

Information for Study Visit of the Department - related  
Parliamentary Standing Committee  
on Science & Technology, Environment & Forest to  
Udaipur & Mount Abu from 28<sup>th</sup> June to 1<sup>st</sup> July, 2016



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

# Environmental Status of Rajasthan

## 1.0 General

Rajasthan is the largest State in the country. The Aravali Range, running from northwest to southeast, divides the state diagonally into two distinct regions, the western arid region and the eastern semi-arid region. Over 61 percent of the State, mostly in the western part is desert. The State has only 1.1 percent of India's total water resources as against 10.5% of the country's geographical area and 5.5% of the country's population. Except for the Chambal, the 13 other rivers of the State are non-perennial. Precipitation is scanty, and constitutes the only source of annually renewable water supply. As such, the State is prone to frequent droughts. Rajasthan has vast mineral reserves of metallic and non-metallic minerals such as zinc, lead, copper, limestone, marble, granite, gypsum, and also lignite, petroleum and natural gas reserves. The State industrial policies have progressively sought to exploit these resources by promoting mining and mineral-based industries. In the industrial sector, the small-scale industries have shown significant growth which includes primarily textile dyeing and printing, small mining leases, stone crushers, cement kilns, and agro-processing units.

## 2.0 Textile industries:

Textile processing units are operating in clusters and contributing lot of wastewater. These units are located at Pali (approx 551 units), Balotra (approx 400 units), Jasol (approx 69 units), Bithuja (approx 214 units), Jaipur (approx 250 units), Jodhpur (approx 227 units), Bhilwara (approx 35 units) and Bhiwadi (approx 05 units). The wastewater generated from these units have been treated in the common effluent treatment facilities (CETPs).

## 3.0 Common Effluent Treatment Plants (CETPs):

CETPs are established in the industrial areas of Pali, Balotra, Jasol, Bithuja, Jaipur, Jodhpur, and Bhiwadi in the State. There are 14 CETPs in Rajasthan which are located at Pali (5), Balotra (3), Jasol (2), Bithuja(1), Jodhpur (1), Bhiwadi (1) and Manpur Macheri (1). The details of the CETPs are as given below:

S. No	CETPs	Capacity (MLD)	Type of industry Connected	Treatment System
1.	CETP-1 Mandia Road, Pali	5.2	Textile Industry	ASP
2.	CETP-2 Mandia Road, Pali	8.4	Textile Industry	ASP
3.	CETP-3 Punayata Road, Pali	9.08	Textile Industry	ASP
4.	CETP-4 Punayata Road, Pali	12	Textile Industry	ASP
5.	CETP-6 Punayata Road, Pali	12	Textile Industry	ASP
6.	CETP-1 Balotra, Barmer	6.0	Textile Industry	ASP
7.	CETP-2 Balotra, , Barmer	12	Textile Industry	ASP

8.	CETP-3 Balotra, Barmer	18	Textile Industry	SBR
9.	CETP, Jasol, , Barmer	2.5	Textile Industry	ASP
10.	CETP, Jasol, , Barmer	4	Textile Industry	SBR
11.	CETP, Bithuja, , Barmer	30	Textile Industry	Stabilization Pond
12.	CETP, S.P.I, Sangaria Industrial Area, II Phase, Jodhpur	20	Textile and Steel Re-rolling Mill	ASP
13.	CETP, RIICO Industrial Area, Bhiwadi, Alwar	6	Water Polluting Industries and Residential colonies	ASP
14.	Manpur Macheri, Jaipur	0.6	Leather Processing Units	ASP

#### 4.0 Status of Marble slurry disposal:

Rajasthan is the richest state in the country with regards to marble deposits (1100 Million Tons) both in quality & quantity. Around 4000 marble mines and 1100 marble processing units, spread over 16 Districts out of 33 Districts of Rajasthan. The important regions of marble deposits are Udaipur - Rajsamand - Chittorgarh region, Makrana - Kishangarh region, Banswara - Dungarpur region, Andhi (Jaipur) - Jhiri (Alwar) region and Jaisalmer region.

The marble slurry generated through processing units was collected improperly & dumped at any abandoned land and near the roadsides. This practice is adopted by units near to Chittorgarh, Nimbahera, Neemuch & Shahpura (Alwar) areas. However, due to Government orders on control of environmental pollution & public awareness, these kinds of activities have reduced & now the local Marble Associations have identified the disposal sites and the generated slurry is disposed through tankers at identified sites.

