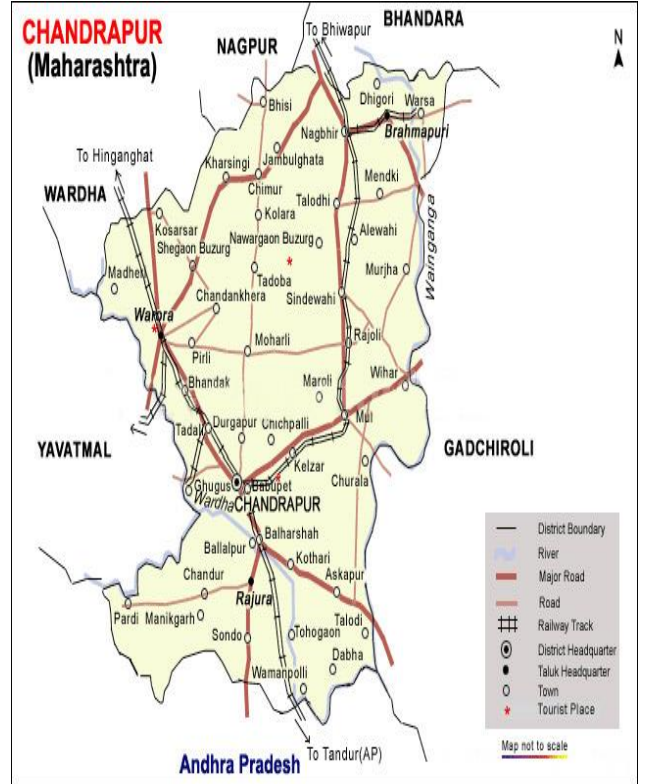
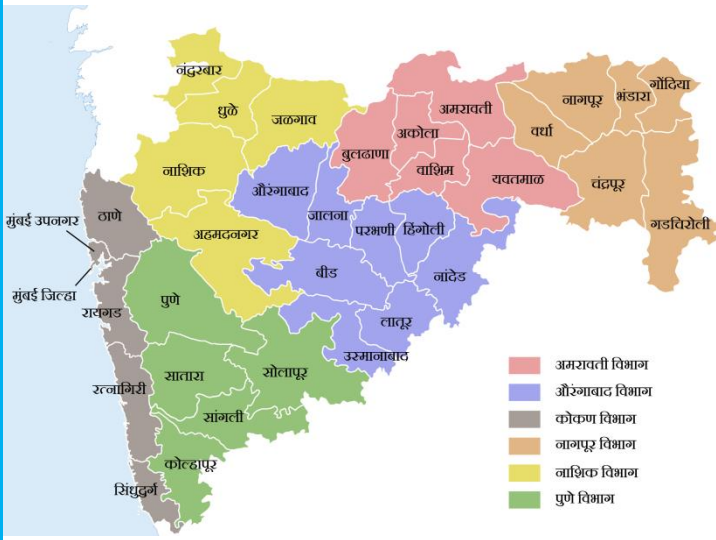
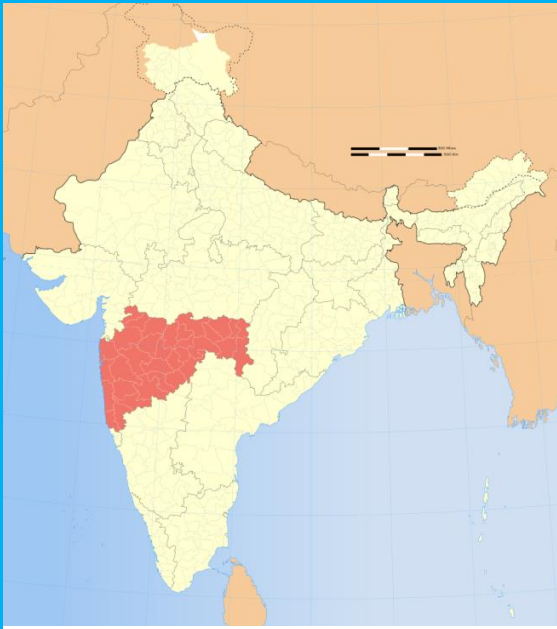


R-2 Revised Action Plan for Industrial Cluster in Critically Polluted Areas

चंद्रपूर

Chandrapur



Maharashtra Pollution Control Board

महाराष्ट्र प्रदूषण नियंत्रण मंडळ

July-2020

A. PREAMBLE:

In 2009, the Ministry of Environment & Forests (MoEF), Govt. of India in association with Central Pollution Control Board (CPCB), New Delhi and Indian Institute of Technology (IIT), New Delhi have carried out an environmental assessment of industrial clusters across the country named Comprehensive Environmental Pollution Index (CEPI) with the aim of identifying polluted industrial clusters & prioritizing planning needs for intervention to improve the quality of environment in these industrial clusters and the nation as a whole. For this, CPCB has selected 88 industrial clusters in country out of which 43 Nos. of industrial clusters in 16 states.

The industrial clusters/areas having aggregated CEPI scores of 70 and above were considered critically polluted clusters/areas and those with scores above 60 were classified as Severely Polluted; further detailed investigations were carried out in terms of the extent of environmental damage and formulation of appropriate remedial action plan.

Again in year 2017-2018 CPCB carried out monitoring and found that, number of identified polluted areas in country went upto 100. The said number included 38 Critically Polluted (CEPI Score above 70), 31 Severely Polluted (CEPI Score between 60-70) and remaining 31 as Other Polluted (CEPI Score below 60).

In identified 100 polluted areas Maharashtra having 9 Nos. of area namely Tarapur (CEPI Score 93.69), Chandrapur (CEPI Score 76.41), Aurangabad (CEPI Score 69.85), Dombivali (CEPI Score 69.67), Nashik (CEPI Score 69.49), Navi Mumbai (CEPI Score 66.32), Chembur (CEPI Score 54.67), Pimpri-Chinchwad (CEPI Score 52.15) & Mahad (CEPI Score 47.12).

Government of Maharashtra, under Chairmanship of Principal Secretary, Environment Department, GoM constituted State Level Committee and one local committee at Regional Officer level at each regions. Also Member Secretary of Board conducted several review meetings with all stakeholders at a regular interval to review the status of implementation of CEPI action plans.

With compare to earlier CEPI score calculated by CPCB in 2009-2010 Chandrapur was ranking at no 4 with overall CEPI score 83.88, but after effective implementation CEPI score of water & land are extremely reduce i.e water score 23.75 & land score 23.72. Only air score in increased. All stakeholder combinly working on same. The proposed action plan will help to reduce Air CEPI score below 60.

B. CHANDRAPUR

1.1. Area details including brief history (Background Information)

Chandrapur, the easternmost district is located in the eastern edge of Maharashtra in Nagpur division and forms the eastern part of 'Vidharbha' region. It is located between 19.30' N to 20.45'N Latitude and 78.46'E longitude. The district is bounded by Nagpur, Bhandara and Wardha on the northern side. Yavatmal on the western side. Gadchiroli on the eastern side and Adilabad district of the Andhra Pradesh on the southern side. Physiographically, the district is situated within the Wainganga and Wardha river basins, respectively, on the eastern and western boundaries of the district which are the tributaries of Godavari River.



