

# ENVIRONMENTAL STATUS OF BHOPAL CITY



**Central Pollution Control Board**  
**Ministry of Environment, Forests & Climate Change,**  
**Government of India**

## **(A) BHOPAL CITY**

### **1. City Profile**

Bhopal has an average elevation of 500 metres (1401 ft). Bhopal is located in the central part of India, and is just north of the upper limit of the Vindhya mountain ranges. Located on the Malwa plateau, it is higher than the north Indian plains and the land rises towards the Vindhya Range to the south. The city has uneven elevation and has small hills within its boundaries. The prominent hills in Bhopal are Idgah hills and Shyamala hills in the northern region, Katara hills in southern region. City is also known as City of Lakes, as it has several man-made lakes created through the centuries. The Upper Lake (also known as Bada Talab), created in 11<sup>th</sup> century AD, and Lower Lake (also known as Chhota Talab), created in the late 18th century AD, are by far the most important. The Upper Lake is a fresh water lake, has special significance since it is also support the water supply of the city. These lakes are of immense importance since they are inseparably linked with the socio, economic and cultural aspects of the people of Bhopal and are referred as lifelines of the city.

Bhopal is the capital of the Indian state of Madhya Pradesh and the administrative headquarters of Bhopal district and Bhopal division. It is the 17th largest city in the country and 131st in the world. Bhopal houses various institutions and installations of national importance, including ISRO's Master Control Facility and BHEL. Bhopal is home to the several Institutes of National Importance in India, namely IISER, MANIT, SPA, AIIMS and NLIU.

Bhopal City has also some important establishments like Bharat Bhawan, Manav Sangrahalaya, Sankstriti Bhawan, Swaraj Bhawan and Ravindra Bhawan represents Rural and Urban Culture. Van Vihar area is developed by Govt. of Madhya Pradesh for protection of wildlife. M/s Bharat Heavy Electricals Ltd. (BHEL) is also established in Bhopal and supporting many small scale industries as ancillaries of BHEL located in Industrial Area Govindpura in the vicinity of BHEL.

The city attracted international attention in December 1984 after the Bhopal disaster, Bhopal has been selected as one of the first twenty Indian cities to be developed as a smart city under Hon'ble Prime Minister's flagship Smart Cities Mission.

## 2. Bhopal Lake Water Quality

Upper lake is a multiple use water body and being used for various purposes like drinking Water Supply, cultivation, fishery, recreation and tourism.

The lake water quality is being monitored by MPPCB under National Water Quality Monitoring Programme (NWMP) programme. pH in upper Lake is always found to be within normal range i.e. 7-8. Dissolved oxygen between 6-9 mg/L, BOD between 2.4 - 2.9 mg/L the total count of coliforms found in the range

Parameters	Minimum	Maximum
pH	7.97	8.10
Conductivity	229	234
COD	06	08
BOD	2.4	2.9
TC/100ml	483	627
FC/100 ml	167	193

of 450-650 MPN/100 ml. The water lies in C category, which is fit for drinking purpose after conventional treatment and for aquatic life.

## 3. Air Environment

The Ambient Air Quality of Bhopal is being monitored regularly by MPPCB under National Ambient Air Quality Monitoring Programme (NAMP) at 06 locations, 05 stations are representing residential and other areas, and 01 station representing industrial activity. In Ambient Air mainly 03 parameters are being monitored on regular basis i.e. Respirable Dust (RSPM) Sulphur Di-oxide (SO<sub>2</sub>) and Oxides of Nitrogen (NO<sub>x</sub>). The values of SO<sub>2</sub> & NO<sub>x</sub> are usually found within the prescribed limits whereas the dust level measured in the form of RSPM found to be beyond the prescribed limits which varies from 30 to 210 µg/m<sup>3</sup>.

The overall trend of air quality of Bhopal city (based on AQI) shows increase in pollution level continuously and moving from Satisfactory to Moderate level. The natural dust, construction activities and vehicular movement are major reasons of dust pollution. The traffic pattern is mixed type along with good public transport system. The free flow of traffic and removal of old/outdated vehicles from road may help in improvement of Air Quality upto certain extent.

