EVALUATION OF CEPI SCORE & ACTION PLAN FOR CEPI AREA OF COIMBATORE – SIDCO INDUSTRIAL ESTATE, KURICHI

SUBMITTED
JANUARY 2020

TAMILNADU POLLUTION CONTROL BOARD

CONTENT

EXECUTIVE SUMMARY

The monitoring of CEPI area (SIDCO, Kurichi – Coimbatore District) for Ambient Air Quality, Ground and Surface Waters considered for the Calculation of Revised CEPI Score based on 2016 report by CPCB. TNPCB finalized the additional location of samplings for surface and ground Water in consideration with the previous CEPI monitoring.

Ambient Air Quality survey was conducted during the period November 2019 to verify the current AAQ Ambient Air Quality and it was found that PM_{10}, $PM_{2.5}$ and Arsenic are well below within the limits of NAAQM 2009 standards.

Further, in addition to the existing four sampling stations located in the impact zone, added one more additional surface water sampling station to cover the entire CEPI Impact Zone. The analysis reports of the current surface water samples shows the Phenol, NH_4N and TP are within the standards of CPCB,2002, Water Quality Criteria and Goals", Monitoring of Indian National Aquatic Resources Series: MINARS/17/2001-2002).

During CPCB-CEPI 2018, surface water samples collected from the Kurichi lake, Ukkadam lake, Senkulam and Noyyal River at Nanjundapuram,. Those four areas are away from the SIDCO, Kurichi Industrial Estate and also the surface terrain area is on downside due to which Industrial area contribution to the surface water body should be negligible. The surface water contamination may be due to domestic waste water/sewage and other localized manmade sources.

In addition to the existing four ground water sampling stations located in the impact zone, four additional ground water sampling station was identified in the CEPI Impact Zone and the ROA reveals that all the parameter's average values are complying within the prescribed standards as per the drinking water standards IS – 10500:1991.

The AAQ locations are the same as per the CPCB – CEPI monitoring and for the ground and surface water samples are added additional to cover the entire CEPI impact zone.

After the sampling and analysis of both AAQM & Water, the results were used for calculating the CEPI score as per the CPCB revised guidelines of 2016.

Based on the study report conducted during the period January 2018, the CEPI score as per the revised guidelines is -63.64 (Ambient Air -47.25 Water- 53.75, Land - 45.25, An_Ws_Ln).

The regional office of Tamilnadu Pollution Control Board has taken various initiatives in reducing the CEPI Score of 63.64 of 2018. For which all the foundries have been insisted to install proper APC Measures and all the process effluent generating units have been insisted to install Zero Liquid Discharge System.

Based on the study results the CEPI score as per the revised CEPI, 2016, the CEPI index of Post-Monsoon -Ambient Air is 3.5, Surface Water is 3.25, and Ground Water is 8.5 respectively. The overall CEPI score SIDCO, Kurichi, Coimbatore District **for the Post-monsoon 2019 is 8.60.**

1.0 INTRODUCTION

Coimbatore District is located in the western part of Tamil Nadu. The District spreads over an area of 7469 sq.km. The average annual rainfall in the plan is around 700 mm. The District comprises of eleven taluks namely Coimbatore North, Coimbatore South, Kinathukadavu, Pollachi, Valparai, Anaimalai, Perur, Maddukarai, Annur, Mettupalayam and Sulur. The Coimbatore City comes under Corporation administration. Coimbatore is the second largest city in Tamil Nadu. The city is located at 411 m above mean sea level. Average rainfall is about 612.2 Millimeters. The city is situated on the banks of the River Noyyal. It has population of more than 34.7 lakhs as per 2011 census. The city is also known as Manchester of South India. It is one of most industrialized district and is famous for textile spinning mills, wet grinders, pumps and motor industry sector. To cater the needs of above and to fabricate machineries for the factories, foundry and electroplating sector establishments are emerging.

1.1 CEPI Area Boundary details

SIDCO – Kurichi is one of the Industrial cluster located at a distance of 7 km from Coimbatore Town and spread to an extent of **88.43 acres**.

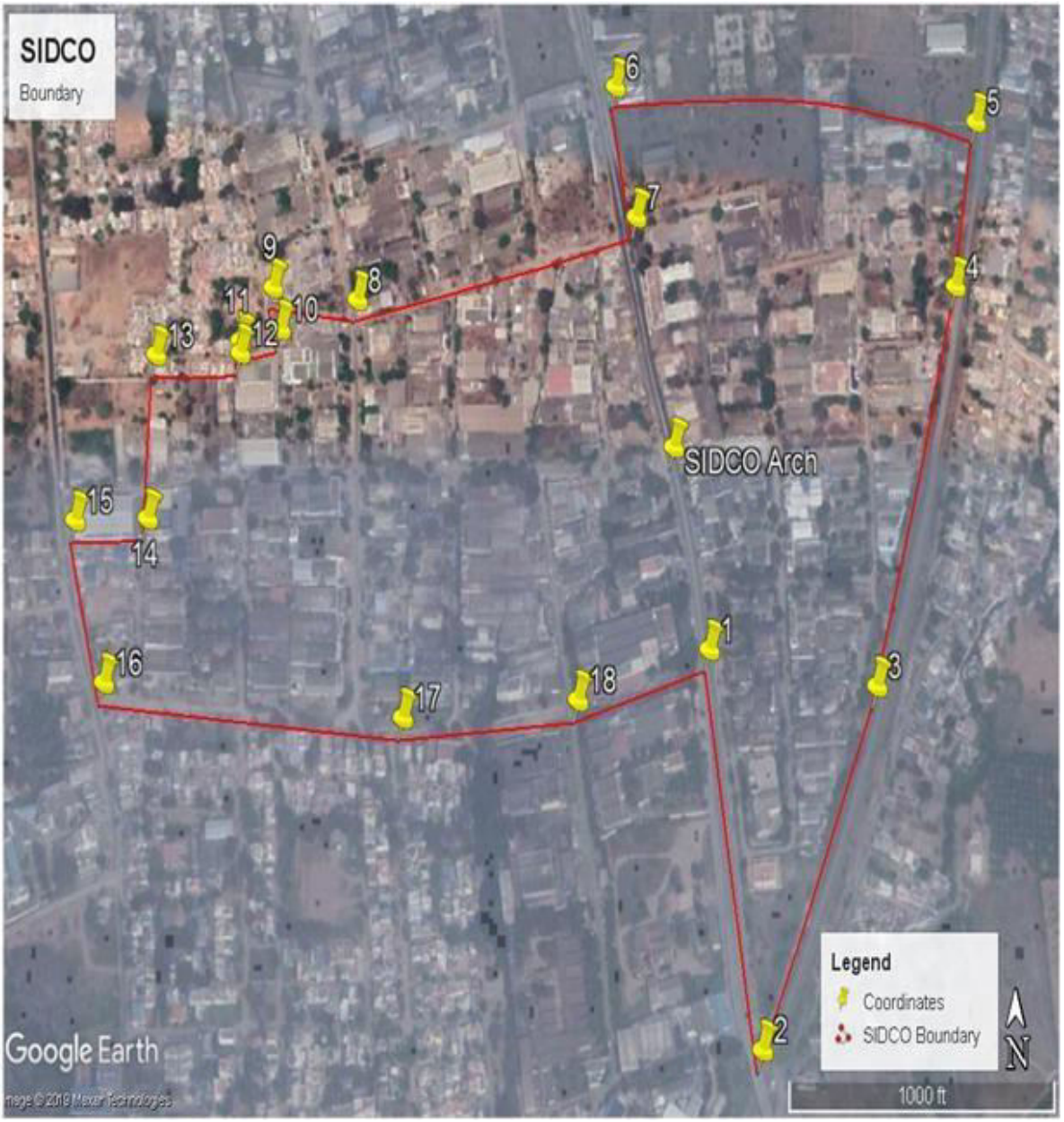
In Coimbatore District, SIDCO, Kurichi is located between 10^{o}55’11” N latitude and 76^{o}57’35”E longitude. SIDCO is located adjoining to the Tamilnadu Housing Board colony. This cluster falls under the administrative jurisdiction of Coimbatore Corporation. This industrial cluster is located on the Bangalore to Dindigul NH – 209. The location of the SIDCO industrial cluster in the Coimbatore district is furnished in the map**.**

Total area of the Severely polluted area

1. SIDCO Industrial Cluster – 0.357 Sq.Km (88.43 Acres).

MAP SHOWING THE LOCATION OF THE CEPI AREA – SIDCO

Industrial Estate, Kurichi Area : 0.357 sq.k.m (88.43 Acres)



BOUNDARIES OF THE SPAIN TERMS OF GEOGRAPHICAL COORDINATE

SIDCO – BOUNDARY CO-ORDINATES WITH LATITUDE & LONGITUDE

P.No	Latitude	Longitude
1	10°56'28.12"N	76°58'46.74"E
2	10°56'17.51"N	76°58'48.62"E
3	10°56'27.13"N	76°58'53.20"E
4	10°56'38.12"N	76°58'56.58"E
5	10°56'42.78"N	76°58'57.53"E
6	10°56'43.78"N	76°58'43.20"E
7	10°56'40.07"N	76°58'44.00"E
8	10°56'37.74"N	76°58'32.99"E
9	10°56'38.08"N	76°58'29.67"E

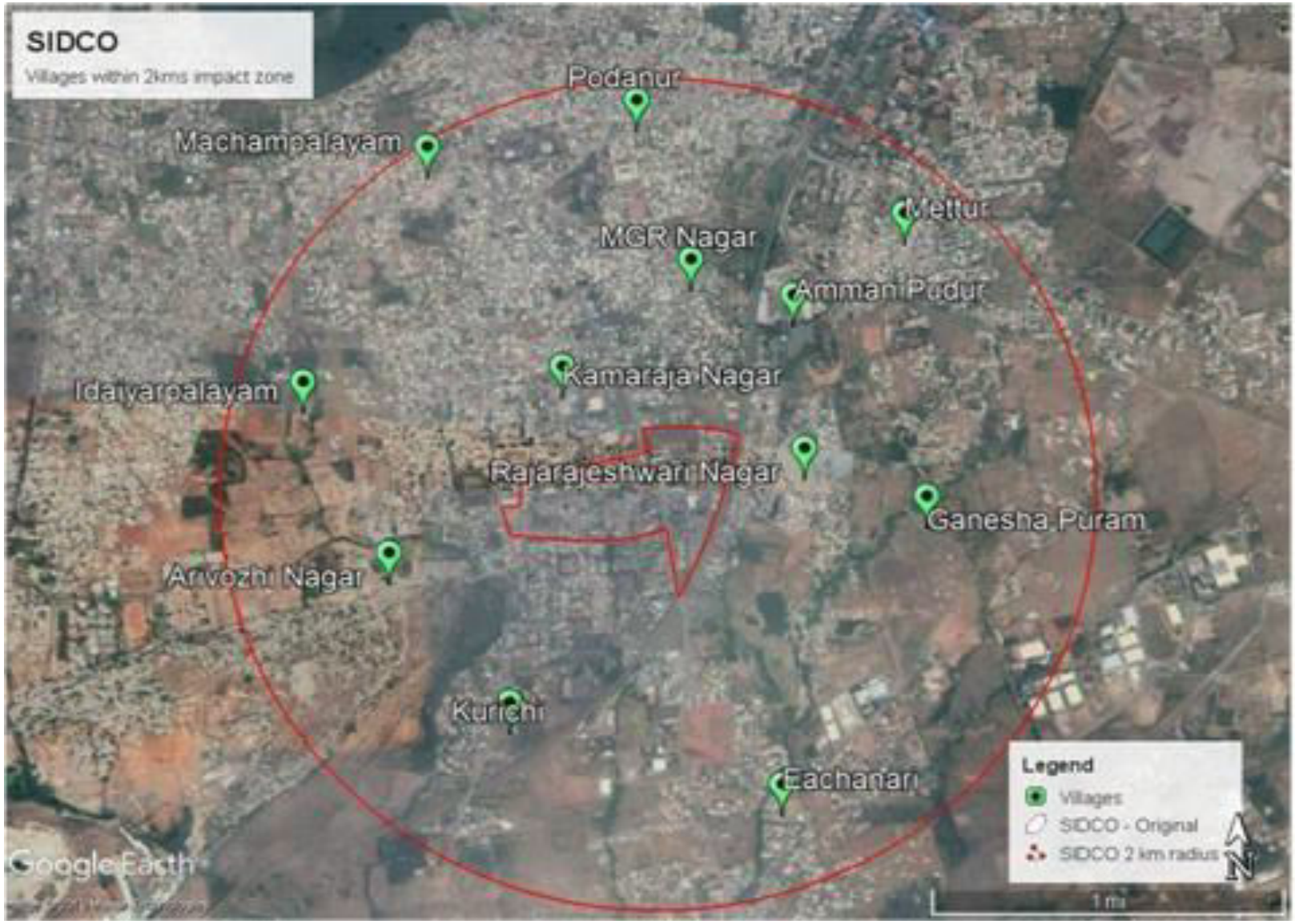
P.No	Latitude	Longitude
10	10°56'36.92"N	76°58'29.98"E
11	10°56'36.59"N	76°58'28.41"E
12	10°56'36.25"N	76°58'28.41"E
13	10°56'36.20"N	76°58'25.10"E
14	10°56'31.68"N	76°58'24.90"E
15	10°56'31.63"N	76°58'22.07"E
16	10°56'27.22"N	76°58'23.33"E
17	10°56'26.28"N	76°58'34.89"E
18	10°56'26.75"N	76°58'41.65"E

1.2 Habitation details in CEPI Area

The following Revenue Village/hamlets are located within 2 km of the Core zone

S.No	Name of the village	Direction in which located	Distance in KM	Population in Numbers
1	Kurichi	North	0.10	1,23,667

Habitations located within 2.0 Kms Core Zone are Kurichi, MGR Nagar, Kamaraja Nagar, Gandhi Nagar, Arivoli Nagar, Eachanari, Ganeshapuram, Rajarajeswari Nagar, Amman Pudur, Mettur, Machampalayam, Podanur and Idaiyarpalayam areas.


