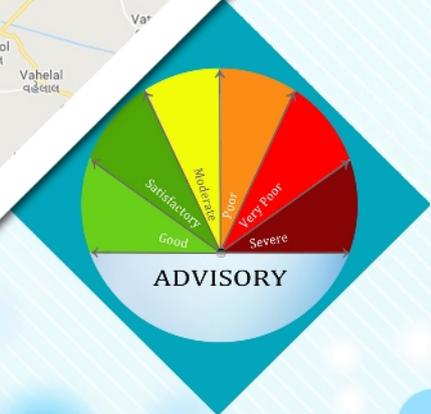
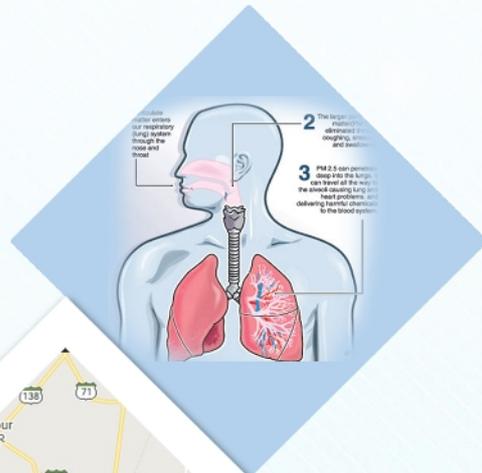




ENVIS-IITM NEWSLETTER

Indian Institute of Tropical Meteorology, Pune
Atmospheric Pollution and Climate Change
(The project of Ministry of Environment, Forest & Climate Change, Govt. of India)

AHMEDABAD'S AIR INFORMATION & RESPONSE PLAN



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Editorial

SAFAR in Ahmedabad is different from Delhi, Pune and Mumbai; as in Ahmedabad it's part of Air Information & Response Plan (AIR) which is working in coordination with various organization like IIPHG and NRDC along with its Municipal Corporation to provide instant health alerts regarding air pollution. The aim of this plan is to save lives and to create healthier environment which is secure from the dangers of air pollution. Ahmedabad's AIR Plan has been developed using the suggestions and best practices prescribed by civic experts, medical practitioners and community leaders. It is based on two strategies – a city-wide air quality monitoring system, called Air Quality Index (AQI), and a broad public information and education campaign coordinated through experts from various organizations. This newsletter will give a brief of AIR plan. This plan is one of its kinds which if implemented efficiently will give our country an model on how to prepare, secure and prevent us from any upcoming air pollution disaster.

-Dr. Gufran Beig

Air Pollution in Ahmedabad

Ahmedabad is one of India's largest and fastest growing cities with a population over 7.3 million. The World Health Organization (WHO) urban air quality database and several international and Indian studies have identified Ahmedabad as one of the most polluted cities in the world. In an effort to protect local communities from rising air pollution levels, the Ahmedabad Municipal Corporation (AMC) is developing an air quality index (AQI) with the technical expertise of the Indian Institute of Tropical Meteorology, Pune (IITM) and SAFAR (System of Air Quality and Weather Forecasting And Research).

Air pollution is emitted from several local sources in Ahmedabad. Available studies suggest that rapid urban growth has led to

