

GREEN VERDICTS - 2020

A report on key judgements by NGT in 2020



Dr. Suman Mor
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FOREWORD



Justice Adarsh Kumar Goel
Chairperson
National Green Tribunal
New Delhi

In present times, Environmental Pollution has become the major risk factor for premature morbidity and mortality in the world. Clean environment is the foremost requirement to sustain healthy lives. Increasing pollution is continuously endangering planetary health, destroying ecosystems, and is intimately linked to global climate change. With rapid increase in anthropogenic activities such as industrial activities, transportation, biomass burning, mining etc. the environmental pollution has also increased many folds in last few decades. Therefore, it is essential to monitor and regulate these environmental issues as they adversely affect the vulnerable population i.e. children, pregnant women, elderly disproportionately.

Moreover, the world is already facing the worst health issues due to COVID-19 pandemic, hence, it is extremely important to take utmost care of environment. This will help to advance attainment of Sustainable Development Goals (SDGs), the 17 goals established by the United Nations to guide global sustainable development in the 21st century. Understanding and communicating the adverse health impacts of increasing pollution has become extremely important to act timely for the betterment of environment and public health.

I commend the efforts of Dr. Suman Mor, Department of Environment Studies, Panjab University, Chandigarh and Dr. Ravindra Khaiwal, Department of Community Medicine & School of Public Health, Post Graduate Institute of Medical Education & Research, Chandigarh for bringing out this compilation of "Key Judgements of National Green Tribunal in Year 2020" to address various environmental & public health issues related to Air Pollution, Water Pollution and Waste Management etc.

This compilation will help to bring awareness among people about the NGT's contribution in addressing various environmental issues.

A handwritten signature in black ink, appearing to read 'A. K. Goel', written in a cursive style.

(Justice Adarsh Kumar Goel)

GREEN VERDICTS -2020

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Disclaimer: This document is based on the major NGT judgements passed in 2020 and presented some facts and figures for current relevance to protect and preserve the environment.

Authorised to visit NGT website for detailed judgements.

PREAMBLE

An apex Green adjudicating body, the National Green Tribunal (NGT) is a decade old Institution. The country is witnessing fast growing economy requiring sustainable development to go in unison with environment protection. The challenges before the country are to protect sanctity of natural resources, maintain and restore wholesomeness of water quality, cities to be breathable, solid and liquid waste to be processed and treated, industrial hazards need to be addressed, developmental projects should be environmentally compatible, forests to be protected, wildlife to be preserved and over and above, health of the citizens to be protected from any deleterious effects of pollution or environmental catastrophe. In all these arenas, NGT adjudicated and passed several orders of which some are knee jerking and some giving way for sustainable development.

NGT 2020

The NGT has a principal bench, headed by the chairperson, and two regular courtrooms in Delhi (north zone), with four other zonal courts in south (Chennai), central (Bhopal), eastern (Kolkata) and western (Pune) India. The Tribunal asserted itself with handful of Judicial and Expert Members and still, giving it's fullest attention to mandates.

The lockdown in early 2020, could not hold the Tribunal to run proceedings virtually but operating from Court rooms. The Principal Bench headed by Justice Adarsh Kumar Goel continued the proceedings as usual. The Tribunal was vigilant and tapped key issues like waste management during Covid pandemic and taking gas leakages accidents

happened at different places. Simultaneously, video court continued by Southern Bench and virtual hearings of Central, Western and Eastern Benches conducted from Delhi.

MATTERS AND DISPOSAL (2020)

As of November 2020, the Tribunal had 5073 matters to deal and disposed 2372 cases leaving 2701 matters for consideration (PB: 943, SZ: 519, CZ: 168, EZ: 650 and WZ: 421).

The Tribunal shortened the judicial process and adopted practice of getting factual ground reports from the concerned stakeholders.

The Tribunal has already introduced On-line filing system and taking Letter Petitions on issues requiring due attention. The Committees constituted during the course of proceedings have been temporary and co-terminus with the Matters. The Tribunal is having 13 Overseeing and Executing/Monitoring Committees to get compliance reports in vital matters. Thus, NGT cut-down lengthy procedures and filing of para-wise comments/rejoinders, etc.

VERDICTS AND GOVERNANCE

It has been observed that the Tribunal defined its judgements directing authorities concerned to take remedial actions pertaining to local matters. While drawing inferences from local common issues and relying on the annual statistics placed by the Central Pollution Control Board (CPCB) in public domain, the Tribunal moved to take up proceedings on PAN-India basis. The process involved getting consolidated status report through CPCB. Factual field reports were sought by constituting Joint Committees which involved sample collections and scientific



interpretations. The directions passed in individual matters have been towards restoration of environment and executing waste management infrastructure projects. Execution of projects reflects governance attitude and commitments of the Departments.

CENTRAL, STATE AND DISTRICT LEVEL MONITORING

Prior passing the orders, Tribunal relied on responses provided by the Central, State and District level Institutions. The execution of directions was entrusted on these agencies and overseeing by the concerned Secretaries. Issues which are critical in nature have been brought into notice of Chief Secretaries.

During 2020 and before the country faced lockdown, Chief Secretaries of 15 States and three Union territories participated in Chamber Meetings. Further directions were passed requiring compliance on issues relating to: Waste (Municipal solid waste, Plastic waste, Biomedical, Hazardous and E-waste) management, sewage treatment and utilisation of treated sewage, air quality management in 122 non-attainment cities, rejuvenating 351 polluted river stretches, regulation of sand mining, industrial pollution control including in 100 industrial clusters, restoration of water bodies, maintenance of coastal water quality and formulation of District Environment Management Plans. The Tribunal drew attention and directed to develop at least three cities, three towns and three in each district/Panchayat as models. (Reference: OA 606/18).

DIRECTIONS AND GOVERNMENT'S PROGRAMMES

Union and State Governments have many programmes on various facets for environmental improvement and directions of Tribunal complement such programs and enable the Governments to

execute them in more rigorous way. For illustration some of the Orders and Programs are; Swachh Bharat (OA 606/18), Namami Gange (OA 200/14), Pradhanmantri Seechai Yojna(OA 176/15 and OA 148/15), National Clean Air Program (OA 681/18), River Cleaning (OA 673/18) and others.

MAKE IN INDIA

India has great potential to develop indigenous market and also support neighboring countries to develop cost-effective pollution control technologies and environmental monitoring systems. This will encourage country's entrepreneurs to venture in these programs. Water and air quality monitoring equipment, national certification of monitoring equipment, low cost reliable monitoring equipment, remediation of sewage carrying drains on in-situ mode, bio-mining of legacy waste and others are a few areas in which Tribunal has passed the directions. The Tribunal further with the involvement of Niti Aayog got GeM Portal developed for setting up of Sewerage and Solid Waste projects for benefit to Local Bodies dispensing with time consuming tender processes.



SUSTAINABLE DEVELOPMENT

The Tribunal disposed many hanging projects considering them on merits without any environmental loss. Some of the projects include; Subansiri Hydel Project, Mumbai Trans Corridor, Alang Ship Breaking activities, Pollavaram Lift Irrigation Scheme, Kutchh Camel project and others. The Tribunal observed in such matters that mostly issues were relating to administration/governance and no substantive environmental cause. The Tribunal stressed on making way to such projects on the principal of sustainable development and getting cost for restoration and providing public rehabilitation programs.

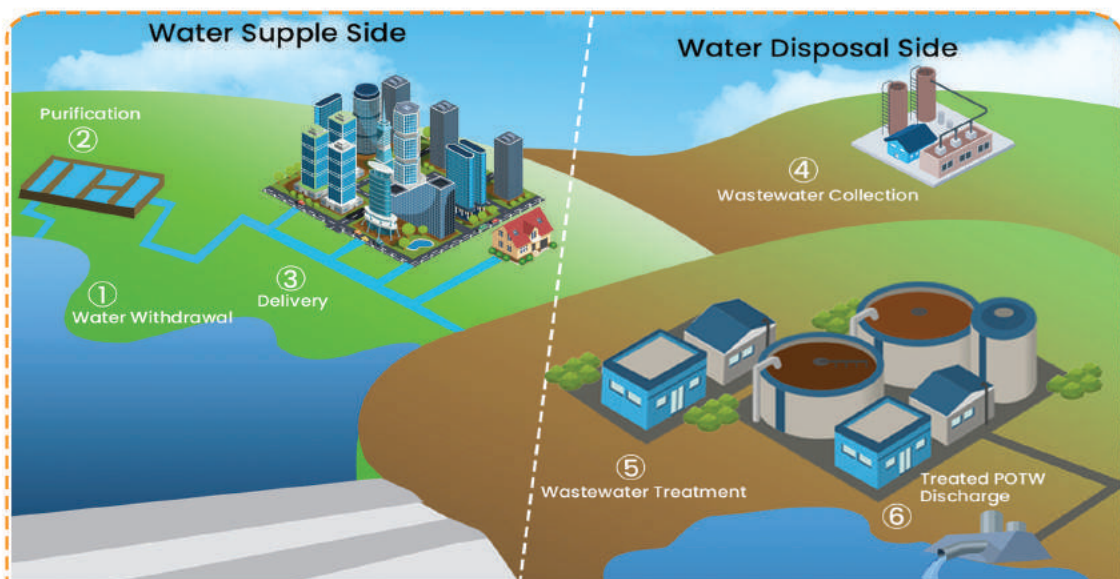
IMPACTS OF NGT ORDERS

It has been observed that PAN India directions in issues like Solid and Sewage management and others, there has been sensitization at States and District level. Chief Secretaries have been conversant with the environmental challenges.

Tribunal could notice that individual grievances like drainage, solid waste, illegal extraction of ground water, maintenance of ponds, illegal construction and encroachment are acted upon by the Agencies and such matters are expeditiously disposed.

Tribunal rolled momentum on remediating legacy waste dump sites, emphasising on adopting in-situ remediation of sewage carrying drains as an intermediary option and introducing Environment Compensation.

