

## Graded Response Action Plan (GRAP)

The Graded Response Action Plan (GRAP) was notified by the Environment Ministry in January 2017 as a response to the severe pollution experienced by Delhi and adjoining areas. What is GRAP? Who implements it? Get answers to all these questions in this article. This is an important article for the UPSC exam environment and ecology section.

### What is the Graded Response Action Plan?

In 2016, the Supreme Court approved the implementation of a Graded Response Action Plan (GRAP) for Delhi and NCR.

- Pursuant to this, the government notified the GRAP to be implemented through the Environment Pollution (Prevention & Control) Authority (EPCA).
- GRAP was formulated after several rounds of meetings were held between the EPCA and state government representatives and domain experts.
- Basically, GRAP is a plan to be implemented when the air quality deteriorates.
- It is an **emergency response plan**, i.e., to be implemented only when the quality of air goes below a certain threshold.
- It is to be noted that the plan is exclusive of the other measures taken by the various authorities during the course of the year. Those will continue and this is only an emergency plan.
- The GRAP is incremental in nature, which means that depending on the air quality index (AQI), several steps and measures are to be taken by designated bodies/agencies.

The following tables detail the measures prescribed according to the AQI and also information regarding who implements Graded Response Action Plan. The information has been sourced from the official website of the Central Pollution Control Board (CPCB).

#### AQI: Severe+ or Emergency

| Severe + or Emergency (ambient $PM_{2.5}$ or $PM_{10}$ concentration values of $300\mu\text{g}/\text{m}^3$ or $500\mu\text{g}/\text{m}^3$ respectively persist for 48 hours or more) | Agency responsible/Implementing Agency   |
|--|--|
| Stop entry of truck traffic into Delhi (except essential commodities)  | Municipal Corporations and Traffic Police of Delhi and NCR Towns   |
| Stop construction activities   | Delhi Pollution Control Committee/Municipal Corporations of Delhi and NCR towns                            |
| Introduce odd and even scheme for private vehicles based on license plate numbers and minimize exemptions  | Secretary cum Commissioner of Transport Department, NCT of Delhi, and Transport Commissioners of NCR towns |
| Task Force to take decision on any additional steps including shutting of schools  |  |

**AQI: Severe**

| Severe (ambient PM <sub>2.5</sub> or PM <sub>10</sub> concentration value is more than 250 µg/m <sup>3</sup> or 430 µg/m <sup>3</sup> respectively)               | Agency responsible/Implementing Agency   |
|---|--|
| Close brick kilns, Hot Mix plants, Stone Crushers   | Chairpersons Delhi Pollution Control Committee, State Pollution Control Boards of Haryana, Rajasthan, and Uttar Pradesh<br>Superintendent of Police and Deputy Commissioner of respective districts          |
| Shut down Badarpur power plant and maximize generation of power from existing natural gas based plants to reduce operation of coal based power plants in the NCR. | Chairpersons Delhi Pollution Control Committee, State Pollution Control Boards of Haryana, Rajasthan, and Uttar Pradesh  |
| Intensify public transport services. Introduce differential rates to encourage off-peak travel.   | Secretary cum Commissioner of Transport Department, NCT of Delhi, and Transport Commissioners of NCR towns<br>Chairperson, Delhi Metro Rail Corporation (DMRC)<br>Chairpersons, State Transport Corporations |
| Increase frequency of mechanized cleaning of road and sprinkling of water on roads. Identify road stretches with high dust generation.                            | All road owning agencies including Municipal Corporations of NCT of Delhi and NCR towns, Public Works Departments and National Highway Authority of India  |

**AQI: Very Poor**

| Very Poor (ambient PM <sub>2.5</sub> or PM <sub>10</sub> concentration value is between 121-250 µg/m <sup>3</sup> or 351-430 µg/m <sup>3</sup> respectively) | Agency responsible/Implementing Agency   |
|--|--|
| Stop use of diesel generator sets  | Chairpersons Delhi Pollution Control Committee, State Pollution Control Boards of Haryana, Rajasthan, Uttar Pradesh      |
| Enhance parking fee by 3-4 times   | Municipal Commissioner   |
|  | Municipal Corporations of NCT of Delhi and NCR towns   |
| Increase bus and metro services by augmenting contract buses and increasing frequency of service   | Principal Secretary, Department of Transport of NCT of Delhi   |
|  | Delhi Transport Corporation (DTC)  |
|  | Delhi Integrated Multi-modal Transit System Ltd (DIMTS)  |
|  | Delhi Metro Rail Corporation (DMRC)  |
|  | State Transport Corporations in NCR towns  |
| Stop use of coal/firewood in hotels and open eateries  | Municipal Corporations of NCT of Delhi and NCR towns   |
| Residential Welfare Associations and individual house owners to provide electric heaters during winter to security staff to avoid open burning by them       | Resident Welfare Associations  |
| Alert in newspapers/TV/radio to advise people with respiratory and cardiac patients to avoid polluted areas and restrict outdoor movement.                   | Chairpersons, Delhi Pollution Control Committee, State Pollution Control Boards of Haryana, Rajasthan, and Uttar Pradesh |