About 1100 marble processing units all over the Rajasthan are generating around 5-6 Million Metric Tons of slurry every year. To manage this huge inorganic & non-hazardous waste in gainful/productive use, options were explored. Various stages/options of utilization of marble slurry are as below:

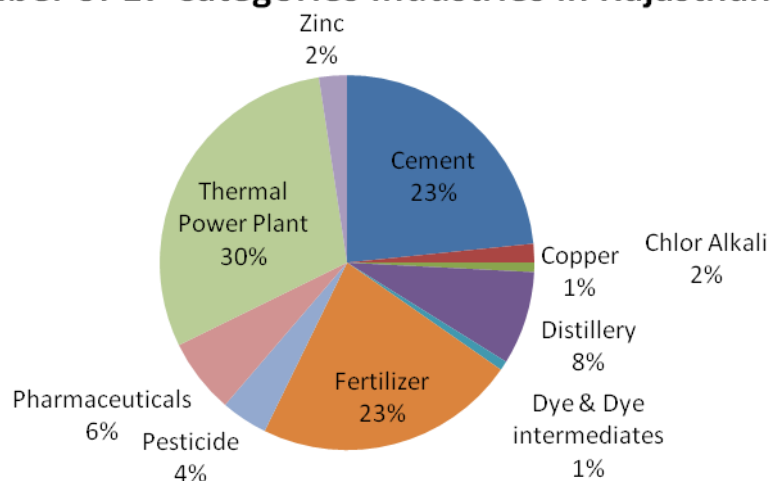
- Utilization of marble slurry in cement manufacturing
- Production of synthetic gypsum through chemical reaction with marble slurry
- Utilization of Marble slurry dust (MSD) in road construction
- Utilization of Marble slurry as a Low Cost Binder
- Utilization of marble slurry in brick manufacturing
- Utilization of marble slurry powder in mineral grinding plants

### 5.0 Status of 17 categories of industries:

Out of total 124 highly polluting 17 Category of industries 29 are cement manufacturing units, 26 fertilizers, 10 distilleries and 37 Thermal power plants. The details of the industries are as follows:

S.No.	Industrial Category	No. of units
1	Aluminium	-
2	Cement	29
3	Chlor Alkali	2
4	Copper	1 (Closed)
5	Distillery	10
6	Dye & Dye intermediates	1
7	Fertilizer	28
8	Intergrated Iron & Steel including Sponge iron	-
9	Oil Refinery	-
10	Pesticide	5
11	Petrochemical	-
12	Pharmaceuticals	8
13	Pulp & Paper	-
14	Sugar	-
15	Tannery	-
16	Thermal Power Plant	37
17	Zinc	3
<b>Total</b>		<b>124</b>

### Number of 17 Categories Industries in Rajasthan



**The status of the CPCB directions dated 05.02.2014 regarding CEMS/CWQEMS**

Central Pollution Control Board issued directions to 151 highly polluting industries for CEMS/CWQEMS installation. Out of 151 industries, 121 industries have installed the system while 30 industries are in process of installation.

**6.0 Monitoring of Air and Water quality under NAMP &NWMP**

24 stations under NAMP and 126 stations under NWMP are being operated for monitoring of Air and Water quality, besides monitoring of the ground water quality. All the lakes and rivers are also covered under NWMP programme.

NAMP	City	Sanctioned	Operative	Not yet Operational	Proposed
<b>(Sanctioned-33; Operational-24)</b>	Alwar	03	03	--	--
	Jaipur	09	06	03	--
	Jodhpur	09	06	03	--
	Kota	06	03	03	--
	Udaipur	03	03	--	--
	Bhiwadi	03	02	01	--
	Bharatpur	--	01	--	02

The non- operative stations will be started very shortly i.e. July,2016.

Besides above NAMP stations, presently 2 nos of Continuous Ambient Air Quality Monitoring Stations (CAAQMS) at Jaipur and Jodhpur are also operating and eight more CAAQMS ( two at Jaipur and one each at Alwar, Ajmer, Bhiwadi, Kota, Pali & Udaipur) will be in operation up to Nov., 2016.