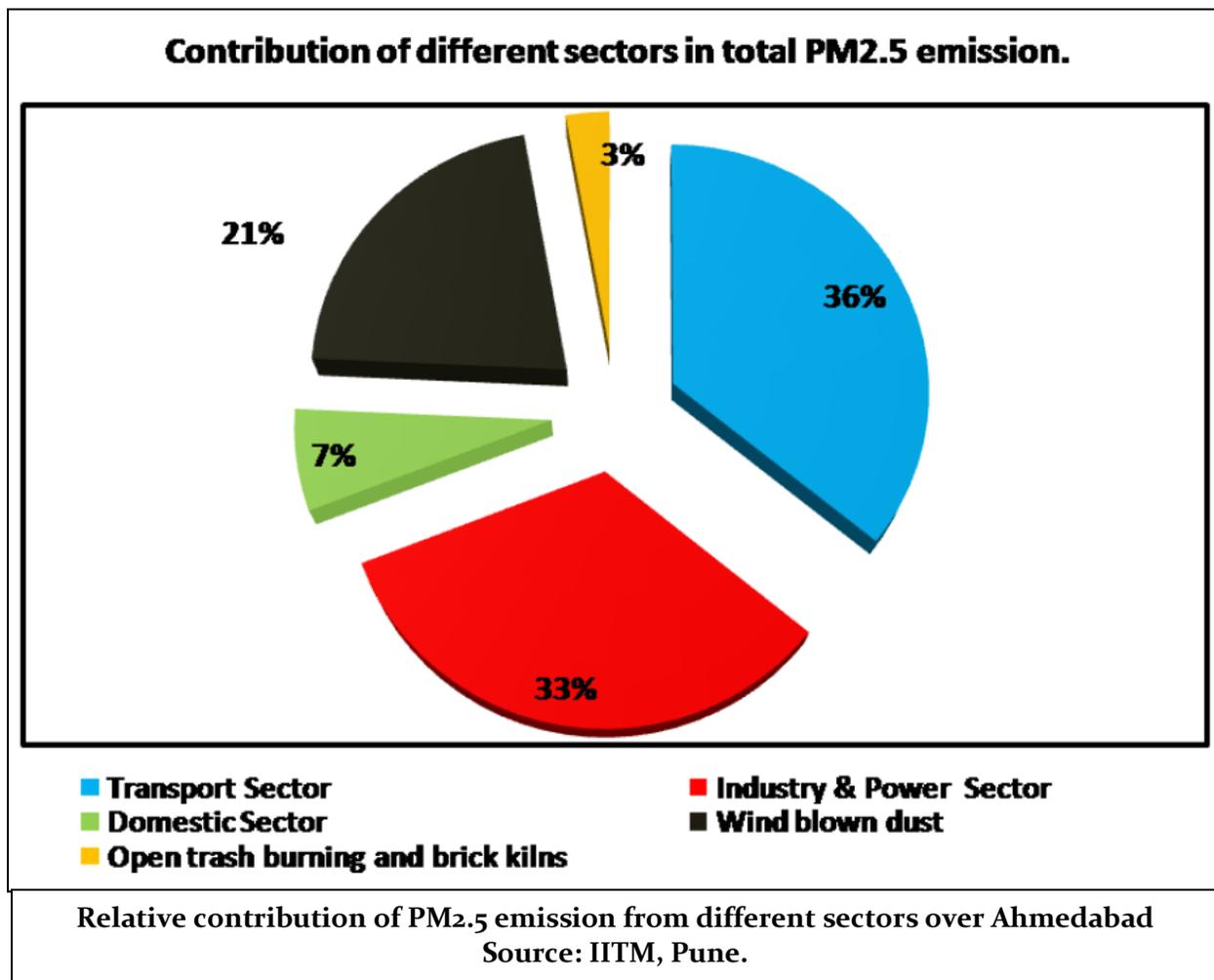


increase in air pollution from vehicle-related emissions and stationary sources in Ahmedabad. From 2001 to 2011, the number of vehicles, including motorcycles and scooters, doubled in Ahmedabad, while the population grew by 58%. Ahmedabad has two thermal coal-fired power plants: the 800 MW Gandhinagar plant and the 400 MW Sabarmati plant, one of the oldest in India. The city also has almost 3,000 industrial units including 855 chemical factories, 511 foundries and 380 textile plants among others. The surrounding low-efficiency brick kilns and trash burning also contribute to air pollution in the city. Since at least 2008, Ahmedabad has exceeded both WHO standards and India's air quality standards for particulate matter. The WHO Global Ambient Air map

reports annual mean concentrations of 100 µg/m³ for PM_{2.5} and 83 µg/m³ for PM₁₀. In Ahmedabad for 2013 and 2012, respectively. PM₁₀ levels in Ahmedabad exceeded permissible limits for all five years between 2008 and 2012, exceeding the national standards in India, which are less restrictive than the WHO guidelines, by 30–50%. Similarly, studies show that PM_{2.5} levels in Ahmedabad also exceed national standards

Major air Pollution sources in Ahmedabad are

- (1) Transport sector
- (2) Industry and Power sector
- (3) Domestic sector
- (4) Windblown dust and
- (5) Open trash burning and brick kilns.