SIDCO
Villages within 2kms impact zone
Podanur
Machampalayam
Mettur
MGR Nagar
Ammani Padur
Kamaraja Nagar
Idaiyarpalayam
Rajarajeshwari Nagar
Ganesha Puram
Arivozhi Nagar
Kurichi
Eachanari
Legend
Villages
SIDCO - Original
SIDCO 2 km radius
N
1 mi
Google Earth

1.3 Eco Geological Features in and around CEPI Area

Major Water Bodies (River, Lakes, Ponds, etc)

There is no major water bodies exist within the CEPI area as well as 2 km radius from the center of the cluster except a dry odai located within the zone on which water flows during heavy rainfall. The nearest river is Noyyal River located at 3.0 KM in North direction and nearest water body is Kurichi Lake located at 2.5 KM in NW direction from the Industrial Estate.

Ecological parks, sanctuaries or any eco sensitive zones

There is no ecological park, sanctuaries or any eco sensitive zones exist within the CEPI area or 10 km buffer zone. The flora existing within the impact zone is man made plants located around industries and domestic area. The fauna presents with in the impact zone of 2 KM are very few numbers of domestic animals which are also maintained by the residents in the impact zone of 2.0 KM. There is no record for presence of any endangered plants or animals within the impact zone.

Buildings or monuments of Historical / archaeological / religious importance

The SIDCO industrial cluster and its core zone of 2.0 KM radius did not accommodate any buildings or monument of historical, archaeological importance. Eachanari Vinayagar temple is located at 1.7 KM in South direction and St. Mary's church, Podanur located at a distance of about 2.0 KM in NE direction are religious important places in the impact zone around SIDCO.

1.4 Industries details in CEPI Area

Details of Industries located in the core area is as below:

In the SIDCO industrial estate, there are about 236 nos. of small and tiny sheds are located. Most of the Industries functioning in SIDCO Industrial Estate are tiny in classification and the type of units are light Engineering and fabrication and these falls under either white or green category. The major industries are tabulated below:

Sl.No	Type of Industries	Classification	No. of Industries in each type
1.	Electroplating	Red – Small	2
2.	Ferrous and non ferrous metal extraction	Red – Small	1
3.	Manufacturing of glass	Red – Small	1
4.	Foundry	Orange-Large	1
		Orange-Medium	1
		Orange-Small	17
5.	Heat Treatment	Orange-Small	7
6.	Forging	Orange-Small	2
7. .	Confectionery	Orange-Small	1
8.	Paints and varnishes	Orange-Small	1
9.	Spray painting	Orange-Small	1
10.`	Reprocessing of waste plastic	Orange-Small	1
11.	Rubber units	Orange-Small	3
12.	Resin coated sand	Orange-Small	2
13.	Paper Board cones and tubes	Orange-Small	1

Consolidated Statement on Category of Industries:

Category	No. of Industries
17 category	---
Red category	4
Orange Category	39

There are about 9 Nos of green category industries which includes Engineering with painting, Plastics etc. are in existence in the SIDCO industrial cluster, apart from the above, out of 236 allotted Industrial sheds, rest are mainly white category units which are engineering units without painting activity involving CNC machining, lathe, machining etc. are located in the SIDCO Industrial cluster.

Industrial classification:

As per the revised CEPI guidelines, the scale of industrial activity falls under Limited category and its score is 1.

1.5 Green Belt Development details in CEPI Area

SI NO	NAME OF THE UNIT	TREES PLANTED		PROPOSED
		UPTO 2017 - 18	UPTO 2018 - 19	2019 - 20
		NOS	NOS	NOS
1	M/s.Auto shell cast private ltd	80	186	236
2	M/s.Indo Shell Mould Ltd Plant-1	95	145	195
3	M/s.Indo Shelll Cast Pvt Ltd	50	50	300
4	M/s.Jayashree Metal Casters Pvt Ltd	3	4	7
5	M/s.Sree Seethalakshmi Steel Casting	4	6	4
6	M/s.Ferros Alloyes	8	10	15
7	M/s.Craftsman Automation limited Unit – 2	3	3	3
8	M/s.Unique shell Mould India Private Limited. Plant – I	100	100	116
	Total	**343**	**501**	**778**

Moreover SIDCO Association members had planted 80 nos trees during the year 2018, 2019 and proposed to plant 30 nos trees during the year 2019-20.

Out of which about 350 nos. of trees are native species such as fig tree, banyan tree, neem tree, tamarind tree etc.

1.6 CEPI score declared by CPCB

Below given Table shows aggregated CEPI Score declared by CPCB for the year 2009, 2013 and 2018.

Period	CEPI Score
CEPI Score 2018	**63.64**
CEPI Score 2013	**53.14**
CEPI Score 2009	**72.38**

Ground Water Quality Analysis Report

Pollutant	Group	A1	A2	A (A1xA2)
T Hard.	A	0.25	Limited	
Phenols	C	3		
TDS	A	0.25		
		3.5	1	3.5

Pollutants	Avg(1)	Std (2)	EF [(3) = 1/2]	No of samples Exceeding(4)	Total no. of samples(5)	SNLF Value [(6) = 4/5x3]	SNLF Score (B)	
T Hard.	840.17	600	1.40	6	12	0.70	H	6.25
Phenols	0.04	0.001	43.33	12	12	43.33	C	30
TDS	2316.83	2000	1.16	6	12	0.58	H	5.5
B value = (B1+B2+B3)							B	41.75

C	0	< 5%
D	0	A-A-A

GW EPI	(A+B+C+D)	45.25

AIR	47.25
WATER	53.75
GROUND WATER	45.25
CEPI SCORE	63.64

Coimbatore,Tamilnadu- CEPI 2018

Air Quality Analysis Report

Pollutant	Group	A1	A2	A (A1xA2)
PM10	B	0.5	Limited	
PM2.5	B	0.5		
As	C	3		
		4	1	4

Pollutants	Avg (1)	Std (2)	EF [(3) = 1/2]	No of samples Exceeding (4)	Total no. of samples (5)	SNLF Value [(6) = 4/5x3]	SNLF Score (B)	
PM10	134.73	100	1.35	12	12	1.35	C	30
PM2.5	59.75	60	1.00	5	12	0.41	M	4.75
As	4.32	6	0.72	3	12	0.18	M	3.5
B Score = (B1+B2+B3)							B	38.25

C	5	5 - 10 %
D	0	A-A-A

AIR EPI	(A+B+C+D)	47.25

Water Quality Analysis Report

Pollutant	Group	A1	A2	A (A1xA2)
TP	B	0.5	Limited	
NH4-N	A	0.25		
Phenols	C	3		
		3.75	1	3.75

Pollutants	Avg (1)	Std (2)	EF [(3) = 1/2]	No of samples Exceeding (4)	Total no. of samples (5)	SNLF Value [(6) = 4/5x3]	SNLF Score (B)	
TP	1.38	0.30	4.59	12	12	4.59	C	30
NH4-N	2.85	1.50	1.90	7	12	1.11	C	10
Phenols	0.03	0.01	3.08	12	12	3.08	C	10
B value = (B1+B2+B3)							B	50

C	0	< 5 %
D	0	A-A-A

WATER EPI	(A+B+C+D)	53.75

2.0 AIR ENVIRONMENT

In the SIDCO industrial cluster the air pollution generating units are mainly foundries. Most of them are functioning with induction furnace. All the Foundries have provided adequate air pollution control measures such as Wet scrubber with stack for the Furnaces, Wet scrubber for the Cupola Furnaces and Bag filter and cyclone separator with stack arrangement for the Shot blasting machines & Knock outs to control the PM emissions.

2.1 Primary and Secondary Pollutants considered for AEPI:

Primary Pollutants considered for SWEPI:

Primary Pollutants: PM_{10}

Secondary Pollutants considered for SWEPI:

Secondary Pollutants:, As & $PM_{2.5}$

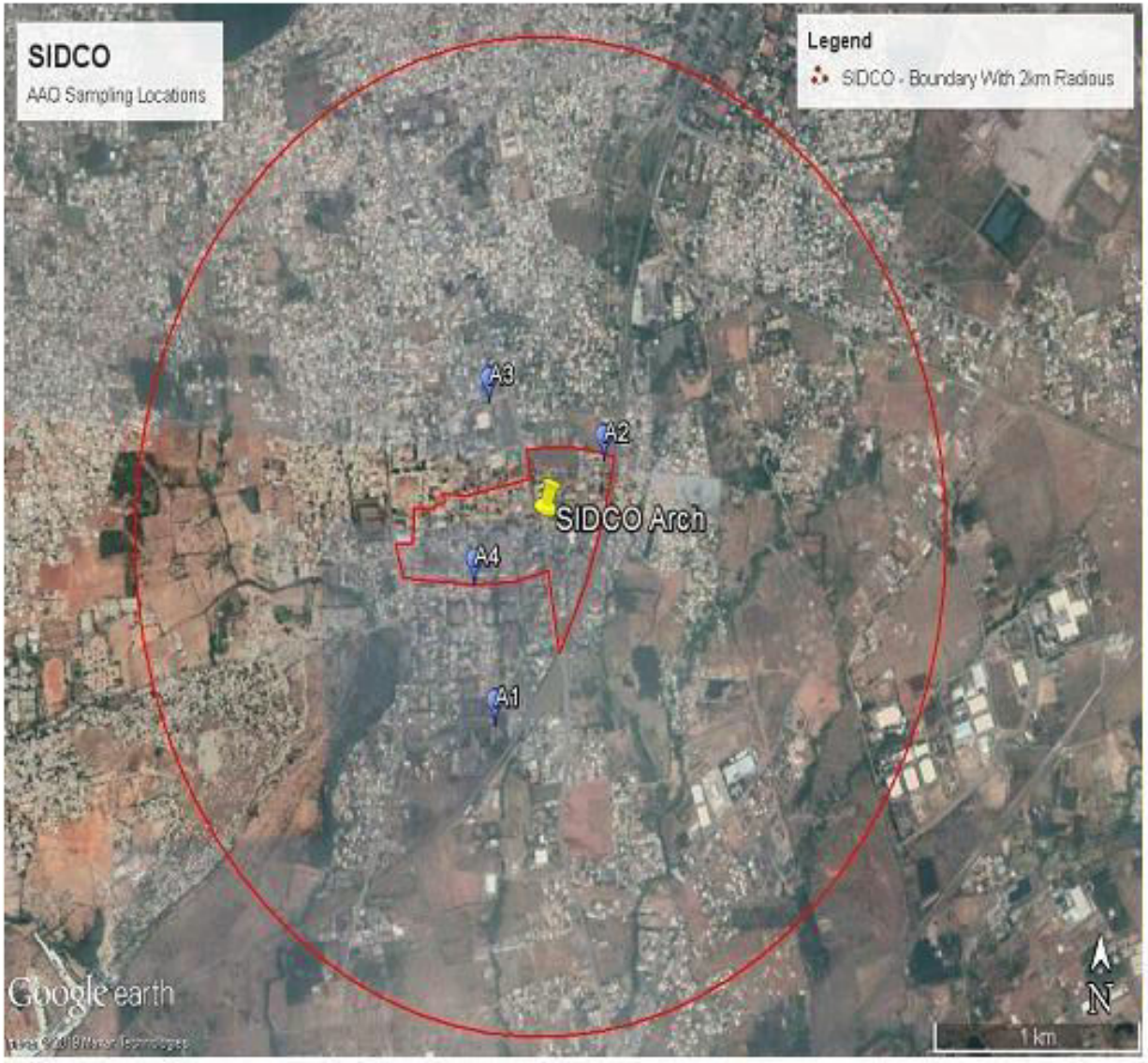
2.2 Air Quality Sampling Locations

Ambient Air Quality was monitored at four locations namely

1. M/s. Indoshell Industries – Existing sampling location – Lat 10°56’20.78”N and Long 76°58’31.62”E
2. M/s. Kabage Engineering – Existing sampling location – Lat 10°56’42.3’’ N and Long 76°58’55.8’’E
3. M/s. Elgi Rubber company – Existing sampling location – Lat 10°56’49.8’’ N and Long 76°58’37.1’’E
4. M/s. Best Heat Treatment – Existing sampling location – Lat 10°56’26.3’’ N and Long 76°58’34.8’’E

No additional sampling locations have been preferred for AAQ due to Ambient Air Quality is below the NAAQM standards.

Ambient Air Quality sampling locations



Ambient Air Quality Sampling Location

Existing

A1 - South West of SIDCO – M/s. Indoshell Industries - Lat 10°56'20.78" N and Long 76°58' 31. 62" E

A2 - North East of SIDCO Industrial Estate - M/s. Kabage Engineering - Lat 10°56'42.3" N and Long 76°58'55.8" E

A3 - North west of SIDCO Industrial Estate - M/s. Elgi Rubber company – Lat 10°56'49.8" N and Long 76°58'37.1" E

A4 – Centre of SIDCO Industrial Estate - M/s. Best Heat Treatment – Lat 10°56'26.3" N and Long 76°58'34.8" E

2.3 Status of AAQ in 2018 in CEPI Area

The CEPI index Ambient Air as per the CPCB study conducted during the year 2018 is 47.25 which is less than 50 and hence ranked normal.

Total No. of sampling locations – 4 Total no. of samples collected – 12 nos.