**Non-Attainment Cities:**

Based on the Ambient Air Quality data of 2008-15, five cities of Rajasthan are identified as non-attainment cities. The status of action plan is as below:

Non-attainment cities identified	Action Plan prepared by RSPCB
Jaipur	➤ The State Board has requested to following authorities vide letter dated 18.01.2016 (Copy enclosed at Annexure-A) to take measures for improvement of Ambient Air Quality in Jaipur, Jodhpur, Udaipur, Kota and Alwar Cities-  1. Commissioner, Department of Transport,
Jodhpur	
Udaipur	
Kota	

Alwar	<p>Government of Rajasthan, Jaipur.</p> <ol style="list-style-type: none"> <li>2. Additional Chief Secretary, Urban Department and Housing, Government of Rajasthan, Jaipur.</li> <li>3. Principal Secretary, Local Self Govt., Government of Rajasthan, Jaipur.</li> <li>4. Principal Secretary, Department of Agriculture, Government of Rajasthan, Jaipur.</li> <li>5. Principal Secretary, Department of Food &amp; Supply, Government of Rajasthan, Jaipur.</li> </ol> <p>➤ Department of Transport, Local Self Govt. Department, Department of Agriculture and Department of Food &amp; Supply has issued directions to various stake holders to take necessary actions vide letter dated 03.03.2016, 16.02.2016, 01.02.2016 and 19.02.2016 respectively (Copy Enclosed at Annexure-B).</p>
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### Status of Water Quality

Region	Number of NWMP stations	Water quality based on DO, BOD, TC & FC			Assessment for the months of
		Satisfactory	Not satisfactory	Not Done or assessed	
Rajasthan	128	59	46	23	April 2016

### Polluted River Stretches

Earlier CPCB has identified 08 stretches of river i.e. Banas, Kalisindh, Chambal , Parvati, Chappi, Jawai, Ujad and Ghaggar as polluted based on the BOD values and categorized in 05 priorities as under:-

Identified Polluted Stretch	Priority				
	I	II	III	IV	V
01	-	-	-	-	1

Priority	Identified polluted Rivers
I (BOD >30mg/l)	Banas
II (BOD 20-30mg/l)	Kalisindh
III(BOD 10-20mg/l)	Parvati

IV(BOD 6-10mg/l)	---
V(BOD 3-6mg/l)	Chambal, Chappi, Jawai, Ujad and Ghaggar

The data enclosed at **Annexure-C** for last five year revealed that most of the times BOD values in all the river stretches were found less than 3 mg/l whereas only in river Chambal the BOD value were found between 3mg/l to 6 mg/l two times at Rangpur, five times at Keshoraipatan near Rajrajeshwar Mahadev Temple and most of the times at Keshoraipatan near Ambedkar Nagar. The BOD values were found 15.36 at river Parvati one time, 3-6 mg/l at Bisalpur Dam three times, 3-6 mg/l at river Ujad one times, 3.2 mg/l on 27.07.2011, 26.88 mg/l on 30.07.2014 & 7.68 mg/ on 30.07.2012 at river Kalisindh and 4.6 mg/l on 19.04.2011 at river Gaggar.

In view of above the priorities of polluted river stretched may be revised.

#### 7.0 Common Biomedical waste treatment facilities:

11 CBWTFs were established in Rajasthan and are located at Jaipur, Udaipur, Jodhpur, Alwar, Bikaner, Hanumagarh, Jhalawad, Kota and Ajmer. At present 9 CBWTFs are in operation

S.No.	Name of facility	Capacity	No. of HCFs attached	No. of beds covered
1.	M/s Hoswin Incinerators, Alwar	100 kg/hr	381	8502
2.	M/s Instromedix Pvt Ltd., Jaipur	250 kg/hr	1041	13354
3.	M/s Rajputana Biotech Pvt. Ltd. Jaipur *			
4.	M/s Sales Promoters Jodhpur	100 kg/hr	287	8010
5.	M/s Sales Promoters, Ajmer	100 kg/hr	294	7863
6.	M/s E-Tech Projects, , Hanumangarh	100 kg/hr	376	5087
7.	M/s E-Tech Projects, Bikaner	100 kg/hr	175	5086
8.	M/s Hoswin Incinerators, Jhalawar	100 kg/hr	67	2660
9.	M/s En-vision Enviro Engineer(P) Ltd, Udaipur	50 kg/hr	311	8707
10.	M/s Hoswin Rajputana Incinerators, Sawai Madhopur *			
11.	Rajdeep Biotech, Village Borabas, Distt Kota	50Kg/hr	218	2510

- Closed at present

Besides the above, M/s Dutt Enterprises Ltd, Agra has also been authorized to collect biomedical waste generated from Dholpur District. In all the facilities waste is normally required to be segregated at the site due to improper segregation at source by the HCFs. These facilities are being monitored regularly for compliance verification.

