, 2016 prescribes responsibilities of local bodies for proper collection, treatment and disposal of municipal solid waste.

In Tamil Nadu, there are 21 Corporations, 138 Municipalities and 490 Town Panchayats. TNPCB has issued Authorizations to 232 local bodies covering Corporations, Municipalities and Town Panchayats as per the SWM Rules, 2016 which generate more than 5 tons of solid wastes per day.

Directions are issued under Section 5 of the Environment (P) Act, 1986 to local bodies to remit

Environmental Compensation for non-compliance of 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 reclamation of land. Accordingly, the bio-mining of legacy waste has been initiated by the Local Bodies in 287 locations in the State and Bio Mining of legacy waste has been completed in 171 locations. In the remaining 120 locations works are under progress. So far, 952 acres of land are reclaimed.

6.4. Plastic Waste Management

Rapid increase in population, urbanization, economic levels and industrial growth has led to massive increase in the plastic waste generation.

As per the Annual Report submitted by the Urban Local Bodies for the year 2023-2024, a total quantity of 1758.90 tons/day of plastic waste has been generated from 21 Municipal Corporations,

138 Municipalities and 490 Town Panchayats in Tamil Nadu. Out of this, 86% (1529.97 tons/day) of the waste is collected and channelized for recycling and other purposes. The collected waste is then segregated and sent to resource recovery facilities and the recyclable waste is sold to the registered recyclers and the non-recyclable waste are disposed to cement industries for co processing.

As per Plastic Waste Management Rules, 2016 as amended in 2022, there are 277 numbers of authorized Plastic Waste Recyclers and 38 compostable plastic manufacturing units in the State which have been registered with Tamil Nadu Pollution Control Board.

6.4.1. Ban on Single-Use Plastics (SUP)

The Government, vide G.O.(Ms) No.84 E&F Department dated 25.06.2018, have 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 ban on manufacture, import, stocking, distribution, sale and use of 19 Single Use Plastic Items. The ban is in effect from 01.07.2022.

The list of banned items and its details as follows:-

S. No	List of Banned Items	S. No	List of Banned Items
1.	Plastic sheet / cling film used for food wrapping	15.	Ear buds with plastic sticks
2.	Plastic sheet used for spreading on dining table	16.	Balloons with plastic sticks
3.	Plastic Thermocol plates	17.	Candy with plastic sticks
4.	Plastic coated paper plates	18.	Ice-cream with plastic sticks
5.	Plastic coated paper cups	19.	Polystyrene for decoration
6.	Plastic tea cups	20.	Cutlery such as plastic forks
7.	Plastic tumbler	21.	plastic spoons
8.	Thermocol cups	22.	Plastic knives
9.	Plastic carry bags of all size & thickness	23.	Wrapping or packaging films around sweet boxes

10.	Plastic coated carry bags	24.	Wrapping or packaging films around invitation cards
11.	Non-woven Carry Bags	25.	Wrapping or packaging films around cigarette packets
12.	Water pouches / packets	26.	Plastic or PVC banners less than 100 micron
13.	Plastic straw	27.	Plastic stirrers
14.	Plastic flags	28.	Plastic trays

6.4.2. Enforcement of Ban on SUP

From January 2019 to January 2025, closure and disconnection of power supply directions were issued to 259 Industries which were involved in the manufacture of banned plastic items including non-woven carry bags, plastic carry bags, water pouches, etc.

Frequent raids are being conducted by the ULB officials and fines are imposed against the users of Single Use Plastics (SUPs). From 2019, 16,94,945 raids have been conducted in which 2,563 tons of Banned Single-Use Plastics were seized and Rs.21.24 crore fine amount has been collected.

6.4.3. Special Enforcement Activities

TNPCB has carried out strict enforcement of Single Use Plastic ban and accordingly intensive activities were carried out during October 2022 to December 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, inspection of concerned industries in all the Districts of Tamil Nadu.