## 4. Industrial Pollution

Bhopal district having only one industrial area (Govindpura) where moderately polluting industries are existing along with big set up of major industry BHEL and its ancillaries units in the vicinity. In Govindpura Industrial Area many tiny units are also

working in and around the Bhopal city. Constant vigil is being kept over industrial activities by Regional Office, Bhopal of MPPCB.

## 5. Solid Waste Management

### 5.1. Municipal Solid Waste:

Management of solid waste is an obligatory function of Municipal Council of Bhopal. However, this service is not properly performed, resulting in problems of solid waste management. Lack of financial resources, Institutional weakness, Improper choice of technology, Improper site of solid waste, Lack of trained manpower, Lack of local capacity to plan a proper system and Poor public participation and cooperation are the major factors affecting the effective management of Municipal Solid Waste. With the growth of population and huge influx of the various institutes in the town, the problem of solid waste is increasing day-by-day. The city on an average generates about 800 metric tonne of solid wastes daily which is being collected, transported and disposed by Municipal Corporation at Bhanpur dumping site in indiscriminate manner and causing environmental problems in surrounding area hence there is a need of proper engineered site for disposal of MSW. Bhopal Municipal Corporation is in process of development of new site near Adampur Chhawani.

### 5.2. Sewage Treatment Plants (STPs) in Bhopal:

In Bhopal total sewage generation is 252 MLD out of which about 80 MLD is being treated in 07 STPs located in various parts of the city. The details are as below:

S. No	STP Location	Project installed under	Year of commissioning	Installed Capacity MLD	Technology
1.	Badwai, Bhopal	Bhoj wet land project	2001	16.7	Oxidation Pond
2.	Gondarmau, Bhopal	Bhoj wet land project	2001	2.36	Oxidation Pond
3.	Maholi Damkheda, Bhopal	Bhoj wet land project	2001	25.0	Waste Stabilization Pond
4.	Kotra, Bhopal	Bhoj wet land project	2001	10.0	Waste Stabilization Pond
5.	Ekant Park, Bhopal	NRCP	2008	8.0	Oxidation Pond
6.	Mata Mandir, Bhopal	MP Govt.	1959	4.56	Trickling Filter
7.	Bawaria Kalan, Bhopal	MP Govt.	<b>1975</b>	<b>13.56</b>	Oxidation Pond

### **5.3. Bio Medical Waste Management:**

In Bhopal city there are 383 healthcare facilities generating about 485MT/year of bio-medical waste which is being collected by a common facility known as M/s Bhopal Incinerator Pvt. Ltd. functioning since January 2003 in Govindpura Industrial Area. The facility is having 02 incinerators (100 Kg/hr & 50 Kg/hr) 02 Autoclave, 03 shredders and 11 Waste Collection vehicles. The facility is collecting Bio-Medical Waste from various locations of Bhopal city.

Apart from above common treatment facility one more captive common facility is also operating by M/s People Group of Hospitals for its Bio-Medical Waste Management.

### **6. Hazardous Waste Management**

As per the record of Regional Office, MPPCB, Bhopal the total waste generation is 3878MTPA out of which 663MTPA is landfillable, 416MTPA recyclable, 336MTPA incinerable and 2157MTPA resalable.

In Madhya Pradesh a Common Treatment Storage and Disposal Facility (CTSDF) is functional in Pithampur area of Dhar District where the waste of Bhopal is also being disposed of.

**ENVIRONMENTAL**  
**STATUS**  
**OF**  
**MADHYA PRADESH**

## **(B) ENVIRONMENTAL STATUS OF MADHYA PRADESH**

### **1. General**

Madhya Pradesh represents large river basin and the watershed as catchments of many rivers of India lies in Madhya Pradesh. The river systems carry enormous volume of water and provide drainage for almost a quarter of the land area of the State. Out of 14 major river systems of India, MP constitutes the Upper Catchment of 6 river systems such as Ganga, Yamuna, Narmada, Tapti, Godawari and Mahi. The annual rainfall varies considerably (800-1600mm). Most water course remains dry from January to June. As a result, water availability depends critically on the extent of water storage or ground water.

