

Sustainable Development Goals (SDGs)



தமிழ்நாடு மாசு கட்டுப்பாடு வாரியம்
TAMIL NADU POLLUTION CONTROL BOARD

Sustainable Development Goals (SDGs)



Tamil Nadu Pollution Control Board

INTRODUCTION

The Sustainable Development Goals (SDGs) for 2030 is evolved from the Millennium Development Goals for 2015. The SDGs have been formulated based on a series of global conferences that deliberated on the crucial agenda of environmental sustainability, along with economic development and social inclusiveness. In 2015, September at the United Nations General Assembly, 193 countries including India, adopted SDGs which came into effect from 01.01.2016 with 17 goals, 169 targets and 300 global indicators.

The Government of Tamil Nadu initiated various measures to plan, implement and monitor SDGs in the State towards achieving goals and targets of SDGs in line with NITI Aayog. As per the NITI Aayog Base Line Report 2018, Tamil Nadu stands third at national level amongst states and fourth amongst States and Union Territories.

INSTITUTIONAL MECHANISM FOR SDGs IN TAMIL NADU

A State Level High Power Committee (HPC) was constituted with the Chief Secretary to the Government as Chairperson and Secretaries of Departments as its members. Eight theme based Working Groups were formed with Secretaries of Nodal Departments as its Chairman and all Line Departments concerned as its members to plan, implement, monitor and report on the achievements of SDGs to HPC. State Planning Commission is coordinating all SDGs related activities in the State. Department of Economics and Statistics is the Nodal agency for monitoring and is entrusted with development of indicators and collection of data for SDGs.

IMPORTANCE OF WORKING GROUPS

Achieving the targets and goals depends on multiple departments working together. Also the targets and goals are interdependent and indivisible in nature. Theme based working groups have been formed to ensure optimal use of resources to realise desired results in achieving goals and targets which are closely interlinked with the various departments programmes and roles. Working Groups are entrusted with planning, implementation and monitoring SDGs activities to achieve their goals and targets.

DEVELOPMENT OF DASHBOARD

To enable the State and the Departments to view the SDGs indicators, targets and goal status, web-based data monitoring and analytics system is developed on a dashboard (website:- tnsdg.tn.gov.in). Tamil Nadu e-Governance Agency (TNeGA) has been entrusted the development of SDGs dashboard in line with dashboard of United Nations (UN) and NITI Aayog.

GOALS, TARGETS AND INDICATORS PERTAINING TO TNPCB

There are 17 Goals, 169 Targets and 300 global Indicators. The 17 Goals are divided into 169 Targets and these Targets are further sub divided into 300 Indicators. The Goals and the corresponding Targets and Indicators pertaining to TNPCB are given below

Goals	Targets	Indicators
<p>Goal No. 6 Clean Water and Sanitation</p> 	<p>Target No. 6.3</p> <p>By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally</p>	<p>Indicator No. 6.3.1***</p> <p>Capacity of sewage water treated.</p>
		<p>Indicator No. 6.3.2</p> <p>Percentage of industries (17 category of highly polluting industries / grossly polluting industry / red category of industries) complying with waste water treatment.</p>
		<p>Indicator No. 6.3.3***</p> <p>Proportion of waste water treatment capacity created vis total generation.</p>
	<p>Target No. 6.6</p> <p>By 2020, protect and restore water related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.</p>	<p>Indicator No. 6.6.2***</p> <p>Percentage sewage load treated before discharging into major rivers.</p>
<p>***Installation of STP and sewage treatment does not come under the purview of TNPCB and the same is dealt by MAWS Department.</p>		
<p>Goal No. 9 Industries innovation and infrastructure</p> 	<p>Target No. 9.2</p> <p>Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries</p>	<p>Indicator No. 9.2.3</p> <p>Number of locations where PM 2.5 exceeds normal level.</p>

Goals	Targets	Indicators
<p>Goal No. 12 Responsible Consumption and Production</p> 	<p>Target No. 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</p>	<p>Indicator No. 12.4.2 Environmental Quality Monitoring by introduction of monitoring stations across the state</p> <p>Sub Categories</p> <ul style="list-style-type: none"> a) No. of ambient air quality monitoring stations functioning b) No. of water quality monitoring stations functioning c) No. of ambient noise monitoring stations functioning d) No. of polluted river stretches identified e) No. of non attainment cities identified f) No. of CETPs functioning g) No. of CETPs adopting ZLD systems
<p>Goal No. 13 Climate Action</p> 	<p>Target No. 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning</p>	<p>Indicator No. 13.3.2 Strengthening of institutional, systemic and individual capacity building to implement adaption, mitigation and technology transfer and development actions in the State</p> <p>Sub Categories</p> <ul style="list-style-type: none"> a) Environmental Training b) Public awareness programme during festival seasons

Details relating to the above mentioned indicators are incorporated in the SDG web portal and details are also furnished by the TNPCB to the Environment and Forests Department and the State Planning Commission as and when requested by them.