Jatpura gate of Chandrapur Fort



Tadoba Andhari Tiger Reserve

Chandrapur district of Maharashtra is abundantly endowed with rich flora and fauna, water resources and mineral wealth. Chandrapur has been famous from ancient times as the capital of Gond dynasty. Anandavan at Warora is famous the world over due to work being done by the social worker Shri. Baba Amte on the rehabilitation of the leprosy patients. Incidentally he is also an environmental crusader. India's largest thermal power plant, many coal mines, cement and paper factories, huge lime stone deposits, bauxite, iron, and chromite mines are the sources of wealth for the district. Tadoba Andhari Tiger Project is a major tourist attraction. Different tribes are the original inhabitants of this district for Millennia. Chandrapur district occupies 11443 square km. eleven tehsils include 12 towns in this

district out of which six are municipal towns. Population of the district is about 2215000. Total number of villages is 1790. Average size of an urban centre is 41,000 to 45,000 persons. Wardha is the main and the largest river. Rivers Erai, Andhari, Wainganga and the Painganga are its tributaries. Chimur and Mul are the main water sheds between Wardha and Wainganga rivers.

Location & Geographical Area:

Chandrapur district, a part of the Vidharbha region, lies on the east in Maharashtra State. Chandrapur district lies between 18.4 to 20.5 degree North Latitude and 78.5 to 80.6 East longitudes. The Wainganga, Wardha, Irai are the major rivers of the district. It has a boarder on North with Nagpur, wardha & bhandara district; Yavatmal and Nanded on the west, Gadchiroli to the East and Adilabad of Andhra pradesh to the south. The total area of the district is 11443 Sq. Kms. which is about 3.5% of the total area of Maharashtra State.

Topography:

The southwest part of the district is mountainous, while the rest of the district has an undulating terrain, with gentle slopes. Geographically, the district can be divided into three regions: the hilly region of Mul – Chimur,

the valley region of Wardha - Wainganga and the mountainous region of Chandrapur.

Rivers and Dams:

The main river of the district, River Wardha, is a perennial river. Further downstream, it meets Painganga and Wainganga rivers. Both Wardha and Wainganga rivers have tributaries – Irai being that of Wardha River and Mul being the main tributary of Wainganga. Rajura, Ghuggus and Ballarpur towns are located on the banks of River Wardha. Chandrapur city, the 6 district capital of Chandrapur is on the banks of Irai, while Chimur, the block headquarters of Chimur block is located on the banks of Mul River. The district has no large dams - except for a few minor irrigation projects such as Asolamendha in Sindevahi taluka, Naleshwar and Ghodezari in Nagbhid taluka and Amalnala in Rajura taluka. Chandrapur district is one of the places in the State known for its lakes. Tadoba Lake is one of the major lakes in this district. Ghodezari Lake and the Aasolamendha Lake are some of the other lakes.

Environment Dept., Maharashtra Government issued G.R. vide No. NGT 2018/PC-2/TC-3 dtd.13.12.2018. regarding constitution of River Rejuvenation Committee (RRC).

Board has prepared separate action plan for Wardha river and its connected river separately & Submitted to CPCB.

Chandrapur Municipal Corporation provided STPs & management of sewerage system.

Surface water samples of Erai River under NWMP were collected at location upstream of village Hadasti/ MIDC Chandrapur Station code is 2720.

Surface water samples of Wardha River under NWMP were collected at location Rajura Bridge which is down stream of MIDC Chandrapur. Station code is 1212.

Surface water samples of Wardha River under NWMP were collected at location near bridge, downstream of ACC ghuggus / downstream of MIDC ghuggus. Station Code is 2174.

Economy:

Rice is the primary crop of the district. Chandrapur ranks fourth in rice production within the State. Wheat is a marginal crop in Chimur. Sorghum is also produced to a certain extent. Cotton is grown in the Wardha River basin. Sesame is also harvested on a large scale in this district. Chandrapur Super Thermal Power Station (CSTPS) is the largest power station in the country, with the capacity to produce 2340 MW - 25% of the State's power. It is the first power station in the country to get the Greentech Award. The district is home to Ballarpur Industries (BILT), one of the world's 100 largest and India's largest paper manufacturers. Chandrapur district is also famous for its cement industry and houses the largest number of cement

factories in the State. Since coal is abundant in the district, thermal power from coal is a major industry in the district. The power stations at Durgapur and Ballarpur together produce 1840 MW power. Pottery making is another significant business in the towns of Chandrapur and Bhadravati. A factory in Bhadravati manufactures war equipment. Rice mills provide employment to many across the district. Silk-yarn industry is coming up in Nagbhid and Savali talukas. The water pitchers here are famous. Visapur in Nagbhid taluka has a factory for making plywood from wood. The State's first iron and steel plant is being proposed in Chandrapur. PVC pipe and refrigerators are manufactured at Warora. The other places that also have industrial estates include Chandrapur, Ghuggus and Mul. With more than 21% of the total population in Chandrapur district being tribal, the district has been given the special status of a tribal district. The Kolamb tribal (also known as the Kolam) live mostly in the forest and mountainous regions. The Pardhan tribe also occupies this region. Madiya Gond, a tribe given the special status of a primitive tribe by the Central government, also occupies this region.

Availability of Minerals:

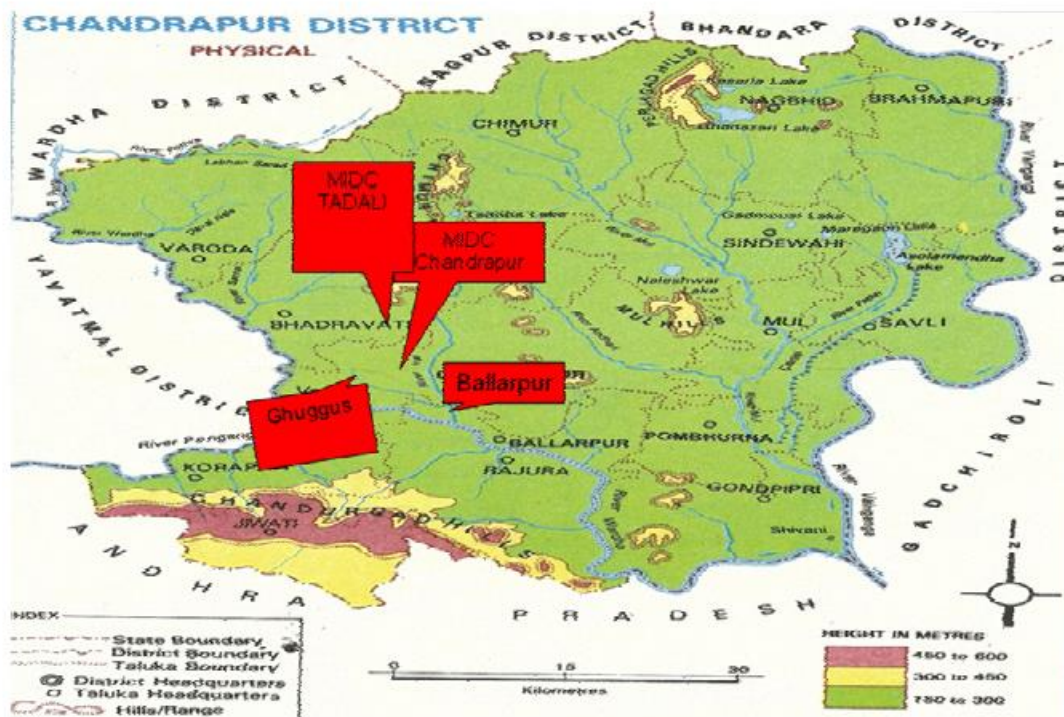
Chandrapur District has been endowed with various valuable mineral resources. The important minerals found in the district are Coal, Iron and