In 2017, to take further steps for controlling air pollution several stakeholders in Ahmedabad have come together to unveil and implement a comprehensive **Air Information & Response Plan**.

Ahmedabad's Air Information & Response Plan

The AIR plan, as the Air Information and Response initiative is known, is a collaborative effort between the Ahmedabad Municipal Corporation, Indian Institute of Public Health, a nonprofit in Gandhinagar, Natural Resources Defense Council (a non-profit headquartered in New York), the Indian Meteorological Department and the Indian Institute of Tropical Meteorology's (government institute) System of Air Quality and Weather Forecasting And Research (or SAFAR) network. Combining the efforts of local government, scientists and nonprofits, ten new air quality monitoring sites across Ahmedabad will produce a daily air quality index or AQI (Air Quality Index), which will be accessible to citizens through 11 LED screens across the city, as part of what is called the Air Information and Response plan.

An Air Quality Index, or the AQI, is a tool that communicates information on air quality in qualitative terms (for example, good, satisfactory, poor) which makes citizens aware of associated health impacts and facilitates greater public participation in air quality improvement efforts. It is employed by cities, states, and countries around the world to communicate present and future health risks of air pollution to residents. The AQI communicates simplified air pollution information based on data collected through national monitoring systems that may not always be collected or reported in a form that is understood easily by the public. Additionally, the AQI also provides detailed data on how to protect health from air pollution and to guide pollution-reducing policies and regulations.

Description	AQI	PM10 µg/m ³ 24 hr avg	PM2.5 µg/m ³ 24 hr avg	CO ppm 8 hr avg	O3 ppb 8 hr avg	NO2 ppb 24 hr avg
Good + Satisfactory	0-100	0-100	0-60	0-1.7	0-50	0-43
Moderate	101-200	101-250	61-90	1.8-8.7	51-84	44-96
Poor	201-300	251-350	91-120	8.8-14.8	85-104	97-149
Very Poor	301-400	351-430	121-250	14.9-29.7	105-374	150-213
Severe	401-500	431-550	251-350	29.8-40	375-450	214-750

Purpose of the Ahmedabad Air Plan

This plan is all about saving lives and helping the people of Ahmedabad create healthier communities and secure from air pollution and its' ill-effects. The AIR plan is modeled after Ahmedabad's Heat Action Plan, launched in 2013 to reduce health impacts and mortality from extreme heat waves through measures that included early warning systems, increased public awareness and training health professionals

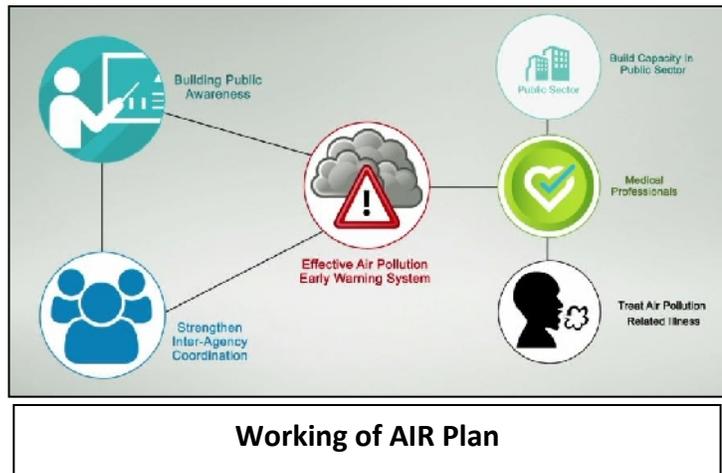
The Ahmedabad Municipal Corporation Health Department is responsible for coordination of the AQI and AIR Plan. This includes monitoring the daily AQI, issuing alerts and warning on polluted air days and disseminating public health messages to local departments and community service providers. "If people don't go to the highly polluted areas and follow the health advisory to minimize exposure, then symptoms will be reduced and there will also be a cost saving for citizens," says Dileep Mavalankar, director of IIPH, Gandhinagar. "So, it depends on how effectively we are able to communicate to patients and the people who are vulnerable to avoid exposure."