Target No.6.3 pertaining to TNPCB

Indicator No.6.3.1 (Capacity of sewage water treated)

Based on the orders of Hon'ble National Green Tribunal, Principal Bench, New Delhi, action plan for utilization of treated sewage from ULBs sewage treatment plants by Industries and others in the State of Tamil Nadu was prepared by Municipal Administration and Water Supply Department, Government of Tamil Nadu. The same has been submitted to CPCB by TNPCB.

Indicator No.6.3.2 (Percentage of industries (17 category of highly polluting industries / grossly polluting industry / red category of industries) complying with waste water treatment) & Indicator No.6.3.3 Proportion of waste water treatment capacity created vis total generation

The TNPCB emphasize all the 17 category of highly polluting industries to achieve Zero Liquid Discharge (ZLD) system for trade effluent with an aim to recycle and reuse treated waste water.

Data of Indicators for the Target No.6.3 pertaining to the TNPCB are as follows

Target	Indicator	Sub category	2015 -16	2016 - 17	2017 - 18	2018 - 19	2019 - 20
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 reuse globally	6.3.1*** Capacity of sewage water treated	-	70%	76%	76.67%	80%	82%
	6.3.2 Percentage of industries (17 category of highly polluting industries / grossly polluting industry / red category of industries) complying with waste water treatment	-	96%	96.5%	97%	97.97%	98.5%
	6.3.3*** Proportion of waste water treatment capacity created vis total generation	-	75%	80%	85%	89.6%	94.2%
6.6 By 2020, protect and restore water related eco-systems, including mountains, forests, wetlands, rivers, aquifers and lakes.	6.6.2*** Percentage sewage load treated in major rivers	-	53%	55%	58%	59.88%	----

***Installation of STP and sewage treatment does not come under the purview of TNPCB and the same is dealt by MAWS Department.

Target No.9.2, Indicator No.9.2.3 pertaining to the TNPCB (Number of locations where PM 2.5 exceeds normal level)

- Tamil Nadu Pollution Control Board is operating eight ambient air quality monitoring stations in Chennai ([Adayar](#), [Anna Nagar](#), [Kilpauk](#), [Kathivakkam](#), [Manali](#), [Nungambakkam](#), [Thiruvottriyur](#) and [T.Nagar](#)) under National Air Quality Monitoring Programme (NAMP) funded by the Central Pollution Control Board. In these Stations the parameters viz. PM₁₀, PM_{2.5}, Sulphur dioxide and Nitrogen dioxide are monitored.
- Under NAMP, the TNPCB also monitors the ambient air quality in other cities and major towns at 20 locations in Tamil Nadu ([Thoothukudi – 3 places](#), [Salem – 1 place](#), [Madurai – 3 places](#), [Trichy – 5 places](#), [Cuddalore – 3 places](#), [Mettur – 2 places](#)). All the NAMP Stations are peing operated on a 24 hour basis, twice a week. The samples collected from NAMP stations are analysed for the PM₁₀ and PM_{2.5} and gaseous pollutant Sulphur dioxide and Nitrogen dioxide.
- In addition to the NAMP Stations, TNPCB has installed 9 Continuous Ambient Air Quality Monitoring (CAAQM) Stations ([5 stations at Chennai](#), [4 at other districts each one in](#) [Gummidipoondi](#), [Thoothukudi](#), [Perundurai](#), [Coimbatore](#)). The CAAQM stations monitors PM₁₀, PM_{2.5}, SO₂, NO₂, Ammonia (NH₃), Ozone (O₃), Carbon monoxide (CO) and Benzene, Toluene, Ethyl benzene, Xylene (BTX). In order to cover the entire State, the TNPCB has now installed 25 CAAQM stations in urban and industrial areas of the State. These stations are under trial operations. It will be commissioned soon.

Data of Indicator No.9.2.3 pertaining to TNPCB

Target	Indicator	2015-16	2016-17	2017-18	2018-19	2019-20
9.2 Promote inclusive and sustainable industrialization and by 2030, significantly raise industries share of employment and gross domestic product in line with national circumstances and double its share in least developed countries	9.2.3 No. of locations where PM _{2.5} exceeds normal level	0	1	1	5	1

Target No.12.4, Indicator No.12.4.2 pertaining to the TNPCB -

Environmental Quality Monitoring by introduction of monitoring stations across the state

Sub Categories

- a) No. of ambient air quality monitoring stations functioning
- b) No. of water quality monitoring stations functioning
- c) No. of ambient noise monitoring stations functioning
- d) No. of polluted river stretches identified
- e) No. of non attainment cities identified
- f) No. of CETPs functioning
- g) No. of CETPs adopting ZLD systems

Indicator No.12.4.2 (a) – Number of Ambient Air Quality Monitoring Stations Functioning

With the increased industrial and commercial activities in the vicinity of major cities, the quality of the ambient air is being affected by emissions from the industries and from the ever increasing vehicular population. As per the provisions of the Air (Prevention and Control of Pollution) Act, 1981, the entire State of Tamil Nadu has been declared as an air pollution control area.