SEWAGE TREATMENT



WASTE MANAGEMENT



1 COVID-19, AIR POLLUTION AND FIRECRACKERS (OA 249/20 DATED)

The Tribunal took unprecedented stand on banning of use of firecrackers during festive period in National Capital Region (NCR) and in those cities where air quality falls in poor category. Use of crackers in cities where air quality remains moderate and below, green crackers and in compliance with Hon'ble Supreme Court directives are to be used. The entire proceedings were taken up on the basis of statement

of Union Ministry of Health stating likely aggravation of Covid pandemic due to air pollution.

The Tribunal passed comprehensive directions on 9.11.2020 and subsequently on 1.12.2020 observed the unsatisfactory compliance and passed further directions to continue ban linking with air quality in cities and setting up of air quality monitoring systems at District level.

Adverse Impact of Fire Crackers

- Air pollution:** Causes smog, reduced visibility
- Noise pollution:** More noise than allowed decibel levels
- Animals:** Loud noises can be traumatic to pets, induced fear
- Fire hazards:** Rockets can start fires
- Ground level Ozone causes Inflammatory response to children, causing lung problems**
- The bright glare of burning firecrackers can also burn or permanently blind flying birds**

Toxic Chemicals in Fire Crackers

- Arsenic:** Lung Cancer
- Lead:** Nervous System
- Cadmium:** Anaemia
- Magnesium:** Metal Fume Fever
- Antimony Trioxide:** Cancer
- Aluminium:** Dermatitis
- Copper:** Respiratory Tract Irritation

Vulnerable Groups

- Women
- Children
- Elderly

Let us Promote Clean Environment & Blue Sky

- Say no to Fire Crackers
- Promote Green crackers
- Only community bursting of fire crackers
- Firecrackers to be sold through licence holders
- Limit the time period

② Road dust, a major cause of air pollution (OA 283/20 dated 3.12.20)

It has been recognised that re-suspension of road dust along with the dust arising out of construction and demolition activities, contribute significant air pollution load. Sweeping of roads and particularly road shoulders and unpaved foot paths, causes suspension of dust enhancing ground level concentration of PM_{10} and $PM_{2.5}$ resulting in hazy conditions, poor visibility and posing danger to human health.

The measures to be taken may include sprinkling of water prior sweeping for which treated sewage water may be used. Accordingly, States have been directed to give status report to CPCB for consolidation to further consider in another matter in OA 681/18 relating to air quality management in 122 non-attainment cities.

The Tribunal directed to take measures for dust control and its suppression particularly in cities where air quality remains poor and above. The Tribunal further directed to undertake putting green cover on open soiled areas.

Re-Suspension of road dust due to construction and demolition activities



3 INDUSTRIAL ACCIDENT RESULTING FATALITIES AND INJURIES

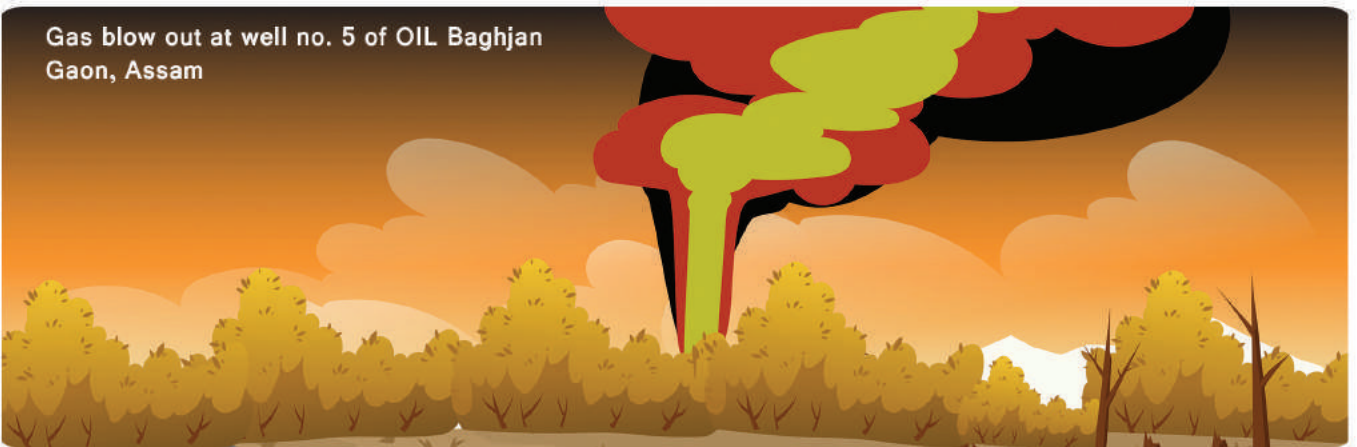
OA 272/20 (Blast in Plastic recycling industry in Malda, West Bengal), OA 274/20 (Spent wash digester collapse causing spillages in a Distillery named Loknete Bapurao Patil Agro Industry, Mohel Taluka in Solapur district, Maharashtra), OA 134/20 (Vishaka solvent), OA 106/20 (Sainor Life Sciences), OA 108/20 with OA 130/20 (Boiler blast in Neveili Lignite Corporation), OA 85/20 (Yashasvi Rasayani), OA 107/20 (Spy Agro), OA 73/20 (LG Polymers India), OA 43/29 (IOC).

During Lockdown period, Tribunal took cognisance of Industrial Accidents causing deaths and injuries besides release of gases in atmosphere. The Tribunal observed that such disasters occurred on account of mishandled operations, lack of skilled supervision and unprepared system to deal eventualities. The Tribunal in such matters constituted fact

finding Joint Committees to find out causes of accidents, extent of damages to environment and human health, assess cost required for restitution of environment and determining environment compensation. The Tribunal laid PAN India directions to act without delays in case of such accidents and take regular preventing exercises.

The Tribunal referred Hon'ble Supreme Court's orders on compensation principles and thereby laying minimum compensation of Rs 15.0 lakhs on account of death, Rs 5.0 lakhs for major injured and Rs 2.5 lakhs to minor injured individual.

1 Gas blow out at well no. 5 of OIL Baghjan Gaon, Assam



2 Ecological damage to wetland, standing crops, loss of livelihood, cultivable land, livestock and damage to fisheries



3 OIL provided interim compensation as per Hon'ble NGT orders



4 RESIDENTIAL TOWERS AND SOCIETIES TO HAVE PLANNED SANITATION FACILITIES (OA 688/19 DATED 1.10.2020 AND SIMILAR MATTERS; OA 661/18, 764/18, 155/20 AND OA 889/19 IN NOIDA, UP)

The Tribunal confronted with some matters where Residential Towers/Multi storied housing complex are built which do not have accessibility with community/common waste management facilities, like Sewage and Solid waste. The Tribunal observed such issues becoming more noticeable in the State of Haryana. The Tribunal directed Chief Secretary to coordinate with the Departments and review.

The Tribunal observed in OA 688/19 dated 1.10.20 that untreated sewage from 'Sare Homes' was being discharged besides having many other violations.



5 RESIDENTIAL PROJECTS AND THEIR SITING, ENVIRONMENTAL CLEARANCE AND IN FLOOD ZONE (APPEAL 54/18)

Many commercial and residential projects are not examined at initial stages and are not properly sited. Such projects either do not have EC or falling on restricted areas like Flood Plain Zone, etc. The subject matter was in context of EC granted by State Environment Impact Assessment Authority to Wonder Projects Development Pvt Ltd. setting residential building at village Kasavanahalli, Bengaluru. The Project is alleged to be coming in forest area and in FPZ of a lake.

The Tribunal after hearing Appeal constituted Committee to get into issue of demarcation of flood plain zone with reference to Wetland Rules. The Tribunal sought revisiting the clearance in light of all parameters and with reference to Wetland rules.

6 REQUIREMENT OF EC TO LIFT IRRIGATION SCHEMES (OA 185/18, ORDER DATED 9.9.20)

Public oriented schemes do require Environment Clearance. The Tribunal passed direction on such requirement for Purushothapatnam Lift Irrigation Scheme, Andhra Pradesh. The scheme involved lifting of water from river Godavari utilising not only for drinking and industrial purpose but, for irrigation also. Such projects covers forest areas and may be affecting E-flow of a river.