## 8.0 Municipal Solid Waste Management

Solid Waste generation in the state is estimated to be 5037 Tons per day; out of which 2491 Tons/day is collected and treated 490 Tons/day. The state identified **190** municipal authorities [class I: 41 cities, class II: 13 towns, class III: 58 towns and Class IV: 78 towns]. Municipalities have developed 25 Secured Land Fills (SLFs) and 7 compost plants including the cities of Ajmer, Bhilwara, Bikaner, Jaipur, Jodhpur, Kota & Udaipur. Out of 13 class-II town/cities, in **7** Municipal Authorities invited bid documents (DPR) for integrated solid waste management.

### 9.0 Hazardous Waste Management:

- **TSDFs:** There are two TSDFs in Rajasthan located at Gudli (Udaipur) and Pachpadra (Balotra). About 623 industries have taken membership from UCCI in which 285 units are sending waste to TSDF Udaipur. The remaining units are either sending their waste to newly commissioned TSDF at Balotra or giving for co-processing to cement plant in Rajasthan.
- **Co-processing:** There are 10 Cement Plants which have initiated co-processing of hazardous and non-hazardous wastes and till 2015 about **13,16,496 MT** of Hazardous waste and other non-hazardous waste has been co-incinerated in cement kilns in Rajasthan.
- **Captive SLFs and Incinerators:** There are 16 captive SLFs and incinerators in Rajasthan for reuse of hazardous waste as AFR or disposal to the TSDF for safe handling. Previously Continental Petroleum Ltd., Behror was only a captive incinerator having capacity of 5000 TPA but the utilization was only 10% of the installed capacity. Therefore this incinerator was allowed to incinerate the incinerable waste of other similar industries also.

### 10.0 Management of Sewage

The state board has identified total 72 STPs in cities/towns of Rajasthan ,it includes operational 18 STPs of 8 major cities i.e. Jaipur, Jodhpur, Alwar ,Udaipur, Bikaner, Sawai Madhopur, Pali and Bhilwara.. There are 15 STPs under construction and 39 STPs proposed in the cities/ towns of Rajasthan under various projects. The details of 18 operational STPs are as follows

Sr. No.	District	Project Proponent	Area	Capacity	Status
1	Jaipur	JMC	Amer Road	27	Operational
2	Jaipur	JMC	Delawas-I	62.5	Operational
3	Jaipur	JMC	Delawas-II	62.5	Operational
4	Jaipur	JMC	JaisinghPura Khor	50	Operational
5	Jaipur	JDA	Jawahar Circle	1	Operational
6	Jaipur	JDA	JDA Ramniwas Garden	1	Operational



7	Jaipur	JDA	Gajodhar Pura	30	operational
8	Alwar	PHED	Agayara Ramgarh	20	operational
9	Alwar	UIT	Bhiwadi	4	operational
10	Jodhpur	JMC	PHED Nandari	20	operational
11	Jodhpur	JMC	Salawas	50 (Phase-I)	operational
12	Sawaimadhopur	PHED,	Sawaimadpur	10	operational
13	Pali	Municipal Council	Near ESI Hospital, Mandia Road	7.5	operational
14	Bikaner	M. Corporation	Vallabha Garden	20	operational
15	Bhilwara	Constructed and operated by Jindal Saw Ltd	Bhilwara Sewage	5.5	operational
16	Udaipur	HZL+ Municipal Council	Eklingspura, Udaipur	20	operational
17	Bhilwara	Jindal Saw Ltd	Bhilwara Sewage	4.5	operational
18	Jaipur	JDA	Swaran Jayanti Park, Vidyadhar Nagar	1	operational

**The Status of Sewage generation, collection & treatment in year 2014-15 is as follows:**

Name of the City	Sewage			% Gap in		Final Disposal
	Generation (MLD)	Collection (MLD)	Treatment (MLD)	Collection	Treatment	
Kota	108	20	20	82%	82%	Chambal River
Jaipur	270	234	234	13%	13%	Used in irrigation
Jodhpur	160	135	70	16%	56%	Jojri River

### 11.0 Critically Polluted Areas.

There are 3 Critically Polluted Areas (CPA) in Rajasthan i.e. Bhiwadi, Pali and Jodhpur. The CEPI values of these areas are as given in the table:

Particulars	Details of CPAs		
	Bhiwadi	Jodhpur	Pali
Critically polluted Areas			
	CEPI Value		
2009	82.91	75.19	73.73
2011	77.73	78.2	85.26
2013	70.63	<b>78.0</b>	<b>82.71</b>

The concept of CEPI has been revised with new version of CEPI (2016) and State Pollution Control Boards have been directed to initiate Air & Water quality monitoring in respective industrial areas for evaluation of CEPI score with new formula.