CPCB BULLETIN

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CENTRAL POLLUTION CONTROL BOARD

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MESSAGE FROM CHAIRMAN

The CPCB is the apex body for control and abatement of various forms of pollution. It monitors air, water, noise and other forms of pollution throughout the country. A need has been felt that the work done by CPCB be brought in public domain for the benefit of all stakeholders. Accordingly, CPCB Bulletin is being brought out as a monthly document, which shall cover data related to air and water quality, pollution abatement in rivers, development of emission standards, compliance related activities, landmark judgements and important public events.

Air quality trends, including the Air Quality Index and Good Days/Bad days w.r.t air quality, in million plus cities have been highlighted in the section on air quality. Segmental approach and various initiatives taken for pollution abatement in river Ganga have been detailed in the section on river Ganga. Progress in implementation of CPCB's Direction related to installation of CEMS have been detailed in the section on CEMS. Other important issues covered in this bulletin include the major decisions taken during the 60th Conference of Chairmen/Member Secretaries of SPCBs/PCCs, revamping of CEPI criteria, re-categorisation of industries and development of emission / effluent standards for various sectors.

It is hoped that this initiative will serve a useful purpose for the society.

Chairman

CONTENTS

1.0 AIR QUALITY

Background

The National Ambient Air Quality Standards, 2009 were notified on November 18, 2009 covering 12 parameters namely PM_{10}, $PM_{2.5}$, SO_2, NO_2, O_3, NH_3, CO, As, Ni, Pb, Benzene &Benzopyrene. For monitoring the ambient air quality in the country, Central Pollution Control Board has established a monitoring network-National Ambient Air Monitoring Programme (NAMP), which presently comprises of 614monitoring stations covering257 cities in 29 states & 5 UTs. Under NAMP three major pollutants viz. PM_{10} (Particulate Matter having an aerodynamic diameter less than or equal to 10 μm), Sulphur dioxide (SO_2) and Nitrogen dioxide (NO_2) have been identified for regular monitoring at all locations.

Monitoring ofAir Qualityin million plus Citiesduring 2015

- According to the 2011 Census, there are 46 cities with population more than one million in India, termed as "million-plus" cities. In the 46 million plus cities, the air quality is monitored at 205 operating monitoring stations. Of these 46 million plus cities, air quality data for 2015 is available for 41 cities (except for Ranchi, Meerut, Srinagar, Kalyan-Dombivili& Vasai Virar).

- Also in some cases, there is considerable timelag in generation of data by SPCBs/PCCs and its receipt at CPCB.

Air Quality Index

- The Air Quality Index has been launched for effective communication of air quality status to people in terms, which are easy to understand, transforms complex air quality data of various pollutants into a single number (index value), nomenclature and colour. There are six AQI categories, namely Good, Satisfactory, Moderately polluted, Poor, Very Poor, and Severe.

- As per the AQI calculated for 41 million plus cities based on available air quality data, 48% of AQI values can be categorized as moderate category, 32% as satisfactory and 1% as severe (Fig 1).

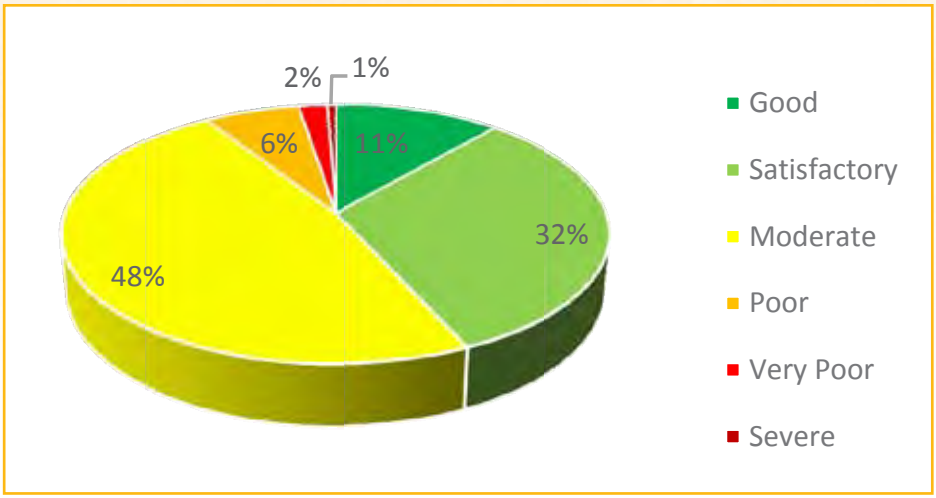


FIG 1: AQI FOR MILLION PLUS CITIES DURING 2015

Good days/ Bad dayw.r.t Air Quality

- The monitoring days whereinthe values of all the monitored parameters are within the prescribed norms are considered as good days while remaining monitoring days when value of one or the other parameter exceeds the norms are categorised as bad days.
- As per the monitored air quality data of 41million plus cities during 2015, 42% of the total monitoring days can be categorised as good days while remaining days as bad days (Fig 2). Citywise details of good days is given in Table 1.
- Two cities with highest number of good days are Coimbatore and Rajkot and Ahmedabad while the two cities i.e., Gwalior& Allahabad have the least number of good days.
- Most cities have recorded high percentage of good days during monsoon season and low percentage of good days during winter season.
- Coastal cities have recorded higher percentage of good days compared to the land locked cities.
- The southern/western cities have recorded higher percentage of good days, which can be due to variation in the local meteorological &geographical conditions including topography, type of soil, vehicular density etc.