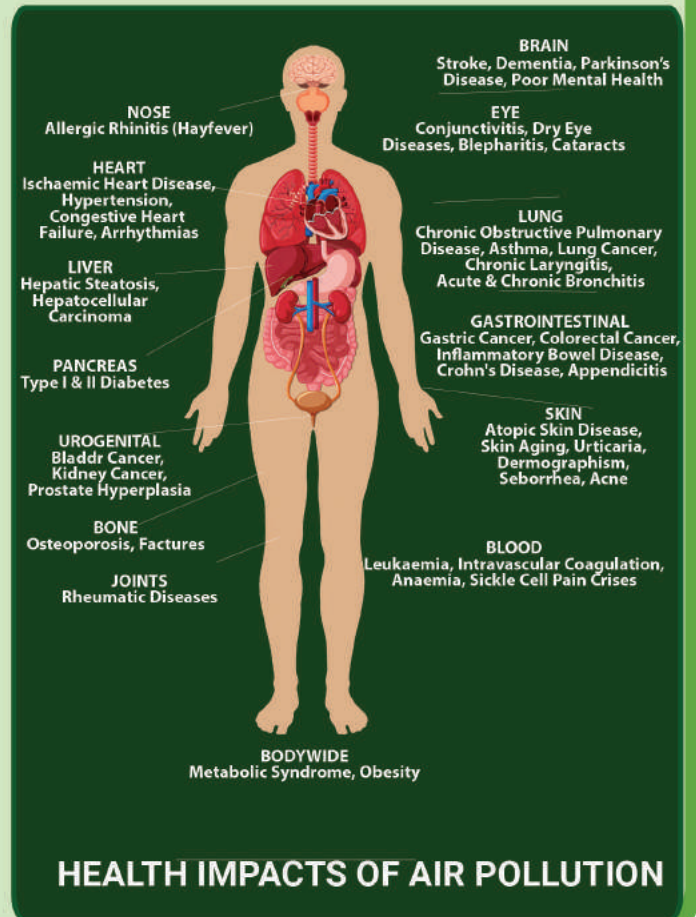
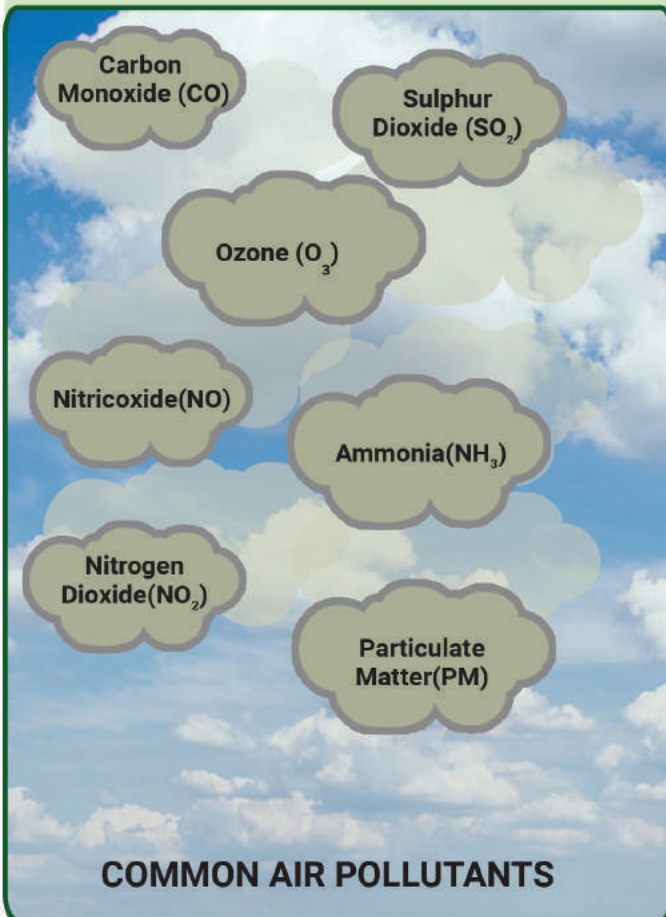
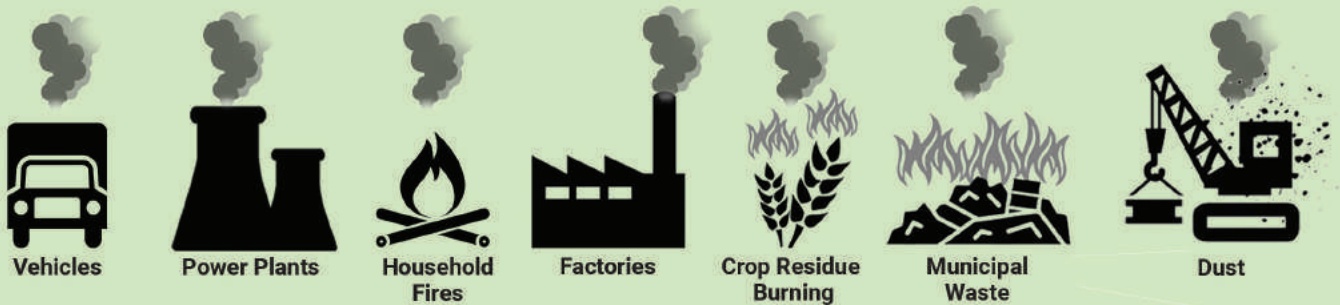


7 TOXIC POLLUTANTS IN AMBIENT AIR (EA 5/18, ORDER DATED 13.8.20)

Volatile Organic Compounds (VOCs) are known to be carcinogenic and their presence beyond permissible limits and prolonged exposure is cause of concern for human health. The Tribunal passed comprehensive order on entire gamut of VOC issue in Mahul Ambapada Chembur area in Mumbai. The Tribunal dealt the complete issue in a scientific

recognising arguments, discussions and scientific interpretations put forward by the companies in question and the considered views of the scientific committee. The core issues involved were on monitoring of VOC levels, human health, controlling VOCs at source and standards to maintain. The Tribunal imposed environment compensation on the oil companies and instituted a credible committee under a retired High Court judge for formulation of restitution plan and getting it executed.

MAJOR SOURCES OF AIR POLLUTION



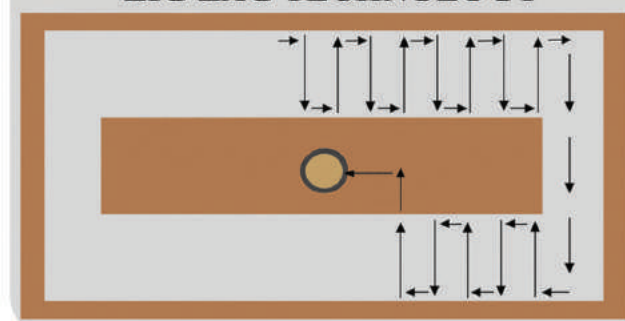
8 PROHIBITING OPERATION OF BRICK KILNS CONSIDERING HAVING NO CARRYING CAPACITY (OA 1016/19 ORDER DATED 15.10.20)

Brick kilns are normally, rural areabased operations and emits emission typically of Particulate Matter. To control emissions from the kilns, adoption of Zig Zag technology was insisted. The issue arises out of operation of large number of brick kilns in the National Capital Region which affects air quality in the region. Accordingly, the districts where kilns may operate, was determined. It has been a serious concern over air quality in NCR predominantly falling out Poor and Very Poor and Severe category on terms of AQI.

The Tribunal got an assessment done through CPCB by finding out ambient air quality and carrying capacity. The Tribunal kept options open to explore possibilities of using PNH as clean fuel.



ZIG ZAG TECHNOLOGY



9 PREVENTING FLOOD PLAIN ZONES (OA 22/18 ORDER DATED 15.12.20)

The Tribunal while dealing many matters on river rejuvenation, emphasized on protection of Flood Plain Zones. The Orders have been passed in river Ganga, Yamuna and others. In one of such matter on construction in FPZ of river Mahanadi in Cuttack, Odisha was adjudicated. The State has a move to construct Medical College in reclaimed land.

For maintaining river hydrography and ecology, protection of FPZ is utmost necessary. The Tribunal directed to identify and demarcate FPZ prior further actions.

10 NON UTILISATION OF ENVIRONMENT RELIEF FUND (OA 86/20 ORDER DATED 20.11.20)

Under Public Liability Insurance Act, 1991, Environment Relief Fund is created which is on account of Risk Policies required to be taken by industries prone to accidents which may results to loss of human life. Tribunal observed that about Rs 800 crores lying unutilised.

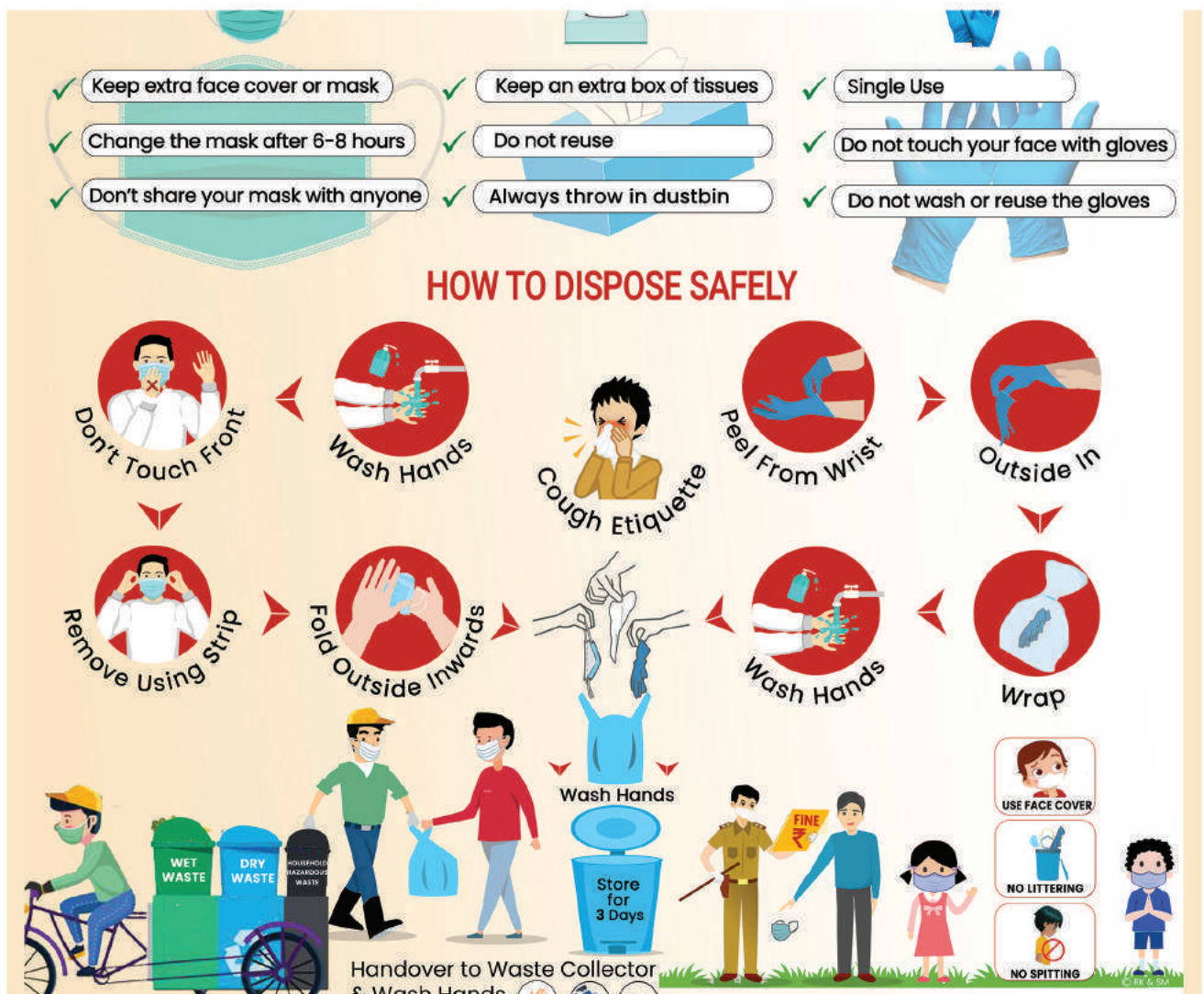
Tribunal further observed that compensation to the victims need to be provided on urgent basis through District Collectors. The Tribunal directed that consents granted under Water and Air Act should be linked with PLIA.