Key strategies of AIR Plan

1. Pilot Health-Based AQI Warning and Interagency Coordination - develop interagency coordination plan and pilot an AIR alert system.
2. Public Awareness and Community Outreach - update AMC website with AQI and AIR Plan; engage media on AQI and AIR plan; develop information, education and communication (IEC) materials.
3. Focused Activities for Vulnerable Groups - create pamphlets, hoardings, videos, SMSs; initiate school flag program that coordinates with schools to display coloured flags corresponding to QI levels for each day.
4. Capacity Building Among Medical Professionals - engage with private and public medical professionals to build health awareness and protection strategies on air pollution.
5. Initiate Research on Future Exposure Reduction and Mitigation Pathways – identify the future mitigation and exposure control and reduction measures with key partners.

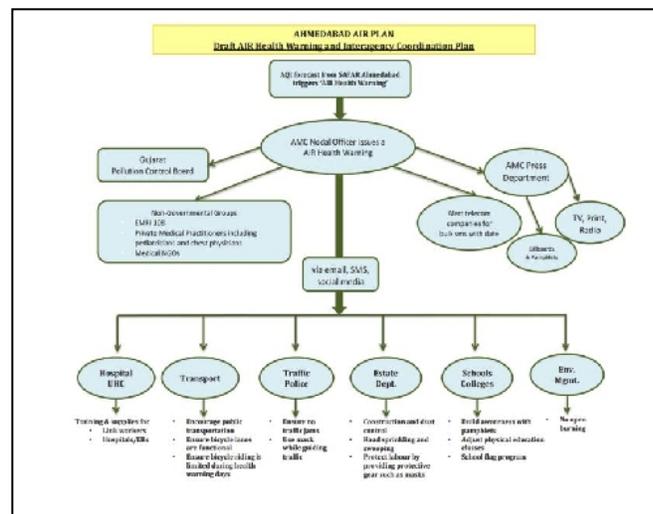
Working of Air Information & Response Plan

As part of the AIR plan, the Ahmedabad Municipal Corporation will issue a health alert when the AQI forecast for the next 24 hours is “very poor” (301-400). When the AQI forecast rises to “severe” levels (401-500), a health warning will be issued. Under the health alert, the nodal officer of the AIR program –



Shah, the deputy health officer – will “inform urban health centres as well as private medical practitioners including pulmonologists, pediatricians to alert them to expect and be prepared for more cases of respiratory health effects”. If the AQI exceeds 401 (severe), the nodal officer will inform urban health centres, the local ambulance service, transport, traffic police, the government radio station, schools, colleges, and the estate department – which handles permissions for real estate – in order to control road dust and construction work.

The Air Action Plan, if implemented as planned, will reduce pollution from these sources through various measures such as improving fuel quality, phasing out commercial vehicles over 15 years old, traffic management, installing pollution control measures in industries and reducing pollution from thermal power plants. A part of the plan was also to strengthen the air quality monitoring



network and sponsor studies on health impacts of air pollution on the city, which is now effectively working.

The Air Action plan also includes-

- ❖ Expedition of a proposal to convert waste to power at Pirana landfill in the city and finalize it by the end of November 2017. If all goes well, work to set up the power plant will begin by January 2018.
- ❖ Make Ahmedabad and Gandhinagar kerosene free.
- ❖ Increase number of public transport buses and ensure all buses run on CNG.
- ❖ Instruct the Transport Department to cancel registration of commercial vehicles older than 15 years.
- ❖ Provide financial assistance and subsidies for the purchase of commercial electric/CNG vehicles.
- ❖ Enforce a total ban on manufacturing of plastic bags that are less than 50 microns thick.
- ❖ Ban biomass burning and burning of plastic and other waste through public discourse and strict penalty.
- ❖ Wall-to-wall carpeting of roads and build pavements on unpaved roads to avoid accumulation of dust.

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