During the special enforcement drive 93,272 entities were inspected. Out of which 25,660 violators were found, around 141.446 Tons of banned SUP items were seized and sent for recycling whereas Rs.10.710 lakhs of fine amount were collected by the local bodies.

6.4.4. Awareness Activities on SUP Ban

The following awareness activities were taken up by the TNPCB:

- The District officials of TNPCB are conducting awareness campaigns in co-ordination 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 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 press release, both English and Tamil on the ill- effects of

Single-Use Plastics. The Government's effort to enforce the ban on SUP was elaborated and the people's co-operation and support to eliminate the same were sought.

6.4.5. Extended Producers Responsibility (EPR) for plastic packaging

Extended Producers Responsibility is being implemented under Plastic Waste Management Rules, 2016 as amended in 2022 by the Ministry of Environment, Forest and Climate Change, GoI. To streamline implementation process of EPR, it is the responsibility of Producers, Importers and Brand-owners (PIBOs) to ensure 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 above platform serves to enhance 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 and PIBOs operating / marketing in more than two States shall obtain Registration from Central Pollution Control Board.

The module for the registration of manufacturers, sellers, importers of plastic raw materials and producers in micro and small-category came to operation with effect from 12.04.2024.

Plastic Waste Processors (PWPs) shall register with TNPCB on centralized EPR portal (https:// eprplastic.cpcb.gov.in/) developed by CPCB. PIBOs shall fulfill their EPR obligation by purchasing EPR certificates from PWPs through the EPR portal of CPCB.

TNPCB has so far issued Registration to 944 PIBOs and 106 PWPs.

6.4.6. State Level Special Task Force (STF)

The Government have constituted a State level Special Task Force (STF) on 07.02.2022 under the Chairmanship of Chief Secretary and District level Task Force under the District Collector/ Commissioner (for Greater Chennai Corporation) for monitoring the implementation of Single-Use Plastic (SUP) ban. All the nodal Departments are addressed to implement the action points and make the initiatives successful in the State of Tamil Nadu.

6.5. Construction and Demolition (C&D) Waste Management

The C&D Waste Management Rules, 2016 prescribe that the local bodies shall ensure proper management of construction and demolition waste.

The Greater Chennai Corporation operates two C&D waste processing facilities, each with a capacity of 400 tons per day — one at Kodungaiyur and another at the Perungudi dumpsite. The Corporation has also established collection centers in 15 zones for receiving C&D waste.

Directions were issued to Chennai Metropolitan Development Authority (CMDA), Directorate of Town & Country Planning (DTCP), Public Works Department (PWD), Tamil Nadu Housing Board (TNHB), and Tamil Nadu Urban Habitat Development Board to procure materials from C&D waste and make it mandatory in municipal and Government Contract works based on the CPCB Guidelines.

6.6. E-Waste Management

The Ministry of Environment, Forest and Climate Change, GoI, has revised the E-Waste (Management) Rules, 2016, and notified the E-

Waste (Management) Rules, 2022. These Rules came into force with effect from 01.04.2023.

The Rules aim to manage E-waste in an environmentally sound manner and establish an improved Extended Producer Responsibility (EPR) regime for E-waste recycling. Under these rules, all manufacturers, producers, refurbishers, and recyclers are required to register on the portal developed by CPCB and file annual and quarterly returns through the CPCB E-Waste EPR portal. (https://eprewastecpcb.in)

As per the E-Waste Management Rules, 2022, 14 E-waste Recyclers and 839 Producers of Electric and Electronics Equipments (EEE) have registered with the CPCB so far.

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 on date, the Board has identified 4825 industries that are generating hazardous

waste and issued Authorisation under this Rule. In the year 2023-2024, 13.19 lakh tons of hazardous waste was generated, of which 1.09 lakh tons (8.26%) were landfillable, 0.27 lakh tons (2.05%) were incinerable, 7.43 lakh tons (56.33%) were recyclable and 4.39 lakh tons (33.28%) were utilizable waste.