TABLE 1: GOOD DAYS VS TOTAL MONITORING DAYS IN 41 MILLION PLUS CITIES				
STATE	City	No. of Good days	Total no. of monitoring days	% Good days
TAMIL NADU	Coimbatore	156	157	99
GUJARAT	Rajkot	46	48	96
GUJARAT	Ahemdabad	156	168	93
TAMIL NADU	Madurai	163	176	93
ANDHRA PRADESH	Vishakapatnam	659	716	92
GUJARAT	Surat	66	72	92
TAMIL NADU	Chennai	519	567	92
GUJARAT	Vadodara	82	96	85
MAHARASHTRA	Aurangabad	132	173	76
MAHARASHTRA	Nashik	258	359	72
MAHARASHTRA	Ambernath	81	121	67
MP	Jabalpur	105	165	64
MP	Indore	150	238	63
TELANGANA	Hyderabad	407	668	61
MAHARASHTRA	Mumbai	32	53	60
MAHARASHTRA	Pune	101	171	59
WEST BENGAL	Kolkata	417	766	54
MAHARASHTRA	PimpriChinchwad	90	166	54
HARYANA	Faridabad	40	79	51
RAJASTHAN	Kota	107	232	46
MAHARASHTRA	Nagpur	168	377	45
MAHARASHTRA	Thane	69	181	38
KARNATAKA	Bangalore	254	693	37
JHARKHAND	Dhanbad	43	129	33
PUNJAB	Ludhiana	142	460	31
RAJASTHAN	Jodhpur	171	617	28
RAJASTHAN	Jaipur	140	524	27
WEST BENGAL	Howrah	27	104	26
ANDHRA PRADESH	Vijaywada	45	252	18
UTTAR PRADESH	Agra	28	165	17
MP	Bhopal	50	299	17
PUNJAB	Amritsar	26	182	14
MAHARASHTRA	Navi Mumbai	37	296	13
UTTAR PRADESH	Kanpur	85	730	12
DELHI	Delhi	24	535	4
UTTAR PRADESH	Ghaziabad	5	127	4
UTTAR PRADESH	Lucknow	15	566	3
CHHATTISGARH	Raipur	1	55	2
UTTAR PRADESH	Varanasi	0	227	0
MP	Gwalior	0	136	0
UTTAR PRADESH	Allahabad	0	263	0
TOTAL		**5097**	**12109**	**42**

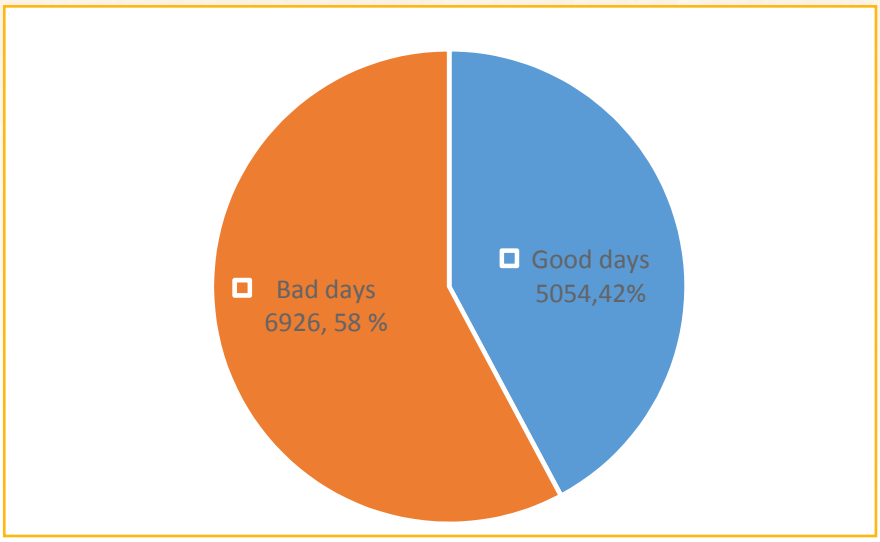


FIGURE 2: GOOD DAYS VS BAD MONITORING DAYS IN 2015

2.0 WATER QUALITY

Background

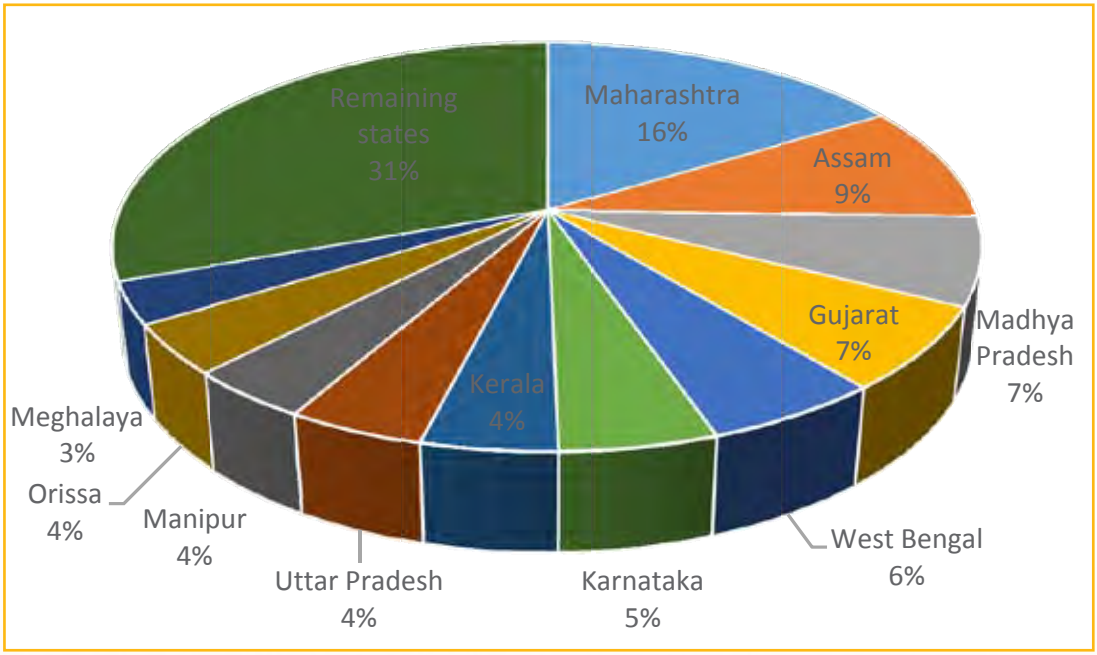
- Central Pollution Control Board (CPCB) is monitoring the water quality of aquatic resources across the country under a three-tier programme i.e. Global Environmental Monitoring System (GEMS), Monitoring of Indian National Aquatic Resources System (MINARS) and Yamuna Action Plan (YAP). The present water quality monitoring network comprises of 2500 stations covering 28 States and 6 Union Territories across the country.