Madhya Pradesh is a state with population of 72.5 million covering 9.5% of total area of country (308000 sq.km.) The urban population of the state in across 376 Urban Local Bodies (ULBs) which has increased to 20 million in 2011 from 16.1 million in 2001. The urbanization patterns in Madhya Pradesh is quit skewed, only 15 ULBs have population more than 2 lacs while 317 ULBs has population less than 50,000. M.P. State comprising 15 Municipal Corporation, 98 Nagar Palika Parisad and 263 Nagar Parisad and 05 cantonment board

### **2. Common Effluent Treatment Plants (CETPs):**

Only one CETP is established and functional in the state which is located in Govindpura Industrial area. The treatment capacity of CETP is 0.9 MLD based on the Upflow Anaerobic Sludge Blanket (UASB) technology. The CETP is being run by a private limited company comprising various stakeholders of local industries and catering treatment facility to major/medium/small industries of Govindpura industrial area.

### **3. 17 categories of industries:**

In Madhya Pradesh total 81 industries are identified under 17 categories as follows:-

<b>S.No.</b>	<b>Industrial Category</b>	<b>No. of industries</b>
1	Aluminium	1
2	Cement	14
3	Chlor Alkali	2
4	Copper	-
5	Distillery	10
6	Dye & Dye intermediates	-
7	Fertilizer	8
8	Integrated Iron & Steel including Sponge iron	2

9	Oil Refinery	1
10	Pesticide	-
11	Petrochemical	-
12	Pharmaceuticals	17
13	Pulp & Paper	3
14	Sugar	11
15	Tannery	1
16	Thermal Power Plant	11
17	Zinc	-
	<b>Total</b>	<b>81</b>

#### 4. Monitoring of Air & Water Quality Under NAMP & NWMP

##### 4.1 National Ambient Air Quality Monitoring Programme (NAMP)

Total 39 monitoring stations are sanctioned under National Ambient Air Quality Monitoring Programme (NAMP) for monitoring of Ambient Air Quality in Madhya Pradesh. The monitoring work is being carried out through Madhya Pradesh Pollution Control Board and the monitoring data are being sent directly to CPCB head quarter. Central Pollution Control Board regularly publishing the data of ambient air quality.

Based on above monitoring data (2008-2010) 09 cities of Madhya Pradesh have been identified as non-attainment cities namely – Bhopal, Dewas, Gwalior, Indore, Jabalpur, Nagda, Sagar, Satna & Ujjain. State Pollution Control Board has been directed to prepare Air Quality Management Plans for these cities in consultation with various stakeholders i.e. District Administration, Road Transport, Local Administration etc. The details are as below-

State	Regional Office	Sanctioned	Operative	Not yet Operational
<b>NAMP Station in Madhya Pradesh</b>	Ujjain	04	04	--
	Nagda	03	03	--
	Dewas	03	03	--
	Bhopal	07	07	--
	Indore	03	03	--
	Dhar	02	02	--
	Gwalior	02	02	--
	Jabalpur	02	02	--
	Chhindwada	02	02	--
	Sagar	02	01	01
	Satna	02	02	--
	Singrauli	03	03	--
	Shahdol	02	02	--
	Katni	02	02	--