11 WASTE MANAGEMENT ARISING OUT OF COVID-19 TREATMENT (OA 72/20 ORDER DATED 20.7.20 AND OA 710/17)

The Tribunal was having a matter on assessing status of compliance of Bio-Medical Waste Management Rules, 2016. The Tribunal took a note of media report highlighting need to have proper management of highly infectious COVID-19 waste. The Tribunal sought reports from the State and UT regulatory and Health Authorities which have been compiled by CPCB. There has been an approach that proper safeguards have been taken and protocols are evolved. CPCB has circulated the guidelines on regular basis for compliance. The directions further include to impart training to the staff and making citizens aware on proper disposal

of such waste and particularly, patients with Home isolation and quarantine.

In OA 710/17, Tribunal dealt non-compliance of Bio-Medical Waste Management Rules, 2016. Waste arising from health care establishment is re-required to be segregated and to be treated as per the prescribed technology. The problem is compounded when BMW is disposed in municipal solid waste storage bins or disposed to the Landfills. Quite often, Ragpickers get injuries and infections while involved on segregation and picking recyclable material. There are issues relating to operation of captive and common incinerators on account of non-regulation of temperature and emissions not meeting with the standards. The Tribunal directed to ensure compliance with BMW rules and District Magistrates to provide district-wise reports.



12 SHIP BREAKING TO BE IN UNISON WITH ENVIRONMENTAL NEEDS (APPEAL 49/18, ORDER DATED 27.11.20)

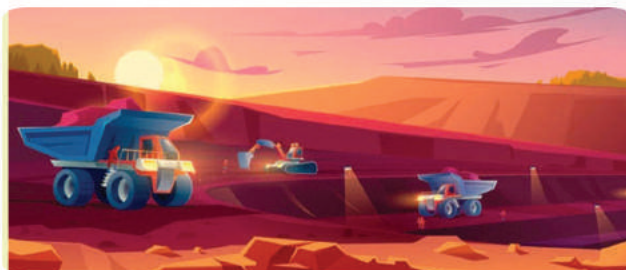
Ship breaking is one of the significant economy. The Tribunal has gone into great detail of the issue. The ship breaking activities have been alleged for following obsolete and risky technology resulting in environmental degradation and posing dangers to the workers. There has been discussion on requirement of EC and providing basic health facilities. The Tribunal while disposing the matter, passed prospective directions and making a way for sustainable working of this activity.

13 CARE FOR BIRDS NON-RENEWABLE ENERGY PROJECTS TO TAKE MITIGATION MEASURES (OA 385/19 ORDER DATED 23.12.20)

The Tribunal dwelt the issue of protecting endangered Great Indian Bustard (GIB) which have been facing fatalities on account of accident with transmission lines. The issue was responded by MoEFCC and taking recommendations of the Six Members Committee. Tribunal directed that Bird Diverters be installed and transmission lines may be grounded. Wind Power Projects irrespective of their capacity, have to take mitigative measures and accordingly, consents to be granted under the Water and Air Act.



14 RIVER SAND MINING- A BOTHERING ISSUE (OA 360/15, ORDER DATED 17.8.20 AND OA 935/18, ORDER DATED 14.2.20)



Rivers in the States like UP, MP, Odisha, Bihar, Andhra Pradesh, Karnataka and others are unscrupulously exploited for sand mining without having regards to environment. Sand mining needs to be executed with due caution and to be on accordance with Mining Plan properly backed up with Replenishment studies. Sand mining causes deleterious effects on riverine ecology and its flow. The Tribunal repeatedly and regularly receives applications alleging illegal mining in different parts.

The Tribunal on account of slow action and passive attitude, cautioned for taking stern actions on the officers. The Tribunal importantly got compensation regime in place imposing on illegal miners for restitution purpose.

The Tribunal after deep understanding and facts on record, set aside the Sand Mining Guidelines of 2016 of MoEFCC with the directions to revise in accordance with the suggestions and observations of High-Power Committee. Tribunal in light of Hon'ble Supreme Court's order, Tribunal ultimately got response from MoEFCC with revising Sand Mining Guidelines, 2020. It is important to refer Report of CPCB on compensation and sand mining impact report on Krishna river in OA 935/18 relating to bathymetric survey, ecological impact of sand mining and Expert committee in light of conflicting and divergent views. In another significant finding it has directed on amount to be levied while releasing seized vehicles employed in illegal transportation of sand.

15 DISTRICT ENVIRONMENT PLAN – CONSTITUTIONAL PROVISIONS (OA 710/17 ORDER DATED 15.9.19 AND PROCEEDINGS COMPREHENSIVELY TAKEN IN OA 360/18 DATED 19.3.20)

The Tribunal directed on Environment Plan for each District in view of Constitutional provisions understand Articles 243 G, 243 W 253 ZD read with Schedules 11 and 12 and Rule 15 of the Solid Waste Management Rules, 2016.

District Plans are to be prepared by the District Committees to be chaired and monitored by District Magistrate. District plans are to include key environmental issues as directed by the Tribunal in various matters which inter alia covers; all types of solid wastes, sewage treatment and utilisation of treated sewage air pollution in cities, polluted rivers, rejuvenating water bodies, sand mining, industrial

pollution, ground water extraction, preparedness of District Crisis Group and other issues.

CPCB was directed to prepare model action plan at least for one district in all States/UTs. It is believed that District Plans in Public domain may bring radical changes in environmental improvement and involving citizens fulfilling constitutional mandates.

WATER MANAGEMENT "WATER WATER EVERYWHERE, NOR ANY DROP TO DRINK"

It is a vital issue to protect natural and man-made aquatic resources to save population. The Government has mission to take water to each door step and has commitment that a Ministry by name 'Ministry of Jal Shakti' has been assigned to look into water issues in co-ordination with all stakeholders. The Tribunal has taken such issues with great concern passing directions on matters of water and in fact, the directions complement the Government's Programmes.

SOURCES OF WATER POLLUTION



AGRICULTURAL RUN-OFF



OIL SPILLAGE



RIVER & MARINE DUMPING



SEWAGE



INDUSTRIAL SUBSTANCES

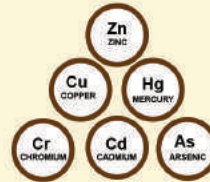
MAJOR WATER POLLUTANTS



PATHOGENS



INSECTICIDES



HEAVY METALSS



FERTILIZERS

HEALTH IMPACTS OF WATER POLLUTION



VOMITING



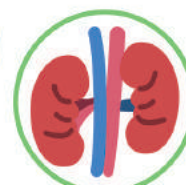
DIARRHEA



HEPATITIS



TYPHOID



KIDNEY DAMAGE



NERVE DISORDER

16 GROUND WATER

There are several reports on various aspects ground water scenario in the country. These relates to depletion, quality, illegal extraction and over-usages. The Tribunal passed directions on ground water in OA 176/15 dated 20.7.20 which have not been palatable to the Government and like a bitter pill to over-users of ground water.

The Tribunal categorically directed for; no general permission for withdrawal of ground water without environment impact assessment in cumulative terms covering carrying capacity aspects by an expert committee, an annual review by independent and expert evaluation and record ground water levels and water mapping in OCS areas.

DISEASE	CAUSATIVE AGENT	MODE OF TRANSMISSION	MODE OF INFECTION
Cholera	Bacteria (<i>vibrio cholerae</i>)	Faeces	Oral
Typhoid	Bacteria (<i>salmonella typhosa</i>)	Faeces/urine	Oral
Hepatitis A & E	Viral	Faeces	Oral
Giardiasis	Protozoa	Faeces	Oral
Amoebiasis	Protozoa	Faeces	Oral
Dracunculiasis	Parasitic	Cutaneous	Oral
Bacillary dysentery	Bacteria	Faeces	Oral
E coli diarrhoea	Bacteria	Faeces	Oral
Paratyphoid fever	Bacteria	Faeces	Oral
Pinworm or threadworms	Parasitic	Anal	Oral
Roundworm	Parasitic	Faeces	Oral
Whipworm	Parasitic	Faeces	Oral
Hookworm	Parasitic	Faeces	Oral

The facts indicated that ground water in many blocks has been depleting, many blocks are facing geogenic contamination and industrial effluents causing ground water contamination. Further, there

was institutional issue that, ground water permission remained in pending and no objection certificates issued without having regard to replenishment studies. The Tribunal observed that ground water extraction cannot be at the cost of environment and ignoring intra and intergenerational, precautionary and sustainable development principles.

Development and growth must be undertaken but not without ignoring the sustainable ground water level. Ultimately, the Tribunal held and directed; manning and effective functioning of CGWA, have meaningful regulatory regime and institutional mechanisms for ensuring prevention of depletion and unauthorized extraction of ground water and sustainable management of ground water on OCS areas, regard must be had to water availability and safe levels to which it's drawal can be allowed, especially for commercial purposes, based on available and assessed data in each assessment unit and undertaking an impact study in light of projected data for the next 50 years.

CONNECTED MATTERS ON WATER

17 SAVING THE DYING RIVERS

The Rivers are lifeline of the country. Rivers are worshipped as Goddess. In today's scenario, rivers are 'Perineal' and 'dried'. The Perineal rivers are facing problem of maintenance of Environmental Flow and are used conveniently for disposal of trade and sewage effluents. The dried rivers are also converted into open sewers. Further, Flood Plain Zones of rivers are encroached thereby harming river flow and ecology.