Parameter	Permissible value	No.of samples exceeded	Average value
PM_{10} $\mu g/m^3$	100	12	135
$PM_{2.5}$ $\mu g/m^3$	60	5	60
Arsenic ng/m^3	6	3	4.6

2.4 Industries Stack Emission details

1. M/s.Indo Shell Cast Private Limited

S. No.	Emission Source	Control Measures Provided	Stack Height
1.	Induction furnace – 2 Nos	Common suction hood, Bag filters, wet scrubber with stack	13
2.	Induction furnace – 2 Nos	Common suction hood, Bag filters, wet scrubber with stack	13
3.	Shot blasting machine – 1 No	Bag filters with stack	7
4.	Shell Moulding Machine	Common wet scrubber with stack	8

2. M/s.Indo Shell Mould Limited, Plant – I

S. No.	Emission Source	Control Measures Provided	Stack Height
1.	Induction furnace – 2 Nos	Bag filters, wet scrubber with stack	13
2.	Core drier	Stack	13
3.	Shell Moulding Machines - 5 Nos	Common dust bag filter with stack	13

2.5 Quantification of Stack Emission Load

M/s. Indo Shell Cast (P) Ltd Unit – 1 Stack Monitoring Survey Result

Sl NO	Stack Attached to	Discharge Rate in Nm3/hr	PM µg/m3	Pollution Load kg/day	SO_2 µg/m3	Pollution Load kg/day	NO_x µg/m3	Pollution Load kg/day
1.	Induction (A & B) - 1.0 Tons - 2 Nos (After Dust Collector)	16,459	43	16.98	12.8	5.05	7.2	2.84
2.	Shell Moulding Machines - 4 Nos (After Wet Scrubber)	5,067	42	5.10	-	-	-	-
3.	Shot Blasting Machine - 1.0 Tons (After Dust Collection)	2,021	50	2.42	-	-	-	-
Total		**-**	**-**	**24.51**	**-**	**5.05**	**-**	**2.84**

M/s.Indo Shell Mould Ltd Plant – 1

Stack monitoring survey Result

Sl NO	Stack Attached to	Discharge Rate in Nm3	PM µg/m3	Pollution Load kg/day	SO_2 µg/m3	Pollution Load kg/day	NO_x µg/m3	Pollution Load µg/m3
1	Induction (A & B) - 1.0 Tons - 2 Nos (After Dust Collector)	6,403	38	5.83	4.3	0.66	5.5	0.84
2	Shell Moulding Machines - 4 Nos (After Wet Scrubber)	7,733	32	5.93	-	-	-	-
	Total	**-**	**-**	**11.77**	**-**	**0.66**	**-**	**0.84**

2.6 Consolidated Stack Emission Load in CEPI Area

Sl NO	Name of the Industry	Pollution Load of PM kg/day	Pollution Load Of SO_2 kg/day	Pollution Load of NO_x kg/day
1	M/s. Indo Shell Cast (P) Ltd Unit – 1	24.51	5.05	2.84
2	M/s. Indo Shell Mould Ltd Plant – 1	11.77	0.66	0.84
Total load		36.29	5.71	3.68

AAQ survey report during 2018-19 (April/May 2019 – 8 hours average)

S.No	Name of the Industry	AMBIENT µg/m^3		
		PM_{10}	SO_2	NO_2
Standard		**100**	**80**	**80**
1	M/s.Indo shell cast (p) ltd unit – 1	**81.5**	**10.5**	**20.5**
2	M/s.Indo Shell Mould Ltd Plant – I	**85.5**	**9.75**	**22.25**

2.7 Status of AAQ during November /December, 2019

AAQ survey conducted during the month of November /December, 2019 reveals that average value of PM_{10} is 37.47 µg/m^3,PM 2.5 is 44.38 µg/m^3 and As is 0.09 ng/m^3 and are found to be within the limits.

2.8 Conclusion

As per the CEPI monitoring report, the average value of PM_{10} was 135 µg/m3 during the month of march 2018.

The samples were collected at four locations covering upwind, downwind and crosswind of SIDCO, Kurichi Industrial Estate. Out of which PM_{10} exceeded in all the four locations. The exceedance may be due to vehicular emissions and other localized sources because the industries located in the SIDCO, Kurichi Industrial Estate have provided proper Air Pollution Control Measures and also there are few nos. of emission based industries located in the Industries. The total particulate emission load in the SIDCO Kurichi Industrial area is 36.29 kg/day and the average stack height is 36.29 kg/day and the average stack height is 11.43 m.

The above data clearly indicates source emission concentration matter for Ambient PM is very minimal.

CAAQM installed at SIDCO on 01.12.2018 and which is upwind status of Kurichi Industrial area. Based on CAAQM data, annual average from January 2019 to November 2019, average value of PM_{10} is 44.96 µg/m^3 and PM 2.5 is 48.95 µg/m^3.

Further, based on the AAQ survey conducted in the vicinity of the Indo shell Cast Pvt. Ltd. and M/s. Indoshell Mould Pvt. Ltd. during the month of April'19 and May'19, it shows that the AAQ parameters are within the limits prescribed.

AAQ survey conducted during the month of November /December, 2019 reveals that average value of PM_{10} is 37.47 and PM 2.5 is 44.38 and are found to be within the limits.

From the above, it is concluded that the increase in value of PM_{10} $PM_{2.5}$ during the study conducted by the CPCB may be due to vehicular emission.

Further, there is no source of emission of Arsenic in this SIDCO, Kurichi Industrial Area

3.0 Water Environment

Effluent generating units from are only 2 nos. Total quantity of trade effluent generation is about 2.6 KLD from all the effluent generating units. All the effluent generating units have provided adequate ETP and ZLD systems. Treated trade effluent are reused in the process or disposed in the solar evaporation and none of the unit is disposing trade effluent outside the unit premises.

3.1 Primary and Secondary Pollutants considered for SWEPI:

Primary Pollutants considered for SWEPI:

Primary Pollutants: Total Phosphorous

Secondary Pollutants considered for SWEPI:

Secondary Pollutants: Phenols and NH4N

3.2 Surface Water Quality Sampling Location

In SIDCO Kurichi Industrial cluster there are no remarkable water bodies but a dry odai is located in the cluster on which water flows during heavy rainfall only. Noyyal River is running on the upstream side of the cluster at a distance of about 3 KM. Only a water tank named Kurichi Tank is located at a distance of about 2.5 KM on the upstream side of the SIDCO Industrial Cluster.

There is no discharge of effluent in this industrial cluster and there is no possibility of effluent reaching the water bodies. However, surface water samples were collected from the following locations.

Existing sampling locations:

1. Ukkadam big tank near bus stand – Lat 10°59’18.42’’N, Long 76°57’39.19’’E
2. Kurichi Lake - Lat 10°58’10.60’’N, Long 76°58’0.65’’E
3. Senkulam- Lat 10°57’40.26’’N, Long 76°56’24.66’’E
4. Nanjundapuram Bridge – Noyyal River- Lat 10°58’31.17’’N, Long 76°57’43.51’’E

Additional sampling locations:

5. Vellalore tank- Lat 10°58’19.91’’N, Long 77°00’24.36’’E

Surface water sampling locations

Surface water sampling Location - Existing

Surface water sampling Location – Additional

Existing:

S1- Ukkadambigtank near bus stand, Coimbatore - Lat 10°59'18.42" N, Long 76°57'39.19" E

S2- Kuruchi Lake, Coimbatore - Lat 10°58'10.60"N, Long 76°58'0.65" E

S3- Sengukulam, Coimbatore - Lat 10°57'40.26"N, Long 76°56'24.66" E

S4- Narjundapuram Bridge – Noyyal River, Coimbatore - Lat 10°58'31.17" N, Long 76°57'43.51" E

Additional:

S5- VellaloreKulam, Coimbatore - Lat 10°58'19.91"N, Long 77°00'24.36" E

3.3 Details of Effluents generation from major Industries located in CEPI Area

The total effluent generating in SIDCO Kurichi Industrial Estate is only 2.6 KLD. All the effluent generation industries are having ZLD systems.

The details of Industries generating effluent and mode of disposal of treated trade effluent by the individual industries:

S. No	Name & Address of Units	Quantity of Trade effluent	Mode of disposal
1.	M/s.VXL Ring Travelers Private Limited , 22,Sidco Industrial Estate , Kurichi ,Cbe	2.55 KLD	Zero discharge
2.	M/s.VXL Ring Travelers Private Limited Unit - Ii, 23,Sidco Industrial Estate , Kurichi ,Cbe	0.50 KLD	Zero discharge

Total generation of trade effluent by the process effluent generation units is about 2.6 KLD which are treated in the Effluent treatment plant and recycled in the process/disposed in the Solar Evaporation pan.

Pollution Control Measures Installed by the Industries:

Water Treatment Plant Status: Individual ETP :

S. No	Name & Address Of Units	Details of treatment system
1.	M/s.Vxl Ring Travelers Private Limited , 22,Sidco Industrial Estate , Kurichi,Cbe	1. Filtration chamber – 1 no 2. Mixing cum settling tank – 1 no 3. Sand filter – 1 no 4. sludge drying bed – 2 nos 5. solar evaporation pan – 1 no. 6. RO Plant stage 1 – 1 no 7. RO plant stage 2 – 1 No.
2.	M/s.Vxl Ring Travelers Private Limited Unit - Ii, 23,Sidco Industrial Estate , Kurichi ,Cbe	1. Filtration chamber – 1 no 2. Mixing cum settling tank – 1 no 3. Sand filter – 1 no 4. sludge drying bed – 2 nos 5. solar evaporation pan – 1 no. 6. RO Plant stage 1 – 1 no – at Unit I 7. RO plant stage 2 – 1 No. – at plant – I

3.4 Domestic Waste Water Generation and Disposal in CEPI Area

In the SIDCO Industrial Cluster it is roughly estimated that the total quantum of sewage generated from all industries will be 250 to 300 KL of Sewage per day. All the units have provided septic tank and arrangements for the disposal of sewage generated from the industrial premises. One unit (M/s. Indo shell Cast Pvt. Ltd.) has provided STP.

The disposal of sewage from the individual households and household colonies are the main sources of pollutants to the surface water located near to the CEPI area.

Further, it was reported by the Coimbatore SIDCO Industrial Estate Manufacturers Welfare Association (COSIEMA) that the association had approached District administration regarding the provision of UGD. The District Collector, Coimbatore has accepted to provide UGD and assured for the connection of UGD with the common STP in co-ordination with the Commissioner, Coimbatore Corporation and SIDCO management.

3.5 Industrial and Domestic Waste Water impact on Surface Water bodies

There are no water bodies located in and around 2.5 km of the SIDCO Industrial Estate, Kurichi. The nearest Surface Water Sampling location is Kurichi lake which is located at 2.5 km away from the CEPI area. The surface terrain of Kurichi Industrial area is on the downside whereas the surface water bodies identified on the upside, so that no water intrusion from the CEPI area to the surface water body and there is no possibility of intrusion of trade effluent into the surface water bodies.

3.6 Common Treatment Facilities details

No Common treatment facilities are available in CEPI area

3.7 Status of Surface Water Quality in 2018 in CEPI Area

As per the study conducted by CPCB, score on water Environment is 53.75 which is more than 50 and hence ranked severely polluted.

Water analysis Results are compared against CPCB,2002, Water Quality Criteria and Goals", Monitoring of Indian National Aquatic Resources Series: MINARS/17/2001-2002).

Total no. of surface water samples collected – 12 nos.

Parameter	Permissible value	No. of samples exceeded	Average value
Total Phosphorus	0.3	12	135
Ammoniacal Nitrogen	1.5	7	60
Phenol	0.01	12	4.6

3.8 Status of Surface Water Quality during November /December, 2019

Surface water samples are collected from the five sample locations as mentioned above and the analysis report is enclosed vide Annexure. The result of analysis is inferred as follows

i) All the surface water samples (primary and secondary pollutants) are found within the limits.

3.9 Conclusion:

1. The sample which were collected during the year 2018 for CEPI score at Surface water bodies such as Kurichi lake, Ukkadam lake, Senkulam and Noyyal River at Nanjundapuram, and these locations majorly intruded by sewage/domestic waste water. During sampling, there was no flow and its purely intruded by Sewage / domestic waste water. Due to the domestic waste water Total phosphate show as high concentration as well as ammonical nitrogen and phenol is due to the presence of dead plants and animals and human sewage.
2. There are no water bodies located in and around 2.5 km of the SIDCO Industrial Estate, Kurichi. Kurichi lake is the nearest surface water sampling location which is located at 2.5 km away from the CEPI area. The surface terrain of Kurichi Industrial area on the downside whereas the surface water bodies identified on the upside, so that no water intrusion from the CEPI area to the surface water body and there is no possibility of intrusion of trade effluent into the surface water bodies.
3. The total effluent generation in the entire SIDCO, Kurichi Industrial area is only 2.6 KLD which clearly indicates no discharge of the effluent into surface water bodies.
4. All the industries have provided septic tank and soak pit arrangements and no discharges of the domestic waste water into the surface water bodies.
5. There is no discharge of effluent from the industries to the surface water bodies.

In future, CEPI monitoring, surface water sampling will be collected only during any flow in the surface water sampling locations and the surface watre bodies will not be considered as sampling locations.

