



Monthly Newsletter



# Bulletin

MAHARASHTRA POLLUTION CONTROL BOARD

DECEMBER 2021



## Editorial



We are gladdened to present to the stakeholders MPCB's 7th edition of E-bulletin as we continue to series. This E-bulletin is an attempt to give you a brief insight into the latest happenings in the field in terms of various new initiatives undertaken, awareness programs being carried out by MPCB and introduce the reader to the breakthrough research which is being done in this field. We hope this E bulletin is very much valuable, informative and helpful for the readers and we will also greet your suggestion & feedback for betterment of our future E-bulletins.

In this edition of the E-Bulletin, the focus is on air quality and air pollution. We have also given a note about indoor air pollution, their causes, effects and how it can be prevented to some extent by use of certain plants. There is also a brief synopsis about an event hosted by MPCB for National Clean Air Programme.

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## TECHNOLOGY

### INDOOR AIR POLLUTION – AIR QUALITY

What is indoor air pollution?

You probably know it can be harmful to breathe in polluted air when you're outside. The same is true for when you're indoors. We spend about 90% of our time indoors – at home, work, school, or when we go to shops or restaurants.

Indoor air pollution is dust, dirt, or gases in the air inside buildings such as your home or workplace that could be harmful to breathe in. Poor indoor air quality has been linked to lung diseases like asthma, COPD and lung cancer. It has also been linked to increased risk of heart disease and stroke.

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## TYPES OF INDOOR AIR POLLUTION

Particulate matter (pm) – tiny particles of dust and dirt in the air, such as soot and dust mites

Gases – for example carbon monoxide, nitrogen oxide, and sulphur dioxide

Indoor air pollution can be caused by anything from gas stoves and wood burners, to damp and mould.

Who can be affected by poor indoor air quality?

Anyone can be affected by indoor air pollution. If you live with a lung condition, such as COPD, asthma, or bronchiectasis, you're more likely to be affected by poor air quality as your lungs are more sensitive – although not everyone has the same reactions to the dust, dirt and gases in our homes.

If you have a severe lung condition you might find it harder to move around, so may spend more time indoors. This means you may have more contact with things that affect the air you breathe indoors. These could include cigarette smoke, cleaning products or mould.

Children are particularly vulnerable to poor indoor air quality as their lungs are still developing. Children's airways are smaller, so inflammation caused by indoor and outdoor air pollution can cause them to narrow more easily than in older people.



Many measures have been taken to reduce air pollution and improve air quality. These methods are generally costly and require special equipment. Some plants have the ability to assimilate, degrade, or modify toxic pollutants in air into less toxic ones. It is proposed here to develop plant-based technology to clean polluted air at low cost. This air phytoremediation technology has many potential advantages in



contrast with traditional air pollution treatment methods. It is simple, potentially cheap, and easily implemented. Plants to be used for air phytoremediation have the potential to reduce pollutants in air and improve air quality; they also fix carbon dioxide through photosynthesis and help to decrease greenhouse gases in the atmosphere. The selected plants can also be used as raw materials for production of energy and bio-based chemicals.

All the plants absorb CO<sub>2</sub> & release O<sub>2</sub> into the air



Rhaps Palm  
(Rhaps excelsa)



Peace lily  
(Spathyphylum)



Chinese evergreen  
(Dieffenbachia seguine)



Golden pothos  
(Epipremnum pinnatum)

Most recent research - microorganism in potting mix (soil) of a potted plant remove Benzene from air



Spider Plant  
(Chlorophytum comosum)

Research done in NASA space station, that suggest efficient Air Cleaning is accomplished with at least 1-2 plants/100sq.ft. for home or office space.



Aloe Vera  
(Aloe barbadensis mil)



Areca Palm  
(Dypsis lutescens)



Snake Plant  
(ansevieria laurentii)

The NASA clean air study found common indoor plant may provide natural way of removing toxin agents such as Benzene, formaldehyde, xylene



English Ivy  
(Hedera helix)



Gerbera daisy  
(Gerbera jamesonii)



Chrysanthemum  
(Chrysanthemum indicum)

THE POLLUTANTS

Indoor Air polluting chemicals comes from source such as paint, carpentering , plastics and xerox machines. Indoor Air pollution level are highest in new and renovate building, may pose serious health risk.

AMMONIA: Found in window cleaners, floor waxes, smelling salts and fertilizers.

BENZENE: Found in plastics, rubbers, nylon & synthetic fibers, drugs and pesticides.

XYLENE: Found in printing, rubber, tobacco smoking, leather and paint.

CARBON MONOXIDE: Found in cooking stoves, water heaters, clothes dryers, fireplaces, charcoal grills, wood stoves, power generators, motor vehicle and cigarette smoke.

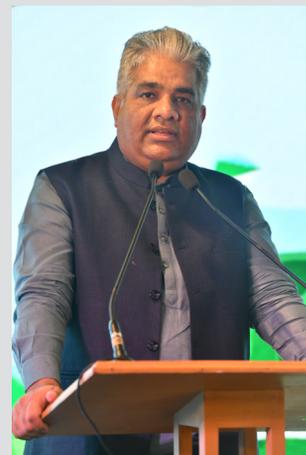
TRICHLOROETHYLENE: Found in printing Inks, paints, varnishes and paint remover.