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

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

Location	Details of Facility		Authorized capacity (TPA)	Cumulative HW disposed (Tons)
	Facility Type	Year of Commission		
Thiruvallur District	Landfill	Nov 2007	3 Lakh	8.44 Lakh
	Incineration	Nov 2009	0.12 Lakh	0.49 Lakh
	Pre-processing	Mar2023	0.50Lakh	0.013 Lakh
Virudhunagar District	Landfill	Dec2016	2.4 Lakh	1.14 lakh (Not in
	Pre-	April 2022	0.1 Lakh	

	processing			operation since 31.03.2023)
Krishnagiri District	Landfill	Jun 2023	0.909 Lakh	0.092 Lakhs
	Pre-processing	Jun 2023	0.303 Lakh	Nil

6.7.2 Utilization& Recycling of Hazardous Waste

6.7.2.1 Co-Processing of Hazardous Waste in Cement Plants

Based on the CPCB guidelines, the Board has permitted the use of hazardous and other waste in cement kilns either as alternate raw material (ARM) for co processing or as alternate fuel resource (AFR). Subject to the compliance criteria specified, authorisation under HOWM Rules, 2016 has been granted to 15 cement industries to process 14.63 lakh tons of utilisable waste in cement kilns for co-processing annually. During 2023-2024, about 2.90 lakh tons of Hazardous wastes are converted as AFR/ARM and

has been utilised in various cement industries of Tamil Nadu for co-processing.

6.7.2.2 Hazardous Waste Recycling Facilities

The Board has authorized 107 numbers of HW Recyclers for recycling 7 different hazardous wastes as given in Table below:

S. No	Type of Recycling Facilities	No of Facilities authorized for recycling	Total Authorized Capacity (MTA)
1	Brass Dross	2	925.00
2	Zinc Bearing Waste	8	9535.60
3	Copper Bearing Waste	10	48780.00
4	Lead bearing waste including battery waste	23	386011.35
5	Paint and ink Sludge/ residues	3	3280.00
6	Used oil	34	130371.48
7	Waste oil	27	82694.49
	Total	**107**	661597.92

6.7.2.3 Hazardous Waste Pre-Processing Facilities

In order to encourage co-processing of hazardous waste in cement kilns for beneficial purposes, 9 hazardous waste pre-processing units to make a homogenized 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 88,511 tons of hazardous & other wastes during 2023-2024 and sent for co-processing in cement industries.

6.7.2.4 Hazardous Waste Utilization Facilities

The Board has authorized 38 numbers of industries for utilization of the following HW categories in the table below:

S. No	Type of Hazardous wastes Utilised	No of Facilities for utilization / Recovery	Total Authorized Capacity (MTA)
1	Spent solvents	9	20956.0
2	Spent Acid	2	15600.0

3	Contaminated drums/containers/barrels	20	46215.0
4	ETP Sludge	7	181545.0
	Total	**38**	**264316.0**

As TNPCB is encouraging facilities to handle recycling and utilizing the waste, the quantity of landfillable / incinerable waste decreased and quantity of recyclable / utilizable waste increased over the years. The Graphs given below show the trend of Recyclable / Utilizable Waste & Landfillable / Incinerable Waste during the year 2023-2024:-

6.7.2.5 Extended Producers Responsibility (EPR) for Used Oil

Ministry of Environment, Forest & Climate Change (MoEF&CC), GoI has notified the EPR for used Oil under Hazardous and Other Waste (Management and Transboundary Movement) Amendment Rules, 2023 Dt: 18.09.2023. CPCB has developed an online portal for EPR for Used Oil (https://eprusedoil.cpcb.gov.in) wherein all the stakeholders like Producers, Collection Agents, Recyclers and Used Oil Importers are required to register. EPR obligation comes into force in the year 2024-2025 in which used oil recycling target of 5% of the quantity of the base oil or lubrication oil sold or imported in year 2022-2023 is to be met.

As on date for Tamil Nadu, 4 producers and 4 recyclers of used oil have applied for registration in the portal; and 2 producers and 1 recycler have been granted with EPR Certificate.