AMBIENT AIR QUALITY MONITORING IN CHENNAI

Tamil Nadu Pollution Control Board is operating eight ambient air quality monitoring stations in Chennai under National Air Quality Monitoring Programme (NAMP) funded by the Central Pollution Control Board.

The eight ambient air quality monitoring stations in Chennai are:-

Sl.No	Station location	Land use zone / area
1	Adyar	Residential area
2	Anna Nagar	Residential area
3	Kilpauk	Commercial area (Traffic intersection)
4	Kathivakkam	Industrial area
5	Manali	Industrial area
6	Numgambakkam	Commercial area (Traffic intersection)
7	Thiruvottriyur	Industrial area
8	T.Nagar	Commercial area (Traffic intersection)

All the above stations are functioning on 24 hours basis, twice a week. The samples collected from NAMP stations are analysed for the Particulate Matter PM₁₀ and PM_{2.5}, and gaseous pollutants Sulphur dioxide (SO₂) and Nitrogen dioxide (NO₂). Air Quality Index (AQI) is calculated and displayed in the TNPCB website: www.tnpcb.gov.in

National Ambient Air Quality Standards (NAAQ Standards)
(CPCB Notification No.: B-29016 / 20 / 90 / PCI-I, Dated 18.11.2009)

S. No.	Pollutant	Time Weighted Average	Concentration in Ambient Air	
			Industrial, Residential, Rural and Other Area	Ecologically Sensitive Area (notified by Central Government)
(1)	(2)	(3)	(4)	(5)
1	Sulphur Dioxide (SO ₂), µg/m ³	Annual*	50	20
		24 hours**	80	80
2	Nitrogen Dioxide (NO ₂), µg/m ³	Annual*	40	30
		24 hours**	80	80
3	Particulate Matter (size less than 10 µm) or PM ₁₀ µg/m ³	Annual*	60	60
		24 hours**	100	100
4	Particulate Matter (size less than 2.5µm) or PM _{2.5} µg/m ³	Annual*	40	40
		24 hours**	60	60
5	Ozone (O ₃), µg/m ³	8 hours**	100	100
		1 hour**	180	180
6	Lead (Pb), µg/m ³	Annual*	0.50	0.50
		24 hours**	1.0	1.0
7	Carbon Monoxide (CO), mg/m ³	8 hours**	02	02
		1 hour**	04	04
8	Ammonia (NH ₃), µg/m ³	Annual*	100	100
		24 hours**	400	400
9	Benzene (C ₆ H ₆), µg/m ³	Annual*	05	05
10	Benzo (a) Pyrene (BaP) – particulate phase only, ng/m ³	Annual*	01	01
11	Arsenic (As), ng/m ³	Annual*	06	06
12	Nickel (Ni), ng/m ³	Annual*	20	20
Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.				
24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.				

Note: Whenever and wherever results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigation

As per the 2018-19 Annual Report, the ambient air quality data collected from the above mentioned air quality monitoring stations indicate that parameters sulphur dioxide and nitrogen dioxide are well within the limits in Chennai including the industrial area. Whereas, the average values of PM₁₀ and PM_{2.5} exceeded the standards at T.Nagar, Nungambakkam and Anna Nagar monitoring stations. The exceedance is mainly due to the Metro Rail Works, dust contributed by pipe line, telephone / electrical cable laying activities on the road and also due to the re-suspension of traffic dust generated from automobile emissions and heavy vehicular traffic and pedestrian movement. Tamil Nadu Pollution Control Board displays the daily monitoring data through electronic display board at the Head Office, Guindy to create awareness to the general public.

AMBIENT AIR QUALITY MONITORING IN OTHER CITIES AND MAJOR TOWNS IN TAMIL NADU

Under NAMP, the TNPCB also monitors the ambient air quality in other cities and major towns at 20 locations in Tamil Nadu which functions on a 24 hour basis, twice a week. The samples collected from NAMP stations are analysed for the particulate matter PM₁₀ and PM_{2.5} and gaseous pollutant Sulphur dioxide and Nitrogen dioxide. The location of the monitoring stations is given below:

Sl.No.	Station location	Land use zone
Thoothukudi		
1	Raja Agencies	Industrial zone
2	SIPCOT	Industrial zone
3	A.V.M. Building	Mixed zone
Coimbatore		
4	District Collector's Office	Mixed zone
5	Ponniyarajapuram	Residential zone
6	SIDCO Building	Industrial zone
Salem		
7	Sowdeswari College	Mixed zone
Madurai		
8	Highways Project Building	Residential zone
9	M/s. Susee Cars and Trucks Co. Ltd.	Industrial zone
10	Madurai Corporation Office (SZ)	Mixed zone
Trichy		
11	Gandhi Market	Commercial zone
12	Main Guard Gate	Traffic intersection
13	Bishop Heber College	Mixed zone
14	Golden rock	Residential zone
15	Central bus stand	Traffic intersection

Sl.No.	Station location	Land use zone
Cuddalore		
16	Echankadu Village	Residential zone
17	DEE Office	Commercial Area
18	SIPCOT	Industrial Area
Mettur		
19	Raman Nagar	Residential Zone
20	SIDCO	Industrial Area

The ambient air quality data recorded during 2018-2019 indicates that parameters Sulphur dioxide and Nitrogen dioxide are well within the standards at Thoothukudi, Madurai, Coimbatore, Salem, Trichy, Cuddalore and Mettur.

CONTINUOUS AMBIENT AIR QUALITY MONITORING STATIONS

In order to monitor the ambient air quality on a continuous basis, TNPCB has installed 9 Continuous Ambient Air Quality Monitoring (CAAQM) stations. Five stations are installed at Chennai (viz) Koyambedu, Royapuram, Perungudi, Kodungaiyur, Manali, one station at SIPCOT Gummidipoondi, one station at SIPCOT Thoothukudi, one station at SIPCOT Perundurai and one station at SIDCO Coimbatore. The CAAQM stations monitors PM_{10} , $PM_{2.5}$, SO_2 , NO_2 , Ammonia (NH_3), Ozone (O_3), Carbon monoxide (CO) and Benzene, Toluene, Ethyl benzene, Xylene (BTX). The TNPCB has also installed 25 CAAQM stations in urban and industrial areas of major districts of the State. These stations are under trial operations. It will be commissioned soon.



CONTINUOUS AMBIENT AIR QUALITY MONITORING STATION (CAAQMS)

MOBILE CONTINUOUS AMBIENT AIR QUALITY MONITORING STATION

The TNPCB is also operating one mobile continuous ambient air quality monitoring station to monitor the ambient air quality on real time basis. The mobile station has the facility to monitor the ambient air quality parameters PM_{10} , $PM_{2.5}$, SO_2 , NO_2 , NH_3 , O_3 , CO and BTEX. The station also have a weather monitoring station to measure wind direction, wind speed, ambient temperature, relative humidity, solar radiation, rainfall, barometric pressure etc. This mobile station is used to monitor the air quality in hotspots of Chennai city and other places wherever necessary.



**MOBILE CONTINUOUS AMBIENT AIR QUALITY MONITORING STATION
(Mobile CAAQMS)**

MONITORING DURING FESTIVALS

Every year, the people of Tamil Nadu celebrate various festivals like Pongal (Bhogi), Vinayagar Chaturthi and Deepavali. While celebrating the festivals there is a possibility of environment impact on nearby water bodies or on ambient air quality. The CPCB has developed specific guidelines for monitoring purpose during the festival celebrations. The TNPCB is monitoring ambient air quality at various locations in the State during Pongal (Bhogi) festival, ambient air quality and noise during Deepavali. During the celebration of Vinayagar Chaturthi, the Board monitors water quality of water bodies where the Vinayagar idols are immersed.



BHOGI AWARENESS CAMPAIGN

CARE AIR CENTRE (CAC)

In order to monitor both source emissions and ambient air quality on a real time basis of the industries, TNPCB has established Care Air Centre at the Corporate Office, Chennai. This is a continuous real time emission monitoring system connected to 17 category of highly polluting industries, Red Large industries, common hazardous waste incinerator facility and common bio-medical waste treatment facilities. It functions on 24X7 basis. When the emission levels exceed the standards, the inbuilt system will inform the concerned industry and the District Environmental Engineer, through an automated short messaging system (SMS) and electronic mail (e-mail) to take immediate remedial action. The data can be viewed in TNPCB website

Total number of units connected to Care Air Centre (CAC)

Year	2015 - 16	2016 - 17	2017 - 18	2018 - 19	2019 - 20
Total number of industries connected to CAC (Cumulative)	424	482	538	609	696



CARE AIR CENTRE (CAC)

Indicator No.12.4.2 (b) – Number of Water Quality Monitoring Stations functioning

The TNPCB is monitoring the inland water quality under two major programmes namely Global Environmental Monitoring System (GEMS) from 1984 and Monitoring of Indian National Aquatic Resources (MINARS) from 1988 along the four major rivers i.e. Cauvery, Tamiraparani, Palar and Vaigai and eight lakes Udthagamandalam, Kodaikanal, Yercaud, Veeranam, Porur, Poondi, Pulicat and Redhills. Under GEMS and MINARS programmes the River Cauvery is being monitored. At present 55 stations are being monitored by Tamil Nadu Pollution Control Board. These programmes are funded by the CPCB.