Water Quality Monitoring

- The parameters monitored include Total Coliforms Organism, pH, Dissolved Oxygen &Biochemical Oxygen Demand.
- Maharashtra, Madhya Pradesh & Kerala have the highest number of river monitoring stations while Delhi, Haryana & Puducherry have the least number of river monitoring stations.
- Based on the long term assessment of water quality data, 275 rivers out of 445 rivers monitored under National Water Monitoring Programme are identified as polluted.

Polluted River Stretches

- The river stretches not meeting the prescribed criteria are designated as polluted stretches. As the level of BOD varies widely in river stretches the same polluted stretches are prioritized in five categories i.e. Priority Class I to Priority Class V based on BOD load. BOD > 30 mg/l, BOD between 20&30 mg/l, BOD between 10&20mg/l, BOD between 6-10 mg/l and BOD between 3 & 6 mg/l.
- Out of the 302 identified polluted river stretches – 34 are in Priority Class – I, 17 in Priority Class – II, 36 in Priority Class – III, 57 in Priority Class – IV and 158 are in Priority Class – V.
- Maximum percentage of polluted river stretches are in the states of Maharashtra, Assam & Madhya Pradesh (Fig 3)



Sewage generation and treatment

- During 2015,theestimated sewage generation in the country was **61754** MLD as against the developed sewage treatment capacity of **22963 MLD**. Because of the hiatus in sewage treatment capacity, about **38791** MLD of untreated sewage (62% of the total sewage) is discharged directly into nearby water bodies (Fig-4)

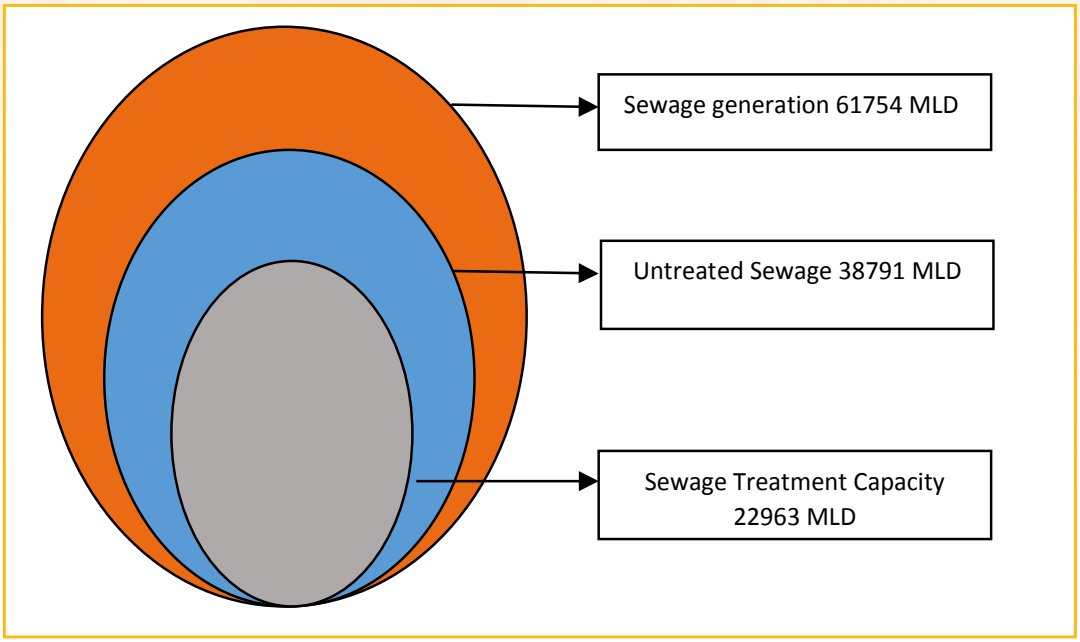


FIGURE 4: STATUS OF SEWAGE GENERATION AND TREATMENT

- The five states viz Maharashtra, Tamil Nadu, Uttar Pradesh, Delhi & Gujarat account for approximately 50% of the total sewage generated in the country. Maharashtra alone accounts for 13% of the total sewage generation in the country (Fig 5).
- Maharashtra, Gujarat, Delhi , Uttar Pradesh & Gujarat account for 67% of the total sewage treatment capacity installed in the country.

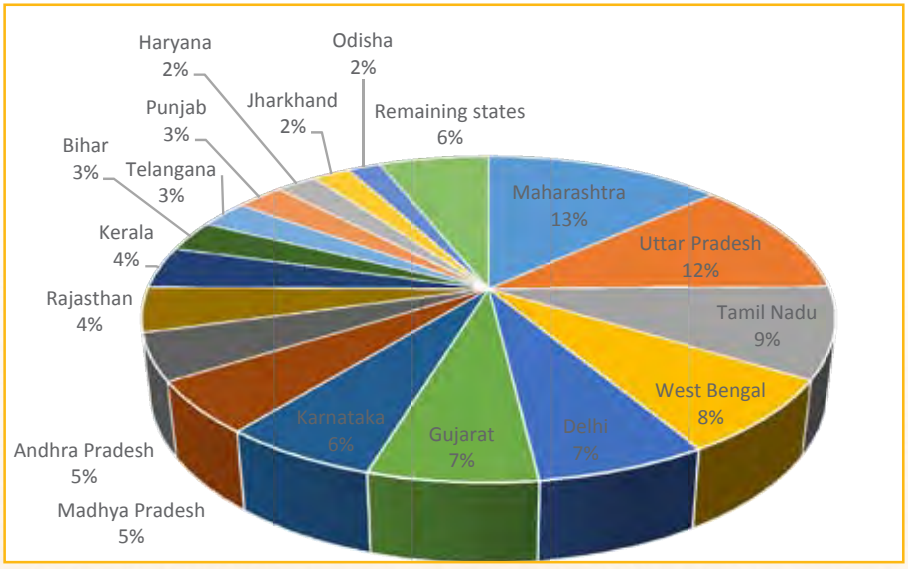


FIGURE5: STATEWISE PERCENTAGE GENERATION OF SEWAGE

- No sewage treatment plant has been established in seven states/UTs viz. Arunachal Pradesh, Chhattisgarh, Daman Diu, Nagaland , Assam & Tripura.
- The capacity of STPs installed in the two states viz. Himachal Pradesh & Sikkim is adequate to treat the total quality of sewage generated in these states.