6.7.3 Utilization of Mixed Salt:

6.7.3.1 Textile units

In Tamil Nadu, about 2,07,605.053 Tons of mixed salts, generated from the Zero Liquid Discharge (ZLD) system of Textile processing units are stored in closed sheds with impervious floor in the premises of the Individual Effluent Treatment Plants (IETPs) and Common Effluent Treatment Plants (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 valid for a period upto 31.03.2028. So far, 18,707.5 Tons of mixed salt has been received from the Textile units by this facility for further processing.

6.7.3.2 Tannery Units

In Tamil Nadu, about 1,27,773.674 Metric Tons of mixed salts generated from Zero Liquid Discharge (ZLD) treatment system of Tannery

units are stored in the premises of the industries/ CETPs inside closed sheds. The Standard Operating Procedure (SOP) for the utilization of tannery mixed salt is yet to be released by the CPCB. The CETP of M/s. VANITEC has obtained approval from the GoI for its proposed upgradation that includes common salt purification plant.

6.7.4 National Hazardous Waste Tracking System

CPCB has developed the "National Hazardous Waste Tracking System (NHWTS)" for tracking the generation, transportation, storage, recycling, utilization and disposal of hazardous waste across the country. 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.

6.7.5 Remediation of Contaminated sites

6.7.5.1 M/s. Hindustan Unilever Limited, Kodaikanal

M/s. Hindustan Unilever Limited (HUL) at Kodaikanal was under operation during 1984-2001, manufacturing clinical glass mercury thermometer. During its operation, the site was contaminated with mercury over the total area of 17858 sq.m. Based on the scientific studies, Site Specific Target Level (SSTL) is fixed as 20mg/Kg in the soil by Scientific Expert Committee (SEC), NEERI & CPCB and the remediation works involving Soil Excavation, Washing, Retorting, Homogenization and Backfilling, commenced from March 2021. The remediation work is supervised by National Environmental Engineering Research Institute (NEERI). The remediation work is being monitored continuously by Scientific Expert Committee Members and Officials of the TNPCB. The remediation process is nearing completion.

6.7.5.2 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 sludge was dumped in 2 hectares of open land at the backyard of the factory.

The interim remedial measures shall consist of capping of hazardous waste stockpile, construction of drainage network & cut-off trench, construction of rainwater pond & construction of new boundary wall based on a technical report at a cost of Rs.15 crores.

M/s. Chennai Environmental Management Company of Tanneries (CEMCOT) shall oversee the implementation of interim remediation work through an agency for which tender is under progress.

6.8 Extended Producers Responsibility (EPR) for Waste Tyre

The Ministry of Environment, Forest and Climate Change, GoI has notified the EPR of Waste Tyre under Hazardous and Other Waste (Management and Transboundary Movement) Amendment Rules, 2022 which is applicable to every producer, recycler and retreader involved in manufacture, sale, transfer, purchase, collection, storage and processing of Tyre/Waste Tyre. Central Pollution Control Board (CPCB) has developed an online portal in its website (https://www.eprtyrescpcb.in) for EPR for Waste Tyres.

As on date, 25 Tyre Producers have applied for registration and 19 have obtained EPR certificates. Further, 42 Recyclers have applied for registration and 31 have obtained EPR certificate. Further, one Waste Tyre retreader applied for registration is in under process.

7. Legal Enforcement Mechanism

The Tamil Nadu Pollution Control Board is empowered to file complaints in the court of law, issue closure directions and stoppage of 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 National Green Tribunal (NGT) in Chennai is 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 all the case files are processed by TNPCB only through the above software. This software enables the TNPCB to efficiently manage legal proceedings, stay obtained on judgments, and ensure timely compliance.

8. Other Activities

8.1 Environmental Training Institute

The Environmental Training Institute (ETI) was established in 1994 by TNPCB with Danish assistance to impart specialized education and training in pollution control and environmental protection. Its comprehensive programmes are designed for the employees of the Board, industrial representatives, corporate executives, municipal staff, line agencies, and various non-governmental organizations, with a focus on enhancing their expertise in Environmental Acts, Laws, and the latest environmental management technologies.