## Air Quality Index

### Air Quality Index Of Madhya Pradesh based on 2014 data

Name of City	Station Code	Location detail	Class of area	AQI 2014
Ujjain	526	Regional Office	Mixed	Moderate
	527	District Office	Industrial	Moderate
	528	Mahakal Temple	Mixed	Satisfactory
	529	Chamunda Mata Chouraha, Nagar Nigam	Mixed	Moderate
Nagda	84	BCI Labour Club Nagda	Residential	Satisfactory
	246	Grasim Kalyan Kendra Nagda	Residential	Satisfactory
Dewas	525	EID Perry (I) Limited	Industrial	Satisfactory
Bhopal	122	Mrignayani Emporiyam, Hamidia Road M.P.	Commercial	Poor
	123	CETP, Govindpura AKVN Bhopal	Industrial	Moderate
	247	Paryawaran Parisar, MPPCB, Bhopal	Mixed	Moderate
	--	AKVN Mandideep Industrial Area	Industrial	Moderate
	--	Kolar Police station, Kolar Road	Residential	Moderate
Indore	127	M/s Indo-German Tool Room Sector-E, Sanwer Road, Indore- 425015	Industrial	Moderate
	128	Secretary, Kothari Market Association, MG Road, Indore- 425007	Commercial	Moderate
	131	MPPCB, Sch. 78/C, Part-2, Aranya, Vijay Nagar Indore- 425010	Residential	Moderate
Gwalior	478	Maharaj bada, Nagar Nigam, post office building	Mixed	Moderate
	479	Deen Dayal nagar, MPPCB, Regional Office, Gwalior	Mixed	Moderate
Jabalpur	248	Plot No. 455/456, Vijay Nagar ,Jabalpur	Residential	Satisfactory
		M/s Udaipur Breweries Rechhai	Industrial	Moderate
Sagar	532	Pt. Deendayal Nagar Housing Board Colony	Residential	Moderate
Satna	342	R.Office MPPCB Dharwari G.No.5 H.No.318	Residential	Moderate
	343	Sub-Divisional Office E/M Light Machinery Satna	Industrial	Moderate

#### **4.2 National Water Quality Monitoring Programme (NWMP)**

Total 155 monitoring stations are identified under National Water Quality Monitoring Programme (NWMP) for monitoring of surface and ground water Quality in Madhya Pradesh. The monitoring work is being carried out through Madhya Pradesh Pollution Control Board and the monitoring data are being sent directly to CPCB head quarter. Central Pollution Control Board regularly publishing the data of water quality. The details are as below-

<b>State</b>	<b>Regional Office</b>	<b>Sanctioned</b>	<b>Operative</b>	<b>Not yet Operational</b>
<b>NWMP stations in Madhya Pradesh</b>	Ujjain	26	26	--
	Bhopal	27	27	--
	Indore	29	29	--
	Dhar	03	03	--
	Gwalior	07	07	--
	Jabalpur	26	26	--
	Sagar	03	03	--
	Satna	03	03	--
	Shahdol	11	11	--
	Guna	10	10	--
	Rewa	10	10	--

#### **5. Common Biomedical waste treatment facilities (CBWTF) :**

In Madhya Pradesh there are 2853 healthcare facilities having 71417 beds generating 9409 kg/day Bio-medical waste. The bio-medical waste is being collected by common bio-medical waste treatment facilities (incineration base) located in various parts of Madhya Pradesh. These common treatment facilities are treating 9140kg/day whereas remaining waste 269kg/day is being disposed through deep burial. The details of Common Treatment Facilities in Madhya Pradesh are given below:-

<b>S. No.</b>	<b>Name of facility</b>	<b>Capacity</b>	<b>No. of HCFs attached</b>	<b>No. of beds covered</b>
1.	M/s Bhopal Incinerator Limited, Bhopal	150 kg/hr	381	9894
2.	M/s Davis Surgico, Gwalior	100 kg/hr	317	4704
3.	M/s Indo water management and Pollution Control corporation, Satna	100kg/hr	429	6437

4.	M/s Environment Protection Corporation, Sehore	150 kg/hr	381	9894
5.	M/s Biomedical waste management System, Ratlam	50 kg/hr	149	2813
6.	M/s Hoswin Incinerator Pvt. Ltd., Indore	550kg/hr	582	9560
7.	M/s Elite Engineer Limited, Jabalpur	100 kg/hr	198	6757
8.	M/s Krupa Waste , Seoni	Closed under section 5		
9.	M/s Chandra Projects, Chhindwara (deep burial)	75600 kg/year	46	1200
10.	M/s MP Biomedical waste disposal system, Sehdol	50 kg/hr	449	8027

Besides the above, M/s Dutt Enterprises Ltd, Agra has also been authorized by MPPCB to collect biomedical waste generated from Morena district and M/s Medical Pollution Disposal Committee, Jhansi to collect the waste from Bina, Shivpuri, Ashok Nagar and Tikamgarh.