4.0 LAND ENVIRONMENT

4.1 Primary and Secondary Pollutants considered for GWEPI

Primary Pollutants considered for GWEPI

Primary Pollutants: Phenols

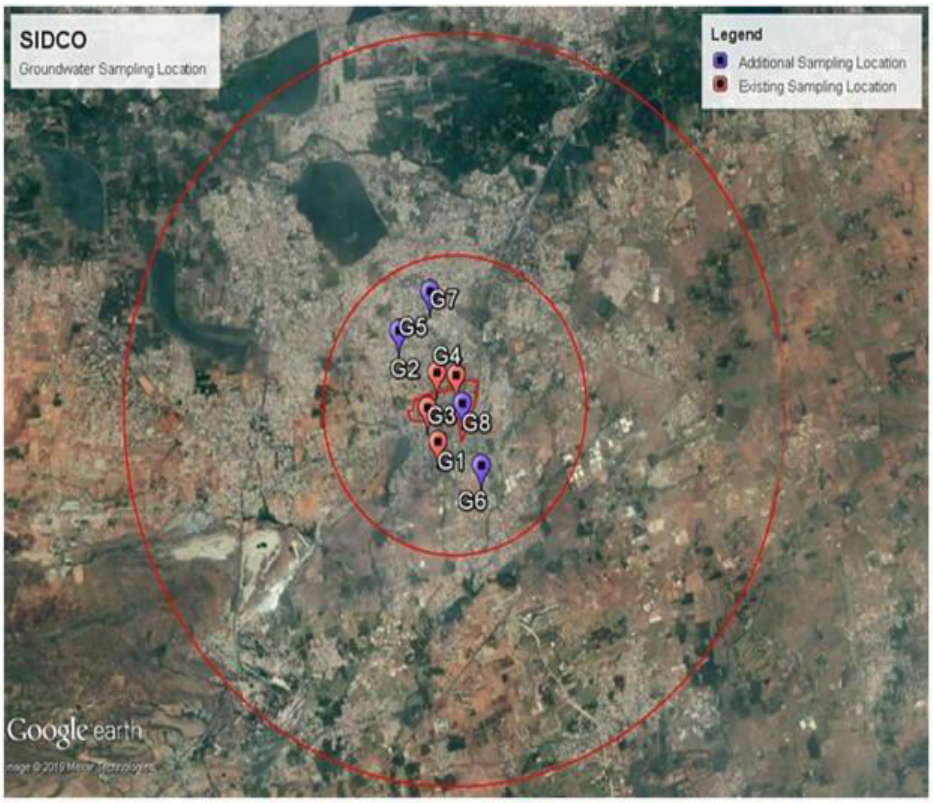
Secondary Pollutants considered for GWEPI

Secondary Pollutants: Total hardness and TDS,

4.2 Ground Water Quality Sampling Locations

Ground water samples collected from following locations

Ground water sample has been collected from the following locations:



Groundwater sampling Location – Existing

Groundwater sampling Location – Addition

G1-Indoshell Industries, Coimbatore
G2-Surya Industries, Coimbatore
G3-Kuruchi at Housing Unit Phase – II, Coimbatore
G4-SIDCO – TVS Packers, Coimbatore
G5 – Kamaraj Nagar, Coimbatore
G6-Eachanari
G7-Sengottian Colony
G8-TNPCB South Office, CBE

Sample ID	Latitude	Longitude
G1	10°56'6.10"N	76°58'36.43"E
G2	10°56'35.81"N	76°58'36.61"E
G3	10°56'20.78"N	76°58'31.62"E
G4	10°56'34.38"N	76°58'46.20"E
G5	10°56'54.30"N	76°58'18.10"E
G6	10°55'55.40"N	76°58'57.80"E
G7	10°57'11.00"N	76°58'34.00"E
G8	10°56'22.24"N	76°58'49.02"E

Existing sampling locations

1. M/s. Indoshell Industries - Openwell – Existing sampling location – Lat 10°56'20.78"N, Long 76°58'31.62"E
2. M/s. Surya Industries - Borewell – Existing sampling location – Lat 10°56'35.81"N, Long 76°58'36.61"E
3. M/s. SICO-TVS Packers (Hi tech Polimers) - Borewell – Existing sampling location – Lat 10°56'6.10"N, Long 76°58'36.43"E
4. Thiru. KG Venugopal's House, Kurichi Housing Unit Phase - II - Borewell – Existing sampling location – Lat 10°56'34.38"N, Long 76°58'46.20"E

Additional sampling locations

5. Thiru. Ramasamy House, Gandhi Nagar – 641 024 - Borewell - Newly added Sampling location – Lat 10°56'54.30"N, Long 76°58'18.10"E
6. Thiru. Rangasamy House, Annai Indira Nagar - Borewell – Newly added sampling location – Lat 10°55'55.40"N, Long 76°58'57.80"E
7. Corporation well at Muthu Nagar - Borewell – Newly added sampling location – Lat 10°57'11.00"N, Long 76°58'34.00"E
8. O/o DEE, TNPCB, Coimbatore South - Newly added sampling location – Lat 10° 56' 23.73.72"N, Long 76° 58' 48.82.08"E

4.3 Status of Ground Water at sampling locations in 2018

As per the study conducted by CPCB, score on Land Environment is 45.05 which is less than 50 and hence ranked normal.

Drinking Water Standards compared against IS: 10500-1991.

Total No. of sampling locations – 4.

Total no. of ground water samples collected – 12 nos.

Parameter	Permissible value	No. of samples exceeded	Average value
Total Hardness	600	6	840.17
Phenol	0.01	12	0.04
TDS	2000	6	2316.83

4.4 Status of Ground Water Quality during November/December, 2019

Ground water samples are collected from the Eight sample locations as mentioned above and the analysis report is enclosed vide Annexure. The result of analysis is inferred as follows

i) All the ground water samples (primary and secondary pollutants) are found within the limits except total hardness in 4 locations. However average value is found to be 587.00 mg/l

4.5 Management of Hazardous Waste in CEPI Area

Hazardous Solid Wastes:

Hazardous wastes are generated from the Industries listed in table below and the same is disposed to TSDF for scientific disposal.

Details of Hazardous Waste Generating Industries

There is no major hazardous waste generating industries in the CEPI area. However, 4 industries are generating hazardous wastes of quantity 6.323 Tons per Annum such as waste / use oil, ETP sludge etc. Out of 6.323 T/Annum of total Hazardous waste generated, 3.5 Tons are recyclable and 2.823 T are Incinerable. The details of Industries which generates hazardous waste are furnished in the Table below.

Sl. No	Name of the Industry	Hazardous Waste		Mode of disposal		
		Type	Qty. in TPA	Recyclable (TPA)	Incinerable (TPA)	Land Fillable (TPA)
1	M/s.Unique Shell Mould India Pvt.Ltd Plant-I, 89, SIDCO Industrial Estate, Coimbatore-21.	5.1	1.5T	1.5T	-	-
		5.2	0.5 T	-	0.5 T	-
2	M/s.Indo Shell Mould Limited -Plant-I, A-9, SIDCO Industrial Estate,Kurichi, Coimbatore – 21.	5.1	0.5T	0.5T	-	-
		5.2	1.0 T	-	1.0 T	-
3	M/s.Craftsman Automation P.Ltd Unit-II E-43, SIDCO Industrial Estate , Kurichi, Coimbatore – 21.	5.1	1 T	1 T	-	-
		5.2	1 T	-	1 T	-
		21.1	0.5 T	-	0.5 T	-

4	M/s.V.X.L.Ring Travellers (P) Limited, 22, SIDCO Industrial Estate, Coimbatore – 21	34.3	0.353	-	-	0.353

All the units have stored the Hazardous wastes in closed shed, concrete floor with sump, fencing, trench and bund wall provisions.

4.6 Management of Bio-Medical Waste in CEPI Area

There are 11 number of hospitals are located within 2 km area. Total generation of Bio medical waste generation by all the 11 Hospitals is about 2.99 kg/day These Hospitals are the members of the Common Bio-Medical Treatment facility and the segregated Bio-Medical Waste is being sent to the common facility located at a distance of about 11 Km from CEPI area for treatment and disposal.

4.7 Management of Municipal Solid Waste in CEPI Area

Municipal Solid Waste and Domestic Waste in CEPI area is being collected by the local body for further treatment and disposal. In the impact zone Kuruchi Phase I and Phase II Residential Quarters developed Tamilnadu Housing Unit is located and also other residential area are located within 2 km area.

Sludge from ETPs has been classified as Hazardous Waste and it is being handled as per HW (M&H) Rules. There is no CETP in this CEPI area. The sludge from STP is only a Bio- sludge which is of meager quantity utilized as manure for gardening purpose.

Major Industrial solid waste from CEPI area is foundry waste sand after molding it is disposed as solid waste. This waste sand (Sodium silicate Sand and Resin Sand) can be reused after reclamation. All large and Medium Scale Foundries are having / proposed to provide waste sand reclamation plant to reuse the sand. The details are dealt in Action Points.

Foundry units are generating waste sand. The units have provided sand reclamation plant individually or dispose the same to common reclamation plant. The waste generated from the Engineering units Such as scraps are being used for further beneficial use.

4.8 Details of STPs/ETPs/CETPs

In the SIDCO Industrial Cluster it is roughly estimated that in total all industries will generate 250 to 300 KL of Sewage per day. All the units have provided septic tank and arrangements for the disposal of sewage generated from the industrial premises. One unit (M/s. Indo shell Cast Pvt. Ltd.) has provided STP.

Sewage Treatment Plant (M/s. Indo shell Cast Pvt. Ltd**)**

S. No	Name & Address Of Units	Details of treatment system
1.	M/s. Indo shell Cast Pvt. Ltd,	Combined packaging treatment system Consisting of 1. Electro Coagulation Feed Tank – 1 No 2. Electro Coagulation – 1 No 3. Flash Mixer – 1 No 4. Tube Settler – 1 No 5. Filter press – 1 No 6. Filter feed Tank – 1 No 7. Activated Carbon Filter – 1 No 8. Treated Water Tank – 1 No

Effluent Treatment Plant details: Individual ETP:

S. No	Name & Address of Units	Details of treatment system
1.	Vxl Ring Travelers Private Limited , 22,Sidco Industrial Estate , Kurichi,Cbe	1. Filtration chamber – 1 no 2. Mixing cum settling tank – 1 no 3. Sand filter – 1 no 4. sludge drying bed – 2 nos 5. solar evaporation pan – 1 no. 6. RO Plant stage 1 – 1 no 7. RO plant stage 2 – 1 No.
2.	Vxl Ring Travelers Private Limited Unit - Ii, 23,Sidco Industrial Estate , Kurichi ,Cbe	1. Filtration chamber – 1 no 2. Mixing cum settling tank – 1 no 3. Sand filter – 1 no 4. sludge drying bed – 2 nos 5. solar evaporation pan – 1 no. 6. RO Plant stage 1 – 1 no – at Unit I 7. RO plant stage 2 – 1 No. – at plant – I

Common Effluent Treatment Plant details:

No Common Effluent Treatment available in the CEPI area.

4.9 Conclusion

1. Sample collected from the existing sampling locations during the study conducted by the CPCB during the year 2018 reveals that average value of primary and secondary pollutants exceeded the standards prescribed by the Board.
2. However, during the Ground water samples collected during November / December 2019 from 8 locations. ROA reveals that all the parameter's average values are complying with the prescribed standards (primary and secondary pollutants).
3. Moreover, the analytical reports from central ground water board collected during the year July 2016 and May 2016 reveals that Total hardness and TDS in around the SIDCO, Kurichi area are within the limits prescribed.
4. There is no major Hazardous waste generating industry and the meagre hazardous waste generated is disposed by recycling and incineration to authorized recyclers. The Industries are provided proper hazardous waste storage facilities due to which no leachate is generated during rainy season, so that no hazardous waste leachate into the storm water drain/land.
5. Hence there is no any intrusion of hazardous waste in the CEPI area.
6. The Bio Medical waste generated from the hospitals located with 2 Km area are disposed through common facility located at a distance of about 11 km from CEPI area for treatment and disposal and hence there is no influence of the waste in the pollution in CEPI area
7. Municipal solid waste / domestic waste are properly collected and disposed by the local body.

5.0 HEALTH STATISTICS

The details of Health statics in residential localities in and around the SIDCO Industrial Estate furnished by the surrounding Health Care facilities are as below

5.1 Hospital details in CEPI Area

There is no hospital located in CEPI area.

5.2 Health data of five years

Health data collected for last five years from various hospital as given in Annexure A3

5.3 Analysis of data &Conclusion

Analysis of data's for Coimbatore Medical College Hospital and Podanur UPHC is given below:

COIMBATORE MEDICAL COLLEGE HOSPITAL.							
COIMBATORE – 641018							
Sl.No	Types of Diseases	No of Patients reported for the years					
		2018 - 19	2017 - 18	% increase	2017 - 16	2016 - 15	2015 - 14
Air Borne Diseases							
1	Asthma	19	18	0.50	19	17	17
2	Acute Respiratory Infection	255	243		251	252	261
3	Bronchitis	90	81		87	85	87
4	Cancer	51	61		44	52	37
	Total	415	403		401	406	402
Water Borne Diseases							
1	Gastroenteritis	5	4	-4.97	5	3	4
2	Diarrhea	20	27		22	27	24
3	Renal Diseases	158	141		154	139	125
4	Cancer	-	-		-	-	-
	Total	183	172		181	169	153

M/s.Podanur UPHC

Sl.No	Types of Diseases	No of Patients reported for the years					
		2018 – 19	2017 - 18	% increase	2017 - 16	2016 - 15	2015 - 14
Air Borne Diseases							
1	Asthma	35	35	0	35	35	32
2	Acute Respiratory Infection	45	45		45	44	40
3	Bronchitis	20	20		20	15	15
4	Cancer	-	-		-	-	-
Total		100	100		100	94	87
Water Borne Diseases							
1	Gastroenteritis	10	10	0	10	10	10
2	Diarrhea	-	-		-	-	-
3	Renal Diseases	-	-		-	-	-
4	Cancer	-	-		-	-	-
Total		10	10		10	10	10

Conclusion

From the above, it is found that the average % increase in disease rate for two consecutive years between 2016-17 and 2017-18 is less than 5 %.

6.0 Action Taken During 2018-19 & 2019-2020 In CEPI Area

6.1 Action Taken by the Industries in CEPI Area for the Improvement of Pollution Control Measures

Action taken by the Individual industries in CEPI Area is as follows

1. M/s.AUTO SHELL CASTS PRIVATE LIMITED, COIMBATORE-641 021

S. No.	Emission Source	Control Measures Earlier Provided	Action taken upto the year 2018-19 and 2019- 20
1	Common stack attached to induction Furnace	Common stack with Wet scrubber	Bag filter system is installed before wet scrubber to improve the efficiency of APC Measure
2	Shot blasting machine	Dust collector alone present	A wet settling chamber is installed after existing bag filter arrangement to Control the fine dust.
3	Sand reclamation plant	The unit is using the waste sand as land fill material	Sand reclamation plant for Co_2 sand is provided.