Between April 2024 and March 2025, ETI has conducted 14 internal training sessions for 191 Board officials and line Department officials. 201 TNPCB officials attended 30 training programmes conducted by various external agencies relevant to their work and activities at the Board. A month-long intensive training

programme was organized for newly recruited Assistant Engineers during October 2024, to inculcate in them the vision and mission of the Board and to familiarize them with the Board's operations and its governing environmental legislations. Furthermore, two Board officials attended a one-week dedicated course on microplastics assessment at the Norwegian Institute of Water Research in Oslo, Norway, where hands on training on sampling and quantification of microplastics in air and water samples was given.

8.2 Environmental Awareness Programme

Every year, the Board organizes various environmental awareness initiatives aimed at educating the public and motivating individuals to take proactive steps in safeguarding the environment. These activities include rallies, environmental quiz contests, tree planting, auto-rickshaw campaigns, distribution of pamphlets, installation of display boards, FM radio

broadcasts, and the screening of short films via visual media, particularly during festival times such as Deepavali, Bhogi, Vinayagar Chathurthi and Karthigai Deepam.

Aforementioned programmes were conducted for Schools and College students to inculcate environmental awareness.

Further, awareness creation regarding solid waste management is also being undertaken in co-ordination with Local Bodies and District Administration.

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

Stalls exhibiting the significance of "Meendum Manjappai Campaign" and Tamil Nadu Fishnet Initiatives were set up during the Climate Summit 3.0.

8.3 Action taken on erring units

TNPCB has issued closure order to erring 149 industrial units and issued show cause notice to 2949 industries for non-compliance of Consent Conditions and Environment Regulations during April 2024 to March, 2025 to protect the Environment.

8.4 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 since April 2022 at all TNPCB offices. During this session, the public can interact with officials and sort out their issues.

From April 2024 to March 2025, 497 complaints were registered in the online Open House Session portal and 423 complaints have been resolved.

9. Sustainable Development Goals

The Sustainable Development Goals (SDGs) are an inter-governmental agreed set of targets relating to international development to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. SDG covers 17 goals and 169 targets as resolved in the UN Summit held in September 2015. India is a signatory of the 2030 Agenda, committed to achieve SDGs. The following goals are relevant to TNPCB as per the State Indicator Framework (SIF) framed for the State of Tamil Nadu.

Goal: 6, Clean Water and Sanitation

Target 6.3

By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated waste water and substantially increasing recycling and safe use globally.

To achieve the target, indicator 6.3.2 (Percentage of industries complying with wastewater treatment as per CPCB norms) is one of the indicators set for the achieving the target. TNPCB ensures that trade effluent is treated by all Industries to comply the norms and to achieve Zero Liquid Discharge (ZLD) system for trade effluent with an aim to recycle treated wastewater thereby reducing the consumption of raw water for industrial purpose.

Goal - 9, Industries innovation and infrastructure

Target 9.4

By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

Indicator 9.4.1a (Number of air quality monitoring stations) is set as one of the indicators for achieving this target. TNPCB monitors ambient air quality at 85stations (52 stations under the National Air Quality Monitoring Programme (NAMP), 33 Continuous Ambient Air Quality Monitoring Stations (CAAQMS) and 1 mobile monitoring vehicle) covering the district headquarters and major industrial clusters.

Four cities were identified as non-attainment cities with reference to particulate matter level. Action is being taken to improve the air quality in these cities.

Government of Tamil Nadu through TNPCB has developed a Voluntary Green Rating Mechanism to assess the industries on their environmental performance with Air quality as one of the parameters, encouraging them to align to best practices of clean and green technologies and rating them as Platinum, Gold, Silver & Bronze.