WATER QUALITY WATCH CENTRE

The TNPCB has established a Water Quality Watch Centre (WQWC) at the Corporate Office, Chennai. It is functioning since July 2015. This centre monitors the quality of treated effluent at the outlet of the treatment plant on continuous (24X7) basis through online. The 17 category of highly polluting industries, Red-Large industries and Common Effluent Treatment Plants are connected to this centre.

Total number of units connected to Water Quality Watch Centre (WQWC)

Year	2015 - 16	2016 - 17	2017 - 18	2018 - 19	2019 - 20
Total number of industries connected to WQWC (Cumulative)	82	143	164	274	312 (industries) and 3 (rivers)

CONTINUOUS WATER QUALITY MONITORING STATIONS

In order to monitor the water quality of rivers on continuous basis, TNPCB has installed online real time continuous water quality monitoring stations. This system helps to know, whether there is any effluent discharge in the river from the industries. Three stations are installed each in river Cauvery, Noyyal and Kaalingarayan so as to know the quality of the water bodies in the textile industrial belt of Tiruppur, Erode and Namakkal districts. Similarly, three stations in river Thamirabarani and two stations in river Bharani are installed. These stations monitor pH, Total Dissolved Solids and Dissolved Oxygen level in the water. These monitoring stations are connected to WQWC.

Number of Continuous Water Quality Monitoring Stations (CWQMS) installed

Year	2015 - 16	2016 - 17	2017 - 18	2018 - 19	2019 - 20
Total number of CWQMS (Cumulative)	9	9	12	12	14



Online water quality monitoring system installed in River Cauvery

CHENNAI CITY WATER WAYS MONITORING PROGRAMME

The TNPCB is monitoring the water quality of four city water ways in Chennai city (i.e.) Adyar River, Buckingham Canal, Cooum River and Otteri Nallah to assess the pollution level by collecting monthly water samples from April 2003 both in water bodies and sewage / industrial outlets into the said water bodies. TNPCB is monitoring the water quality at 30 locations. The data are uploaded in TNPCB website.

Indicator No.12.4.2 (c) – Number of Ambient Noise Monitoring Stations functioning

Noise is generated from a variety of indoor and outdoor sources such as industries, transport vehicles, construction activities, generator sets and fire crackers. The Noise Pollution (Regulation and Control) Rules, 2000 were notified by MoEF&CC under the Environment (Protection) Act, 1986 and amended in January 2010. Database on noise level is required for policy formulation, setting standards and ensuring compliance of the existing Rules. The TNPCB in association with the CPCB has established 10 Real Time Ambient Noise Monitoring Stations in Chennai City under National Ambient Noise Monitoring Network Programme. The locations are 1) Egmore 2) T.Nagar 3) Perambur 4) Guindy 5) Triplicane 6) Pallikaranai 7) Velachery 8) Washermanpet 9) Anna Nagar and 10) Sowcarpet. The monitoring data reveals that the ambient noise level in Chennai city is exceeding the prescribed standard which is mainly due to vehicular movement and construction activities. The data can be viewed in CPCB website

Ambient Air Quality Standards with respect to Noise

Area Code	Category of Area / Zone	Limits in dB (A) Leq*	
		Day time	Night time
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Silence Zone	50	40

Note:

1. Day time shall mean from 6.00 a.m. to 10.00 p.m.
2. Night time shall mean from 10.00 p.m. to 6.00 a.m.
3. Silence zone is defined as an area comprising not less than 100 meters zones which are declared as such by the competent authority.
4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority

*dB (A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing

A “decibel” is a unit in which noise is measured.

“A”, in dB (A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear. Leq: It is energy mean of the noise level over a specified period.

Indicator No.12.4.2 (d) – Number of polluted river stretches identified

In Tamil Nadu, CPCB has identified six numbers of Polluted River Stretches based on the Bio-Chemical Oxygen Demand (BOD) values and categorized into five priorities (Priority I: BOD > 30mg/l, Priority II: BOD 20 to 30mg/l, Priority III: BOD 10 to 20 mg/l, Priority IV: BOD 6 to 10 mg/l, Priority V: 3 to 6 mg/l).

1. River Sarabanga – Thathayampatti to T. Konagapadi Stretch – (15 Kms) – Priority – I.
2. River Thirumanimuthary – Salem to Papparapatti Stretch – (15Kms)-Priority-I
3. River Vasista – Manivilundhan to Thiyaganur Stretch – (10Kms) – Priority-I.
4. River Cauvery – Mettur to Mayiladuthurai Stretch – (200 Kms) – Priority-I.
5. River Bhavani-Sirumugai to Kalingarayan Stretch – (60Kms) – Priority-IV.
6. River Thamirabarani-Pappankulam to Arumuganeri Stretch – (80Kms) – Priority-V.

