



## A REVIEW ON AIR QUALITY STATUS OF MADHYA PRADESH

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### **Abstract**

*In Madhya Pradesh, the air quality levels are getting worse because of rapid industrialization, energy consumption, growing number of vehicles, thermal power plants and burning of wastes. Automobiles are the major contributors in air pollution. Apart from rapid industrialization, urbanization has resulted in the emergence of industrial centers without a corresponding growth in civic amenities and pollution control mechanisms. Bhopal is the victim of Bhopal gas tragedy. Poor air quality has both acute and chronic effects on human health. In all metro cities Gwalior has air pollution levels exceed World Health Organization's (WHO) recommended health standards.*

**Keywords:** *Air quality, Pollution, Human health.*

### **Introduction**

Air pollution is a serious worldwide public health problem. Madhya Pradesh faces severe air pollution problems, with rapidly increased suspended particulates matter (SPM) at approximate 2 times as high as the WHO standards in metro cities.

Among air pollutants, particulate matter (PM) is a ubiquitous and it's especially a major problem due to its adverse health effect, Visibility reduction and soiling of buildings, consequently possibility of premature deaths of owing to high levels of air pollution.

Air pollution in Madhya Pradesh is mainly caused by Automobiles, rapid urbanization, and industrialization and used of conventional energy resources. The adverse effects of air pollution have been associated with three major sources: sulphur dioxide and solid particulates from fossil fuels; photochemical oxidants and carbon monoxide from motor vehicles and miscellaneous pollutants such as hydrogen sulphide, lead and cadmium emitted by

smelters, refineries, manufacturing plants and vehicles.

The 1972 Stockholm Declaration declared that man has the fundamental right to freedom, equality, and adequate condition of life in an environment of quality that permits a life of dignity and well-being. In 1976, the Constitution empowers the Parliament to make laws for implementing the international obligations of the country as well as any decision taken at an international conference, association or other body.

### **Current trends of air pollutants**

In Madhya Pradesh the problem of air pollution has assumed serious proportions in most of the major cities, where vehicular and industrial emissions contributed to the ambient air pollution. Sulphur dioxides (SO<sub>2</sub>) produced from Industrial sources, thermal power plants and transport sectors are identified as contributors for SO<sub>2</sub> emissions. Nitrogen oxides (NO<sub>x</sub>) are formed mainly by the burning of fossil fuels. Ozone (O<sub>3</sub>) formed due to the dramatic increase in transportation sector. It may

cause serious aggravation of heart or lung disease, it is indication of increased risk of cardio respiratory symptoms in general population.

### **Reasons for High Air Pollution in Madhya Pradesh**

- (i) **Fuel quality:** Fuel of poor quality such as coal, gasoline, diesel, fuel oil is used in Madhya Pradesh. Although various measures have been taken to improve the quality of fuel such as reduction of sulphur in diesel, unleaded petrol etc.
- (ii) **Processing technology:** Old processing technology is employed in many industries especially in small-scale industries resulting in high emission of air pollutants.
- (iii) **Industrial Zone:** Industrial zone close to residential areas results in people getting affected due to air pollution.
- (iv) **Government Policy:** No pollution preventive steps were taken during the early stage of industrialization, which resulted in high levels of air pollutants.
- (v) **Vehicle design:** Poor vehicle design results in high emission of air pollutants.
- (vi) **Rapid increased vehicle population:** Uncontrolled growth of vehicle population in all major cities/towns has resulted in high levels of air pollution.
- (vii) **Lack of environment related state government policies concerning to small and medium scale industries:** No pollution prevention and control system in small and medium scale industry exists, resulting in high levels of air pollution.

### **Air Quality Monitoring Program in Madhya Pradesh**

The air quality monitoring program in India was started in 1967 by the National Environmental Engineering Research Institute, (NEERI). But at state level, pollution control board has limited instruments and resources for regular monitoring.

### **Air Quality Standards in context of Madhya Pradesh**

The air quality standards have evolved differently in different countries depending on the exposure condition, socio-economic situation and importance of other health related problem.

The primary aim of the air quality standards is to provide a basis for protecting public health from the adverse effects of air pollution and for eliminating, or reducing to a minimum, those air contaminants that are known or likely to be hazardous to human health and well-being.

CPCB has formulated the ambient air quality standards for most commonly found pollutants. Different standards have been laid down for industrial, residential, and sensitive areas to protect human health and natural resources from the effects of air pollution.

### **Conclusions and Recommendations**

In Madhya Pradesh need of generate an action plan for air quality management whole India faces similar problems of poor air quality are being experienced. Crop production is highly dependent upon environmental conditions among which air quality plays a central role. Air pollutants cause deleterious effects on physiology and metabolism of plants due to their oxidizing potential.

Steps to be taken to improve air quality have included air quality zones in certain parts of the city, regular monitoring of air quality and the provision of information to the public on air quality as well as specific measures directed at the control and use of motor vehicles. If no immediate action is taken then it may become necessary for some orders being passed so as to bring relief to the residents of these cities.

Lessons in urban air quality management can be learnt from rest of the world which is

also pioneering new ways and policies to improve air quality and to address its causes.

### **References**

1. Sadhana Chaurasia et al, Assessment of ambient air quality status and air quality index of Bhopal city (Madhya Pradesh), India, INT J CURR SCI 2013, 9: E 96-101
2. Sadhana Chaurasia et al, Concentration of Atmospheric Trace Metals Associated With Respirable Particulate Matter (Pm10) and Air Pollution Index (API) At Bhopal City Madhya Pradesh, India, 3rd World Conference on Applied Sciences, Engineering & Technology 27-29 September 2014, Kathmandu, Nepal.
3. Action Plan for controlling air pollution in Ahmadabad city submitted by Gujarat State Department of Environment. 2003.
4. Action Plan for controlling air pollution in Bangalore city submitted by Karnataka State Department of Environment. 2003.
5. Brandon, E. and K. Hommann. 1995. The cost of inaction: Valuing the economy wide cost of environmental degradation in India. Conference on the Sustainable Future of the Global System. United Nations University, Tokyo.
6. Central Pollution Control Board. 1994. Modeling and surveillance of Dispersion and Movement of Pollutants in Delhi.
8. CSE Report. 2000. Working Model of Vehicular Pollution of Delhi for 1999-2015.
9. [www.who.int/phe/.../outdoorair/](http://www.who.int/phe/.../outdoorair/)