#### 6. Hazardous Waste Management:

There is one Common Facility (TSDF) in MP which is located at Pithampur, district Dhar being operated by M/s. Ramky Enviro Engineers Ltd. Hyderabad. The details of the year wise wastes received and disposed in common facility are as below:

Year	Landfill after treatment (MT)	Direct landfill (MT)	Incinerable waste (MT)	Total in MT
2015-16	2127.04	17689.37	3460.70	23277.11
2014-15	3363.03	11512.82	2375.07	17251.39
2013-14	3240.03	10756.39	2338.83	16335.25
2012-13	4964.08	10941.82	1736.73	17642.63
<b>Total</b>	<b>13694.65</b>	<b>50900.4</b>	<b>9911.33</b>	<b>74506.38</b>

#### 6.1 Co-processing of waste:

The hazardous waste is also being used for resource recovery and fuel conservation in terms of co-processing of waste in cement industries. In Madhya Pradesh, 10 cement plants have initiated co-processing of hazardous and plastic waste. Whereas, 02 cement plants namely- M/s Ultratech Cement, Neemuch and M/s ACC Kymore are regularly co-processing the hazardous waste.

## 7. Critically Polluted Areas (CPAs):

During 2009-10, Central Pollution Control Board (CPCB) in collaboration with Indian Institute of Technology (IIT), Delhi had carried out comprehensive environmental assessment of 88 industrial clusters and rated them on the concept of comprehensive environmental Pollution Index (CEPI). The evaluated CEPI score reflect the environmental quality of these industrial clusters and also served as a yardstick to assess the progress achieved in the implementation of action plans. Out of identified 88 industrial clusters, 43 industrial clusters in 16 States having CEPI score 70 and above were identified as Critically Polluted Areas (CPAs).

In Madhya Pradesh Indore was identified as Critically Polluted Areas (CPA). The short and long term remedial action plans were prepared for improvement of overall environmental quality. The action plans are under implementation.

## 8. Sewage Treatment Plants (STPs) :

In Madhya Pradesh state 17 Sewage Treatment Plants are established for treatment and 339.58 MLD sewage is being treated through these sewage treatment plants:

Sl. No.	City/town	STP Location	STP Commissioned in (Year)	STP Installed Capacity MLD	Technology (UASB / ASP / OP / SBR / MBR/ FAB Etc.)
1.	Ujjain	Ujjain	--	52	Waste stabilization pond
2.		Sadaval	2001	53	Karnal Technology
3.	Gwalior	Laltipara	2010	50	Waste stabilization pond
4.	Indore	Kabitkhedi,	2006	78	UASB
5.		Kabitkhedi,	2009	12	UASB
6.	Burhanpur	Burhandpur	2009	6	Oxidation pond
7.	Municipal Corporation Jabalpur	Gwarighat	2012	0.15	FAB
8.	Municipal Corporation Bhopal	Maholi Damkheda	2001	25	Waste stabilization pond
9.		Badwai	2001	17	Oxidation pond
10.		Gondermau	2001	2.36	Oxidation pond

Sl. No.	City/town	STP Location	STP Commissioned in (Year)	STP Installed Capacity MLD	Technology (UASB / ASP / OP / SBR / MBR/ FAB Etc.)
11.		Kotra Singhpur	15/10/01	10	Waste stabilization pond
12.		(NRCP) Ekant Park	2008	8	Oxidation pond
13.		Bawadia Kalan	1975	13.56	Oxidation pond
14.		Bio-Filtration Mata Mandir	1959	4.56	Bio-Filtration Plant
15.	Nagda	Nagda	Not functional		Karnal Technology
16.	Vidisha	Vidisha	2008	7.2	Karnal Technology
17.	Keolari	Keolari	Not functional	0.75	Karnal Technology
Capacity				339.58	