The water quality of the polluted river stretches indicated that the main cause of pollution is due to discharge of untreated domestic sewage / sullage and dumping of Municipal Solid Wastes from the urban local bodies. Based on the CPCB reports, the Hon'ble National Green Tribunal (NGT) Principal Bench took suo-moto cognizance and issued the following directions by its orders dated 20.09.2018 & 19.12.2018 in O.A. No.673/2018.

“.....all the States and the Union Territories to prepare action plans for bringing all the polluted river stretches to be fit at least for bathing purpose.”

Accordingly, TNPCB has prepared and submitted the action plans with time lines for all the six stretches in coordination with the various departments and the approved action plans are under implementation to prevent the discharge of sewage and Solid Waste Management and for the Restoration and Rejuvenation of rivers with the coordination of various Government Departments. The action plans are uploaded in TNPCB website

Indicator No.12.4.2 (e) – Number of non attainment cities identified

The CPCB has identified 102 cities as non attainment cities in India including Thoothukudi in Tamil Nadu based on the monitoring data for the period 2011-2015. The Hon'ble NGT in its order dated 08.10.2018 in O.A No 681 of 2018 has directed the TNPCB to prepare and finalize the action plan for the non attainment city – Thoothukudi in coordination with various Government Departments. Accordingly, action plan was prepared and the same was approved by the CPCB. The action plan for the Thoothukudi city is now under implementation in coordination with various stake holders. The Hon'ble NGT (PB), Delhi in its order dated 06.08.2019 has also identified Trichy as non attainment city for which action plan to improve the air quality was prepared and forwarded to the CPCB for approval. The action plans are uploaded in TNPCB website

**Indicator No.12.4.2 (f) – Number of CETPS functioning and
Indicator No.12.4.2 (g) – Number of CETPS adopting ZLD system**

Taking into consideration, the key role played by MSME units and the constraints in complying with pollution control norms individually by these units, the Ministry of Environment, Forest and Climate Change initiated an innovative technical and financial support scheme to ensure their growth in an environmentally compatible manner. The scheme promotes common facilities for treatment of effluents from MSME units located in clusters through financial assistance. Tamil Nadu Pollution Control Board plays a supportive role towards the establishment of Common Effluent Treatment Plants (CETPs) for clusters of small-scale industries in various parts of the State. The Board assists in the technical scrutiny of the proposal plans for the CETPs.

PATTERN OF FINANCIAL ASSISTANCE

Central Assistance (Subsidy)	50% of the total project cost
State Assistance (Subsidy)	25% of the total project cost
Project Proponent's share	25% of the total project cost (Out of the proponent's share, atleast 40% of contribution from the proponent and balance 60% raised through loan from Banks / Financial Institutions)

CETP SCHEMES IN THE STATE

In Tamil Nadu, CETPs schemes are formulated in the following sectors:

Tanneries	13 Schemes
Textile Bleaching & Dyeing Units	30 Schemes
Electroplating Industries	2 Schemes
Hotels & Lodges	1 Scheme

TANNERY UNITS (CETPs)

Among 13 CETP schemes established for tanneries, 11 CETPs are in operation with Zero Liquid Discharge (ZLD) system. CETP (Madavaram) and CETP (Pallavaram) have provided primary and secondary treatment systems and opted for dilution of treated effluent with treated sewage to meet the standards prescribed by the Board.

ZLD Status of the CETPs in Tannery units

Sector	Total Number of CETPs	CETPs Location	No. of CETPs implemented ZLD	Proposed for dilution
Tannery	13	Dindigul	1	-
		Erode	1	-
		Madhavaram	-	1
		Pallavaram	-	1
		Trichy	1	-
		Vellore	8	-
		Total (13)	11	2

TEXTILE BLEACHING AND DYEING INDUSTRIES (CETPs)

For the benefit of small scale Textile bleaching and dyeing units, 30 CETPs were established and commissioned between the years 1996 – 2000, with primary and secondary treatment systems. Since the CETPs were unable to bring the TDS level to 2100 mg/L, they were directed to go for Zero Liquid Discharge. Accordingly, out of 30 CETPs, 19 CETPs (18 CETPs in Tiruppur, 1 CETP in Perundurai) have implemented tertiary treatment with RO Plant, Multiple Effect Evaporator and Agitated Thin Film Dryer to meet Zero Liquid Discharge standards. One CETP at Ayyampet-Muthyalpet in Kancheepuram district has now proposed to provide ZLD Plant for which they are in the process of getting grant from the Central and State Governments. The remaining 10 CETPs (8 CETPs in Karur and 2 CETPs in Tiruppur) were under closure in view of the orders of the Hon'ble High Court due to their inability to achieve ZLD standards. The Director of Handlooms and Textiles, Government of Tamil Nadu has sanctioned Rs.203.29 Crores as interest free loan to the 18 CETPs in Tiruppur. So far, Rs.199.145 Crores was released in order to modernize / improve the ZLD system.