### AQI: Moderate to Poor

| Moderate to poor(ambient PM <sub>2.5</sub> or PM <sub>10</sub> concentration value is between 61-120 µg/m <sup>3</sup> or 101-350 µg/m <sup>3</sup> respectively) | Agency responsible/Implementing Agency   |
|---|--|
| Stringently enforce/stop garbage burning in landfills and other places and impose heavy fines on person responsible   | Municipal Commissioner<br>Municipal corporations of Delhi and NCR towns  |
| Close/stringently enforce all pollution control regulations in brick kilns and industries   | Chairpersons, Delhi Pollution Control Committee, State Pollution Control Boards of Haryana, Rajasthan, and Uttar Pradesh |

|   |  |
|---|--|
| Stringently enforce pollution control in thermal power plants through PCB monitoring  | Plant in-charge of power plants in NCR, and Delhi Pollution Control Committee and State Pollution Control Boards of Haryana, Rajasthan and Uttar Pradesh                             |
| Do periodic mechanized sweeping on roads with heavy traffic and water sprinkling also on unpaved roads every two days                                     | Municipal Commissioner, Municipal Corporations of NCT of Delhi and NCR towns   |
|   | Commissioners, Traffic Police of Delhi and NCR towns to identify roads with heavy traffic and provide information to respective Municipal Commissioners                              |
|   | Chief Engineers of officers in charge of CPWD, PWD of Delhi and NCR towns to identify unpaved roads with heavy traffic and provide information to respective Municipal Commissioners |
| Strict vigilance and no tolerance for visible emissions – stop plying of visibly polluting vehicles by impounding or heavy fine.                          | Commissioner or Officer in Charge, Transport Department and Traffic Police of NCT Delhi and NCR towns  |
| Strict vigilance and enforcement of PUC norms   |  |
| Stringently enforce rules for dust control in construction activities and close non-compliant sites   | Commissioner or Officers in charge of Police Departments of Delhi and NCR towns  |
| Deploy traffic police for smooth traffic flow at identified vulnerable areas  | Commissioners Traffic Police of Delhi and NCR Towns  |
| Strictly enforce Supreme Court order on diversion of non-destined truck traffic and ensure only trucks registered after 2005 are allowed entry into Delhi | Municipal Corporations of NCT of Delhi and NCR towns   |
|   | Traffic Police of NCT of Delhi and NCR towns   |
| Strictly enforce Supreme Court ban on firecrackers  | Chief Controller of Explosives   |
|   | Petroleum and Explosive Safety Organizations (PESO)  |

|   |  |
|---|--|
|   | Commissioner of Officer in charge of licensing in the police departments of Delhi and NCR                                |
| Ensure fly ash ponds* are watered every alternate day during summer months (March – May).   | Plant in charge of Power Plants in Delhi and NCR towns   |
| Information dissemination Social media, mobile Apps should be used to inform people about the pollution levels, contact details of control room, enable them to report polluting activities/sources to the concerned authorities, and actions that will be taken by government based on the level of pollution. | Chairpersons, Delhi Pollution Control Committee, State Pollution Control Boards of Haryana, Rajasthan, and Uttar Pradesh |

Images courtesy of <https://cpcb.nic.in/>

## Significance of GRAP

The GRAP is a response mechanism that brings together multiple stakeholders and authorities to respond to a deterioration in the air quality in Delhi-NCR. The plan requires action and coordination among 13 different agencies in Delhi, Uttar Pradesh, Haryana and Rajasthan (NCR areas).

GRAP has been outlined in such a way that it fixes accountability and also gives deadlines. The actions to be taken and the implementing agency with the corresponding AQI level are enumerated neatly and clearly. There is also a clear demarcation of responsibilities.

## Need of GRAP

As stated above GRAP was introduced as an emergency measure, to be taken when air quality deteriorates. GRAP outlines the steps that several government organisations will take to stop the deterioration of Delhi-air NCR's quality and keep PM10 and PM2.5 levels from exceeding the 'moderate' national Air Quality Index (AQI) category.

## Issues seen Recently

- It was reported that the authorities failed to take action under the “emergency” category of GRAP despite Delhi’s AQI being “severe” for eight out of the ten days following Deepavali.
- Instead of waiting for the AQI to worsen, the Supreme Court instructed the Commission for Air Quality Management (CAQM) in the NCR and Adjoining Areas to implement GRAP-based steps based on air quality predictions. Despite government agencies’ projections that the air quality would worsen, GRAP did not develop in response.

## Way Forward

The Graded Response Action Plan should be considered as a living document that will continue to evolve as more experience is gained in its execution. The Government should evaluate air quality projections to execute GRAP measures rather than waiting for the air to be “severe” for days at a time. After the lockdown, the economy was already stressed, therefore it is important to work together to prevent more damage.

It is important to take into account the Central Government’s directives from almost five years ago to “learn from experience” and “calibrate” the Graded Response Action Plan (GRAP) to reduce air pollution.

## Frequently Asked Questions about Graded Response Action Plan

### Q1. How does Graded Action Response Plan work?

Ans: GRAP works only as an emergency measure in case of deteriorating air quality in Delhi- NCR. The plan requires action and coordination among 13 different agencies in Delhi, Uttar Pradesh, Haryana and Rajasthan (NCR areas).

### Q2. What is the main objective of the GRAP?

Ans: GRAP includes the measures which will be taken by different government agencies to prevent the worsening of Air Quality of Delhi-NCR and prevent PM10 and PM2.5 levels to go beyond the ‘moderate’ national Air Quality Index (AQI) category.

### Q3. What are the measures that can be taken when air quality reaches to severe category?

Ans: Air Quality is considered in the category of Severe+ or Emergency when PM 2.5 is over 300  $\mu\text{g}/\text{cubic metre}$  or PM10 is over 500  $\mu\text{g}/\text{cu. m.}$  for 48+ hours. The measures according to GRAP are:

- (i) Stop construction work
- (ii) Stop entry of trucks into Delhi (except essential commodities)
- (iii) Task Force to decide any additional steps including shutting of schools
- (iv) Introduce odd/even scheme for private vehicles and minimise exemptions