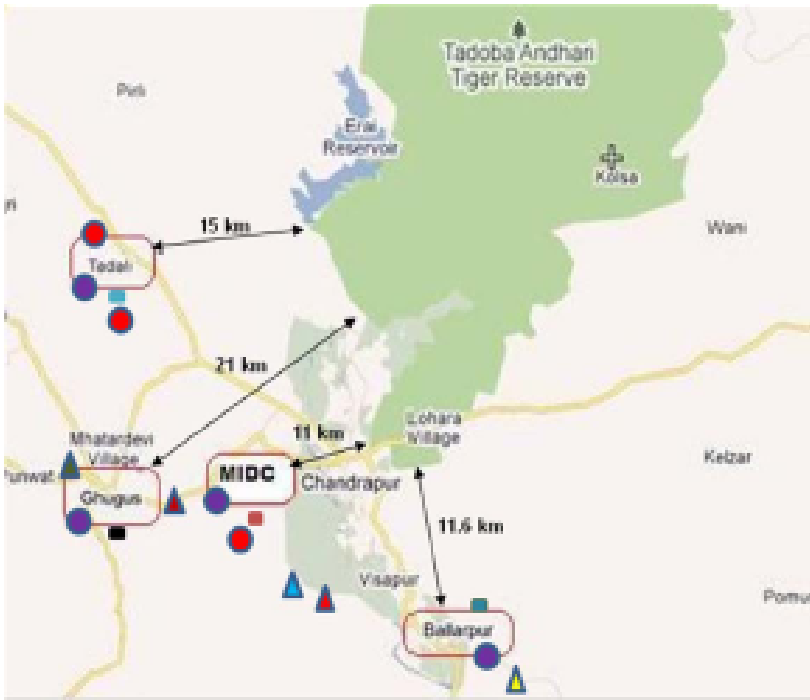
limestone. Chandrapur has an abundance of mineral resources. Coal is a major resource found in the Wardha River basin. Coal is mined in Ghuggus and Ballarpur in Chandrapur taluka, Rajura in Sashti and Manjri and Warora in Bhadravati talukas. Iron ore is found in Pimpalgaon, Bhis and Asola (Gunjevahi) in Chimur taluka and Ratnapur and Lohar Dongri in Brahmapuri taluka. Limestone is found mainly in Warora taluka. Limestone stretches are also found in many places in Rajura taluka. There are approximately 1026 million tons of limestone deposits found in the district. Majority of the copper deposits in the State are in this district. Some mineral deposits like granite, sandstone, jambha (red, porous stone) are also found in few parts of Chandrapur district.

Chandrapur CEPI Area :

CEPI Includes four areas namely, Ghuggus Road, MIDC Chandrapur, MIDC Ballarpur, MIDC Tadali, MIDC Ghuggus.

DIGITIZED MAP:





**IMPACT ZONES
WITHIN 2 KM**

- Village Yerur
- Village Datala
- Ghuggus Town
- Ballarpur Town

● Existing Ambient Air Monitoring Stations

● Proposed Ambient Air Monitoring Stations

SWMP Stations

▲ Wardha River D/S of Erai River at Village Hadasti

▲ Wardha River U/S of Erai River at Village Hadasti

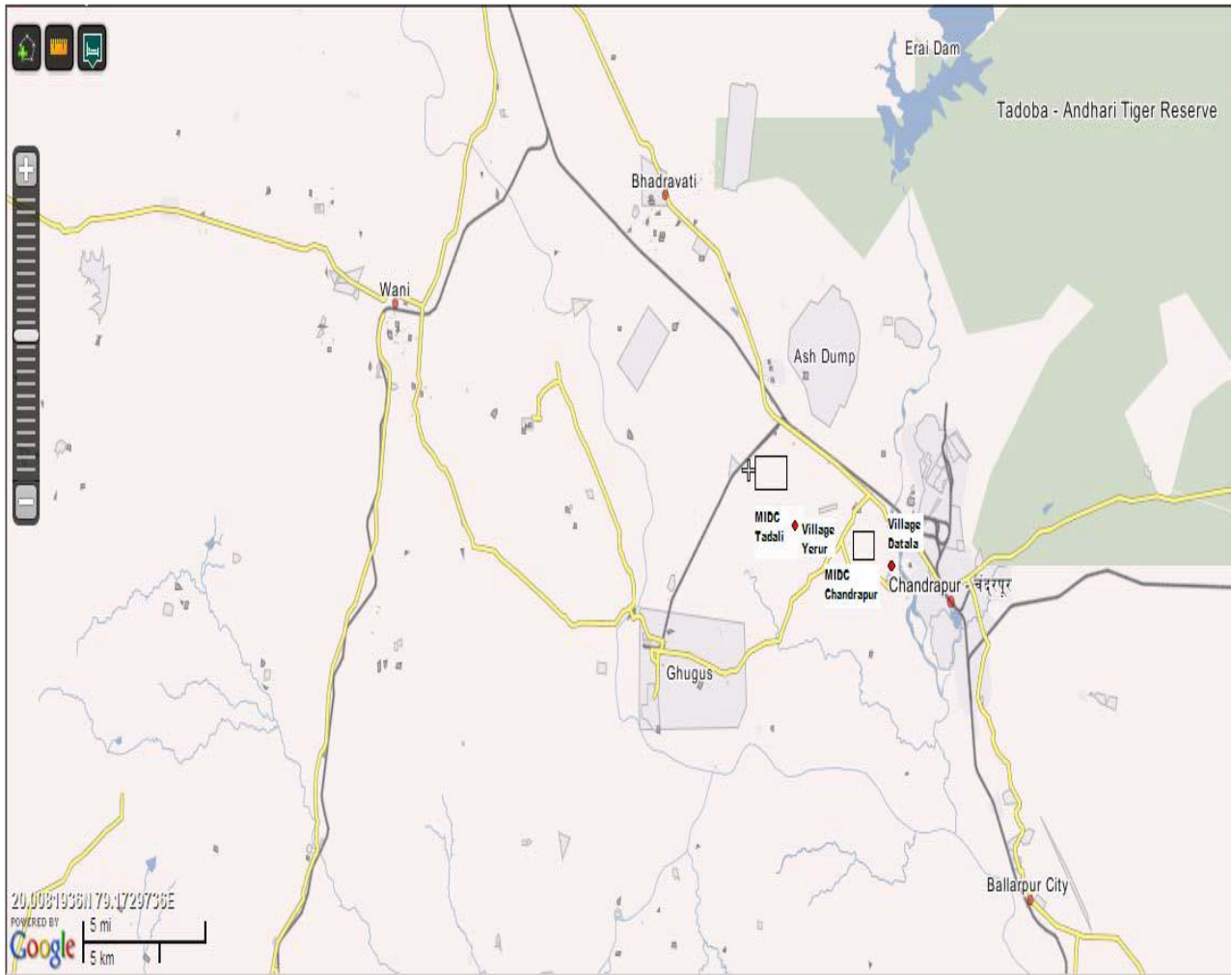
▲ Wardha River D/S of Ghuggus opencast (PROPOSED)

▲ Erai River D/S of confluence of Nala coming from MIDC Chandrapur (PROPOSED)