2. M/s.INDO SHELL CAST PRIVATE LIMITED

S. No.	Emission Source	Action taken upto the year 2018-19 & 2019-20
1.	Induction furnace – 2 Nos	Common suction hood, Bag filters, wet scrubber with stack
2.	Induction furnace – 2 Nos	Common suction hood, Bag filters, wet scrubber with stack
3.	Shot blasting machine – 1 No	Bag filters with stack
4.	Shell Moulding Machine	Common wet scrubber with stack

3. M/s.CRAFTSMAN AUTOMATION PVT. LTD., UNIT – II

S. No.	Emission Source	Control Measures Earlier Provided	Action taken upto the year 2018-19 & 2019-20
1	Sand reclamation plant	The unit was using the waste sand as land fill material	Sand reclamation plant provided
2.	Diesel fired melting furnaces	Common hood & stack with common wet scrubber	---

4. **M/s.UNIQUE SHELL MOULD (INDIA) PRIVATE LIMITED, PLANT – I**

S. No.	Emission Source	Action taken upto the year 2018-19 & 2019-20
1	Electrical Furnace and gasoperated Furnace	Common wet Scrubber with Stack
2	Sand reclamation plant	Wet scrubber provided

5. **M/s.INDO SHELL MOULD LIMITED, PLANT – I**

S. No.	Emission Source	Action taken upto the year 2018-19 & 2019-20
1.	Induction furnace – 2 Nos	Bag filters, wet scrubber with stack
2.	Core drier	Stack
3.	Sand reclamation plant	Waste sand – (Resin sand) is reclaimed in the combined sand reclamation plant situated in the sister concern of the unit of M/s. Indo Shell Mould Plant – II located within SIDCO Industrial Estate

6. **M/s.SRI SEETHALAKSHMI STEEL CASTINGS PRIVATE LIMITED**

S. No.	Emission Source	Control Measures Earlier Provided	Action taken upto the year 2018-19 & 2019-20
1	Induction furnace	Stack with Wet scrubber	Bag filter has been provided.
2	Sand plant	To be provided	Cyclone separator with bag filter has been provided.

7. M/s.JAYASHREE METAL CASTERS PVT LTD

S. No.	Emission Source	Control Measures Earlier Provided	Action taken upto the year 2018-19 & 2019-20
1	Knock Out Section	To be provided	Provided
2	Induction furnace	Wet scrubber with stack	---

8. M/s.FERROS ALLOYES

S. No.	Emission Source	Control Measures Earlier Provided	Action taken upto the year 2018-19 & 2019-20
1	Induction Furnace – Bag filter and wet scrubber to be provided,	Modification of wet scrubber and providing new bag filter is under Progress.	Bag filter wet scrubber with stack has been provided

6.2 Other Initiatives In CEPI Area

It was reported by the Coimbatore SIDCO Industrial Estate Manufacturers Welfare Association (COSIEMA) that the association had approached District administration regarding the provision of UGD. The District Collector, Coimbatore has accepted to provide UGD and assured for the connection of UGD with the common STP in co-ordination with the Commissioner, Coimbatore Corporation and SIDCO management. Also, it is proposed to conduct the Green Belt Initiative to all the member units inside the SIDCO clusters for increasing the Green Belt areas dedicated by the Units.

7.0 Action Plan for 2019-2020

7.1 Proposed Short Term Action Plan for Further Reduction of CEPI Score

1. **M/s.Indo Shell Cast Private Limited**

S. No.	Emission Source	Control Measures Provided	Proposed Action	
			Short term	Time limit (up to Dec 2020)
1.	Shots Blasting Lump Crusher No Bake area	---	Proposed to install common suction with bag filters	30.06.2020

Moreover, all the units have been instructed to maintain and operate the pollution control measures effectively and continuously so as to satisfy the standards prescribed by the CPCB.

7.2 Proposed Long Term Action Plan for Further Reduction of CEPI Score

2. **M/s.Indo Shell Cast Private Limited**

S. No.	Emission Source	Control Measures Provided	Proposed Action	
			Long term	Time limit
1.	Induction furnace – 2 Nos	Common suction hood, Bag filters, wet scrubber with stack	Provision of Dry scrubber with stack	31.12.2021
2.	Induction furnace – 2 Nos	Common suction hood, Bag filters, wet scrubber with stack	Provision of Dry scrubber with stack	31.12.2021
3.	Shell Moulding Machine	Common wet scrubber with stack	Provision of Dry scrubber with stack	31.12.2021

3. M/s.INDO SHELL MOULD LIMITED, PLANT – I

S. No.	Emission Source	Control Measures Provided	Proposed Action	
			Long term	Time limit
1.	Induction furnace – 2 Nos	Bag filters, wet scrubber with stack	Provision of dry scrubber instead of wet scrubber in order to curtail the generation of wet scrubber bleed off	31.03.2021

Provision of CAAQM stations

CAAQM installed at SIDCO on 01.12.2018 and which is upwind status of Kurichi Industrial area. Further one more CAAQM station will be installed in the premises of the unit of M/s. Larsen and Turbo Precision manufacturing facility Defence Division.

Measures For Management Of Sewage :

In this Industrial Cluster it is roughly estimated that all industries will generate 300 to 350 KL of Sewage per day and it is disposed in individual units septic tank and soakpit

Further, it was reported by the Coimbatore SIDCO Industrial Estate Manufacturers Welfare Association (COSIEMA) that the association had approached District administration regarding the provision of UGD. The District Collector, Coimbatore has accepted to provide UGD and assured for the connection of UGD with the common STP in co-ordination with the Commissioner, Coimbatore Corporation and SIDCO management.

8.0 CEPI SCORE FOR THE POST MONSOON 2019

Comprehensive Environmental Pollution Index (CEPI) Working Sheet as per revised Formula given by CPCB Vide Lr No. B-29012/ESS (CPA)/2015-16/ Dated 26.4.2016.

Hazard = Pollutant Source, Pathway and Receptor

1. Air Environment:

A: Source:

Factor A1- Presence of Toxins:

1. Criteria pollutants: (PM_{10})

Pollutant	Measured Mean Concentration	Score
Group-B–PM_{10}(Pollutant that are probable carcinogens) **Score of Criteria Pollutant = Maximum Score of criteria pollutant (3)**	37.47 µg/m^3	2 **2**

2. Secondary Pollutants: (As,$PM_{2.5}$)

Group-C - Arsenic (Pollutant that are known carcinogens)	0.09 ng/m^3	1. 0
Group-B–PM2.5(Pollutant that are probable carcinogens) **Score of secondary pollutant = Sum of all sec. pollutant score**	44.38 µg/m^3	0. 5 **1.5**
A1 = Criteria pollutant score + Secondary pollutant score =	**2+1.5**	**3.5**

Factor A2- Scale of industrial activities:

As per the revised CEPI guidelines the scale of Industrial activity in SIDCO, Kurichi Area is limited and hence the Score is 1

A2 (As per guideline) =		**1**
Score A = A1 x A2 =	3.5X1	**3.5**

B: Pathway:

1. **Primary Pollutants:**

Level of Exposure is to be calculated using SNLF and the value given Table. SNLF refers to Surrogate number.

SNLF = (No. of samples exceed / total No. of samples) X (Exceedance factor)

Exceedance Factor = Observed mean concentration of pollutant/Standard

1.1 Primary Pollutant: - PM_{10}

PM_{10}: Observed Mean concentration (ng/m^3) = 24 hrs Average	37.47
PM_{10}: Standard (ng/m^3) Annual Average	100
PM_{10}: Exceedance Factor = (Observed concentration of pollutant/Standard)	0.374
No.of samples exceed the standard =	0
Total no. of samples =	4
SNLF (PM_{10}) = (No.of samples exceed / total No.of samples) X (Exceedance factor)	**0**

EF < 0.75, SNLF = 0. Hence the Level of exposure Category of Ni: Low, Value (From Table) = 0	**0**

Contribution of Primary Pollutant = B1 = Maximum Score of criteria pollutant	**0**

2 **Secondary Pollutants**:

Secondary Pollutant: - As

As: Observed mean concentration (µg/m^3) =	0.09	-
As: Standard (µg/m^3)=	6	-
As: Exceedance Factor= Observed mean concentration of pollutant/Standard	0.02	-
As: No.of samples exceed the standard =	0	-
Total no. of samples =	4	-
SNLF (As) = (No.of samples exceed / total No.of samples) X (Exceedance factor)	**0**	-
EF < 0.75, SNLF = 0. Hence the Level of exposure Category of PM_{10}: Low, Value = 0		**0**

Secondary Pollutant: PM2.5

PM2.5: Observed mean concentration (µg/m^3) =	44.38
PM2.5: Standard (µg/m^3)=	60
PM2.5: Exceedance Factor =	0.74
Total no. of samples =	4
PM2.5: No.of samples exceed the standard =	0
SNLF (PM2.5) = (No.of samples exceed / total No.of samples) X (Exceedance factor)	**0**

EF < 0.75, SNLF = 0. Hence the Level of exposure Category of PM2.5: Low, Value =	**0**

Contribution of Secondary Pollutant Sum of the score of secondary pollutants = B2	**0**

B = B1 + B2 =	**0**

C: Receptor:

It is relevant to Impact on Human Health - Based on the previous 5 years' records of 3-5 major hospitals of the area. For Air Environment, total no. of cases related to Asthma, Bronchitis, Cancer, Acute Respiratory infections etc are to be considered.	
For SIDCO, Kurichi Industrial Estate Area, % increase on no of cases recorded during two consecutive years is less than 5 %	**0**

D: Additional High Risk Element:

All industries for pollution control have adequately designed/operated and maintained pollution control facilities	
Hence D (From CPCB Guidelines) =	**0**

Sub-Index Score (Air) = (A+B+C+D) = 3.5+0+0+0	**3.5**

2.Water Environment:

Factor A1- Presence of Toxins:

Criteria pollutants: - TP

Pollutant	**Measured Mean Concentration**	**Score**
Group B -TP (Pollutant that are probable carcinogens are systemic toxicity)	BDL	2
Score of Criteria Pollutant = Maximum Score of criteria pollutant (1)		**2**

1. Secondary Pollutants: - **(Phenol, NH4-N,)**

Pollutant	Measured Mean Concentration	Score
Group-A – NH4-N (Pollutant not assessed as acute or systemic)	BDL	0.25
Group C – Phenols (Pollutant that are known carcinogens) **Score of secondary pollutants = sum of score of sec. pollutants =**	BDL	1.0 **1.25**

A1 = Criteria pollutant score + Secondary pollutants score =		**3.25**

Factor A2- Scale of industrial activities:

As per the revised CEPI guidelines the scale of Industrial activity in SIDCO, Kurichi Area is limited and hence the Score is 1		
A2 (As per guideline) =		**1**

Score A = A1 x A2 =	3.25 X 1	**3.25**

B: Pathway

1. **Primary Pollutants:**

1.1 Primary Pollutant: - TP

SNLF = (No. of samples exceed / total No. of samples) X (Exceedance factor)

TP: Observed mean concentration (mg/L) =	BDL
TP (mg/L) : Standard :Class- B Desirable CPCB 2002,Water Quality Criteria & Goals- MINARS Series; MINARS/17/2001-2002)	0.3
TP: Exceedance Factor	0
Total no. of samples =	5
TP: No.of samples exceed the standard =	0
SNLF (TP) = (No.of samples exceed / total No.of samples) X (Exceedance factor)	**0**

EF < 0.75, SNLF = 0. Hence the Level of exposure Category of Phenol: Low, Value = 0	**0**

Contribution of Primary Pollutant = B1 = Maximum Score of criteria pollutant (0)	**0**

2. **Secondary Pollutant:**

Secondary Pollutant: -NH4-N

NH4-N: Observed Mean Concentration (mg/L) =	BDL
NH4-N (mg/L) : Standard :Class- B Desirable CPCB 2002,Water Quality Criteria & Goals- MINARS Series;MINARS/17/2001-2002)	<1.5mg/l
NH4-N: Exceedance Factor =	0
NH4-N: Total no. of samples =	5
NH4-N: No.of samples exceed the standard =	0
SNLF (NH4-N) = (No.of samples exceed / total No.of samples) X (Exceedance factor)=	**0**

EF <0.75, SNLF = 0. Hence the Level of exposure Category of NH4-N:Low, Value = 0	**0**

Secondary Pollutant: - Phenol

Phenol: Observed Mean Concentration (mg/L) =	BDL
Phenol: Standard :Class- B Desirable CPCB 2002,Water Quality Criteria & Goals- MINARS Series; MINARS/17/2001-2002)	<0.01mg/l
Phenol: Exceedance Factor =	0
Phenol: Total no. of samples =	5
Phenol: No. of samples exceed the standard =	0
SNLF (Phenol) = (No.of samples exceed / total No.of samples) X (Exceedance factor)=	**0**

EF <0.75, SNLF = 0. The Level of exposure Category of TP: Low, Value = 0		**0**

Score of Secondary pollutants = sum of score of secondary. pollutants = B2	**0**

B = B1 + B2 =	**0**

C: Receptor:

It is relevant to Impact on Human Health - Based on the previous 5 years' records of 3-5 major hospitals of the area. For Air Environment, total no. of cases related to Asthma, Bronchitis, Cancer, Acute Respiratory infections etc are to be considered.	
For SIDCO, Kurichi Industrial Estate Area, % increase on no of cases recorded during two consecutive years is less than 5 %	**0**

D: Additional High Risk Element:

All industries for pollution control have adequately designed/operated and maintained pollution control facilities	
Hence D (From CPCB Guidelines) =	**0**

Sub-Index Score (Air) = (A+B+C+D) = 3.75+0+0+0	**3.25**

3. **Land Environment:**

Ground Water Quality is considered to represent Land Environment

A: Source:

Factor A1- Presence of Toxins:

1. **Criteria pollutants: - (Phenol)**

Pollutant	Measured Mean Concentration	Score
Group C – Phenols (Pollutant that are known carcinogens) **Score of Criteria Pollutant = Maximum Score of criteria pollutant (1)**	BDL	3 **3**

2. **Secondary Pollutants: - (Total Hardness, TDS)**

Pollutant	Measured Mean Concentration	Score
Group A – Total Hardness (Pollutant not assessed as acute or systemic)	587	0.25
Group A – TDS (Pollutant not assessed as acute or systemic)	1211	0.25
Score of secondary pollutants = sum of score of sec. pollutants =		**0.5**

Score A1 = (sum of score of Primary pollutant and secondary pollutants)		**3.5**

Factor A2- Scale of industrial activities:

As per the revised CEPI guidelines the scale of Industrial activity in SIDCO, Kurichi Area is limited and hence the Score is 1		
A2 (As per guideline) =		**1**

Score A = A1 x A2 =	**3.5X1**	**3.5**

B: Pathway

1. **Primary Pollutants:**

1.1 Primary Pollutant: -Phenol

SNLF = (No. of samples exceed / total No. of samples) X (Exceedance factor)