Overall pollution load assessment

- BOD is the primary pollutant which is considered for assessing the quality of surface water in India.
- BOD is contributed both by domestic and industrial waste water.
- Uttar Pradesh, West Bengal and Tamil Nadu contribute maximum BOD load into surface water bodies, mainly rivers (Figure 6).
- Overall BOD load discharged into the surface water bodies has been assessed as 14352.7 TPD out of which less than 1% is contributed by industries.

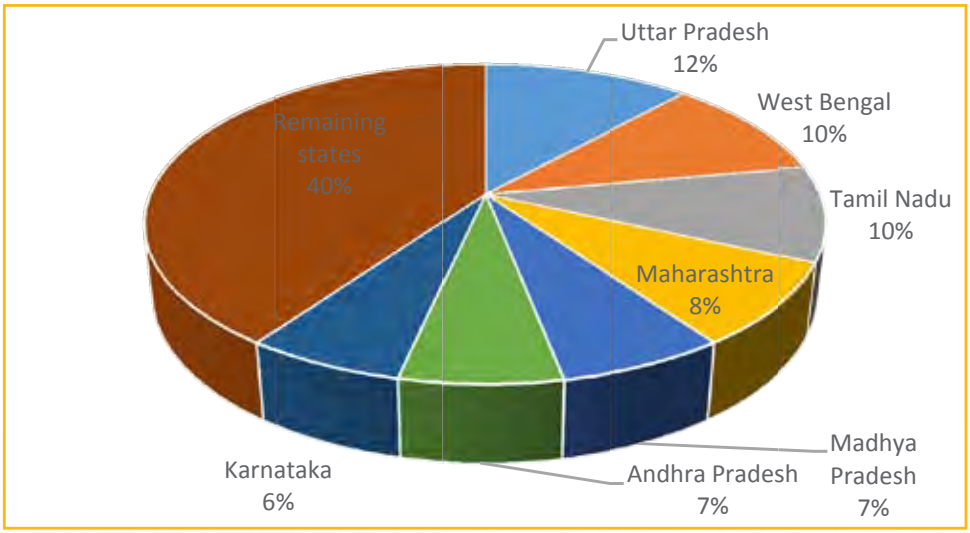


FIGURE 6 : STATEWISE PERCENTAGE CONTRIBUTION OF BOD LOAD

3.0 POLLUTION ABATEMENT IN RIVER GANGA

Background

- The Ganga basin, the biggest river basin in India, accounts for a little more than one-fourth (26.3%) of the country's total geographical area, covers the

entire states of Uttarakhand, Uttar Pradesh (UP), Bihar, Delhi, and parts of Punjab, Haryana, Himachal Pradesh, Rajasthan, Madhya Pradesh, and West Bengal.

Water Quality Monitoring

- CPCB is assessing the river water quality at 57 locations in the 5 Ganga States.
- The core water quality parameters studied are temperature, pH, conductivity, dissolved oxygen (DO), biochemical oxygen demand (BOD), nitrate, nitrite, total coliforms (TC), and faecal coliforms (FC). Besides, several other location-specific parameters like pesticides & heavy metals are also monitored.

Segmental Approach for River Ganga

- Based on understanding and assessing the hydro geological status of river and knowing the problem in-terms of pollution, river Ganga has been divided into seven segments (Fig 7).

Water Quality of River Ganga

- Assessment of water quality data for the year 2015 indicates that the river water quality conforms to notified mass bathing criteria with regards to BOD (< 3.0 mg/l) at 35 out of 55 stations monitored. The water quality confirms to the specified criteria of FC < 2500 at 15 out of 35 stations monitored.
- DO levels are confirming to the specified water quality criteria for the entire river stretch.
- BOD levels do not confirm to the specified water quality criteria in Segment IIIA(Narora to Kanpur) , IIIB(Kanpur to Allahabad)& IV B.(Rajmahal to Diamond Harbor).
- The FC levels are not confirming to the specified water quality criteria in Segment IIIA, IIIB, IV A (Varanasi to Rajmahal) & IV B.
- High levels of BOD observed in Segment III B.
- High levels of FC observed in segment IV B.

- The concentration of the pesticides in sediment samples were much lower than the guideline values.
- The trace heavy metals concentrations were lower than the guideline values of PEL (probable effect level). However, Chromium concentrationexceeded the drinking water guidelines stipulated by BIS and WHO at D/s of Kanpur while concentration of iron and manganese exceeded the drinking water and surface water guidelines at some locations of Uttarakhand and Uttar Pradesh.