NWMP Stations

▲ Wardha River D/S of ACC Dhanora Village

▲ Wardha River D/S of BILT Graphics Paper Mill at Rajura



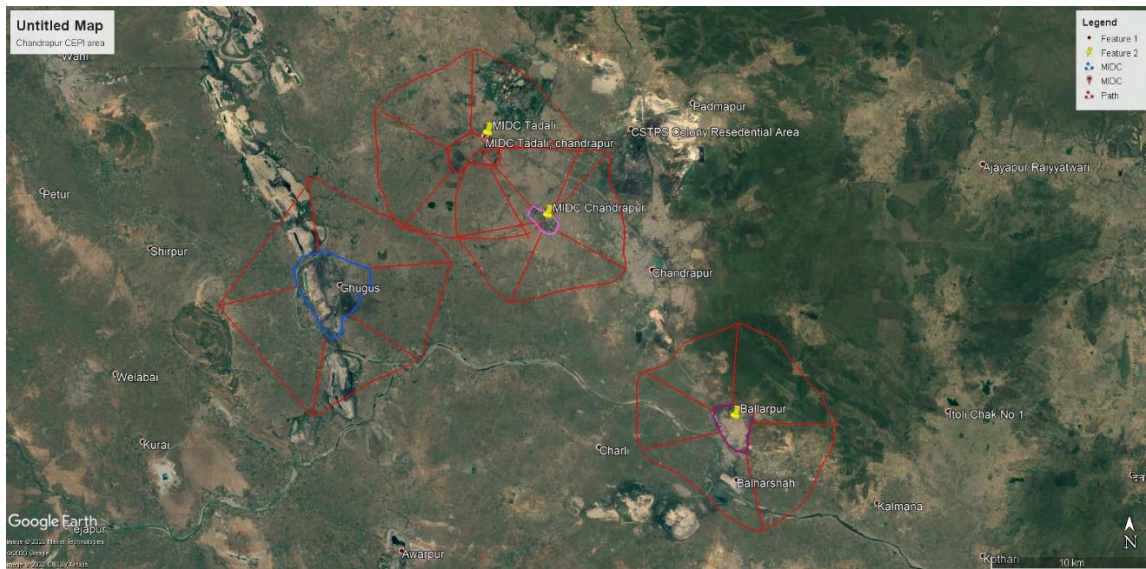
Digitized map showing CEPI area & Impact zone along with scale

The initial boundary coordinates of the Industrial cluster boundary In chandrapur CEPI areas are as follows:

	Chandrapur	Guggus	Tadali MIDC	Ballarpur
East	79°15'3.85"E	79° 8'50.01"E	79°13'17.12"E	79°23'1.21"E
West	79°13'29.49"E	79° 4'39.07"E	79°10'15.26"E	79°19'8.96"E
North	19°59'23.53"N	19°58'11.81"N	20° 1'33.21"N	19°53'26.84"N
South	19°57'39.82"N	19°53'34.94"N	20° 0'11.03"N	19°49'52.67"N



Areal image of Chandrapur CEPI area Core Zone



Chandrapur CEPI area impact area i.e 5 km form boundary of core zone.

Total population and sensitive receptors (Hospitals, School, Educational Institutes & Courts etc.) residing in the area comprising of geographical area of the cluster and its impact zone minimum 5 km.

Area	Name of village/s within 5 km radius	Population in 5 km radius	Sensitive receptors in 5 km radius (Hospital, School, Edu.Institute & Courts)
MIDC Tadali	1) Yerur (4 Km) 2) Tadali (4 km) 3)Padoli (5 Km)	1,500 3,000	Not available
MIDC Chandrapur	1) Chinchala, 2) Datala	5000	Not available
Ballarpur	Ballarpur city	90,000	Hospital & Education Institute Available

Ghuggus	Ghuggus town	45,000	Hospital Education Institute Available	&
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Eco- geological features Impact Zones (the area comprising of geographical area of the cluster and its impact zone (minimum 5 km)

Area	Eco-Geological Features within 5 km radius	Population in 5 km radius
MIDC Tadali	Not available	1,500 3,000
MIDC Chandrapur	Not available	5000
Ballarpur	River Wardha is 1.2 KM Away From Ballarpur Town	90,000
Ghuggus	River Wardha is 1.7 KM Away From Ghugus Town	45,000

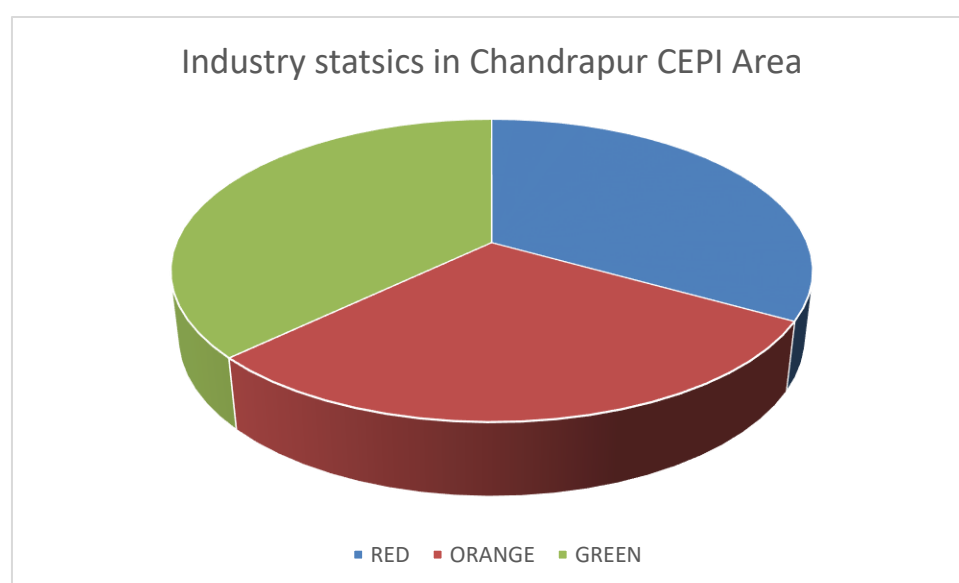
Ecological Park, Sanctuaries, Flora & Fauna or any other Eco-Sensitive Zone –

The nearest distance of Tadoba Reserve Forest is about 11 km from critical area (Ballarpur) Major Water Bodies – Wardha River, Erai river

INDUSTRIES IN THE CLUSTER: CATEGORY:

The total number of industries operating in the Tadali, Guggus, Chandrapur & Ballarpur Industrial cluster is as listed below:

Sale/ Category	RED	ORANGE	GREEN	Total
Large	18	00	00	18
Medium	01	00	00	01
Small	40	53	66	159
Total	59	53	66	178



17 category Industries			
		In operation (Unit)	Closed (Unit)
Dyes and Dye- Intermediates	01	01	0
Cement	01	01	0
Thermal Power Plant	01	01	0
Pulp & Paper	01	01	0
Iron & Steel	05	05	0
Total	09	09	0

Water bodies / effluent receiving drains in the area important for water quality monitoring:

The Rivers namely Irai River, Wardha River flows through Chandrapur District. The Boards has fixed several Water monitoring points of the River Ware Bodies at various Sources under NWMP/SWMP & other environmental monitoring systems.

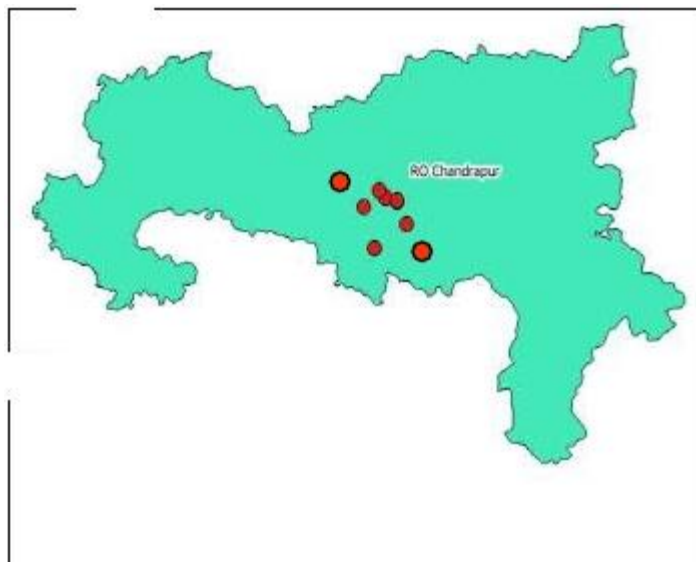
M. P. C. Board are monitoring water Quality of major River (Wardha River) subsidiary water body (Erai River) which carries domestic effluent and industrial effluent in to the River Wardha.