Phenol: Observed Mean Concentration =	0
Phenol: Standard :	0.01
Phenol: Exceedance Factor =	0
Phenol: Total no. of samples =	8
Phenol: No.of samples exceed the standard =	0
SNLF (Phenol) **= (No.of samples exceed / total No.of samples) X (Exceedance factor)=**	**0**

EF <0.75, SNLF = 0, Hence the Level of exposure Category of Phenol**: Low, Value = 0**	**0**

Max contribution of Primary Pollutant = B1	**0**

2. Secondary Pollutant:

Secondary Pollutant: - Total Hardness

Total Hardness Observed Mean Concentration(mg/L)=	587
Total Hardness : Standard IS: 10500-1991 (mg/L) =	600
Total Hardness : Exceedance Factor =	0.98
Total Hardness: Total no. of samples =	8
Total Hardness: No.of samples exceed the standard =	4
SNLF (Total Hardness) = (No.of samples exceed / total No.of samples) X (Exceedance factor)= 0	**0.49**

SNLF = 0.49 (EF = 0.98) Hence the Level of exposure Category of Total Hardness: Moderate, Value = 5		**5**

Secondary Pollutant: - TDS

TDS Observed Mean Concentration(mg/L)=	1211
TDS: Standard IS: 10500-1991 (mg/L) =	2000
TDS: Exceedance Factor =	0.61
TDS: Total no. of samples =	8
TDS: No.of samples exceed the standard =	0
SNLF (TDS) = (No.of samples exceed / total No.of samples) X (Exceedance factor)= 0	**0**

SNLF = 0 (EF <0.75) Hence the Level of exposure Category of TDS: Low, Value = 0	**0**
Score of Secondary pollutants = sum of score of secondary. pollutants = B2	**0**

B = B1 + B2 = 0+5	**5.0**

C: Receptor:

It is relevant to Impact on Human Health - Based on the previous 5 years' records of 3-5 major hospitals of the area. For Air Environment, total no. of cases related to Asthma, Bronchitis, Cancer, Acute Respiratory infections etc are to be considered.	
For SIDCO, Kurichi Industrial Estate Area, % increase on no of cases recorded during two consecutive years is less than 5 %	**0**

D: Additional High Risk Element:

All industries for pollution control have adequately designed/operated and maintained pollution control facilities	
Hence D (From CPCB Guidelines) =	**0**

Sub-Index Score (Air) = (A+B+C+D) = 3.5+5.0+0+0	**8.5**

Aggregated CEPI Score:

CEPI = im + [(100-im) *(i2/100) *(i3/100)]

= 8.5+[(100-8.5) * (3.5/100) *(3.25/100)] =8.60

Where,

im: maximum sub index; and i2 and i3 are sub-indexes for other media

Sub-Index of Air = 3.5, Sub-Index of Water = 3.25, Sub-Index of Land = 8.5

Hence im	=	8.5
CEPI	=	8.60
CEPI of SIDCO, Kurichi (POST MONSOON)	**=**	**8.60**

9.0 CONCLUSION

Air Environment

As per the CEPI monitoring report, the average value of PM_{10} was 135 µg/m3 during the month of March 2018.

The samples were collected at four locations covering upwind, downwind and crosswind of SIDCO, Kurichi Industrial Estate. Out of which PM_{10} exceeded in all the four locations. The exceedance may be due to vehicular emissions and other localized sources because the industries located in the SIDCO, Kurichi Industrial Estate have provided proper Air Pollution Control Measures and also there are few nos. of emission based industries located in the Industries. The total particulate emission load in the SIDCO Kurichi Industrial area is 36.29 kg/day and the average stack height is 11.43 m.

The above data clearly indicates source emission concentration matter for Ambient PM is very minimal.

CAAQM installed at SIDCO on 01.12.2018 and which is upwind status of Kurichi Industrial area. Based on CAAQM data, annual average from January 2019 to November 2019, average value of PM_{10} is 44.96 µg/m^3 and $PM_{2.5}$ is 48.95 µg/m^3.

Further, based on the AAQ survey conducted in the vicinity of the Indo shell Cast Pvt. Ltd. and M/s. Indoshell Mould Pvt. Ltd. during the month of April'19 and May'19, it shows that the AAQ parameters are within the limits prescribed.

AAQ survey conducted during the month of November /December, 2019 reveals that average value of PM_{10} is 37.47 and PM 2.5 is 44.38 and are found to be within the limits.

From the above, it is concluded that the increase in value of PM_{10} & $PM_{2.5}$ during the study conducted by the CPCB may be due to vehicular emission.

Further, there is no source of emission of Arsenic in this SIDCO, Kurichi Industrial Area.

Water Environment:

1. The sample which were collected during the year 2018 for CEPI score at Surface water bodies such as Kurichi lake, Ukkadam lake, Senkulam and Noyyal River at Nanjundapuram, and these locations majorly intruded by sewage/domestic waste water. During sampling, there was no flow and its purely intruded by Sewage / domestic waste water. Due to the domestic waste water Total phosphate show as high concentration as well as ammonical nitrogen and phenol is due to the presence of dead plants and animals and human sewage.
2. There are no water bodies located in and around 2.5 km of the SIDCO Industrial Estate, Kurichi. Kurichi lake is the nearest surface water sampling location which is located at 2.5 km away from the CEPI area. The surface terrain of Kurichi Industrial area on the downside whereas the surface water bodies identified on the upside, so that no water intrusion from the CEPI area to the surface water body and there is no possibility of intrusion of trade effluent into the surface water bodies.
3. The total effluent generation in the entire SIDCO, Kurichi Industrial area is only 2.6 KLD which clearly indicates no discharge of the effluent into surface water bodies.
4. All the industries have provided septic tank and soak pit arrangements and no discharges of the domestic waste water into the surface water bodies.
5. There is no discharge of effluent from the industries to the surface water bodies.

In future, CEPI monitoring, surface water sampling will be collected only during any flow in the surface water sampling locations and the surface water bodies will not be considered as sampling locations.

The disposal of sewage from the individual households and household colonies are the main sources of pollutants to the surface water in the surface water sampling locations.

Coimbatore Corporation has 100 wards. The population of the City is around 20 lakhs and the approximate generation of sewage would be 170 MLD which includes Domestic Sewage and Sullage generated from the city, apart from this, the Sewage and Sullage generated from the villages and Hamlets located outskirts of Coimbatore Town also contributes sewage discharge into water bodies (including Existing surface water sampling locations).

Out of 130 MLD operational capacity of 2 STPS, the average quantity of sewage received and treated is 40 MLD only from the two STPs, which clearly indicates that the untreated sewage of the Coimbatore Corporation is directly discharged into water bodies such as lakes, ponds and river Noyyal and also from the UGD uncovered areas (83 wards uncovered).

Apart from this, Road side storm water drains/ other waste water carrying drainages also contribute to River Noyyal either directly or through tanks/lakes.

In this regard, the Coimbatore Corporation was issued with directions vide Bd Proc.No.TNPCB/P&D/F.06849-W/2017/DT.13-11-2017 and further personal hearing was conducted at Board with Coimbatore Corporation officials on 11-05-2018.

Further, the Coimbatore Corporation was issued with directions vide proc No. T5/TNPCB/F.20469/COIMBATORE/ 2019 dated 16.08.2019 to take action against the discharge and disposal of untreated sewage all along river noyyal within one month under section 33A of Water (Prevention and Control Pollution) Act, 1974 as amended in 1988.

Further, it was reported by the Coimbatore SIDCO Industrial Estate Manufacturers Welfare Association (COSIEMA) that the association had approached District administration regarding the provision of UGD in SIDCO Industrial Estate, Kurichi area. The District Collector, Coimbatore has accepted to provide UGD and assured for the connection of UGD with the common STP in co-ordination with the Commissioner, Coimbatore Corporation and SIDCO management.

Land Environment

1. Sample collected from the existing sampling locations during the study conducted by the CPCB during the year 2018 reveals that average value of primary and secondary pollutants exceeded the standards prescribed by the Board.
2. However, during the Ground water samples collected during November / December 2019 from 8 locations. ROA reveals that all the parameter's average values are complying with the prescribed standards (primary and secondary pollutants).
3. Moreover, the analytical reports from central ground water board collected during the year July 2016 and May 2016 reveals that Total hardness and TDS in around the SIDCO, Kurichi area are within the limits prescribed.
4. There is no major Hazardous waste generating industry and the meagre hazardous waste generated is disposed by recycling and incineration to authorized recyclers. The Industries are provided proper hazardous waste storage facilities due to which no leachate is generated during rainy season, so that no hazardous waste leachate into the storm water drain/land.
5. Hence there is no any intrusion of hazardous waste in the CEPI area.
6. The Bio Medical waste generated from the hospitals located with 2 Km area are disposed through common facility located at a distance of about 11 km from CEPI area for treatment and disposal and hence there is no influence of the waste in the pollution in CEPI area
7. There is no Electronic / IT industry in the CEPI area.
8. Municipal solid waste / domestic waste are properly collected and disposed by the local body.

EFFORTS TAKEN FOR THE ABATEMENT AND CONTROL OF POLLUTION:

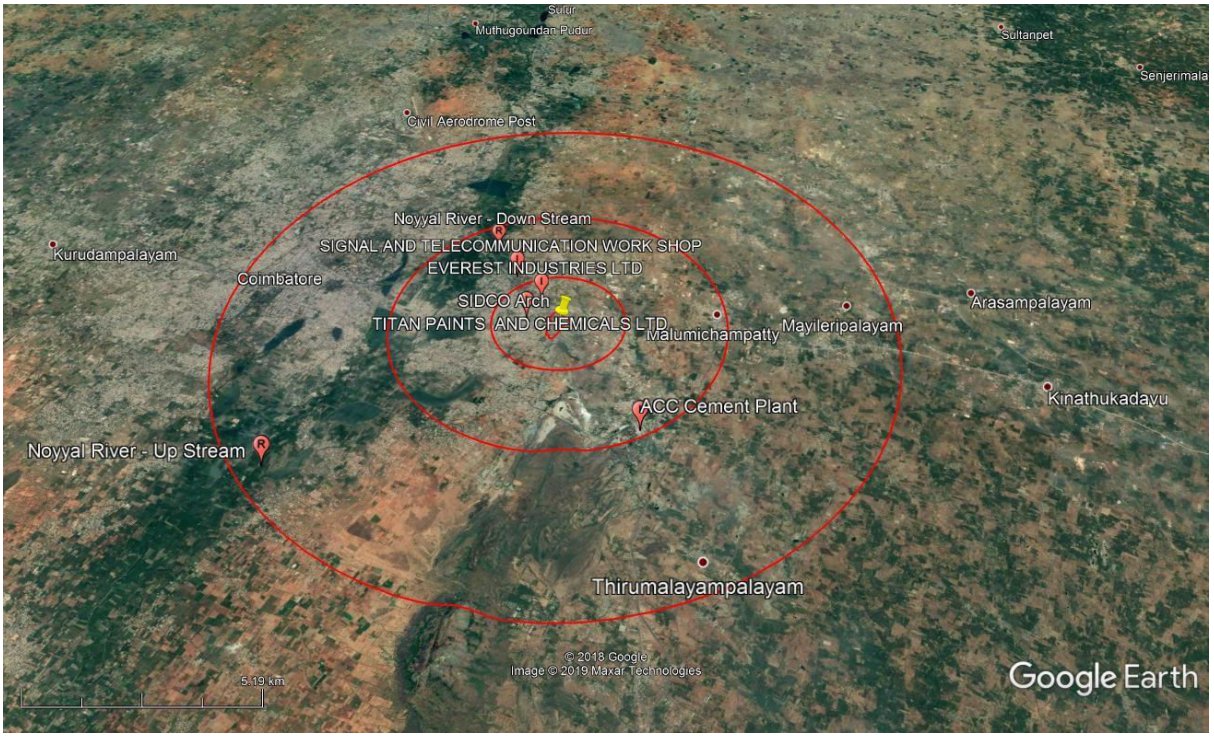
The regional office of Tamilnadu Pollution Control Board has taken various initiatives in reducing the CEPI Score as follows:

The following water polluting industries achieved Zero Liquid discharge

1. M/s.VXL Ring Travelers Private Limited , 22,Sidco Industrial Estate , Kurichi ,Cbe
2. M/s.VXL Ring Travelers Private LimitedUnit - II, 23,Sidco Industrial Estate , Kurichi , Cbe