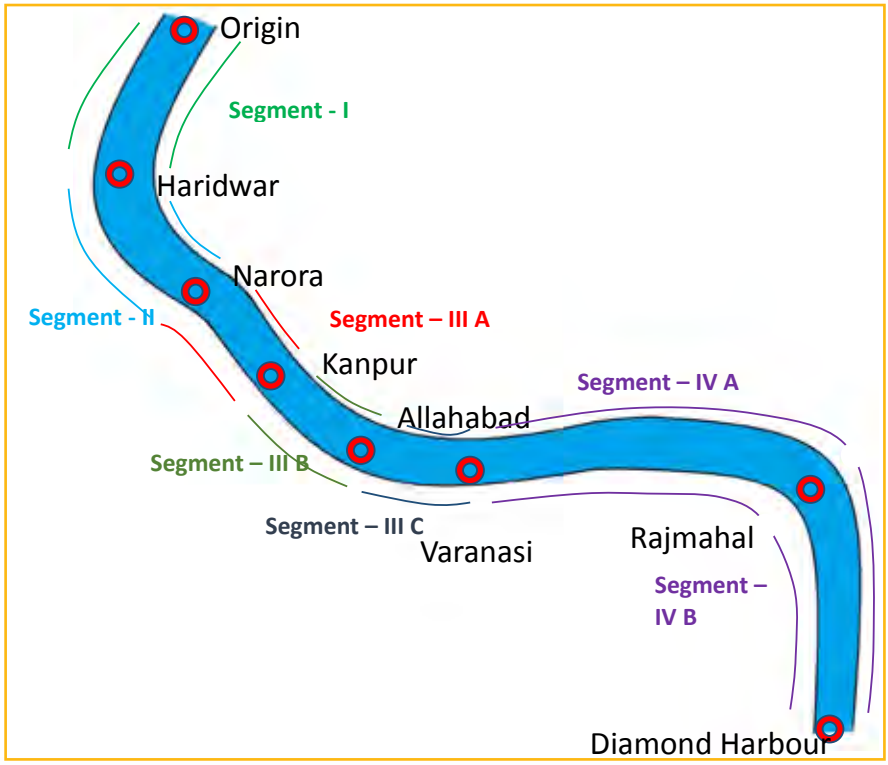


FIGURE 7: SEGMENTAL APPROACH FOR GANGA ACTION PLAN

Industrial & Domestic Waste discharge in River Ganga

- Both industrial effluent and domestic waste water contribute to the pollution in river Ganga. 6614 MLD of waste water with an organic pollution load of 426 TPD is discharged into river Ganga.
- Approximately 90% of the river's natural discharge is extracted by the time the river reaches Kanpur.

- 764 Grossly Polluting Industries (GPIs) are directly discharging their effluent into river Ganga.
- 90% of GPIs are located in Uttar Pradesh while 58% of the GPIs constitute of tannery sector.
- Pulp and Paper sector contributes highest quantity of BOD load (65%) and effluent discharge (55%), whereas the maximum average BOD is discharged by the distillery sector
- The drains in Uttar Pradesh contribute 57% of wastewater flow and 44% of the BOD load to river Ganga.
- Domestic waste water percentage contribution in the total quantity of wastewater and BOD load is 92 and 69 respectively and the remaining is contributed by industrial effluent (Fig 8 & Fig 9)

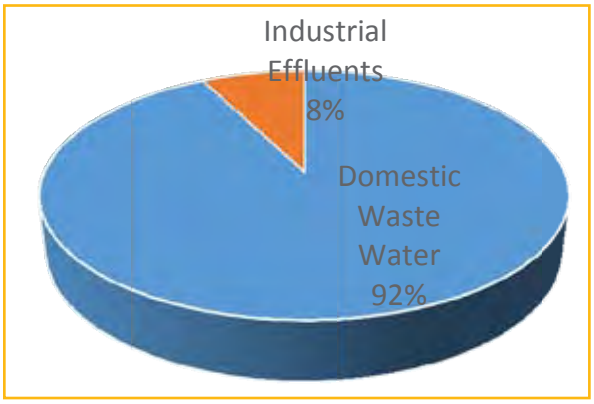


FIGURE 8: PERCENTAGE CONTRIBUTION OF INDUSTRIAL AND DOMESTIC WASTE IN GANGA RIVER (FLOW-WISE)

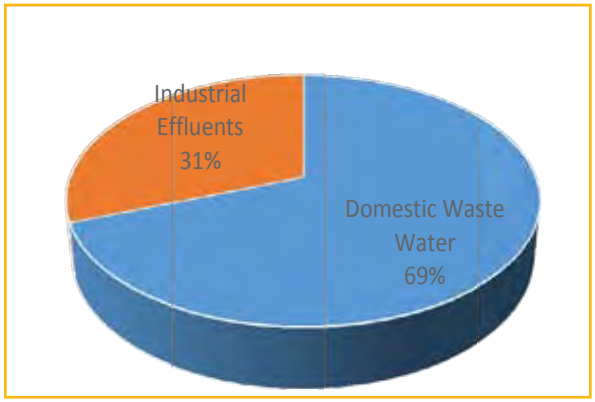


FIGURE 9: PERCENTAGE CONTRIBUTION OF ORGANIC POLLUTION BY DOMESTIC & INDUSTRIAL SOURCES IN GANGA RIVER

- Maximum wastewater discharge & BOD load have been reported from segment III B and IV A respectively.Segment III A& B and Segment IV A have very water poor quality w.r.t BOD & FC concentration levels. River Ganga receives 80% of the total organic load in these segments. The concentration of Pulp & Paper, Distillery & Tannery units is maximum in these segments. Poor water quality in these segments can be directly attributed to the organic load contributed by the domestic & industrial discharges.

Pollution Abatement Initiatives

- Various initiatives have been taken for abatement of pollution in river Ganga. The principal focus of these initiatives are:
    - o Restoration of quality of water/pollution abatement:&
    - o Restoration of flow
- STPs have been installed in the various states/UTs to treat the waste water prior to discharge in river Ganga. The existing sewage treatment capacity in the Ganga basin is 1230.7 MLD as against the total sewage generation of 4973.81 MLD. Only 25% of the total sewage generated can be treated in the existing STP.
- 5 key industrial sectors (Pulp & paper, Distillery, Sugar, Textile and Tannery) contribute 118 tonnes/day or 90% of organic pollution load from 674 industrial units out of 764 identified GPIs.
- Directions (March, 2015) have been issued under Section 18 (1) (b) of Water Act, 1974 to 5 Ganga State Pollution Control Boards for obtaining action plan from industries for achieving Zero Liquid Discharge (ZLD) / Water Conservation
- The measures taken for abatement and control of pollution have helped in reducing the waste water discharge from 764 grossly polluting industries by 125 MLD from 501 MLD (2012) and BOD load by 77 tonnes per day, which needs to be further corroborated.
- The discharge of black liquor from pulp & paper sector and spent wash from distilleries have been controlled.
- Status of non-compliance of GPIs has come down to 17.7% in January 2016 from 62.6% in 2014.
- The monitoring of 144 drains in the main stem of River Ganga indicate that these drains discharge 6614 MLD of waste water (domestic and industrial) to river Ganga. 426 TPD of organic load in terms of BOD is discharged into River Ganga from 50 Class-I and Class –II towns.