Goal:12, Responsible Consumption and Production

Target 12.4

By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

Indicator 12.4.2a (Environmental quality monitoring by introduction of monitoring stations across the State) is one of the indicators set for achieving this target. TNPCB monitors the quality of environment under National Water Quality Monitoring Programme (NWMP) and Chennai City Waterways Monitoring Programme (CCWMP). Similarly, ambient air quality is monitored under National Air Quality Monitoring Programme

(NAMP) in the State and ambient noise level in 10 locations in Chennai city.

Target 12.5

By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

The indicators 12.5.4 (Per capita hazardous waste generated) and 12.5.5 (Ratio of processed quantity of hazardous waste sent to recycle hazardous waste generated) are the indicators set for achieving this target.

TNPCB has identified industries that are generating hazardous waste and has issued Authorization under the Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 for scientific disposal such as recycling, utilization, co-processing, incineration and land filling. In the recent past, the quantity of hazardous wastes sent to incineration and land filling has decreased due to

increased awareness towards reduce, reuse and recycling by the industries.

Goal - 13, 'Climate Action'

Target 13.3

Improve education, awareness raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

Indicator 13.3.2 is one of the indicators set for achieving the above target (Strengthening of institutional, systemic and individual capacity building to implement adaptation, mitigation and technology transfer and development actions in the State),

TNPCB performs the following for achieving target 13.

- Kurunkadugal is micro forest cover by planting native species like Vembu, Aalamaram, Arasamaram, Magilam, Panaimaram and

Poovarasu to increase the green cover of Tamil Nadu State from 23.7% to 33% by 2030-31. TNPCB has created 1000 Kurunkadugal through industries to slow down climate change.

- TNPCB conducts training programmes through its Environmental Training Institute (ETI) and also encourages TNPCB officials to attend training programmes conducted by Technical Expert Institutions. Further, in order 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.

10. Four Years Achievements of TNPCB

- **Modernization 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. Two new flying squads for Manali/Chennai and Ennore/Tiruvallur was formed. Further, existing Flying Squad, Chennai was redesignated to cater the Chengalpattu zone and named as Flying Squad, Chengalpattu

- **Establishment of Real-Time Water Quality Monitoring Stations (RTWQMS):** RTWQMS constantly monitors and transmits river water quality data, allowing for real-time display on TNPCB's website. This system helps identify pollution sources and assess the impact of industrial activities, leading to effective pollution mitigation measures to safeguard river water quality. The monitoring stations are strategically installed across river stretches which includes Kalingarayan Canal,

Bhavani, Noyyal and Thenpennai. These river stretches are under continuous monitoring to ensure timely intervention and effective pollution control measures.

- **Integrated Environmental Monitoring Studio (IEMS)**: Launched by the Hon'ble Chief Minister of Tamil Nadu on 14.08.2024, India's first Environment Monitoring Studio facilitates visual tracking of hazardous waste, biomedical waste, e-waste movement and Kurungadugal developed by industries while integrating various modules such as the Online Consent Management and Monitoring System, Online Grievance Petition and Redressal System, Online Legal Cases Management and Monitoring System, and the Integrated Lab Module.

  It also features a web-based geospatial service, Continuous Ambient Air Quality Monitoring System with 38 stations, and real-time stack emission monitoring and

effluent monitoring for highly polluting industries. Additionally, the studio monitors water quality in rivers and oversees the functioning and evaluation of Effluent Treatment Plants (ETPs), Common Effluent Treatment Plants (CETPs) of industries, and Sewage Treatment Plants (STPs) operated by local bodies, ensuring a comprehensive approach to environmental regulation and sustainability.

- **Voluntary Green Rating for industries:** This was launched on 04.02.2025 by the Hon'ble Chief Minister of Tamil Nadu to evaluate their environmental performance and encourage the adoption of clean and green technologies. This rating system aims to incentivize industries towards more sustainable practices, aligning with global environmental standards to combat climate change. The green rating will assess the "green footprints" of various industries in

Tamil Nadu, providing momentum for enhanced environmental initiatives. So far, 37 industries onboarded, and 16 industries submitted eligibility form for certification.