## 9. Plastic Waste Management

Based on the information provided by Madhya Pradesh Pollution Control Board, status of Plastic waste management in Madhya Pradesh is as below:-

Particulars		FY 2013-14	FY 2014-15
Estimated Plastic Waste Generation (TPA)		<b>22973.95</b>	<b>27763.6</b>
No. of registered Plastic Manufacturing/Recycling (including multilayer, compostable) units	Plastic Units	<b>45</b>	<b>28</b>
	Compostable plastic	<b>00</b>	<b>00</b>
	Multilayered Plastic sachets, pouches etc.	<b>04</b>	<b>04</b>
<b>Co-incineration in Cement plant</b>		<b>----</b>	<b>6977.87MT</b>

## 10. Status of installation of Online monitoring system -

For strengthening of monitoring mechanism in highly polluting industries and to keep constant vigil round the clock on emission and discharges, CPCB has issued directions to 17 type highly polluting industries for installation of online continuous emission monitoring system, continuous Effluent monitoring system, magnetic Flow meters and PTZ Cameras. These industries are required to link with the server of SPCBs and CPCB so that constant vigil could be ensured for effective control of Air and Water

Pollution. CPCB has issued 88 directions to various 17 type polluting industries in Madhya Pradesh for installation of online monitoring system.

In Madhya Pradesh 141 Establishments / industries have identified by MPPCB for installation of online monitoring system. The details of installation of online monitoring system and camera are given below:-

S.No.	Particulars	Number
1.	Establishments / industries identified for installation of online monitoring system	141

**Online Effluent Monitoring System (CWEMS)**

2.	Establishments / industries identified for installation of Continuous Effluent Monitoring System (CWEMS)	107
3.	Continuous Effluent Monitoring System (CWEMS) Installed	20

**Online Source Emission Monitoring System (CSEMS)**

4.	Establishments / industries identified for installation of online Source Emission Monitoring System (CSEMS)	92
5.	Online Source Emission Monitoring System (CSEMS) Installed	63

**Online Camera (IP Camera)**

6.	No. of Industries installed IP camera	45
7.	Number of IP camera installed in 45 industries	47

**Continuous Ambient Air Quality Monitoring System (CAAQMS)**

8.	No. of Industries installed CAAQMS	27
9.	Number of CAAQMS installed in 27 industries	63

## 11. Polluted River Stretches

The water quality management is one of the important components of Environmental Management. Increasing demand of water for human consumption, irrigation and growing industrial activities has impacted the water quality of rivers due to declining close in the river and depleting water levels of sub-surface resources.

Water quality data on rivers is being monitored by State Pollution Control Board under National River Water Quality Monitoring Programme (NWMP) and based on the data generated the river stretches are identified as Priority-I to Priority-V considering Bio-chemical Oxygen Demand (BOD) as principal parameter. CPCB has identified 302 polluted stretches on 275 rivers in 27 states and 02 Union Territories in country.

In Madhya Pradesh 21 river stretches are identified in Priority–I to V based on value of BOD parameter.

<b>Priority</b>	<b>River</b>	<b>River Stretch</b>
I (BOD>30mg/l)	Khan	Kabitkhedi to Khajraja, Indore
	Chambal	Nagda d/s to Rampura
	Betwa	Mandideep to Vidisha
	Wainganga	Seoni to Jabalpur
II (BOD>20-30mg/l)	Kshipra	Siddhawati to Triveni Sangam Ujjain
III (BOD>10-20mg/l)	Denwa	Dhupgarh to Sarni
	Kolar	Suraj Nagar to Sirdipuram
IV (BOD>6-10mg/l)	Kaliasot	Mandideep to Samardha
	Narmada	Mandla to Nemawar
V (BOD>3-6mg/l)	Tons	Chak Ghat to Chappra
	Tapi	Nepanagar to Burhanpur
	Shivna	Mandsaur to Mallaiyakhedi
	Parwati	Batawada to Pilukhedi
	Maleni	Jaora to Barauda
	Kunda	Khargone to Khedi Khurd
	Jammer	Dholowad to Raoti
	Gour	Jabalpur to Salaiwada
	Gohad	Gohad dam to Gormi
	Chillar	Sajapur to Muradpura
	Bichia	Silpari to Gadhwara
	Banjar	Malajkhand to Tingipur

## 12. E-waste Management

The electrical and electronic waste (e-waste) is one of the fastest growing waste streams in the world. The increasing “market penetration” in developing countries, “replacement market” in developed countries and “high obsolescence rate” make e-waste as one of the fastest growing waste streams. Environmental issues and trade associated

with e-waste at local, trans-boundary and international level has driven many countries to introduce interventions.