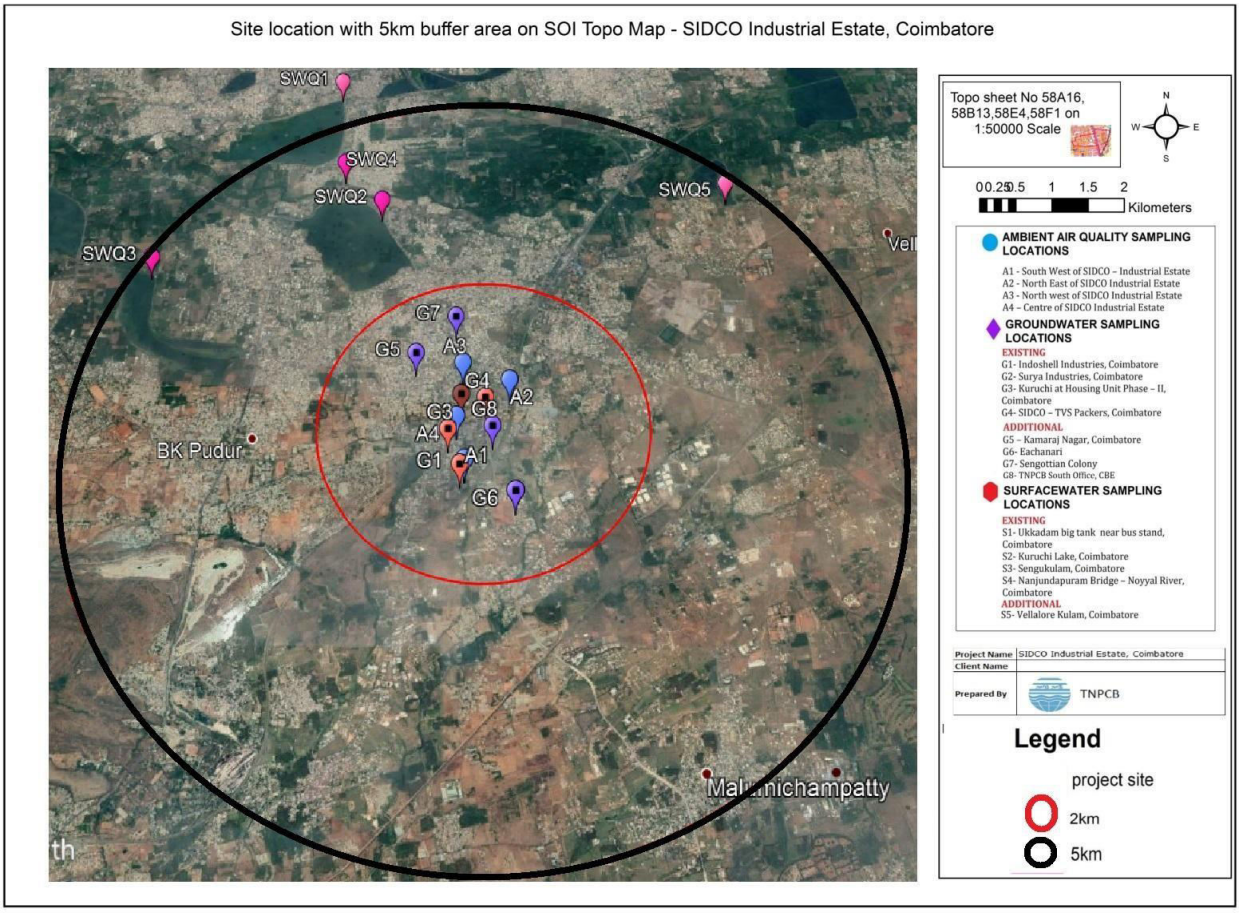
Annexure – A1

CEPI BOUNDARY MAP SHOWING CORE ZONE, IMPACT ZONE & BUFFER ZONE



Annexure - A 2

BOUNDARY MAP SHOWING SAMPLING LOCATIONSOF AIR, WATER, GROUND WATER IN CEPI AREA



ANNEXURE-A 3

Health Data Obtained From Hospitals

M/s.Coimbatore Medical College Hospital

COIMBATORE MEDICAL COLLAGE HOSPITAL,

COIMBATORE – 641 018

Sl.No	Type of Diseases	No. Of Patients reported for the Years				
		2018-19	2017-18	2017-16	2016-15	2015-14
Air Borne Diseases						
1.	Asthma	19	18	19	17	17
2.	Acute Respiratory Infection	255	243	251	252	261
3.	Bronchitis	90	81	87	85	87
4.	Cancer	51	61	44	52	37
Water Borne Diseases						
1.	Gastroenteritis	5	4	5	3	4
2.	Diarrhea	20	27	22	27	24
3.	Renal Diseases	158	141	154	139	125
4.	Cancer	-	-	-	-	-

forDEAN

Annexure-I

INFORMATION ON HEALTH STATISTICS IN PIA

1. Name of the polluted industrial area (PIA) :

Residential localities in and around the Polluted Industrial area – SIDCO Industrial Estate, Kurichi such as SIDCO Housing unit, Phase – I & II, Kurichi, MGR Nagar, Kamaraja Nagar, Gandhi Nagar, Arivoli Nagar, Eachanari, Ganeshapuram, Rajarajeswari Nagar, Amman Pudur, Mettur, Machampalayam, Podanur, Idaiyarpalayam areas.

2. Name of the major health center/organization: KURICHI UPHC
3. Name and designation of the contact person : MEDICAL OFFICER
4. Address: NATCHIMUTHU GOUNDER STREET, METTUR, PODANU

Sl. No.	Type of Diseases	No. of patients reported for the years				
		2018-19	2017-18	2017-2016	2016-2015	2015-2014
	Air Borne Diseases					
1.	Asthma	20	16	12	14	22
2.	Acute Respiratory Infection	275	215	147	198	200
3.	Bronchitis	128	98	74	88	100
4.	Cancer	-	1	-	-	-
	Water Borne Diseases					
5.	Gastroenteritis	18	16	18	11	10
6.	Diarrhea	14	18	15	12	15
7.	Renal diseases	1	1	-	-	-
8.	Cancer	-	-	-	-	-

5. Year of establishment:

04/12/19

Signature of Hospital Head/Superintend

M/s.KUNIYAMUTHUR UPHC

Annexure-I

INFORMATION ON HEALTH STATISTICS IN PIA

1. **Name of the polluted industrial area (PIA)** :

   Residential localities **in and around the Polluted Industrial area – SIDCO Industrial Estate, Kurichi** such as SIDCO Housing unit, Phase – I & II, Kurichi, MGR Nagar, Kamaraja Nagar, Gandhi Nagar, Arivoli Nagar, Eachanari, Ganeshapuram, Rajarajeswari Nagar, Amman Pudur, Mettur, Machampalayam, Podanur, Idaiyarpalayam areas.

2. **Name of the major health center/organization:** Kuniyamuthur UPHC
3. **Name and designation of the contact person :** Dr. AISHWARYA, Medical offi
4. **Address:** 93 ward, Sriram colony, Idayarpalayam

Sl. No.	Type of Diseases	No. of patients reported for the years				
		2018-19	2017-18	2017-2016	2016-2015	2015-2014
	Air Borne Diseases					
1.	Asthma	132	140	138	124	128
2.	Acute Respiratory Infection	264	278	284	291	288
3.	Bronchitis	108	112	110	116	120
4.	Cancer	-				
	Water Borne Diseases					
5.	Gastroenteritis	84	88	94	98	110
6.	Diarrhea	40	46	44	49	54
7.	Renal diseases	36	40	42	46	52
8.	Cancer					

5. Year of establishment: 2014

Signature of Hospital Head/Superintend

MEDICAL OFFICER
Urban Primary Health Centre
Sugunapuram, Kuniamuthur,
COIMBATORE - 641 008.

M/s.PODANUR UPHC

Annexure-I

INFORMATION ON HEALTH STATISTICS IN PIA

1. **Name of the polluted industrial area (PIA)** : SIDDCO

Residential localities **in and around the Polluted Industrial area – SIDCO Industrial Estate, Kurichi** such as SIDCO Housing unit, Phase – I & II, Kurichi, MGR Nagar, Kamaraja Nagar, Gandhi Nagar, Arivoli Nagar, Eachanari, Ganeshapuram, Rajarajeswari Nagar, Amman Pudur, Mettur, Machampalayam, Podanur, Idaiyarpalayam areas.

2. **Name of the major health center/organization:PODANUR UPHC**
3. **Name and designation of the contact person :DR.T.PAVITHRA**
4. **Address:THE MEDICAL OFFICER**
GOVT URBAN PRIMARY HEALTH CENTRE,PODANUR.641023

Sl. No.	Type of Diseases	No. of patients reported for the years				
		2018-19	2017-18	2017-2016	2016-2015	2015-2014
	Air Borne Diseases					
1.	Asthma	35	35	35	35	32
2.	Acute Respiratory Infection	45	45	45	44	40
3.	Bronchitis	20	20	20	15	15
4.	Cancer	0	0	0	0	0
	Water Borne Diseases					
5.	Gastroenteritis	10	10	10	10	10
6.	Diarrhea	0	0	0	0	0
7.	Renal diseases	0	0	0	0	0
8.	Cancer	0	0	0	0	0

5. Year of establishment:09.09.2001

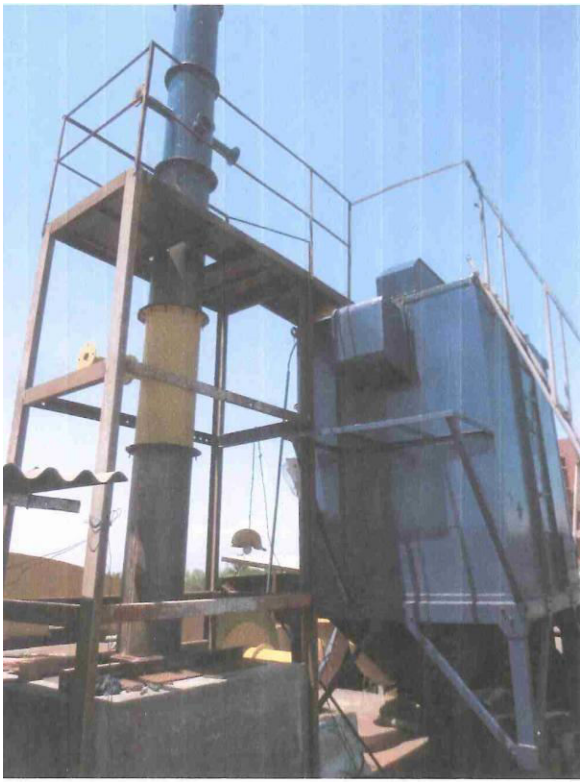
Signature of Hospital Head/Superintend

Medical Officer
Govt. Primary Health Centre
Podanur,
Coimbatore - 641 023.

ANNEXURE A 4

Photos of improvements carried out by Industries & other initiative works in CEPI Area

M/s.Auto Shell Perfect - Air Pollution Control Measures



M/s. Autoshell Perfect Moulder Limited - Green Belt


2019/12/26 16:38

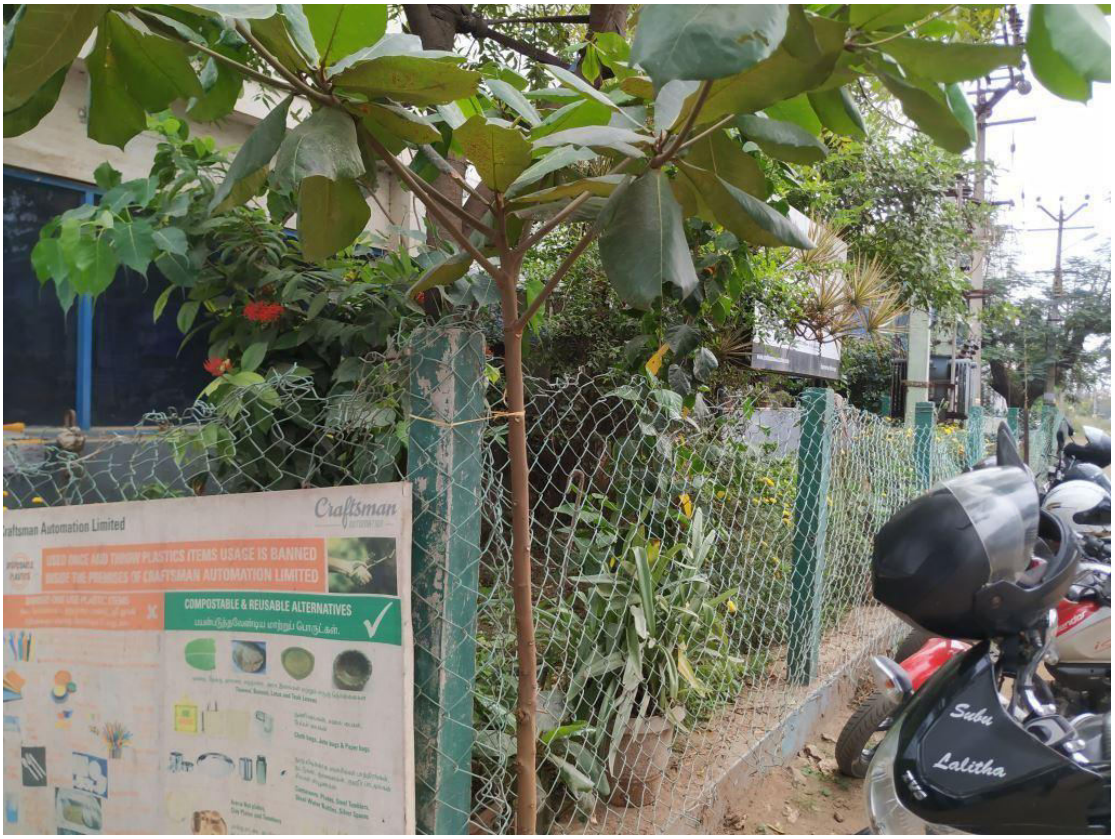

2019/12/26 16:37

M/s. Indo Shell Cast Pvt Ltd – Green Belt

M/s.Indo Shell Mould Pvt Ltd - Air Pollution Control Measures

M/s. Jayashree Metal Casters Pvt Ltd – Air Pollution Control Measures & Green belt