- **Green Champion Awards:** Since 2021, Awards are presented by TNPCB to organizations, education institutions, schools, colleges, residential welfare associations, individuals, local bodies, and industries for their outstanding contributions to environmental conservation. In 2023-24, 94 awardees have been selected and given Green Champion Awards by Hon'ble Chief Minister, Minister for Environment and Climate Change and concerned District Collectors.
- **Mainstreaming of Rag Pickers in Circular Economy**: A pilot project conducted in Zone 13 & 14 of Greater Chennai Corporation to increase waste collection, promote circular

economy and bring revival in the life of garbage collectors.

- **Development of 1000 Kurunkadugal**: To create healthy ecosystems and effectively capture carbon, 1000 Kurunkadugal were developed by the industries with indigenous trees species. This initiative shall mitigate the climate change impacts and in tune with Green Tamil Nadu Mission and their objectives.
- **Online waste Exchange Bureau:** It is a web-based computer application launched on 04.02.2025 by the Hon'ble Chief Minister to bring together all the stakeholders of waste management viz waste seller (generator), waste buyer (recycler, preprocessor, utiliser), waste management experts and consultants, waste transporters etc on one platform for maximizing the waste recycling and utilization and minimizing the waste disposal. It will help to conserve precious virgin raw

materials/resources and promote Circular Economy. So far, 104 generators have been approved and 40 receivers have been approved by TNPCB.

- **Manali-Ennore Restoration & Rejuvenation Council (MERRC)**: Following significant environmental incidents, including an oil spill and ammonia gas leak, the Government of Tamil Nadu has established Manali-Ennore Restoration & Rejuvenation Council (MERRC) in the year 2024. This Special Purpose Vehicle focuses on greening, water body and mangrove restoration, solid waste management, pollution control, and community infrastructure development in Manali and Ennore, ensuring a holistic approach to ecological restoration.
- **Soil Quality Mapping**: TNPCB, in collaboration with Tamil Nadu Agricultural University (TNAU), has initiated a Soil Quality Mapping initiative. This project aims to

assess soil health around industrial zones, preventing land degradation and promoting sustainable land use practices.

- **Meendum Manjappai campaign**: A flagship programme of Government of Tamil Nadu was launched in the year 2021 successfully reintroduced the eco-friendly cloth bag as a practical and symbolic alternative to plastics. This community-driven campaign advocates for the widespread use of "Manjappai" as an eco-friendly substitute for single-use plastics, aiming to transform public behaviour while strengthening the local eco-alternative supply chain.
- **National Expo on Eco alternatives to Single Use Plastics (SUPs) and Start-up Conference:** TNPCB, in coordination with Government of Tamil Nadu and Ministry of Environment, Forest and Climate Change (MOEFCC), Government of India, organized a first of its kind National Expo on Eco

alternatives to SUPs and Start-up Conference 2022 in the month of September 2022 at Chennai Trade Centre in Chennai for the manufacture and sales of alternatives to plastic, promote use of such alternatives to banned plastic and to create awareness among the public on alternatives available for SUPs.

- The expo had participation from across the country was a great success with over 5000 people visiting it and over 170 stalls being put up by various vendors dealing with alternatives to plastic, alternatives product manufacturing machineries, pollution detecting devices and financial institutions. In addition to the exhibition, 5 panel discussions were organized with an active participation of the distinguished panelists and experts from reputed institutions.
- **Manjappai Vending Machines**: To improve accessibility to eco-friendly alternatives,

"Manjappai Vending Machines" were introduced in high-traffic public spaces, making Tamil Nadu the first State to implement this concept and inspired similar efforts nationwide. As of March 2025, 203 machines across 38 districts have dispensed 11.2 lakh cloth bags.

- **Awareness on Ban on Single Use Plastics (SUPs) and Meendum Manjappai Campaign:** To foster behavioural change and inspiring collective action against single-use plastics, over 2.3 lakh awareness initiatives have reached communities across Tamil Nadu, with 7.4 lakh cloth bags distributed to promote eco-friendly practices. Animated videos aired through Kalvi Tholaikatchi have educated 60,000 schools, highlighting the environmental hazards of plastics and the benefits of sustainable alternatives.