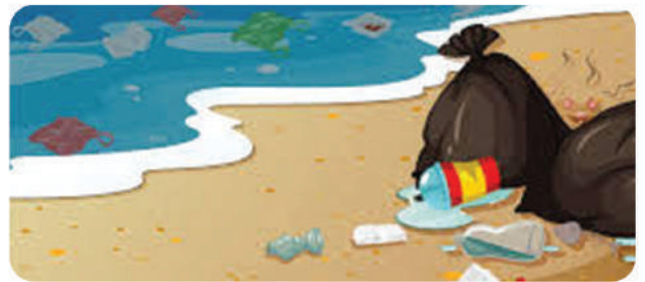


(OA 673/18 DATED 21.9.20 ON 351 POLLUTED RIVER STRETCHES AND MANY MATTERS ON INDIVIDUAL RIVERS)

The Tribunal dealt with many on rivers facing problems of pollution besides E-flow and being encroached. Realising the seriousness of the problem, Tribunal took cognisance of CPCB's data indicating 351 polluted river stretches which have been falling in Five categories. Tribunal directed to get action plans prepared for all the stretches which has been done by all the States and UTs. The action plans cover issues of sewage treatment, industrial waste water treatment, maintenance of E-flow, identification, demarcation and regulation of FPZ and other connected issues.

18 COASTAL POLLUTION (OA 829/19, ORDER DATED 21.9.20)

Like other water bodies, coastline is also under stress. Trade and sewage effluents are discharged thereby effecting coastal water quality. Further, coastal zones are encroached and Coastal Regulation Zones are violated. The Tribunal dealt exclusively the coastal management issues and passed directions on 21.9.20.

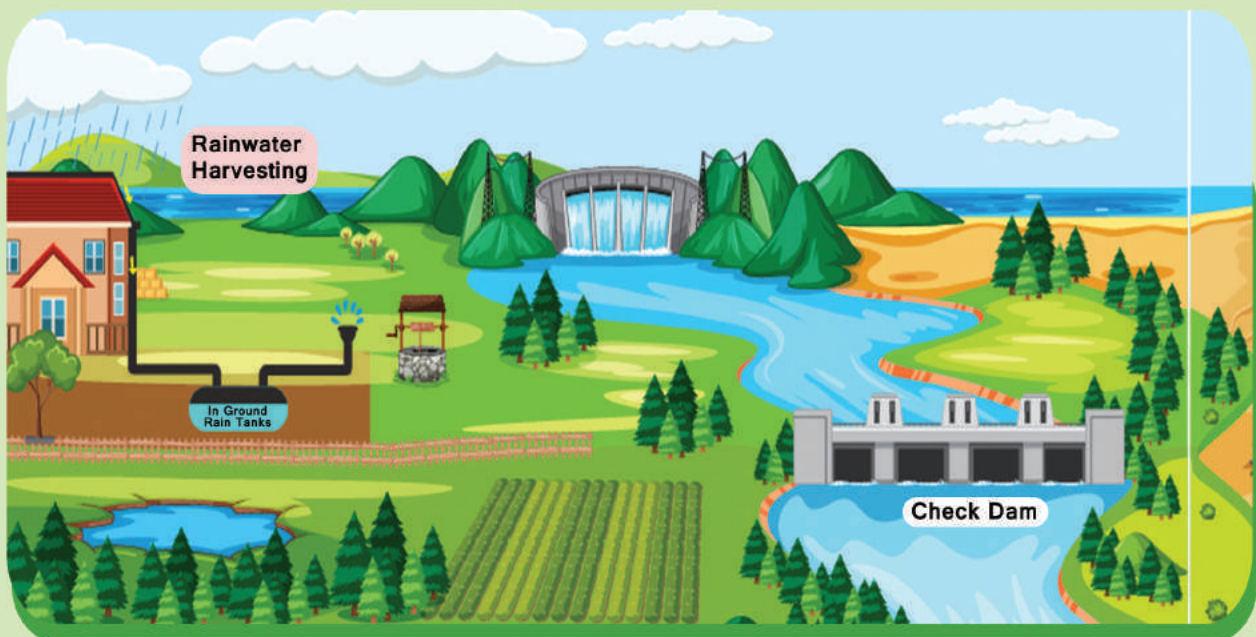


19 RESTORATION OF WATER BODIES (OA 325/15)

The Tribunal directed States and UTs to take measures for restoration. The Tribunal directed to set up models in each Panchayat.

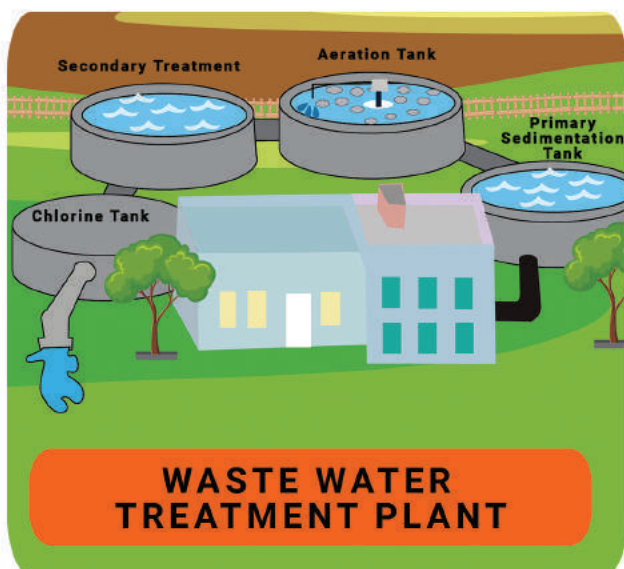
Rejuvenation of rivers and improving ground water table is very much is dependent on protection of water bodies like Ponds, Tanks and Lakes particularly in catchment of rivers. The Tribunal observed in many matters that water bodies are encroached and recklessly, sewage and solid waste is disposed. The

water bodies also serve as storage for rain water and play important role in providing E-flows of rivers and ground water recharging. The Tribunal directed States and UTs to take measures for restoration. The Tribunal directed to set up models in each Panchayat.



The Tribunal on 18.11.20 suggested the action plan for restoration of water bodies which included activities of geotagging, assessment of water quality, prioritization of ponds or lakes, random scrutiny of action plans by CPCB and execution of approved action plans. It was noted by Tribunal that out of 4,13,911 water bodies identified, 1,32,080 have been selected for restoration, 3,20,903 water bodies have been restored and 40,543 water bodies are under restoration. Tribunal on 1.6.20 suggested for utilizing funds available under schemes like MGN-REGA and involving community at large and recognised significant role of Gram Panchayat in this work. Tribunal to intensify and expedite the actions, Tribunal directed District Magistrate that as far as possible, at least one pond/water body must be restored in every village, apart from creation of any new pond/water body. Further, Tribunal on 18.11.20 directed for designating Nodal Agency for restoration, evolve Grievance Redressal Mechanism and Central Monitoring Committee headed by Secretary, MoJS to monitor restoration and provide report in an interconnected matter OA 673/18 relating to restoration of polluted river stretches.

TRADE AND SEWAGE EFFLUENT TREATMENT AND UTILISATION OF TREATED EFFLUENTS



The Tribunal monitored the status of trade and sewage effluent treatment as a follow up of the Judgement of the Hon'ble Supreme Court dated 22.2.17 in Paryavaran Suraksha Samiti Vs Union of India which mandates establishment functioning of requisite Effluent Treatment Plants (ETPs) / Common Effluent Treatment Plants (CETPs) / Sewage Treatment Plants (STPs) by 31.3.2018 and in default, to take coercive measures. Tribunal in 2020 took status review based on consolidated report filed by CPCB. Tribunal observed non-compliance by industrial units and huge gap existing in sewage generation and treatment.

21 UTILISATION OF TREATED SEWAGE (OA 148/2016, ORDER DATED 21.9.20)

The connected issue with Sewage treatment is to utilise treated effluents from STPs for non-potable purpose to save fresh water.

DIRECTIONS OF TRIBUNAL IN CONNECTED MATTERS (17, 18, 20 AND 21)

Since, the issues of water pollution are interconnected, Tribunal passed comprehensive directions which includes; setting up of ETPs, CETPs and STPs as directed by Hon'ble Supreme Court and launching prosecutions and imposing Environment Compensation, no untreated sewage to be discharged into any waterbody, execution of action plans to be monitored by River Rejuvenation Committees and supervised by the Chief Secretary, developing app to enable easy filing and redressal of grievances with regard to illegal discharge of trade and sewage effluent, setting up of bio-diversity parks, demarcation of FPZ and utilisation of treated effluents.

22 AIR QUALITY MANAGEMENT- 122 NON -ATTAINMENT CITIES (OA 681/18)

The Tribunal is continuously monitoring the status of compliance of its directions passed on 20.11.2019 and 21.8.20, the issue relates to bringing ambient air quality of 122 non-attainment cities within the National Ambient Air Quality Standards. CPCB is monitoring ambient air quality across the country and based on continuous ambient air quality monitoring in more than 100 cities, Air Quality Index (AQI) is depicted by CPCB on its website on daily basis as AQI bulletin.



It has also been an issue of concern that many reports indicated diseases and deaths due to air pollution and every year, National Capital Region facing severe air pollution in winter season. A Graded Response Action Plan has been designed which has been approved by Hon'ble Supreme Court specifies regulation of activities in accordance with the prevailing air quality.


On the same lines, National Clean Air Programme has been designed which includes strengthening of

monitoring network and taking other connected activities.

The Tribunal after having reports from States, the concerned Ministries and the consolidated reports of CPCB issued directions on 21.8.20 which includes; setting up monitoring stations, undertaking Carrying Capacity and Source Apportionment studies, prohibiting/shifting polluting activities which are non-conforming and beyond carrying capacity of non-attainment cities, set up and operate Public Grievance Redressal Portal, control of stubble burning and bursting polluting and noise generating fire-crackers, microplanning in respect of each city, execution of action plans for noise pollution control and applying compensation regime for violations of noise pollution, utilising CAMPA funds for undertaking afforestation drives, procurement of noise pollution monitoring and control equipment, finalising Emergency Response System, remediation of legacy waste sites, coordination between State Disaster Management Authority and Meteorological department, undertaking carrying capacity of roads and monitoring by Chief Secretary.