ZLD Status of CETPs in Textile Bleaching and Dyeing Industries

Sector	Total Number of CETPs	Location	ZLD		
			Implemented	Under Progress	Works to be commenced
Textile	20	Tiruppur	18	-	-
		Perundurai	1	-	-
		Ayyampettai	-	-	1
		Total (20)	19	-	1



COMMON EFFLUENT TREATMENT PLANT



ZERO LIQUID DISCHARGE

Data of Indicator No.12.4.2 pertaining to TNPCB are as follows							
Target	Indicator	Sub category	2015 -16	2016 - 17	2017 - 18	2018 - 19	2019 - 20
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	12.4.2 Quality Monitoring by introduction of monitoring stations across the state	No. of ambient air quality monitoring stations functioning	36 Nos. (28 under NAMP + 7 CAAQMS + 1 Mobile CAAQMS)	36 Nos. (28 under NAMP + 7 CAAQMS + 1 Mobile CAAQMS)	38 Nos. (28 under NAMP + 9 CAAQMS + 1 Mobile CAAQMS)	38 Nos. (28 under NAMP + 9 CAAQMS + 1 Mobile CAAQMS)	38 Nos. (28 under NAMP + 9 CAAQMS + 1 Mobile CAAQMS)
		No. of water quality monitoring stations functioning	94 Nos. (55 under GEMS & MINARS + 30 under CCWMP + 9 CWQMS)	94 Nos. (55 under GEMS & MINARS + 30 under CCWMP + 9 CWQMS)	97 Nos. (55 under GEMS & MINARS + 30 under CCWMP +12 CWQMS)	97 Nos. (55 under GEMS & MINARS + 30 under CCWMP +12 CWQMS)	99 Nos. (55 under GEMS & MINARS + 30 under CCWMP +14 CWQMS)
		No. of ambient noise monitoring stations functioning	10 Nos. (under NANMNP)				
		No. of polluted river stretches identified	7 Nos.	7 Nos.	8 Nos.	6 Nos.	6 Nos.
		No. of non attainment cities identified	0	0	0	1 No.	2 Nos.
		No. of CETPs functioning	35 Nos.	35 Nos.	35 Nos.	35 Nos.	36 Nos.
		No. of CETPs adopting ZLD systems	31 Nos.	31 Nos.	31 Nos.	31 Nos.	32 Nos.

NAMP = National Air Quality Monitoring Programme; CAAQMS = Continuous Ambient Air Quality Monitoring Stations;
GEMS = Global Environmental Monitoring System; MINARS = Monitoring of Indian National Aquatic Resources;
CCWMP = Chennai City Waterways Monitoring Programme; CWQMS = Continuous Water Quality Monitoring Stations;
NANMNP = National Ambient Noise Monitoring Network Programme;

Target No.13.3, Indicator No.13.3.2 pertaining to the TNPCB -

Strengthening of institutional, systemic and individual capacity building to implement adaptation, mitigation and technology transfer and development actions in the State

Sub Categories

- a) Environmental Training
- b) Public awareness programme during festival seasons

Indicator No.13.3.2 (a) – Environmental Training and Indicator No.13.3.2 (b) – Public awareness programme during festival seasons

The TNPCB established the Environmental Training Institute (ETI) during 1994 with Danish Assistance to impart knowledge and provide training to staff of TNPCB, industrial representatives, executives of Municipalities and Corporations, line agencies and NGOs on pollution control and environmental protection. Programmes are offered by ETI under the following topics

- Water and air pollution control and prevention
- Cleaner technologies in process industries
- Operation and maintenance of CETPs
- Solid waste management
- Bio-medical waste management
- Hazardous waste management
- E-waste management
- Plastic waste management
- Environmental Impact Assessment Notification
- Coastal Zone regulation Notification
- Environmental Statement and Environmental Audit
- Zero Liquid Discharge Plant operation and maintenance
- Environmental legislations
- Improvement of managerial skills
- Other environmental related subjects

Details of number of environmental training programmes conducted from 2015 – 2020

Year	2015 – 16	2016 – 17	2017 – 18	2018 – 19	2019 - 20
No. of programmes	28	18	36	39	60
No. of beneficiaries	1746	398	388	761	1689



Training programme conducted by ETI in the Auditorium, TNPCCB



Training programme conducted in the ETI on Environmental Regulatory Compliance

Data of indicators for the Target No.13.3 pertaining to the TNPCB are as follows							
Target	Indicator	Sub category	2015 -16	2016 - 17	2017 - 18	2018 - 19	2019 - 20
13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	13.3.2 Strengthening of institutional, systemic and individual capacity building to implement adaption, mitigation and technology transfer and development actions in the State	Environ- mental Training	28 Nos.	18 Nos.	36 Nos.	39 Nos.	60 Nos.
		Public awareness programme during festival seasons	100 Nos.	109 Nos.	111 Nos.	172 Nos.	190 Nos.