The Locations of water sampling

Sampling location	Latitude	Longitude
Wardha river at D/s of ACC Ltd. Ghuggus near WCL pump house, Village- Ghuggus, Taluka- Chandrapur, District- Chandrapur.	9°54.291'	9°06.894'
Wardha river at U/s of ACC Ltd. Ghuggus near WCL pump house, Village- Ghuggus, Taluka- Chandrapur, District- Chandrapur.	19° 54.336'	79° 06.894'
Wardha river at D/s of Erai river at Hadasti near Arun Engg. Works, Village- Hadasti, Taluka- Chandrapur, District- Chandrapur.	19° 59.433'	79° 15.754'
Wardha river at U/s of Erai river at Hadasti near Arun Engg. Works, Village- Hadasti, Taluka- Chandrapur, District- Chandrapur.	19° 59.263'	79° 06.907'
Wardha river at Rajura bridge, Village- Rajura, Taluka Chandrapur, District- Chandrapur.	19° 48'	79° 23'

Ambient Air Quality Monitoring:

M.P.C.Board has carried out Ambient air quality Monitoring at various location at Chandrapur are as below,



Station name	Type	Latitude (deg)	Longitude (deg)
Ghuggus	Residential	19° 56' 23.0" N	79° 06' 50.9" E
Chandrapur - MIDC	Industrial	19° 58' 58.3" N	79° 13' 54.7" E
Chandrapur - SRO MPCB	Residential	19° 57' 55.9" N	79° 17' 59.1" E
Tadali MIDC	Industrial	20° 00' 59.6" N	79° 11' 51.5" E
Ballarshah	Residential	19° 51' 11.8" N	79° 20' 55.7" E
Rajura	Industrial	19° 44' 11.7" N	79° 10' 29.5" E
Chandrapur CAAQMS	Industrial	19° 57' 44.67"N	79° 17' 57.81"E
Civil lines, Chandrapur	Commercial	19° 58' 13.66"N	79° 18' 05.34"E

MONITORING STATIONS SELECTED BY CPCB: SURFACE WATER, GROUND WATER& AIR QUALITY:

I. Air Quality Monitoring Station:



AAQ monitoring locations.

<u>Sr. No.</u>	<u>Location Name</u>	<u>Latitude</u>	<u>Longitude</u>
A-1	Tadali, MIDC Growth Centre, Chandrapur		E79°11'04.1"
A-2	Multi Organics, Chandrapur, MIDC		E79°13'44.7"
A-3	Gram Panchyat Karyalaya - Ghughhus, Chandrapur.		E79°13'52.3"
A-4	Nagar Parishad - Ballarpur, Chandrapur		E79°20'52.2"

II. Surface Water Monitoring Station:



Surface water monitoring locations.

<u>Sr. No.</u>	<u>Location Name</u>	<u>Latitude</u>	<u>Longitude</u>
SW-1	Near Grace Industry, Chandrapur	N20°01'28.1"	E79°11'46.6"
SW-2	Wardha River sample near WCL WT Ghughhus OCM, Chandrapur	N19°56'34.4"	E79°07'26.3"
SW-3	Wardaha River upstream at Ballarpur.	N19°51'55.6"	E79°20'22.9"
SW-4	Wardha River downstream near Rajura Bridge, Ballarpur, Chandrapur.	N19°51'17.7"	E79°20'38.1"

<u>Sr. No.</u>	<u>Location Name</u>	<u>Latitude</u>	<u>Longitude</u>
GW-1	Dug well at Yerur village	N20°01'28.1"	E79°11'46.6"
GW-2	Hand pump, Tukadoji Nagar, Ghughhus,	N19°56'28.3"	E79°07'11.2"
GW-3	Hand pump water sample near Datara Gram Panchyat	N19°58'31.8"	E79°16'43.6"
GW-4	Bore well water sample near Fire Station,Ballarpur	N19°51'17.7"	E79°20'38.1"

III. Ground Water Monitoring Station:



Ground water monitoring locations.

Comprehensive Environmental Pollution Index As per CPCB Monitoring 2017-2018:

Sr. No	Industrial Area	Air	Water	Land	CEPI Score	Rank
1	Chandrapur	75.00	23.75	23.72	76.41	27

Revised CEPI is comprised of the following components:

Component A	Scale of industrial activity	20 Marks
Component B	Status of Ambient ENV. Quality (Air/SW/GW)	50 Marks
Component C	Health related Statistics	10 Marks
Component D	Compliance of	20 Marks

Air Score:

- Ambient Air Quality Parameter considered for CEPI calculation: PM₁₀, PM_{2.5} & BPA.
- Sub Score (A+B+C+D)= (7.5+47.5+10+10)=75

a) Water Score (Surface Water):

- Surface Water Parameter considered for CEPI calculation : TDS, Hardness, Zinc
- Sub Score (A+B+C+D)= (3.75+0+10+10)=23.75

b) Land Score (Ground Water):

- Ground Water Parameter considered for CEPI calculation : Total Hardness, TDS, Iron
- Sub Score (A+B+C+D)= (3.75+0+10+10)=23.75

COMPLIANCE OF SHORT TERM AND LONG TERM ACTION PLAN:

Sr. No.	Action Points	Responsible Stake Holders	Compliance status
1	<p>M/s. Bilt Graphics Paper product, Ballarpur is having activated sludge process ETP of capacity 90MLD. At present effluent generation is 35-43 MLD. According to previous results i.e. before Aug-19. Industry is achieving 25–30BOD Norms Modernization/replacement of existing batch digesters with continuous digestion system, pulp washing with drum washers will be replaced with presses & adoption of ECF bleaching technology. Replacement of old 2 recovery boilers with single recovery boiler with ESP of 5 electric fields. Up-gradation of ETP & Installation of cooling tower for recycling & MBBR (Moving Bed Bio- film Reactor) technology for improving effluent quality.</p>	Industry	<p>Completed.</p> <p>Modernization plant is in operation.</p>

2	M/s. Multi-Organics Pvt. Ltd., MIDC Chandrapur has installed ETP & Treated effluent is being used for Cooling tower. Industry has achieved Zero discharge Norms. Excess effluent is being dumped in Solar Evaporation Tank. Industry has completed provision of separate drain for storm-water & Industrial effluent.	Industry	Completed and treated water being utilized for cooling tower and thus achieved zero discharge.
3	<p>Ghugus Area:</p> <ol style="list-style-type: none"> 1. Gupta Coalfields Ltd: Installation of high frequency screen & thickener to reduce the amount of effluent & easy recovery of solid waste 2. Bhatiya International Ltd: Additional concrete tank for storage of industrial effluent 	Industry	<p>Installed and commissioned.</p> <p>Completed. At present, this industry is not in operation.</p>

4	Enforcement of Stringent Norms to evolve Clean technology for Water polluting industries Such as Paper Mill & Thermal Power Plants, along with effective monitoring/vigilance	MPCB/Industry	<p>Waste water management of Major 2 units:</p> <ol style="list-style-type: none"> Paper Mill: M/s. BILT Graphics paper products Ltd., a pulp and paper mill has adopted new environmental friendly technology based on ECF i.e. Elemental Chlorine Free technology and the plant is in operation. Thermal Power Plants: M/s. Chandrapur Super Thermal Power Station & M/s. Dhariwal Infrastructures Pvt. Ltd. has adopted Zero Liquid Discharge concept and industrial effluent is utilized for partially for cooling and remaining for ash conditioning. <p>Effective Monitoring: All the above 2 units have provided Online Continuous Monitoring System.</p>
5	Additional 2 NWMP monitoring stations at D/S of Wardha River at Ghuggus opencast mine & D/S of MIDC nalla meeting to Erai River	MPCB	Sampling is done monthly under NWMP at Rajura Bridge on Wardha river which is D/s of Ghuggus & MIDC Chandrapur. (Station. Code. 1212)