- To strengthen the monitoring network 113 real time water quality monitoring system (RTWQMS) are proposed on river Ganga and the drains discharging into river Ganga. Work has been awarded for installation of 36 stations and 8 RTWQMS have already been installed on date.

- Directions issued under Section 18 (1) (b) of the Water Act, 1974 on 5th February, 2014 to all the 11 Ganga Basin States to direct GPIs discharging effluent into Ganga and its tributaries to install continuous effluent online monitoring system before final disposal into river Ganga for self-regulatory purpose.Out of 764, 553 Grossly Polluting industries have installed CEMS in their industries.

- Directions under section 5 of EPA issued to the Municipal Commissioners of 118 towns located along river Ganga for Municipal Solid Waste Management& Sewage Treatment.

4.0 ONLINE MONITORING SYSTEMS

- Realising the need for continuous monitoring of quality of emissions/ discharges from industries for effective compliance of the norms, Central Pollution Control Board issued directions to the State Pollution Control Boards and Pollution Control Committees for directing the 17 category of highly polluting industries , Common Effluent Treatment Plants (CETP) and STPs, Common Bio Medical Waste and Common Hazardous Waste Incinerators, Grossly Polluting Industriesto install online effluent quality and emission monitoring systems to help track the discharges of pollutants from these units.

- The installation of online systems will help strengthening monitoring and compliance through self-regulatory mechanism. Online emission and effluent monitoring systems need to be installed and operated by the developers and the industries on, 'Polluter Pays Principle'.

CEMS Installation

- Directions were issued to 3381 industries falling under 17 category of (large & medium scale) highly polluting industries for installation of continuous

effluent/emission monitoring systems. Based on their status, 260 industries have been exempted from installation of continuous monitoring systems.

- As on May 31, 2016, 1733industries have installed continuous effluent/ emission monitoring systems and 667 industries are in the process of installation of CEMS. 330industries are reported to be closedand directions have been issued to ensure that they restart operation only after installation of the required monitoring systems. Closure directions have been issued to 743 industries not having responded/ or not given satisfactory reply to the Directions (Fig 10).

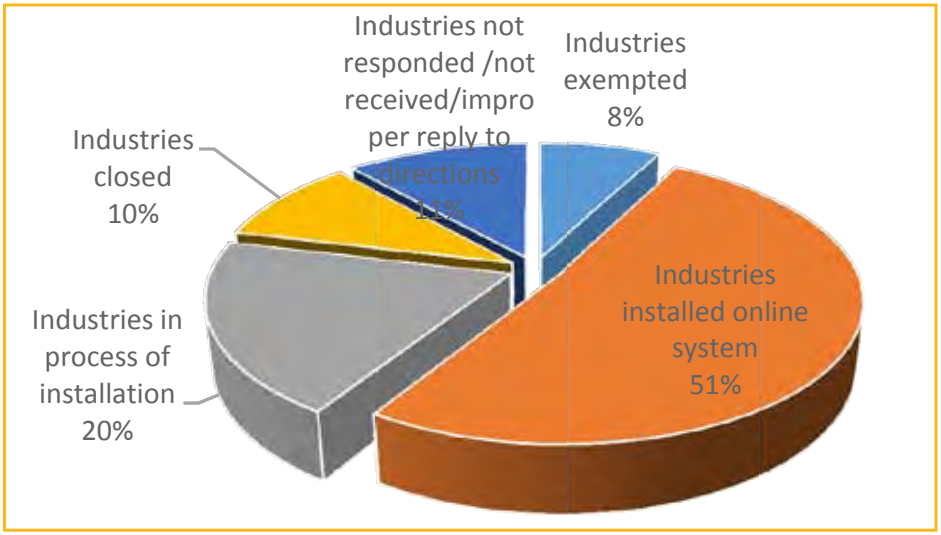


FIGURE 10: COMPLIANCE STATUS OF DIRECTIONS

- Six sectors viz. Refineries, Caustic Soda, Petrochemicals, Aluminium, Zinc& Copper have achieved 100% compliance of the Directions. It may be noted that industries which have installed /are in the process of installation of online monitoring system have been considered to be complying with directions towards installation of the system. The Iron & Steel Sector& Cement sector reported the lowest percentage of compliance to the Directions. The overall percentage of compliance to the Directions in the 17 Category of highly polluting industries towards installation of online monitoring system is 88%. till May 2016.

- CPCB has created a registration portal for all the industries to have proper connectivity of the CEMS installed in each industry with CPCB server. SMS and

e-mail alerts are generated whenever stipulated emission/effluent standards are exceeded in a particular industry for more than 15 minutes. The progress in implementation of Directions during Feb-May 2016:

- All units in Zinc & Aluminium sector have installed CEMS
- Sugar, Distillery & Copper have reported the least percentage of units to have installed CEMS
- During February to May 2016, the percentage of units having installed CEMS increase from 56 to 63%

SMS Alert Trends

- The average SMS alert per unit with CEMS connected with CPCB server was maximum for cement during February (82), aluminium for March, (306), petrochemical for April, 2016 (63)& May (542).
- The average SMS alertper unit with CEMS connected with CPCB server for the entire 17 category of highly polluting industries was 25, 38,16 and 23 during February, March, April& May 2016 respectively. The number of alerts per unit showed decrease in April, 2016 as compared to the values observed in February and March, 2016, indicating better compliance. However, the value of this ratio in May was comparable to that in February.
- Most of these alerts were with regard to Particulate Matter in stack commissions and BOD in industrial discharges.