Mapping of Ongoing Schemes with respect to Targets pertaining to TNPCB		
Target	Indicator	Schemes of TNPCB
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 reuse globally	6.3.1 Capacity of sewage water treated	1. Industrial Pollution (Sago Industries, Rice mills) 2. Impact to marine environment due to oil leakage from ships near Ennore port. 3. Environmental pollution control and prevention and addressing issues related to water supply and sewerage system, urbanization and its ensuing problems. 4. Study on recycling of salt generated from ZLD system of tannery CETPs. 5. Assessment of pollution caused by charcoal units in Veeranampallam Village, Kankeyam Taluk, Tiruppur District 6. Identification of source(s) of pollution (high TDS) in ground water in the north of Rasipalayam Village, Sullur Taluk, Coimbatore District 7. Hydro-geological study in and around SIPCOT Industrial Complex, Perundurai, Erode District 8. Environmental Quality Assessment in Critically Polluted Areas. 9. Training programmes through Environmental Training Institute.
	6.3.2 Percentage of industries (17 category of highly polluting industries / grossly polluting industry / red category of industries) complying with waste water treatment	
	6.3.3 Proportion of waste water treatment capacity created vis. total generation	
6.6 By 2020, protect and restore water related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.	6.6.2 Percentage sewage load treated in major rivers	
	9.2.3 Number of locations where PM 2.5 exceeds normal level	
9.2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries		

Mapping of Ongoing Schemes with respect to Targets pertaining to TNPCB- Continued		
Target	Indicator	Schemes of TNPCB
<p>12.4</p> <p>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</p>	<p>12.4.2</p> <p>Environmental Quality Monitoring by introduction of monitoring stations across the state</p>	<p>10. Public awareness programmes during festival seasons.</p> <p>11. Online monitoring through Care Air Centre and through Water Quality Watch Centre.</p>
<p>13.3</p> <p>Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning</p>	<p>13.3.2</p> <p>Strengthening of institutional, systemic and individual capacity building to implement adaptation, mitigation and technology transfer and development actions in the State</p>	

Proposed Schemes with respect to Targets pertaining to TNPCCB up to 2030		
Target	Indicator	Proposed Schemes
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 reuse globally.	6.3.1 Capacity of sewage water treated	1. Solid waste management facilities 2. National Air Quality Monitoring Programme (NAMP) 3. Continuous Ambient Air Quality Monitoring Stations (CAAQMS) 4. National Water Quality Monitoring Programme (NWQMP) 5. Continuous Water Quality Monitoring Stations
	6.3.2 Percentage of industries (17 category of highly polluting industries / grossly polluting industry / red category of industries) complying with waste water treatment	
	6.3.3 Proportion of waste water treatment capacity created vis total generation	
6.6 By 2020, protect and restore water related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.	6.6.2 Percentage sewage load treated in major rivers	
	12.4.2 Quality Monitoring by introduction of monitoring stations across the state	
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.		
13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	13.3.2 Strengthening of institutional, systemic and individual capacity building to implement adaptation, mitigation and technology transfer and development actions in the State	



நிலையான வளர்ச்சி இலக்குகள்

1 வறுமை இன்மை 	2 பசி ஒழிப்பு 	3 ஆரோக்கியம் மற்றும் நல்வாழ்வு 	4 அனைவருக்கும் தரமான கல்வி 	5 பாலின சமத்துவம் 	6 சுத்தமான நீர் மற்றும் காகதாரம்
7 மலிவான மற்றும் சுத்தமான ஆற்றல் 	8 நல்ல வேலை மற்றும் பொருளாதார வளர்ச்சி 	9 தொழில், கண்டுபிடிப்பு மற்றும் உள் கூட்டமைப்பு 	10 சமபின்மையை குறைத்தல் 	11 நிலையான நகரங்கள் மற்றும் சமூகங்கள் 	12 பொறுப்பான நுகர்வு மற்றும் உற்பத்தி
13 புவியியல் மாற்ற நடவடிக்கை 	14 கடல்சார் வளங்களை பாதுகாத்தல் 	15 நிலவளங்களை பாதுகாத்தல் 	16 அமைதி மற்றும் நீதிக்கான வலுவான நிறுவனங்கள் 	17 இலக்குகளை அடைவதற்கான கூட்டமைப்புகள் 	இந்தியா 2030

*Content Translated by SUSTAINABLE DEVELOPMENT COUNCIL.



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