Sr. No	Action Points	Time estimate	Compliance status
6	Provision of STP for Chandrapur Town. The domestic effluent generation from Chandrapur Town is about 30.0 MLD. Municipal Council is proposed to install Two Nos. of STP having capacity 45.0MLD & 25.0MLD under UIDSSMT scheme, along with laying of sewerage line	Chandrapur Municipal Corporation	Chandrapur Municipal Corporation has installed & commissioned 3 nos. of STPs at Pathanpura-45MLD, Rehamat Nagar-25MLD & Azad Garden-0.5MLD. Total sewer line connecting the STPs is 180 km. The sewer line work is not yet completed.
7	Use of treated industrial effluent for spraying for dust emission control in nearby mines and plantation in forest area, to reduce river discharge	Western Coal Field Ltd. (WCL)	Mines are utilizing treated mine discharge water for dust suppression and remaining is discharged into nearby nalla.
8	Provision of STP for Ballarpur town:	Ballarpur Municipal Council	The tendering process for the provision of STP is under process.
9	Provision of storm water drain in MIDC Tadali and MIDC Chandrapur	MIDC	The work of construction of storm water drain along both the sides of main road is completed.

10	MIDC Tadali 1) Chaman Metallics: <ul style="list-style-type: none"> • Installation of 3stage bag house at product house • Installation of new bag filter at cooler discharge • Concretization of roads of 0.8km covering stores and raw material section • Up-gradation of Recuperator of ESP 1 & 2 like RAV changes, pipe replacement, plate replacement of castable, impeller 	Industry	Completed Completed Completed Completed Completed
	2) Grace Industries: Installation of bag filter at coal crusher, coal screening section & iron ore crusher <ul style="list-style-type: none"> • Pneumatic fly ash handling system of M/s. Grace Industries. 	Industry	Completed Pneumatic fly ash handling system provided.
	3) Siddhabali Ispat Ltd: <ul style="list-style-type: none"> • Installation of WHRBs for power generation • Replacement of electric fields & revamping of ESPs for all three kilns to achieve 100mg/Nm³ • Provision of silo for storage of de-dusting dust which will dispose in After Burning chamber of kilns. • Concretization of internal roads 	Industry 30/09/201	WHRB installed Replacement of ESP-1 is completed Complied Work completed. Except 1.0KM Patch Shed for coal to be used for CFBC boiler is completed. (At present, unit is not in operation)

	<p>4) Gopani Iron & Power Ltd:-</p> <ul style="list-style-type: none"> • Installation of 6 bag houses for FBC power plant • Installation of bag filters at raw material feeding hopper and transfer point • Concrete road from stores to SMS & from weigh bridge to truck tippler 	Industry	<p>6 bag house are installed work completed</p> <p>Completed.</p>
11	<p>Ballarpur Area</p> <p>BILT Graphics Ltd:</p> <ul style="list-style-type: none"> • Installation of NCG (Non condensable gases) burning system to reduce odour in the area. • Use of CO₂ generated from lime kiln operations for preparation of CaCO₃ (greenhouse gas reduction) 	Industry	<p>Work is completed, NCG burning is in operation</p> <p>Completed, plant is in operation</p>
12	<p>MIDC Chandrapur: Multi Organics Ltd:</p> <p>Installation of Bag Filter at coal fire boilers 4.0 & 4.5 t/hr capacity</p>	Industry	<p>Bag filter installed and made operational.</p>
13	<p>Ghuggus</p> <p>1) ACC Cement:</p> <p>Installation of state of the art technology, entire new plant by scrapping old one: State of the art technology comprises</p> <p>Of new kilns, grate cooler & 6stage, double stream, In Line Calciner, which is an energy efficient process & Reverse Air Bag House & new ESP will be used for air pollution control at kiln, raw mill, boiler & cooler discharge. All storages & material handling systems will be under closed shed. Expected emission levels will be 50mg/Nm³ for TPM. NO_x emission will also be minimized.</p>	Industry	<p>Industry has installed state of art technology new plant by scraping old one.</p> <p>In Line Calciner, which is an energy efficient process & Reverse Air Bag House & new ESP is used for air pollution control at kiln, raw mill, boiler & cooler discharge.</p>

	<p>2)Lloyd Metals Ltd:</p> <ul style="list-style-type: none"> • Installation of new ESP for 500 TPD kilns by scraping old one • Installation of dust collector at discharge hood at Coal slinger belt 3170 • Installation of 20000 cum capacity dust collector at lump iron ore crushing building • 100x 4 TPD kiln- Replacement of existing 20000cum dust collector capacity by 55000 dust collector capacity at product house 	Industry	<p>Completed</p> <p>Complied.</p> <p>Complied.</p>
	<p>3)Gupta Coalfields Ltd:</p> <ul style="list-style-type: none"> • Installation dust extraction system with wet scrubber at washing section. • Installation of rain guns with pipelines & foggy Nozzles around the periphery of fines hopper 	Industry	<p>Completed.</p> <p>At present Water sprinkler arrangement provided.</p> <p>Rain gun and foggy nozzles are installed near fines hopper</p>
	<p>4) WCL Ghuggus Opencast:</p> <p>Installation of additional rain guns at kargil chowk, old railway siding, new railway siding & CHP, Total no.258</p>	Industry	<p>79 fixed water sprinklers provided, 26 mist type sprinklers provided near CHP, 4 near weigh bridge.</p> <p>At present, the mine is not in operation</p>
	<p>5) Bhatiya International Ltd:</p> <p>Concretization of Internal Transport road from main gate to weigh bridge up to receiving</p>	Industry	<p>Provided.</p> <p>At present, unit is not in operation</p>
14	<p>WCL Issues:-</p> <p>Coal transportation road should be defined and dedicated and adequate number of fixed water sprinklers should be provided on the road. Period of six month is required for this compliance.</p>	Industry	<p>There are two mines namely, M/s. Ghugus Opencast Mines, Ghugus and M/s. Ballarpur Opencast Underground Mines under CEPI. Out of which at present, M/s. Ghugus Opencast Mines is not in operation.</p>

15	<p>WCL Issues:-</p> <p>Coal transportation road should be defined and dedicated and adequate number of fixed water sprinklers should be provided on the road. Period of six month is required for this compliance.</p>	Regular activity	<p>There are two mines namely, M/s. Ghugus Opencast Mines, Ghugus and M/s. Ballarpur Opencast Underground Mines under CEPI. Out of which at present, M/s. Ghugus Opencast Mines is not in operation.</p> <p>Fixed water sprinklers provided on the road.</p>
16	<p>Implementation of Mechanical Closed type material transportation/coverage of coal carrying truck by full tarpaulin especially for Coal. Introduction of Closed Conveyor belts transportation of Coal from mines.</p>	Industry	<p>Mechanically closed trucks are not provided. Transportation is done by trucks covered by tarpaulin sheets.</p>
17	<p>Installation of waste heat recovery based boilers at sponge iron plants to effectively ensure that all flue gases are discharged through APC.</p>	Industry	<p>There are 5 sponge iron plants in CEPI Area. Four plants have installed WHRB. One plant in Tadali area namely M/s. Sidhballi Ispat Ltd. is closed.</p>
18	<p>Development of alternative by-pass road for transportation of Coal & other raw material.</p>	PWD	<p>PWD has taken the construction work of Shivni-Rajura By-pass road and have completed 50% work.</p> <p>The bridge of Hadasti is completed.</p>
19	<p>Shifting of Unauthorized Coal depot on Nagpur and Ghuggus Road.</p>	District collector/ MPCB	<p>MPCB has closed 24 coal storage yard/depot & Prosecution notices are issued to these coal depots.</p>

EFFORTS TAKEN FOR POLLUTION REDUCTION:

Infrastructure Developments

1. CHWSTDF comprising of SLF & Incineration facility (plasma pyrolysis) is operational at Butibori, Dist. Nagpur. The hazardous waste of the industries is sent to the CHWSTDF for scientific management. At present the existing CHWSTDF is under utilization. Incineration capacity is 3 ton/hour and SLF capacity is 60000 ton/cell.
2. CBMWSTDF is operational in Chandrapur city wherein the BMW of CEPI area is also disposed for scientific management. The facility of CBMWSTDF is the integrated facility comprising of waste autoclave, shredder & double chamber incinerator based on control air combustion method. The capacity of incinerator is 50 kg/hour. The common facility is operational and the capacity is adequate.
3. The existing capacity of the TSDF is adequate and is under utilization at present. The performance is satisfactory. However, the centralized facility for e-waste management is necessary.
4. Ballarpur: The existing lime sludge hillocks are partly stabilized by doing tree plantation. The collection of seepages & its treatment in ETP is proposed besides complete biological stabilization / hillocks by BILT graphics.