4.0 WASTE MANAGEMENT

a. Hazardous Waste

- In order to ensure safe storage, treatment and disposal of hazardous wastes in an environmentally s**o**und manner without causing adverse effect to environment and human health, Govt of India notified, the Hazardous Wastes (Management and Handling) Rules, in the year 1989 under the Environment (Protection) Act, 1986 and these rules are amended from time to time and have recently been revamped with notification of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

- The present status of generation and management of hazardous waste in the country is as below:

No of HW generating industries	:	43938
Total generation of HW	:	7.467 Million Tons Per Annum
Land fillable waste	:	3.416 Million Tons Per Annum
Incinerable waste	:	0.695 Million Tons Per Annum
Recyclable waste	:	3.356 Million Tons Per Annum

- As per the Rule 11 of the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008, *hazardous wastes could be utilised by the units as a supplementary resource or for energy recovery, or after processing shall be carried out by the units only after obtaining approval from the Central Pollution Control Board."* Rule 11 provision of the earlier rules have been modified with Rule 9 in the revamped Rules notified in 2016, which has provisions for issuance of such permissions by SPCBs only for those hazardous wastes for which standard operating procedures or guidelines have been provided by the Central Pollution Control Board.

FIGURE 11: HAZARDOUS WASTE INCINERATOR

- CPCB had issued Guidelines on Co□ processing of Hazardous Waste in Cement/ Power/Steel Industry in the year 2010 and Standard Operating Procedure for Processing the Proposals for Utilization of Hazardous Waste under Rule

11 of the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008 were published in 2015.

- 54 numberof cement plants have been granted permission for co-processing. Around 1.76 lakh tonnes of hazardous waste was co-processed in cement industry during 2014-15.
- Permission has been granted for utilization of 47 types of hazardous waste under Rule 11 of HW (MH& TBM) Rules 2008 and four types of hazardous waste for co-processing.

b. Bio-medical Waste Management

- The Bio-medical Waste (Management & Handling) Rules, 1998 and amendments thereof (hereafter referred as BMW Rules) were notified under the Environment (Protection) Act, 1986 by the Ministry of Environment, Forests & Climate Change in the year 1998 and further amendments issued in the year 2000 and 2003. As per BMW Rules, 1998, State Pollution Control Boards (SPCBs) / Pollution Control Committees (PCCs) in the respective States/UTs have been notified as the 'Prescribed Authority' for overall enforcement of the said Rules. The Rules have been revamped in 2016 as Bio-Medical Waste Management Rules, 2016.
- As per the annual report information received from the State Pollution Control Boards (SPCBs)/ Pollution Control Committees (PCCs) and Director General of Armed Forces Medical Services (DGAFMS) for the year 2013, the detailed bio-medical waste management scenario in the Country is given below:-

• No. of healthcare facilities	:	1,68,869
• No. of beds	:	17,13,816
• No. of Common Bio-medical Waste	:	**198* + 28****
• Treatment Facilities (CBWTFs)		
• No. of healthcare facilities (HCFs) using CBWTFs	:	1,31,837
• No. of HCFs having treatment & disposal facilities	:	22,245
• No. of healthcare facilities applied for authorization	:	1,06,805

- No. of healthcare facilities granted authorization : 1,05,270
- Total no. of on-site/captive treatment equipment
- installed (excluding CBWTFs) by the HCFs:
- No. of incinerators
- With Air Pollution Control Device : 331
- Without Air Pollution Control Device : 217
- No. of autoclaves : 3,112
- No. of microwaves : 250
- No. of Hydroclave : 15
- No. of Shredders : 5,179
- Treatment equipment installed by CBWTFs:
- No. of incinerators : 198
- No. of autoclaves : 189
- No. of microwaves : 06
- No. of Hydroclave : 03
- No. of Shredders : 202
- Quantity of bio-medical waste generated in Tons/day : 484
- Quantity of bio-medical waste treated in Tons /day : 447
- No. of HCFs violated BMW Rules : 7,894
- No. of Show-cause notices/Directions issued to defaulter HCFs: 4,391

Note: (i)-CBWTFs in operation; (ii) ** - CBWTFs under installation;*
(iii) The information in respect of the Lakshadweep State has been included as per the Annual Report submitted for the year 2012.

- The total Bio-medical waste generated in the country is 484 Tonnes per Day out of which 447 TPD is treated and disposed of by these facilities.

c. E-waste

- The Ministry of Environment, Forest and Climate Change has revamped the E-Waste Management Rules, 2016 in supersession of the e-waste (Management

& Handling) Rules, 2011. The 2016 Rules include Compact Fluorescent Lamp (CFL) and other mercury containing lamps, as well and other such equipment.

- The SPCBs/ PCCs have initiated inventorization of e- waste in their respective States/ UTs. The generation of e-waste in 2015 was 1.7 million Tonnes.
- At present there are 149 registered dismantler/recycler having dismantling and recycling capacity of 462896 Tonne per annum. One hundred and thirty two (154) collection centres have been granted authorisation in eighteen (18) States/UTs. Other SPCBs/PCCs have reported nil authorized collection centres in their States/UTs.
- One hundred and fifty one (151) Producers have been granted authorisation in 11 States/UTs for managing their EPR. Other SPCBs/PCCs have reported nil authorized producers in their States/UTs.

FIGURE 12: MECHANICAL SEGREGATION OF E-WASTE

d. Municipal Solid Waste

- Taking into consideration the enormity of the problem of MSW management, Municipal Solid Waste Management Rules, 2000 were notified by MoEF & CC. The Rules were revamped in 2016 as Solid Waste Management Rules, 2016.