FORMALDEHYDE: Found in paper bags, waxed papers, plywood paneling.

# SENSITIZATION CUM REVIEW WORKSHOP

NATIONAL CLEAN AIR PROGRAMME (NCAP) &  
XV-FC MILLION PLUS CITIES  
CHALLENGE FUND (XV-FC MPCCF)

WESTERN REGION (GOA, GUJARAT, MADHYA PRADESH, MAHARASHTRA)



The  
"Sensitisation-cum-  
Review Workshop under  
National Clean Air Programme and  
XV-FC Million Plus Cities Challenge  
Fund for Western Region  
(Goa, Gujarat, Madhya Pradesh and  
Maharashtra)" was organised by Ministry of  
Environment, Forest and Climate Change  
(MoEF&CC), Government of  
India. The workshop was hosted by  
Maharashtra Pollution Control Board  
(MPCB) on 23rd and 24th  
November 2021 at Taj  
President, Mumbai.





EVENT



The objective of the workshop was to bring together the city, State and Central level government agencies and partner international organisations actively engaged in air quality improvement activities under NCAP and XV-FC MPCCF. The workshop was organised over two days. It comprised of an inaugural session, two technical sessions and one financial session on the first day (23rd November 2021) and three technical sessions on the second day (24th November 2021). The technical and financial sessions were focused on physical and financial progress in implementation of activities under NCAP and XV-FC MPCCF at city and State levels.

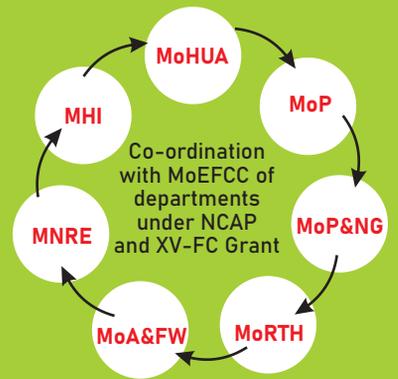
Also, MoUs were signed between MoEF&CC, Urban Development Department of State Government and ULBs/UAs for 6 XV-FC MPC and 9 NCAP cities of Maharashtra.

Topics covered in the technical sessions on both the days are as follows:

DAY 1:  
 TECHNICAL SESSION 1: NCAP Implementation – Concrete Action Plans, Convergence of Schemes and Programmes, Coordination and Rolling Out at State Levels  
 TECHNICAL SESSION 2: Best Practices, Progress and Challenges in Implementing Air Quality Improvement Activities/ Actions in Cities Best Practices, Progress and Challenges in cities of Maharashtra

FINANCIAL SESSION: Overview on Operational Guidelines, Monitoring and Utilization of Funds under NCAP and XV-FC MPCCF

DAY 2:  
 TECHNICAL SESSION 1: Case Studies on Best Practices  
 TECHNICAL SESSION 2: Salient Features of PRANA Portal and Role of Cities and State in Robust Implementation of Dashboard  
 TECHNICAL SESSION 3: Collaboration and Participation of International Agencies for Air Quality Improvement in NCAP Cities



**Steps for Convergence of Schemes at State and City levels**

- Coordination amongst the State departments
- Join the dots of Central and State level schemes of various departments and funds available
- Review of ongoing activities under the schemes/ programmes
- Identification and prioritizing the activities having substantial impact in reduction of air quality
- Development of State Action Plan for air quality improvement
- Allocation of funds from the available programmes
- Critical gap funding for activities which are no covered or explicitly not covered will be funded in NCAP

**DID YOU  
KNOW?**

## CORPORATE ENVIRONMENT RESPONSIBILITY (CER)

The Environment Impact Assessment (EIA) Notification, 2006, issued under the Environment (Protection) Act, 1986, prescribes the process for granting prior environment clearance (EC) in respect of certain development projects/ activities listed out in the Schedule to the Notification.

Sustainable development has many important facets/components like social, economic, environmental etc. All these components are closely inter-related and mutually re-enforcing. Therefore, the general structure of EIA document, prescribes inter-alia public consultation, social impact assessment and R&R action plan besides

environment management plan (EMP). The following guidelines are issued in order to have transparency and uniformity while recommending CER:

1) The cost of CER is to be in addition to the cost envisaged for the implementation of the EIA/EMP which includes the measure for the pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV and Compensatory Aforestation.

2) The fund allocation for the CER shall be deliberated in the EAC or SEAC or DEAC, with a due diligence subject to maximum percentage as prescribed below for different cases:

S.No	Capital Investment / Additional Capital Investment (in Rs)	Greenfield Project - % of Capital Investment	Brownfield Project - % of Additional Capital Investment
I	II	III	IV
1.	≤ 100 crores	2.0%	1.0%
2.	> 100 crores to ≤ 500 crores	1.5%	0.75%
3.	> 500 crores to ≤ 1000 crores	1.0%	0.50%
4.	> From 1000 crores to ≤ 10000 crores	0.5%	0.25%
5.	> 10000 crores	0.25%	0.125%



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