Water Environment

1. STP for Chandrapur: Installation of STP for Chandrapur city is approved from State Government. Municipal Council is proposed to install 2 STPs having capacity 45 CMD and 25 CMD. The work of installation of sewer line having capital investment 70 crore is already started.
2. Utilization of Mine Water for drinking purpose or irrigation: Stake holder for this proposal is WCL & State Govt.

Air Environment

1. Railway siding – The existing railway siding of which is located in the middle of Chandrapur city is contributing to air pollution. The private railway siding near Tadali is being developed by M/S Vimla Infrastructure. Similarly there are various industrial units like cement, sponge iron, washeries and power plant for transportation of raw material. Presently this activity is performed by road which causes spillages of material during transportation resulting dust emissions. Hence the development of railway siding in Tadali will help reduce this problem.
2. Construction of cement road – At present condition of the roads in CEPI areas is very poor. These roads need to be concretized to avoid dust emissions. The concerned agency for development of roads are PWD & Concerned industries of areas

Land Environment

1. Non- Hazardous waste disposal site at Tadali: The common facility shall be developed for the disposal of Non- Hazardous solid waste .There are various sponge Iron unit & single Washery in the vicinity. The solid waste generated from these units is not properly managed resulting in accumulation of huge quantity of solid waste at the site causing secondary emissions .The level of secondary emissions severely increases during summer season. Hence it is necessary to develop common infrastructure for disposal of Non-Hazardous solid waste even though partly sale of the solid waste is practiced. The concern stake holders involved are MIDC, Industry & State Govt.

2. Fly ash Disposal: Fly ash Cluster is being developed at MIDC Chandrapur for the utilization of fly ash generated from power plant. The fly ash mission is already formed to encourage fly ash based industries such as Fly ash brick & Tiles.

Green Belt

1. Green belt development programme has been initiated with the help of Collector Office, Chandrapur, MPCB & Industries. Under this scheme the various industries has been given particular target for green belt development all along the NH/SH i. E. Avenue tree plantation. As of now 1688208 numbers of trees is planted in total and 46000 numbers of trees would be planted in future programmes. Beside this MIDC is being perceived for massive tree plantation in MIDC areas.
2. Individual industries of the CEPI area have also submitted proposal for tree plantation programme in their units during current monsoon season.

Specific schemes

1) Co-processing of waste:

- a) Iron ore fines which is the solid waste generated from sponge iron units is proposed to utilize in sinter plants. The sinter plants are available in Wardha and Bhandara Districts. Iron ore fines are also being utilized in cement industries for manufacturing PPC in Chandrapur district.
- b) Fly ash from the captive power plant is disposed to cement industries for manufacturing of Portland pozolona cement.
- c) Dolo char will be utilized for combustion in FBC boiler for power generation by the individual industries after installing beneficiation plants.

d) Lime sludge from Ballarpur industries Ltd. is utilized for recovery of lime.

Public Awareness & Training Programmes

1. Public awareness programme needs to be conducted for proper segregation of MSW/BMW at the source, recycling of the plastic waste through municipal council by way of conducting seminars/workshops.
2. Public awareness needs to be made for avoiding use of domestic coal as a fuel to avoid smoke generation and deterioration of air quality.
3. Display of air and water quality in public domain for awareness of the public is available on MPCB website on regular basis. Display board for ambient air quality of Chandrapur city is proposed near Bus Stand and expected to commission within 3 months.
4. Public awareness about the environment management system in area specifically with regard to adoption of cleaner technologies through interventions periodically and to plan the visits to such industries.
5. Training to the staff of the individual industries for operation of advanced pollution control arrangements like ESPs, waste water treatment plants etc.

Carrying out CEPI Monitoring as per CPCB direction dtd.26/04/2016:

As per CPCB direction dtd.26/04/2016 Board has selected third party agency (laboratory) recognized under Environmental (Protection) Act, 1986 and accredited under NABL through E-tendering for 3-year Post-monsoon season & Pre-monsoon Season monitoring. The monitoring data with CEPI score were communicated to CPCB and uploaded on public domain. The monitoring score are as below,

Below are the CEPI score from 2017 to Feb 2019 Carried by Board through third party as per CPCB direction:

	Air Index	Water Index	Land Index	CEPI
CEPI score Feb 2019	44.5	48.9	47.9	57.28
CEPI score June 2018	41.32	40.58	44.36	51.88
CEPI score February 2018	46.8	49.2	56.9	61.69
CEPI score June 2017	43.93	38.61	31.62	50.77
CEPI score February 2017	44.2	56.3	57.5	62.3
CEPI Score 2016	49.3	39.6	46.34	58.62

PROPOSED ACTION PLANS FOR 2019 – 2020:

1. CEPI area for Chandrapur including MIDC Chandrapur, MIDC Ballarpur, MIDC Tadali, MIDC Ghuggus.
2. In the Application No. 1038/2018, directions are given by Hon’ble NGT regarding CEPI score for Aurangabad is 76.41 as its rank is 27 as Critically Polluted Industrial Area (SPAs).
3. MPCB with all stakeholders prepared time bound action plan to improve CEPI score as an below,

No	Points	Discussion	Time Target	Concerned Stakeholder
1	Assessment of carrying capacity of Chandrapur CEPI Area	M. P. C. Board is in process to carrying capacity study with coordination of NEERI for further planning of pollution control in Chandrapur CEPI area.	18 month	MPCB/NEERI
2	Mechanism to be developed for reduction of CEPI score	Measures for reduction in pollution - a) Enhancement in green belt from 33% to 40%.	Coming monsoon	Industry
b) Permissible limit for TPM to be reduced from 150 ppm to 50 ppm.		1 Year	MPCB & Industry	
c) Zero liquid discharged to be		1 Year	MPCB &	

		achieved by major polluting units.		Industry
		d) Action against polluting industries & imposing environmental compensation.	3 Months	MPCB
3	Pollution control measures in MIDC area	a) Inspection & monitoring of air polluting industries to assess the compliance status for adequacy of APC system.	3 Month	MPCB & Industry
		b) Repair & maintenance of approach & internal roads of industrial area.	3 Months	MIDC & Local Body (CCMC & All Municipal Councils in the concerned area) & PWD
		c) 1. Work of STP for sewage generated from Ballarpur Municipal Council area to be completed within 12 months. Provision of drainage network to cater the sewage generating from slum pockets & other residential areas to STP. 2. Provision of drainage network to cater the sewage generating from	1 Year 1 Year	Ballarpur Municipal Council Chandrapur Municipal Corporation (CCMC)

	remaining residential area and other commercial area etc. to STP.		
	d) Imposing environmental compensation of Rs. 10,000/- per day for not providing STP and not completing the sewerage system upto the STP to Chandrapur Municipal Corporation & Ballarpur .	3 Month	MPCB
	e) If any coal transport vehicle found partially covered or totally uncovered then to issue directions to the transporter/WCL/Concerned Industry Management, stating why fine of Rs. 1 lac for first offence shall not be taken giving reference of NGT order thereafter. Also, to fine up of Rs. 10,000/- per day shall be levied to the concerned.	3 Month (continuous process)	MPCB
	f) Audit of WCL & major industries in CEPI area shall be carried out and the notices to the defaulting industries shall be sent regarding environmental damaged compensation.	6 month	MPCB/WCL