HOW TO CHECK AQI OF YOUR CITY?

- You need to download **SAMEER APP** : Google play store for  users
- After downloading the app App Store for  users



This screen will appear

Check AQI from the "MAP VIEW"

Go to "CITY LIST" for city-wise details of AQI

Select a City name for detail information

AQI

AIR QUALITY INDEX

AQI?



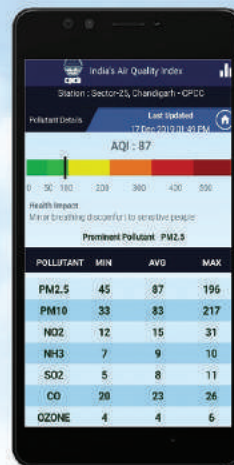
Air Quality Index is a tool for effective communication of air quality status to general public. It transforms complex air quality data of various pollutants into a single number and colour.

In India AQI is based on six air quality categories ranging from 0-500

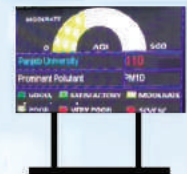
AQI categories are based on concentration of ambient air pollutants and their likely health impacts (known as health breakpoints).

AQI Range	0-50	51-100	101-200	201-300	301-400	401-500
Air Quality Conditions	Good	Satisfactory	Moderate	Poor	Very Poor	Severe
Color Code	Green	Light Green	Yellow	Orange	Red	Dark Red

Currently, AQI is developed having 8 air pollutants namely PM₁₀, PM_{2.5}, NO₂, SO₂, CO, O₃, NH₃, & Pb for which short-term (upto 24-hours) National Ambient Air Quality Standards are available

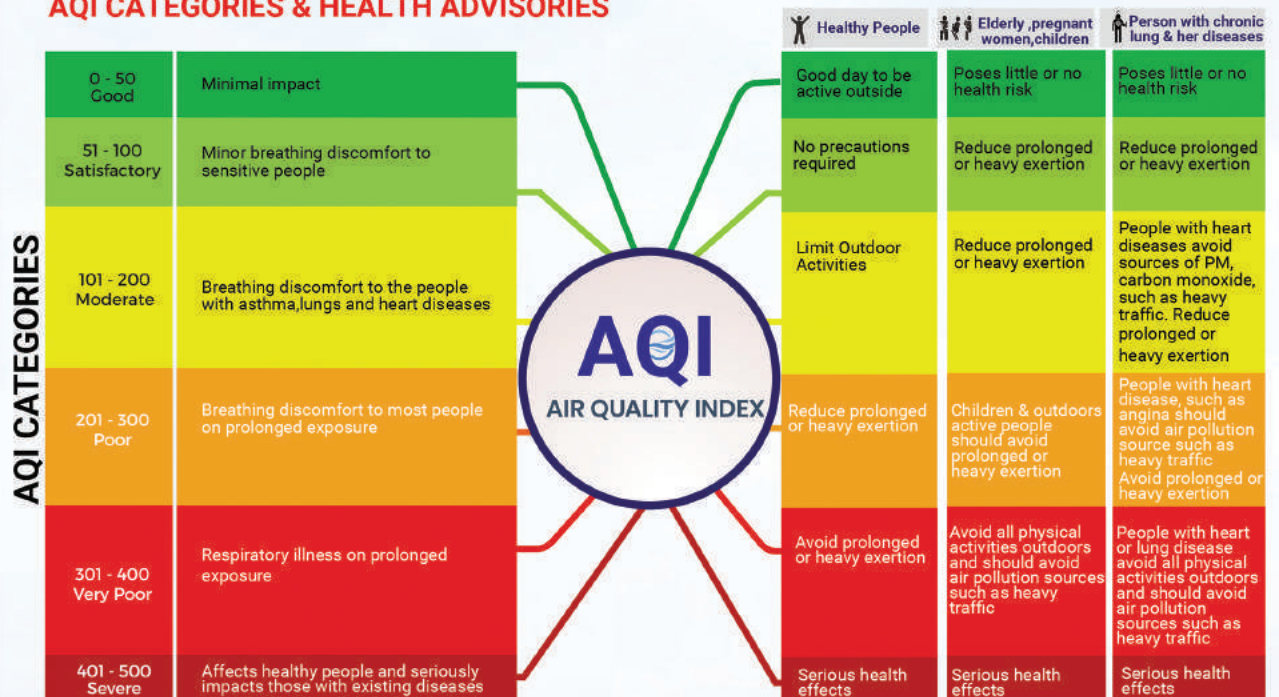


Check Places of Air Pollution Display in Your City



Sameer App, CPCB Go to.....
https://app.cpcbcr.com/AQI_India

AQI CATEGORIES & HEALTH ADVISORIES



SWACHH BHARAT AND HAZARDOUS AND OTHER WASTES



23 HAZARDOUS AND OTHER WASTE MANAGEMENT (OA 804/17, ORDER DATED 7.7.20)

As per National Inventory Report of CPCB (2018-19), 68,949 industries generated 8.64 million MT of hazardous waste. The hazardous waste is managed by the industries having captive and common treatment storage and disposal facilities. The issue is on implementation of Hazardous and Other Waste Management Rules. The core issues are; preventing mismanagement of waste by industries, illegal use of waste for recycling, accidents arising out of Captive or Common TSDF and remediation of contaminated sites.



The Tribunal on 7.7.20 directed CPCB to follow up on implementation of Rule and recover compensation for continuing damage to the environment on 'Polluter Pays' principle, not to permit any new industry having potential to generate hazardous waste till facilities for disposal of such waste are ensured.

CPCB to cross verify at least 10% hazardous waste generating industries and impose compensation against delinquent industries and immediately 5 sites be taken up for remediation. Tribunal further insisted that environmental damages caused by such site and loss in terms of monetary resources may also be estimated.

24 SWACHH BHARAT AND PLASTIC WASTE MENACE (OA 606/18 AND EA 13/19 IN OA 247/17)

'Swachh Bharat' is one of the important program of GoI. Cities and towns have been giving ugly looks because of haphazard disposal of garbage. There remains backlog in cities due to inefficient waste collection and transportation system.

Tribunal got specifications prepared for setting up of waste processing facilities, execution of bio-mining of legacy waste sites and sewage treatment plants on GeM portal.

Since, there are no waste processing facilities, entire generated waste ends up on landfill sites and resulting in legacy waste. Tribunal directed states to have action plan for each city, town and village and monitor progress of execution at district and state level and monitored at central level. The Tribunal had first round of appearance of all Chief Secretaries and in second round, 19 Chief Secretaries could appear before Tribunal and further proceedings deferred due to lock down. Tribunal observed that, there is very slow progress on setting up of Waste

Processing facilities and Bio-mining required for remediation of legacy waste sites. To cut short the process of tendering. It is important observation that directions of the Tribunal compliment the Swachh Bharat program. In OA 519/19, the Tribunal while reviewing remediation of three landfill sites in Delhi, directed to assess the damages caused by the landfills.



Another menace of cities towns and villages is the plastic waste, servings in any get-together invariably uses plastic cutlery and it's subsequent disposal. At many places, think plastic like polystyrene cups and thermocol is burnt which emits carcinogenic emissions. The Tribunal directed for ensuring compliance with Plastic Waste Management Rules,

25 RESOURCES, RESTITUTION AND INSTITUTIONS (OA 102/19, OA 95/18 AND OA 639/18)

The Tribunal while considering protection of envi

ronment, observed that polluters are scott free and there is no recognition that to what extent damages have been caused to the environment and no monetary losses have been estimated. The Tribunal while dealing different matters got environmental damages assessed and directed Institutions to work out compensation based on scientific basis and involving economic aspects and utilisation compensation for restitution of environment. The important aspects covered for compensation includes; sewage, solid waste, hazardous, biomedical and plastic waste, noise pollution, industrial pollution, sand mining and others.

The Tribunal held that Regulatory bodies need to be vigilant and adequately equipped. The Tribunal in different Matters accordingly directed for Strengthening of Pollution Control Boards for which some part of environment compensation may be utilised.

In OA 639/18, order dated 25.8.20, the Tribunal directed to adopt shortened frequency of industrial inspections. Tribunal reiterated that CPCB and SPCBs to take further steps for strengthening of their monitoring and related infrastructure, including the infrastructure of laboratories.