In accordance with the National Environmental Policy (NEP) and to address sustainable development concerns, there is a need to facilitate the recovery and/or reuse of useful materials from waste generated from a process and/or from the use of any material thereby, reducing the wastes destined for final disposal and to ensure the environmentally sound management of all materials. The NEP also encourages giving legal recognition and strengthening the informal sectors system for collection and recycling of various materials. In particular considering the high recyclable potential of e-waste such wastes should be subject to recycling in an environmentally sound manner.

E-waste comprises of wastes generated from used electronic devices and house hold appliances which are not fit for their original intended use and are destined for recovery, recycling or disposal. Such wastes encompasses wide range of electrical and electronic devices such as computers, hand held cellular phones, personal stereos, including large household appliances such as refrigerators, air conditioners etc. E-wastes contain over 1000 different substances many of which are toxic and potentially hazardous to environment and human health, if these are not handled in an environmentally sound manner.

Ministry of Environment, Forests & Climate Change, Govt. of India had notified E-Waste (Management & Handling) Rule in 2011 which is effective from on 01<sup>st</sup> May, 2012 which are applicable to every producer, consumer or bulk consumer involved in the manufacture, sale, purchase and processing of electrical and electronic equipments or components specified in schedule-I, collection centre, dismantler and recyclers of E-waste.

Ministry of Environment, Forests & Climate Change, Govt. of India has further notified E-Waste (Management) Rules, 2016, which shall come into force from the 1st day of October, 2016. These rules shall apply to every manufacturer, producer, consumer, bulk consumer, collection centres, dealers, e-retailer, refurbisher, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment listed in Schedule-I, including their components, consumables, parts and spares which make the product operational.



In Madhya Pradesh, M.P. Pollution Control Board the E-waste is being managed through various waste collection centres, dismantlers and recyclers given as below:-

S. No.	Name of centre	Capacity in MT/Annum	Dismantler	Recycler	Collection Centre
01	M/s Unique Eco Recycler, Indore	15.0	✓	✓	--
02	M/s Unique Eco Recycler(collection centre), Indore	120.0	--	--	✓
03	M/s Hostech Eco Management Pvt. Ltd, Indore	7020.0	✓	--	--
04	M/s Global E-Waste collection centre, Indore	5.0	--	--	✓
05	M/s Best IT Word (India Pvt. Ltd, Indore)	0.72	--	--	✓
06	M/s Bharti AirtelLtd., Indore	6.0	--	--	✓
07	M/s Attero recycling Pvt Ltd., Indore	300.0	--	--	✓
08	M/s Dalit Enterprises, Bhopal	15.0	--	--	✓
09	M/s Madiha Referigeration & Scrap Works, Bhopal	6000.0	--	--	✓
10	M/s Sarthak Samudayik Vikas Avam Jan Kalyan Sangathan, Village-Deewavganj, District-Raisen	60.0	--	--	✓
11	M/s Green Earth Recycling, Bhind	2400.0	✓	--	✓
12	M/s Manmohan Kochar, Jabalpur	600.0	--	--	✓
13	M/s Green City E-Waste Centre, Rewa	5.0	--	--	✓
14	M/s J.S. Pigments Pvt. Ltd., Bhopal	15.0	--	--	✓
15	M/s Bharat Enviro Safe Corporation, Gwalior	5.0	--	--	✓
16	M/s Rauf Enterprises Pvt. Ltd., Village-Sarakiya, Thesil-Goharganj, Ditt-Raisen	150.0	--	--	✓