- The overall status of municipal waste management based on the available data for 2013-2014 in the country is given below:

• House –to-house collection(done partially)	:	18 States
• Segregation(done partially)	:	5 States
• Landfill sites identified	:	1285
• Landfill sites constructed	:	95
• Compost/Vermi-compost facilities operational	:	553 ULBs
• Under construction compost/vermi compost facilities	:	173 ULBs
• Pipe composting	:	7000 in Kerala
• RDF/Pellet facilities	:	12 Nos.
• Biogas Plant	:	645 Nos (600 in Kerala).
• Energy Generation Plant	:	06
• Waste Generation	:	1,41,064 TPD
• Waste Collected	:	1,27,531 TPD(90%
• Waste processed	:	34,752 TPD (27%)
• Land llable waste	:	4,515 TPD

e. Plastic Waste

- Indiscriminate littering and non-biodegradability of plastic waste raises several environmental issues; such as choking of drains, making land infertile & on ingestion by cattle lead to death;Burning of plastic generates toxic emissions. No organised/systematic system has been developed by concerned municipal authorities for collection, segregation, transportation and disposal of plastics waste. To tackle the menace of plastic waste management, MoEF&CC notified the Plastic Waste(Management & Handling Rules) 2011. The Plastic Waste (Management & Handling Rules 2011) as Plastic Waste Management Rules, 2016 on 18th March, 2016
- As per an estimation the plastic waste generation is 15342 tons/day.
- Plastic waste generated in 60 major cities is 3501 T/day.

- 14 states/UTs have banned plastics carry-bags. These include-Andaman & Nicobar Islands, Chandigarh, Chhattisgarh, Delhi, Haryana, Himachal Pradesh, Jammu &Kashmir, Karnataka, Lakshadweep, Nagaland, Rajasthan, Sikkim, Tripura, Uttar Pradesh.
- The usage of plastic carry bag has been restricted in major pilgrimage centers, touristplaces, including hill station and places of historical importance.
- In July 2013, CPCB issuedIndicative Guidelines for Plastics Waste Management(in July, 2013).

f. Construction and Demolition(C&D) Waste

- MoEF&CC has notified separate Construction and Demolition Waste Management Rules, 2016 on March 29, 2016 for proper collection, transportation & disposal/recycling of this waste.
- Management of construction and demolition waste was covered under Municipal Solid Waste Rules 2000.
- "Construction and demolition waste" means wastes from building materials debris and rubble resulting from construction, re-modelling, repair and demolition of buildings, creation of infrastructure such as road planning and maintenance etc,

5.0 DEVELOPMENT OF EMISSION STANDARDS

CPCB has revised/developed emission/effluent discharge standards for 20 industries. The status is as follows:

- Standards for seven sectors namely Thermal power plants, Common Effluent Treatment Plant, Sugar industry, diesel generating, Cement co-processing sets operated with LPG/NG, diesel generating sets operated with Petrol & Kerosene and diesel generating sets operated with diesel notified.
- Standards finalized for four industries namely Paint, Fertilizer, Pulp & Paper, and Slaughter house in the Expert Committee meeting held on 05.04.2016 and under process of notification.

- Standards for four sectors namely Manmade fibre industry, Brick Kiln, Sewage treatment plant and Textiles have been developed and will be placed in the next meeting of Expert Committee.
- Standards for industries namely fermentation, steel, automobile and Coffee; uploaded on MOEF & CC website for public comments.
- Comments received for bathing water quality standards.

6.0 RE-CATEGORIZATION OF INDUSTRIES

The new categorization of industries proposed is based onthe relative pollution potential of the industrial sectors. The objective of the revised categorization is to ensure that the industry is established consistent with the environmental objectives. The categorization of industries is based on relative Pollution Index scores and categorized as follows:

Classification	Pollution Index
Red category	≥60
Orange category	41-59
Green category	21-40
White category	<20

The newly introduced 'White category' contains 36 non-polluting industrial sectors which do not need "Consent to Operate'' and intimation to the concerned SPCB / PCC suffice. This waiver of consent to operate will facilitate establishment of such white category units.

7.0 REVAMPING CEPI CRITERIA

Central Pollution Control Board (CPCB) in collaboration with Indian Institute of Technology (IIT), Delhi conducted comprehensive environmental assessment of 88 prominent industrial clusters during 2009-10 based on Comprehensive Environmental Pollution Index (CEPI) criteria. CEPI is a rational number between 0 and 100, assigned to a given location to characterize the environmental quality following the algorithm of source, pathway and receptor. Out of identified 88 prominent industrial clusters, 43 industrial

clusters in 16 States having CEPI score of 70 and above were identified as Critically Polluted Industrial Clusters, while industrial clusters with CEPI scores between 60 & 70 are categorized as severely polluted areas.

To remove subjectivity in the CEPI guideline, it was revisited. The revised Comprehensive Environmental Pollution Index (CEPI) is based on Sources of pollution, real time observed values of the pollutants in ambient air, surface water and ground water and in and around the industrial clusters and health related statistics. For assessment of the environmental quality of the area i.e. CEPI score, the concept of SNLF i.e. a surrogate number which represents the level of exposure (a function of percentage sample exceedance & exceedance factor) shall be used.

8.0 60TH CONFERENCE OF CHAIRMEN/MEMBER SECRETARIES OF POLLUTION CONTROL BOARDS/ COMMITTEES

60th Conference of Chairmen/ Member Secretaries of Pollution Control Boards/Pollution Control Committees was held on May 17-18, 2016 India Habitat Centre, New Delhi.The decisions taken in the meeting include the following:

Restoration of water quality of polluted river stretches – formulation of action plans, strengthening of monitoring network, including monitoring of micro-pollutants , bio-monitoring of Rivers
Action to be taken against municipalities for sewage and solid waste management in Class-I cities/state capitals & in 118 Ganga towns
Development of Air Quality Management plans for cities / towns
Setting up of Continuous Ambient Air Quality Monitoring Stations (CAAQMS) in million-plus cities & state capitals
Management of online data from 17 categories of industries and taking action based on violations
Monitoring progress on implementation of remedial action plans in Critically Polluted Area based on revised formula
Initiating Capacity Building Programmes for Junior and Middle-level Technical & Scientific Officers
Developing Capacity for adoption of online Consent Management by SPCBs/PCCs
Granting permission under Rule 9 of Hazardous and Other Waste (Management and Transboundary Movement) Rule, 2016 following the existing procedure, till such time the SoPs/Guidelines are developed
Developing infrastructure for implementation of 2016 notified Rules relating to • Solid Waste Management, • Bio-Medical Waste, • Construction and Demolition Waste, • Electronic Waste, • Plastic Waste and • Hazardous & other Waste

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