- **Manjappai Brigades**: In October 2023, the State launched the Manjappai Brigade in Chennai, leveraging electric bikes to effectively raise awareness about the SUP ban, promote eco-friendly alternatives, and identify SUP sources. In its first phase, the brigade reached over 14,000 locations and engaged 1,25,000 people. Building on its success, the initiative has expanded to four cities viz., Ooty, Coimbatore, and Kodaikanal including the Blue Brigade for beaches in and around Chennai amplifying its impact in the fight against plastic pollution.
- **Manjappai Kiosks**: To implement the SUP ban and the Meendum Manjappai campaign, Manjappai Kiosks have been strategically installed at Besant Nagar and Neelankarai Beaches in Chennai. These solar-powered kiosks serve as hubs of engagement, featuring a Manjappai Vending Machine, a Reverse Vending Machine, and video displays

that provide information on banned SUPs and eco-friendly alternatives. The kiosks host weekly awareness events with school children, encouraging visitors to actively participate in the cause. To ensure the initiative's sustainability and long-term impact, partnerships with local industries have been established to support and organize these ongoing activities.

- In another landmark initiative, the Meendum Manjappai campaign is also set to launch a year-long massive State-wide cleanup and plastic waste collection drives on 25.01.2025. The drive encompasses three primary activities: a plastic collection drive to ensure proper segregation and disposal of plastic waste, a cleanup drive to engage citizens and stakeholders in cleaning public spaces and awareness campaigns to educate the public about the environmental and health impacts of plastic pollution. The drive will continue on

the 4th Saturday of every month throughout the year 2025 across all urban local bodies, town panchayats, and village blocks ensuring consistent citizen and stakeholder engagement in tackling plastic pollution.

- **Bag-Athon:** To make eco alternatives affordable, TNPCB's organised "Bag-Athon" hackathon and developed durable cloth bags from innovative materials such as materials such as dhoti fabric waste, selvage waste, tailoring scraps, and banana stem fiber, priced under ₹5, showcasing Tamil Nadu's leadership in fostering sustainability and reducing single-use plastics.
- **Eco-alternatives Conclave**: To promote sustainability and eco-friendly practices through innovative initiatives. On 13.11.2024, TNPCB organized the Eco-alternatives Conclave, bringing together manufacturers, industry experts, and policymakers to discuss the effective

implementation of the SUP ban and strategies to strengthen the eco-alternative industry. During the event, a revised Eco-Alternatives Directory was unveiled, providing district-wise details of 358 eco-alternative manufacturers across Tamil Nadu's 38 districts.

- **Tamil Nadu Fishnet Initiatives (TNFI):** A pioneering initiative, Tamil Nadu Fishnet Initiatives (TNFI) was launched by the Hon'ble Chief Minister of Tamil Nadu on 14.08.2024 to combat marine plastic pollution and protect marine biodiversity. Under this novel initiative, for the first time in the Country, Discarded Fishnet Collection Centre was established at Kasimedu, Chennai on a pilot basis. This centre collects abandoned fishnets and marine plastic debris, which are segregated and sent for recycling, with around 13,679 kg of discarded fishnet was collected so far. Guided by the

government's vision of sustainability and circularity, this initiative will expand with similar centres across 14 coastal districts, fostering a circular economy by transforming waste into valuable resources.

- **Distribution of 100 numbers of e-Autos to Climate Warriors (Self Help Group Women)**: Recognizing the importance of women's role in tackling climate change, the Hon'ble Chief Minister of Tamil Nadu flagged off the first fleet of 50 e-Autos on 08.03.2025 and the Deputy Chief Minister of Tamil Nadu flagged off the second fleet of 50 e-Autos on 13.03.2025. This pioneering initiate encourages use of eco-alternatives, sustainable transportation and women empowerment through green jobs.

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Minister for Finance and
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