		<p>g) Bypass Road for Chandrapur City :-</p> <p>Bypass road of MIDC Chandrapur-Shivni-Rajura shall become operative. Hence, 50% of traffic through Chandrapur city can be reduced. One approach bypass road shall be made available for Ballarpur city passing through Visapur after necessary strengthening of existing road so as to take care of remaining 50% traffic of heavy vehicles passing Chandrapur city.</p>	1 Year	PWD/ District Collector Chandrapur
		<p>h) Illegal Coal burning Issue :-</p> <p>Stakeholders such as RO, Chandrapur, MPCB and District Collector, Chandrapur and all the nearby Municipal Councils and WCL shall organize a workshop to sensitize the people, nearby Dhabha type restaurants.</p>	6 Month	MPCB, District Collector Chandrapur, CCMC, Ballapur Municipal Council (BMC), WCL

	<p>i) Illegal Coal burning Issue :- To issue notices to the units/persons/ nearby Dhabha type restaurants, who are observed in the activity of illegal coal burning.</p>	3 Month (continuous process)	MPCB, District Collector Chandrapur, CCMC, BMC
	<p>i) Public Awareness Process :- Funds will be granted from MPCB, Head Quarter to District Collector, Chandrapur & RO, MPCB and to CCMC for public awareness regarding CEPI, air pollution issues.</p>	3 Month (continuous process)	MPCB, District Collector Chandrapur, CCMC, BMC
	<p>j) Allotment of 20 Acres land at Plot No. C-17, MIDC Chandrapur for scientific dumping/disposal of non-hazardous solid waste. For this purpose SPV(Special Purpose Vehicle) company can be performed and a trial party agreement shall be done with MIDC.</p>	6 Months	MIDC & Association of Industries
	<p>M. Legacy Pond Ash :- Thermal power plants shall utilized</p>	3 Month	Thermal Power Plant/

		legacy pond ash as per fly ash notification 2009 and as amended and submit status report.		MPCB
		<p>N. Monthly Report Submission :-</p> <p>WCL, CSTPS, all the private power plants, sponge iron units, cement industries, Multi-Organics ltd., Bilt & Other major industries shall submit monthly report about operation and maintenance of pollution control system and report about compliance done.</p>	Every Month	All the industries
		<p>O. Coal Depot:-</p> <p>Shifting of Unauthorized Coal depot on Nagpur and Ghuggus Road.</p>	6 Month	MPCB & District Collector Chandrapur
		<p>p. Coal Transportation Issues/Repair & Maintenance of Road :-</p> <p>Development of alternative by-pass road for transportation of Coal &</p>	3 months (Continuou s process)	1. RTO Chandrapur, PWD, CCMC, WCL & MPCB

		<p>other raw material.</p> <p>Coal transportation road should be defined and dedicated and adequate number of fixed water sprinklers should be provided on the road.</p> <p>Tarring of coal transportation roads</p> <p>Implementation of Mechanical Closed type material transportation/coverage of coal carrying truck by full tarpaulin specially for Coal. Introduction of Closed Conveyor belts transportation of Coal from mines.</p>		
		<p>q. To issue Notices U/s. 133 (Code of Criminal Prociedue, 1973) :-</p> <p>Nuisance/Damage to the environment, air pollution, illegal coal burning, construction activity, national highway-road construction work etc. activity creates dust generation/air pollution issues. Hence, Revenue Department shall issues notices U/s. 133</p>	<p>2 months (Continuou s process)</p>	<p>District Collector Chandrapur</p>

		<p>r. Road in MIDC area :-</p> <p>Only approach roads are made by concrete in some industrial area. However, internal road are kaccha and hence needs proper tar/concrete road in the MIDC area of Chandrapur and MIDC Tadali, MIDC Ghuggus.</p>	6 Months	MIDC
4	Installation of CAAQMS	As per CPCB direction dtd. 26/04/2016 Board has already installed 2 CAAQMS station at Chandrapur.	Comply	MPCB
5	<p>Ban on Biomass burning on open land</p> <p>(This action point is incorporated in City level action plan under NCAP also sperate follw-up as per Hon'ble NGT order in OA No. 606/2018)</p>	<ol style="list-style-type: none"> 1. Launch extensive drive against open burning of biomass, crop residue, garbage, leaves, etc. 2. Ensure segregation of waste at source 3. Regular collection of municipal solid wastes. 4. Regular check and control of burning of Municipal Solid waste 5. Providing Organic Waste Compost machines, decentralization of processing of Waste, dry waste collection centers. 6. MPCB already issued direction on 29/08/2019 to 	Continuous process	Chandrapur Municipal Corporation

		Municipal Corporation for complete prohibition on open burning and for violation imposed Environmental Compensation.		
6	Restoration of polluted water bodies. (Rejuvenation of water bodies and polluted stretches in the country. (O.A.No.673/2018)	1. Environment Dept., Maharashtra Government issued G.R. vide No. NGT 2018/PC-2/TC-3 dtd.13.12.2018. regarding constitution of River Rejuvenation Committee (RRC). 2. Board has prepared separate action plan for Wardha river and its connected river separately & Submitted to CPCB.	--	--
7	NWMP monitoring stations on Wardha River D/S of Wardha River at Ghuggus opencast mine & D/S of MIDC nalla meeting to Erai River	Sampling is done monthly under NWMP at Rajura Bridge on Wardha river which is D/s of Ghuggus & MIDC Chandrapur. (Station. Code. 1212)	Monthly	MPCB
8	Provision of	Chandrapur Municipal Corporation has installed & commissioned 3 nos.	6 month	Chandrapur

<p>STP for Chandrapur Town. The domestic effluent generation from Chandrapur Town is about 30.0 MLD. Municipal Council is proposed to install Two Nos. of STP having capacity 45.0MLD & 25.0MLD under UIDSSMT scheme, along with laying of sewerage line</p>	<p>of STPs at Pathanpura-45MLD, Rehamat Nagar-25MLD & Azad Garden-0.5MLD.</p> <p>Total sewer line connecting the STPs is 180 km. to complete sewer line work.</p>		<p>Municipal Corporation.</p>
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Conclusion:

Earlier CEPI score calculated by CPCB in 2009-2010 in which Chandrapur was ranking at no 4 with overall CEPI score 83.88. Again in year 2017-2018 CPCB carried out monitoring and found that CEPI score of Chandrapur in water & land are extremely reduce i.e water score 23.75 & land score 23.72. Only air score in increased.

State Level Monitoring Committee, under Chairmanship of Principal Secretary, Environment Department constituted vide GR dtd. 31/12/1018.

Till date M.P.C.Board under Chairmanship of Member Secretary conducted various reviews meeting with all stakeholders for effective implementation of action plan and constituted monitoring team at respective Regional Officer for visit.

Also Hon'ble Principle Secretary, Environment Department , GoM and Hon'ble Chief Secretary, GoM has conducted time to time meeting to review progress.

The proposed action plan is comprehensive and each activity under Air, Water and land considered for achieving environmental standards and will help to reduce Air CEPI score below 60. The all stakeholders like MIDC authority, Industrial associations, District administrator and Local body contribution for implementation of action plan will help to achieve reduction of CEPI score.