M/s.Craftsman Automation Unit-II – Green Belt

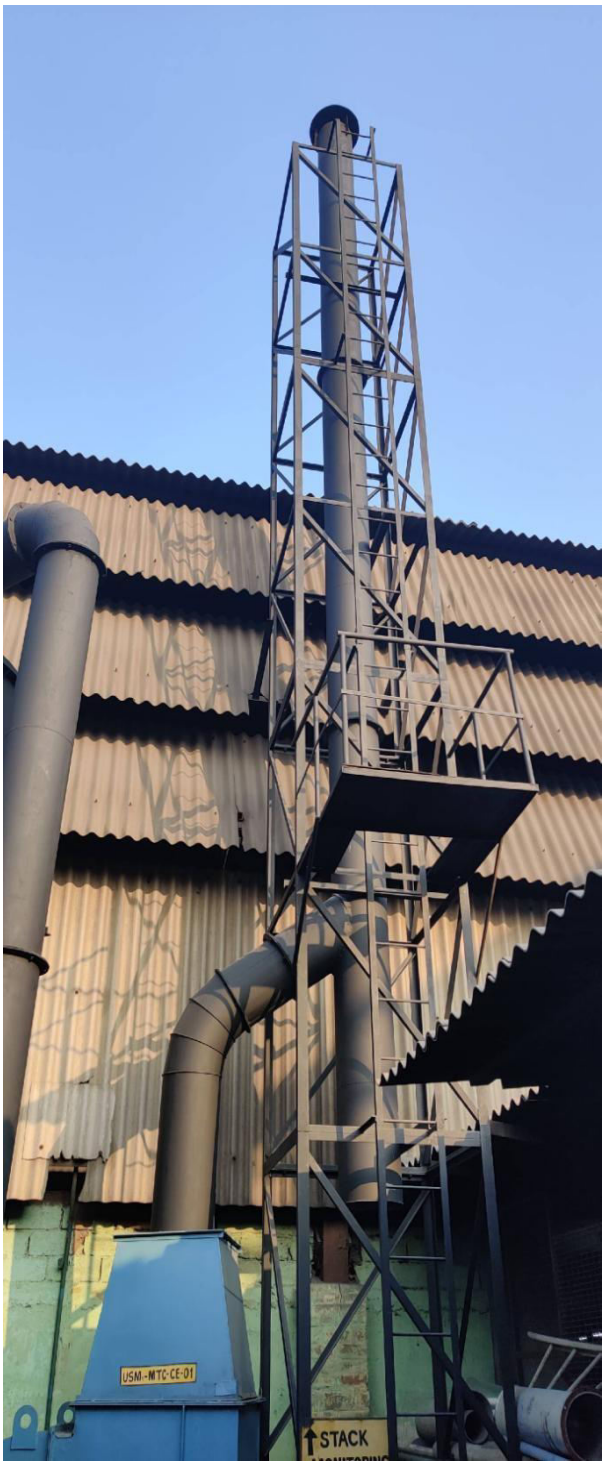


M/s.Ferrous Alloys - APC Measures

M/s. Sree Seethalakshmi Steel Casting – APC Measures

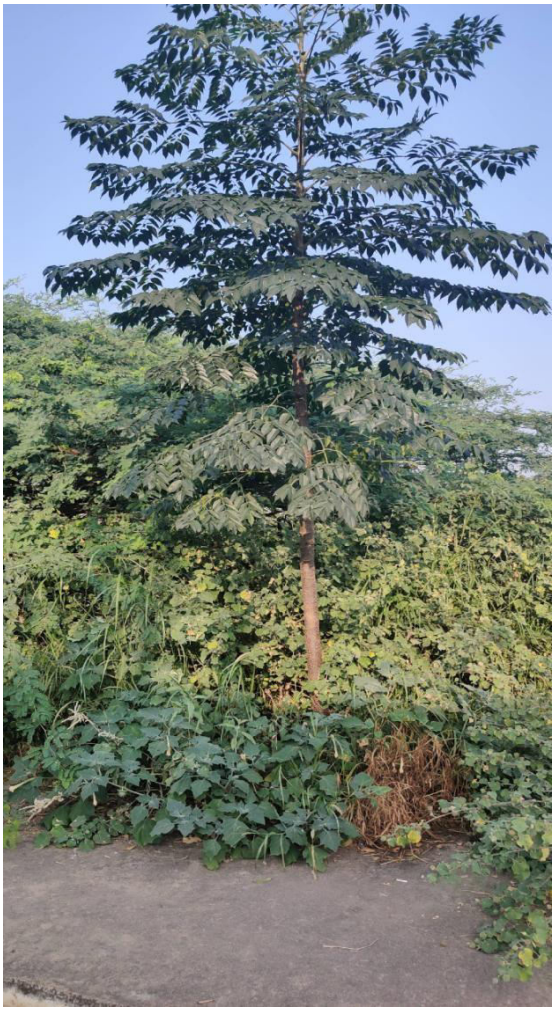
M/s.VXL Ring Travellers

M/s.Unique Shell Moulder Pvt Ltd – Air Pollution Control Measures & Green Belt




AMBIENT AIR QUALITY
SERVEY LOCATION-2
STACK
MONITORING


USM-MTC-CE-01
STACK
MONITORING



Annexure –A5-Analysis Report for the present CEPI score

(Post Monsoon , November, 2019)

CONSOLIDATED STATEMENT OF AAQ SURVEY CONDUCTED IN SIDCO, KURICHI

S. No	Parameters	M/s.Indoshell Industries	M/s.Kabage Engineering	M/s.Elgi Rubber	M/s.Best Heat treatment
1.	PM_{10} $\mu g/m^3$	50.58	43.2	21.79	34.3
2.	$PM_{2.5}$ $\mu g/m^3$	58.66	27.07	46.3	45.5
3.	Arsenic ng/m^3	0.12	0.09	0.08	0.09

Consolidated statement showing the report of analysis of surface water samples collected in Coimbatore District

S. No	Parameters	Ukkadam Big tank near bus stand	Kurichi lake	Senkulam	Noyyal River @ Nanjundapuram Bridge	Vellalore Tank
1.	PH	8.18	8.01	8.52	7.80	7.92
2.	Total dissolved solids	96	178	102	338	320
3.	Chloride	96	59	102	99	94
4.	Sulphate	<5.0	12	<5.0	37	42
5.	BOD	6	6	3	11	6
6.	Ammonical Nitrogen	<2.0	<2.0	<2.0	<2.0	<2.0
7.	Total Residual Chlorine	<1.0	<1.0	<1.0	<1.0	<1.0
8.	Nitrate Nitrogen	<0.1	<0.1	<0.1	<0.1	<0.1
9.	Total Hardness	72	116	72	176	172
10.	Calcium	16	25.7	16.0	40.1	44.9
11.	Magnesium	7.8	12.6	7.8	18.5	14.6
12.	SAR	5.8	5.3	0.54	0.96	2.0
13.	Phenolic compounds	<0.001	<0.001	<0.001	<0.001	<0.001
14.	Total phosphate	<0.5	<0.5	<0.5	<0.5	<0.5
15.	Fluoride	0.13	0.38	0.42	0.36	0.29
16.	Colour	10	20	10	10	150
17.	Copper	0.0665	0.0810	0.0759	0.0797	0.0742
18.	Zinc	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015
19.	Hexavalent Chromium	<0.05	<0.05	<0.05	<0.05	<0.05
20.	Alkalinity Total	28	36	24	52	56
21.	Turbidity	37.6	136	39.2	52.6	218
22.	Iron Total	0.084	0.084	0.063	0.063	1.86

Consolidated statement showing the report of analysis of ground water samples collected in and around SIDCO Industrial Estate, Kurichi

S. No	Parameters	M/s. Indoshell cast Unit – I,	M/s. Surya Industries, SIDCO, Kurichi	M/s. TVS packers, SIDCO	Kurichi Housing unit Phase – II K.G. Venugopal's house	Thiru. Ramasamy's House, Gandhi Nagar	Thiru. Rangasamy House, Annai Indira Nagar	Corporation Borewell, Muthu Nagar	O/o DEE, TNPCB, CBE (S)
1	PH @ 250C	8.46	8.70	8.77	8.63	8.55	8.15	8.66	8.16
2	Total dissolved solids	1650	1570	1196	990	1028	1004	1094	1156
3	Chloride	431	351	252	193	257	223	178	297
4	Sulphate	205	426	300	147	129	113	242	253
5	Ammonical Nitrogen	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
6	Nitrate Nitrogen	9.7	24.2	19.4	22.5	9.1	19.3	16.2	2.43
7	Total Hardness	728	620	592	428	580	620	428	700
8	Calcium	144.3	101	130	120.2	101	123.4	62.5	148.3
9	Magnesium	89.4	89.4	65.1	31.1	79.7	75.8	66.1	80.2
10	Phenolic compounds	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
11	Total phosphate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1
12	Fluoride	1.16	1.3	1.18	0.43	0.4	0.62	1.56	0.55

13	Copper	0.0871	0.1106	0.0781	0.0825	0.0734	0.0808	0.0459	0.0986
14	Zinc	<0.0015	0.0628	0.0294	<0.0015	<0.0015	<0.0015	<0.0015	0.0514
15	Hexavalent Chromium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
16	Alkalinity Total	156	132	116	128	112	120	128	112
17	Iron Total	0.073	<0.05	<0.05	0.094	0.063	0.094	0.084	0.063
18	Colour	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
19	Total Residual Chlorine	<1.0	<1.0	<1.0	<1.0	<0.1	<0.1	<0.1	<1.0

001413

MINUTES OF THE COMMITTEE MEETING CONSTITUTED FOR CEPI ACTION PLAN OF COIMBATORE – SIDCO INDUSTRIAL ESTATE, KURICHI LOCATED IN TAMILNADU HELD ON 09.01.2020 IN THE CHAMBER OF PRINCIPAL SECRETARY ENVIRONMENT & FORESTS DEPARTMENT, SECRETARIAT, CHENNAI.

Present:

1. Thiru. Shambhu Kallolikar I.A.S.,
   Principal Secretary to Government,
   Environment & Forests Department, Secretaraiat, Chennai.

2. Thiru. A.V.Venkatachalam, I.F.S,
   Chairman,
   Tamil Nadu Pollution Control Board, Chennai.

3. Dr. S.Selvan
   Chief Environmental Engineer,
   Tamil Nadu Pollution Control Board, Chennai

4. Dr. A.Viswanathan, JD (Acts)
   O/o the Directorate of Medical & Rural Health Services

5. Tmt.H.Prabhavathy, GM (PI) i/c
   Representative of State Industries Promotion Corporation of Tamilnadu (SIPCOT)

6. Thiru.A.Sohail Ahmed,
   Technical Expert (GP), O/o Chief Engineer, PWD, W.R.O.,
   State Ground & Surface Water Resources Data Centre,
   Taramani, Chennai – 600 113.

7. Other TNPCB Officials.

The Chief Environmental Engineer, Tamil Nadu Pollution Control Board welcomed the committee members and officials of TNPCB and briefed about the new CEPI methodology adopted by CPCB.

Dr.S.Suresh Kumar from G lens Innovations Labs Pvt Ltd on behalf of AC Tech, Chennai (hired as third party by TNPCB for analysis and assessment of CEPI – post monsoon 2019) detailed the the concept of CEPI

and briefed about the individual CEPI scores of CPCB in 2018 in Tamilnadu and the present post monsoon scores in 2019 with regard to Air, Water and Land Environment in the 8 industrial clusters of Vellore, Manali, Coimbatore, Erode, Mettur, Tuticorin, Tiruppur, and Cuddalore.

With regard to Coimbatore CEPI area, Dr.S.Suresh Kumar briefed the following

1. The CEPI scores for the last four periods are as follows

Period	**CEPI Score**
CEPI Score 2019	8.60
CEPI Score 2018	63.34
CEPI Score 2013	53.14
CPCB Report 2009	72.38

2. In the aggregated CEPI score of 2018, it has been reported that the Sub Index values for Air is 47.25, Water is 53.75 and Land is 45.25, thus the CEPI score was 63.6, whereas in the present aggregated CEPI score during 2019 for the Sub Index values for Air is 3.5, Water is 3.25 and Land is 8.5, thus the CEPI score has reduced to 8.6.
3. It has been distinguished for the high CEPI score in 2018 and for low CEPI score in 2019.

   The main reasons attributed for high CEPI score include,

   a. Presence of PM10 exceeding in all locations are due to vehicular emission and other localized sources.
   b. No source of emission of Arsenic in SIDCO Kurichi Industrial Area.
   c. CAAQM station is installed at Kuruchi Industrial Area wherein Jan 2018 Average PM_{10} is 44.96 $\mu g/m^3$ and $PM_{2.5}$ is 48.95 $\mu g/m^3$,

which clearly indicates the PM10, PM2.5 contributions are not from the industrial emission sources.

d. Four Surface water bodies selected were Kurichi lake, Ukkadam lake, Senkulam and Noyyal River at Nanjundapuram. These are 2.5km away from the kuruchi industrial area. Also the surface terrain of Kurichi Industrial area is on the downside, whereas the surface water bodies identified are on the upside.
e. The total Phosphate exceeded in all locations due to which CEPI SI score on pathway is 30. Use of detergents contributes to Phosphates in domestic wastewater.
f. Stagnant water with sewage and dead animals and dead plants contributes to Phenol and NH_4-N.

The main reasons for less CEPI score in 2019 include,

i. The total particulate emission load is only 36.29 kg/day and the average stack height is 11.43 m.
ii. All industries have provided proper APCD and the same is monitored through online monitoring system.
iii. No disposal of treated trade effluent and treated sewage into the nearby water bodies from the industries.
iv. There is no phenol generation sources in Kuruchi industrial area.
v. Health data statistics shows the No. of incidences is less than 5%, so the CEPI score on Health is 0.

4. To the queries raised by the Principal Secretary, it was clarified that the critical parameters and locations identified by CPCB during 2018 were also followed while sampling during 2019. Representative of Chief Engineer, PWD, W.R.O. wanted to know whether other parameters could be included for CEPI assessment, for which it was replied that the protocol followed by CPCB had to be adopted for harmonious CEPI calculation every year. To the representative of Director of Medical & Rural Health Services, it was clarified that as per the direction issued by CPCB on 26.04.2016, the air and water borne

diseases to be considered in the health data are Asthma, Bronchitis, Cancer, Acute respiratory infections, Gastroenteritis, Diarrhea, renal (kidney) malfunction cancer etc

5. After detailed discussion the committee members decided to approve the CEPI action Plan prepared for Coimbatore – SIDCO Industrial Estate, Kurichi in Tamil Nadu and to submit to CPCB, New Delhi

With the above, the meeting came to an end.

S.No.	Members	Signature
1.	Thiru. Shambhu Kallolikar IAS., (Chairman of Committee) Principal Secretary to Government, Environment & Forests Department	
2.	Member Secretary, Tamilnadu Pollution Control Board, Chennai	Dr. S. Selvam, I.F.S For Member Secretary.
3.	Director of Medical & Rural Health Services	Dr A. VISWANATHAN, MS JDC(HS)
4.	Representative of State Industries Promotion Corporation of Tamilnadu (SIPCOT)	H. Prabhavathy (H. PRABHAVATHY) G.M(CPI) i/c, SIPCOT
5.	Chief Engineer, PWD, W.R.O., State Ground & Surface Water Resources Data Centre, Taramani, Chennai – 600 113	(A. Sivasubramanian) Technical Expert (Geophysics) O/o the Chief Engineer, PWD SGWRDC, Chennai-600 113