IMPORTANT ENVIRONMENT & PUBLIC HEALTH DAYS

IMPORTANT DATES	IMPORTANT DAYS	IMPORTANT DATES	IMPORTANT DAYS
24 JANUARY	INTERNATIONAL DAY OF EDUCATION	22 JUNE	WORLD RAINFOREST DAY
30 JANUARY	NATIONAL CLEANLINESS DAY	11 JULY	WORLD POPULATION DAY
02 FEBRUARY	WORLD WETLAND DAY	28 JULY	WORLD NATURE CONSERVATION DAY
27 FEBRUARY	INTERNATIONAL POLAR BEAR DAY	29 JULY	WORLD TIGER DAY
28 FEBRUARY	NATIONAL SCIENCE DAY	10 AUGUST	WORLD LION DAY
03 MARCH	WORLD WILDLIFE DAY	12 AUGUST	INTERNATIONAL YOUTH DAY
14 MARCH	INTERNATIONAL DAY OF ACTION FOR RIVERS	16 SEPTEMBER	WORLD OZONE DAY
15 MARCH	WORLD CONSUMER RIGHT DAY	22 SEPTEMBER	WORLD CAR-FREE DAY
18 MARCH	GLOBAL RECYCLING DAY	28 SEPTEMBER	GREEN CONSUMER DAY
21 MARCH	WORLD FORESTRY DAY	04 OCTOBER	WORLD ANIMAL WELFARE DAY
22 MARCH	WORLD WATER DAY	13 OCTOBER	WORLD HABITAT DAY
23 MARCH	WORLD METEOROLOGICAL DAY	14 OCTOBER	INTERNATIONAL DAY FOR DISASTER REDUCTION
27 MARCH	WORLD RESOURCE DAY	14 OCTOBER	INTERNATIONAL E-WASTE DAY
07 APRIL	EARTH HOUR	15 OCTOBER	GLOBAL HANDWASHING DAY
18 APRIL	WORLD HEALTH DAY	16 OCTOBER	WORLD FOOD DAY
22 APRIL	WORLD HERITAGE DAY	24 OCTOBER	INTERNATIONAL DAY OF CLIMATE ACTIONS
20 MARCH	EARTH DAY	14 NOVEMBER	WORLD ENERGY CONSERVATION DAY
04 MAY	WORD SPARROW DAY	18 NOVEMBER	WORLD COPD DAY
20 MAY	WORLD ASTHMA DAY	19 NOVEMBER	WORLD TOILET DAY
22 MAY	WORLD BEE DAY	02 DECEMBER	NATIONAL POLLUTION CONTROL
31 MAY	INTERNATIONAL DAY FOR BIOLOGICAL DIVERSITY	05 DECEMBER	WORLD SOIL DAY
05 JUNE	ANTI-TOBACCO DAY	11 DECEMBER	INTERNATIONAL MOUNTAIN DAY
08 JUNE	WORLD ENVIRONMENT DAY	14 DECEMBER	NATIONAL ENERGY CONSERVATION DAY
17 JUNE	WORLD OCEAN DAY		
21 JUNE	WORLD DAY TO COMBAT DESERTIFICATION AND DROUGHT		
	INTERNATIONAL CLIMATE CHANGE DAY		

In addition to the brief indicated in the above-mentioned orders, the Tribunal during 2020 has dealt with many challenging environmental issues and some of them are as under for illustration;

S.NO.	SUBJECT
1.	Proper dismantling of old vehicles and End-of-Life Vehicles (OA 807/18, 24.7.20)
2.	Noise pollution control in Delhi (OA 519/16, 11.8.20)
3.	Ongoing matter on management of End-of-Life Tyres/waste tyres (OA 400/19)
4.	Protection of environment along Highways (EA 29/18 in OA 386/16)
5.	Remedial action for non-potable compliance of provisions of the Biological Diversity Act, 2002 (OA 347/16)
6.	Compliance of environmental norms by restaurants/hotels/motels/banquets. All States/UTs to adopt and enforce CPCB Guidelines on various environmental aspects (OA 400/17)
7.	Regulation and control of use of Pet coke and Furnace oil as fuel to prevent damage to environment and public health (OA 67/19)
8.	Water management in Delhi including rain water harvesting, revival of water bodies and use treated water and control of illegal extraction of ground water (OA 496/16)
9.	Compliance of Plastic and Solid Waste Management Rules at railway compartments, stations, tracks and related issues (OA 141/14)
10.	Pollution at and around Railway Godown, Faizabad, UP (OA989/18)
11.	Crude and unscientific carcass disposal (OA 465/19)
12.	Kamaleshwar Lift Irrigation Scheme (Appeal 20/18, dated 20.10.20)
13.	Stone crushes Siting and carrying capacity (OA 667/18)
14.	Road side restaurant causing waste disposal-Guidelines (OA 26/19)
15.	Bhagirathi Eco sensitive done Zonal Master Plan (OA 256/20)
16.	Guidelines for Dairy Stock rearing (OA 46/18)
17.	Preparation of Coastal Zone Management Plan (OA 430/18)

INDEX OF IMPORTANT ORDERS (2020)

S.NO.	SUBJECT	OA / APPEAL NO.	DATE OF ORDER
1.	Construction of commercial building projects at NOIDA	OA 889/2019	16.12.2020
2.	Housing complex on area of 10.98 acres called 'Ambience Lagoon Apartments' by Ambience Developers & Infrastructure Private Limited, at NH-8, Gurgaon	OA 238/2015	11.02.2020
3.	Housing project 'Vesta Heights', Village Baselwa, Sector-86, Faridabad, Haryana	OA 506/2019	01.10.2020
4.	Disposal of waste by Sare Homes Society at Gurgaon	OA 688/2019	01.10.2020
5.	Disposal of BMW arising out of Covid-19	OA 72/2020	23.04.2020
6.	Biomedical Waste	OA 710/711/712 /713/2017	20.7.2020
7.	Garbage processing plant by Noble Exchange Environment Solution Pune LLP (NEXS)	OA 210/2020	27.10.2020
8.	Solid Waste Management	OA 606/2018	14.12.2020
9.	Solid Waste Management	OA 606/2018	28.02.2020
10.	Legacy Waste	OA 519/2019 and 386/2019	23.3.2020
11.	Plastic Waste	EA 13/2019 in OA 247/2017	06.12.2019
12.	Cheap waste paper and the road sweep waste import for firing of brick kilns	OA 851/2018	10.9.2020
13.	Hazardous Waste and other waste Management	OA 804/2017	07.7.2020
14.	Ground Water	OA 176/2015	20.7.2020
15.	Accidents/Incidents in factories	OA 274/2020	18.12.2020
16.	Accidents/Incidents in factories	OA 134/2020	22.12.2020
17.	Accidents/Incidents in factories	OA 106/2020	22.12.2020
18.	Accidents/Incidents in factories	OA 108/2020	22.12.2020
19.	Leakage of hazardous gas Styrene	OA 73/2020	1.6.2020
20.	Massive blast in chemical factory run by Yashyashvi Rasayan Pvt. Ltd. manufacturing several chemicals including Methanol and Xylene, Dahej, Gujarat	OA 22/2020 (WZ) (Earlier OA 22/2020) (WZ)	08.06.2020

21.	Ammonia gas leakage accident at Nandyal in Kurnool District, Andhra Pradesh in Spy Agro Industry	OA 107/2020	06.07.2020
22.	Incident of oil well blow out at Baghjan in the Tinsukia District of Assam	(OA 43/2020(EZ))	02.07.2020
23.	Absence of proper management of End-of-Life Tyres/Waste Tyres (ELTs)	OA 400/2019	06.01.2020
24.	Compliance of Plastic and Solid Waste Management Rules at railway compartments, stations, tracks etc.	OA 141/2014	18.8.2020
25.	Utilization Environment Relief Fund amount of Rs. 800 crores	OA 86/2020	20.11.2020
26.	Discharge of untreated trade effluents by textile industries at Pali	OA 32 (THC)/2014	07.12.2020
27.	Pollution caused by the textile industries at Balotra, Bithuja and Jasol in District Barmer	OA 34/2014	07.12.2020
28.	Polluted River Stretches	OA 593/2017	21.09.2020
29.	Polluted River Stretches	OA 593/2017	21.09.2020
30.	Polluted River Stretches	OA 829/2019	21.09.2020
31.	Polluted River Stretches	OA 148/2016	21.09.2020
32.	Discharge of untreated toxic industrial effluent in Jojari Rive, Jodhpur and Barmer Districts of Rajasthan	OA 329/2015	23.11.2020
33.	Floodplains in Odisha-Mahanadi	OA 22/2020	15.12.2020
34.	Purushothapatnam Lift Irrigation Scheme-AP-Polavaram	OA 175/2018	09.09.2020
35.	Kaleshwaram Lift Irrigation Scheme (KLIS) project in Karimnagar District of Telangana by Irrigation & Command Area Development (I and CAD) Department, Government of Telangana	Appeal 20/2018	20.10.2020
36.	Non-attainment cities. Encroachments on roads by illegal parking	OA 681/2018, 773/2018	21.8.2020
37.	Ban on firecrackers	OA 49/2020	01.12.2020
38.	Dust pollution arising out of dry sweeping of roads	OA 283/2020	03.12.2020
39.	Sand Mining	OA 360/2015	17.08.2020
40.	Use of Pet-coke and Furnace oil as fuel	OA 67/2019	16.07.2020
41.	Railway Siding	OA 989/2018	15.7.2020

42.	Noise Pollution	OA 496/2018, 519/2016	11.08.2020
43.	Rain Water Harvesting	OA 496/2016	3.2.2020
44.	Prohibit use of RO	OA 134/2015	13.07.2020
44A	Prohibit use of RO	OA 134/2015	20.05.2019
45.	VOC emissions at Mahul, Ambapada - BPCL, Seal Lord, HPCL	EA 05/2018	13.08.2020
46.	New Residential Building project-Bangalore	Appeal 54/2018	08.09.2020
47.	Kachchh Camel Breeders Association, Violation of CRZ Notification, 2011	EA 12/2020	16.09.2020
48.	CRZ Clearance for Mumbai Trans Harbour Link	Appeal 39/2020	09.10.2020
49.	Brick kilns run by 'Zig-Zag' technology in NCR	OA 1016/2019	15.10.2020
50.	Ship Recycling /breaking yard at Alang, Sosiya-Gujarat	Appeal 49/2018	27.11.2020
51.	Illegal operation of stone crushers in District Mahendergarh, Haryana	OA 667/2018, 679/2018	03.12.2020
52.	Biological Diversity Act, 2002 and Biological Diversity Rules, 2004	OA 347/2016	16.12.2020
53.	Protection of Great Indian Bustard (GIB) – rare bird and one of the critically endangered species	OA 385/2019	23.12.2020
54.	District Environment Management Plan	OA 360/2018	19.3.2020
55.	Carcasses	OA 465/2019	13.05.2020
56.	Enforcement of environment norms in running of restaurants/hotels/ motels/banquets	OA 400/2017	23.07.2020
57.	Illegal operation of marriage halls	OA 102/2019	24.07.2020
58.	Red, Orange, Green Category	OA 639/2018	25.8.2020
59.	Illegal construction within the wildlife sanctuary	OA 41/2015, 189/2014	18.09.2020

Source: Central Pollution Control Board, India

ENVIRONMENTAL LAWS & STANDARDS

- The Atomic Energy Act, 1962.
- The Water (Prevention and Control of Pollution) Act, 1974.
- The Forest Conservation Act, 1980.
- The Air Prevention and Control of Pollution, 1981.
- The Environmental (Protection) Act, 1986.
- The Environmental Conservation Act, 1989.
- The National Environmental Tribunal, 1995.
- National Environmental Appellate Authority Act, 1997.
- National Environment Management Act (NEMA), 1998.
- The Public Liability Insurance Act (Rules and Amendment), 1992.
- The Environment (Siting for Industrial Projects) Rules, 1999.
- The Ozone Depleting Substance (Regulation and Control) Rules, 2000.
- The Energy Conservation Act, 2001.
- The Biological Diversity Act, 2002.
- National Green Tribunal Act, 2010.
- Coastal Regulation Zone (CRZ) Notification, 2011.
- Solid Waste Management Rules, 2016.
- Plastic Waste Management Rules, 2016.
- E-waste (Management) Rules, 2016.
- Bio-Medical Waste Management Rules, 2016.
- Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.
- Construction and Demolition Waste Management Rules, 2016.

NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Time Weighted Average	Industrial, Residential, Rural and other Areas	Ecologically Sensitive Area (notified by Central Government)
Sulphur dioxide (SO ₂), µg/m ³	Annual 24 hours	50	20
		80	80
Nitrogen dioxide (NO ₂), µg/m ³	Annual 24 hours	40	30
		80	80
Particulate matter (< 10 µm) or PM ₁₀ , µg/m ³	Annual 24 hours	60	60
		100	100
Particulate matter (< 2.5 µm) or PM _{2.5} , µg/m ³	Annual 24 hours	40	40
		60	60
Ozone (O ₃), µg/m ³	8 hours 1 hour	100	100
		180	180
Lead (Pb), µg/m ³	Annual 24 hours	0.50	0.50
		1.0	1.0
Carbon monoxide (CO), mg/m ³	8 hours 1 hour	02	02
		04	04
Ammonia (NH ₃), µg/m ³	Annual 24 hours	100	100
		400	400
Benzene (C ₆ H ₆), µg/m ³	Annual	05	05
Benzo(α) Pyrene (BaP) – particulate phase only, ng/m ³	Annual	01	01
Arsenic (As), ng/m ³	Annual	06	06
Nickel (Ni), ng/m ³	Annual	20	20

Source: Central Pollution Control Board, India

CRITERIA AIR POLLUTANTS – EMISSION SOURCES AND MAJOR EFFECTS

Criteria pollutants	Natural sources	Emission sources	Major effects	
		Anthropogenic sources	Health effects	Environmental effects
Sulfur oxides (SO _x)	Volcanic emissions	Burning of fossil fuels, Metal smelting, Petroleum refining etc. Burning of fossil fuels, Metal smelting, Petroleum refining etc.	Respiratory problems, Heart and lung disorders, Visual impairment	Acid rain
Nitrogen oxides (NO _x)	Lightning, forest fires etc.	Burning of fossil fuels, biomass and high temperature combustion processes	Pulmonary disorders, increased susceptibility to respiratory infections	Precursor of ozone formation in troposphere, Aerosol formation
Particulate matter (PM)	Windblown dust, pollen spores, photochemically produced particles	Vehicular emissions, Industrial combustion processes, Commercial and residential combustion, Construction industries	Respiratory problems, liver fibrosis, lung/liver cancer, Heart stroke, Bone problems	Visibility reduction
Carbon monoxide (CO)	Animal metabolism, forest fires, volcanic activity	Burning of carbonaceous fuels, emission from IC engines	Anoxemia leading to various cardiovascular problems. Infants, pregnant women, and elderly people are at higher risk	-
Ozone (O ₃)		Hydrocarbons and NO _x upon reacting with sunlight results in O ₃ formation	Respiratory problems, Asthma, bronchitis etc.	O ₃ in upper troposphere causes greenhouse effects, Harmful effects on plants as it interferes in photosynthesis and results in death of plant tissues since it assists in the formation of Peroxyacetyl nitrate (PAN)
Lead (Pb)	Present in stratosphere at 10-50 km height	Metal processing plants, waste incineration, automobile exhausts, lead-acid batteries, industrial effluents etc.	Serious effects on central nervous system since it is absorbed rapidly in blood stream, Anemia, toxic for soft tissues and bones	

Source: Central Pollution Control Board, India

WATER QUALITY STANDARDS

SI No	Characteristic	Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source
1	Colour, Hazen units, Max	5	15
2	Odour	Agreeable	Agreeable
3	pH value	6.5-8.5	No relaxation
4	Taste	Agreeable	Agreeable
5	Turbidity, NTU, Max	1	5
6	Total dissolved solids, mg/l	500	2000

Source: Central Pollution Control Board, India

GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

SI No	Characteristic	Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source
1	Aluminum (as Al), mg/l, Max	0.03	0.2
2	Ammonia (as total ammonia-N), mg/l, Max	0.5	No relaxation
3	Anionic detergents (as MBAS), mg/l, Max	0.2	1.0
4	Barium (as Ba), mg/l, Max	0.7	No relaxation
5	Boron (as B), mg/l, Max	0.5	1.0
6	Calcium (as Ca), mg/l, Max	75	200
7	Chloramines (as Cl ₂), mg/l, Max	4.0	No relaxation
8	Chloride (as Cl), mg/l, Max	250	1000
9	Copper (as Cu), mg/l, Max	0.05	1.5
10	Fluoride (as F), mg/l, Max	1.0	1.5
11	Free residual chlorine, mg/l, Min	0.2	1
12	Iron (as Fe), mg/l, Max	0.3	No relaxation
13	Magnesium (as Mg), mg/l, Max	30	100
14	Manganese (as Mn), mg/l, Max	0.1	0.3
15	Mineral oil, mg/l, Max	0.5	No relaxation
16	Nitrate (as NO ₃), mg/l, Max	45	No relaxation
17	Phenolic compounds (as C ₆ H ₅ OH), mg/l, Max	0.001	0.002
18	Selenium (as Se), mg/l, Max	0.01	No relaxation
19	Silver (as Ag), mg/l, Max	0.1	No relaxation
20	Sulphate (as SO ₄), mg/l, Max	200	400
21	Sulphide (as H ₂ S), mg/l, Max	0.05	No relaxation
22	Total alkalinity as calcium carbonate, mg/l, Max	200	600
23	Total hardness (as CaCO ₃), mg/l, Max	200	600
24	Zinc (as Zn), mg/l, Max	55	15

Source: Central Pollution Control Board, India

Parameters Concerning Toxic Substances

SI No	Characteristic	Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source
1	Cadmium (as Cd), mg/l, Max	0.03	No relaxation
2	Cyanide (as CN), mg/l, Max	0.5	No relaxation
3	Lead (as Pb), mg/l, Max	0.01	No relaxation
4	Mercury (as Hg), mg/l, Max	0.001	No relaxation
5	Molybdenum (as Mo), mg/l, Max	0.07	No relaxation
6	Nickel (as Ni), mg/l, Max	0.02	No relaxation
7	Pesticides, µg/l, Max	In the table below	No relaxation
8	Polychlorinated biphenyls, mg/l, Max	0.0005	No relaxation
9	Polynuclear aromatic hydro-carbons (as PAH), mg/l, Max	0.0001	No relaxation
10	Total arsenic (as As), mg/l, Max	0.01	0.05
11	Total chromium (as Cr), mg/l, Max	0.05	No relaxation
12	Trihalomethanes		
	a) Bromoform, mg/l, Max	0.1	No relaxation
	b) Dibromochloromethane, mg/l, Max	0.1	No relaxation
	c) Bromodichloromethane, mg/l, Max	0.06	No relaxation
	d) Chloroform, mg/l, Max	0.2	No relaxation

Source: Central Pollution Control Board, India

Parameters Concerning Radioactive Substances

SI No	Characteristic	Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source
1	Radioactive materials:		
	a) Alpha emitters Bq/l, Max	0.1	No relaxation
	b) Beta emitters Bq/l, Max	1.0	No relaxation

Source: Central Pollution Control Board, India

Pesticide Residue Limits

SI No	Pesticide	Limit µg/l
1	Alachlor	20
2	Atrazine	2
3	Aldrin/Dieldrin	0.03
4	Alpha HCH	0.01
5	Beta HCH	0.04
6	Butachlor	125
7	Chlorpyrifos	30
8	Delta HCH	0.04
9	2,4- Dichlorophenoxyacetic acid	30
10	DDT (o, p and p, p-Isomers of DDT, DDE and DDD)	1
11	Endosulfan (alpha, beta, and sulphate)	0.4
12	Ethion	3
13	Gamma-HCH (Lindane)	2
14	Isoproturon	9
15	Malathion	190
16	Methyl parathion	0.3
17	Monocrotophos	1
18	Phorate	2

Source: Central Pollution Control Board, India

Bacteriological Quality of Drinking Water 1

SI No	Organisms	Requirement
1	All water intended for drinking:	
	a) E. coli or thermotolerant coliform bacteria ²	Shall not be detectable in any 100 ml sample
2	Treated water entering the distribution system:	
	a) E. coli or thermotolerant coliform bacteria	Shall not be detectable in any 100 ml sample
	b) Total coliform bacteria	Shall not be detectable in any 100 ml sample
3	Treated water in the distribution system:	
	a) E. coli or thermotolerant coliform bacteria	Shall not be detectable in any 100 ml sample
	b) Total coliform bacteria	Shall not be detectable in any 100 ml sample

Source: Central Pollution Control Board, India

Ambient Air Quality Standards in respect of Noise

Area Code	Category of Area / Zone	Limits in dB(A) Leq*	
		Day Time	Night Time
1	Industrial area	75	70
2	Commercial area	65	55
3	Residential area	55	45
4	Silence Zone	50	40

* Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

A “decibal” is a unit in which noise is measured.

Source: Central Pollution Control Board, India

These judgements are available on NGT website

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**BE THE
SOLUTION**

**TO GET RID OFF THE
POLLUTION**

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